Applicant Name: M2M BROADBAND
Project Title: Upper Peninsula Fiber Loop
Project Type: Comprehensive Community Infrastructure

Executive Summary

The Upper Peninsula Fiber Loop (UPFL) will construct a high count fiber loop in the Upper Peninsula of Michigan. The primary goal of the network is to provide middle mile and backhaul transport for the rural and underserved communities of Northern Michigan. The limitations in the current middle mile networks prevents the existing last mile providers from being able to provide true high-speed broadband data service. This lack of true broadband has stifled economic and academic growth in the Upper Peninsula and had accelerated the pace at which the residents of these communities fall behind the rest of the nation and the world. The UPFL will offer up to 1 Gbps fiber connections to last mile providers to eliminate this digital divide. In addition to the middle mile services offered, the UPFL will install tower sites in areas of the proposed funded service area that are currently not served by any existing last mile internet provider. The UPFL will be able to offer these unserved homes and businesses by utilizing WiMax unlicensed wireless spectrum. The UPFL will provide middle mile and backhaul transport up to 1 Gbps to 176 communities in 15 counties of the Upper Peninsula of Michigan. The counties that are included in the proposed funded service area are Keweeshaw, Houghton, Ontonagon, Baraga, Gogebic, Iron, Marquette, Dickenson, Menominee, Delta, Alger, Schoolcraft, Luce, Chippewa and Mackimac. According to the last census data, this service area includes 173,677 households, 19,429 businesses and 3,197 community anchor institutions. The primary service offering for the UPFL will be middle mile and backhaul transport from existing last mile service providers back to existing ISP points of presence (POPs). The network will be able to provide data transport for these last mile providers at a minimum speed of 100 Mbps up to a maximum of 1 Gbps. The UPFL network will be fully redundant with both route and ISP redundancy. This redundant design will allow for a 99.999% system reliability. UPFL will also act as the broadband provider of last resort for homes, businesses and community anchor institutions that are outside the existing last mile data provider's service area. These customers will be offered 3Mbps downstream/ 1Mbps upstream wireless WiMax service from 81 towers built into the UPFL. These WiMax radios will use unlicensed spectrum at a maximum radius of 5 miles. The UPFL will be a 100% underground, fully redundant SONET/DWDM transport system. The network will possess both route and ISP redundancy to ensure maximum system reliability. The network will be constructed of high count higher which will enable the UPFL to provide middle mile and data backhaul transport to last mile providers up to a dedicated 1 Gbps. In addition to the backhaul function of the network, UPFL will construct 81 towers in the fiber ring that will allow the network to offer last mile data service to homes, businesses and critical anchor institutions that are outside the service areas of any other last mile service providers. This last mile service will be provided through WiMax radios utilizing unlicensed wireless spectrum. It is not the intent of UPFL to 'overbuild' any existing last mile service provider, the
goal of the last mile service offerings would be the provider of last resort and only offer last mile wireless service to customers that cannot receive broadband service through any other means. The UPFL will be managed by M2M Broadband. M2M's management team consists of a group of seasoned telecommunications professionals that have over 100 years combined management experience planning, constructing and operating large data networks for companies such as Comcast, Time Warner, AT&T Broadband and TCI. M2M Broadband is led by Brett Menge. Mr. Menge has run telecommunication operating units that have greater than 1 million customers that generated $1 billion in annual revenue and had annual capital budgets of $212 million. Mr. Menge has assembled a team of engineers and construction professionals that have built an estimated 23,000 miles of middle and last mile fiber plant for companies such as Verizon, Comcast and Time Warner. M2M Broadband will also leverage its existing relationships with Sartori LLC to provide design and construction management and GW Communications Inc. for construction and warehousing support. See the attachment section. M2M will utilize its existing relationship with Agilyst Inc. to provide call center, NOC, billing and back office support. Agilyst has an existing 750 seat call center and 10 years experience providing support to various MSOs such as Time Warner, Comcast and RCN. The total cost of the UPFL is $122,527,480 to construct 1,031.71 miles of fiber plant and build 81 distribution towers. This network will pass 173,677 households, 19,429 businesses and 3,197 critical anchor institutions. The UPFL is a middle mile and backhaul transport project, so it only provides wireless last mile broadband service to a small number of customers that do not have an existing last mile provider. Through its relationship with the existing ILEC, CLEC and Cable TV last mile providers, UPFL expects to provide middle mile and backhaul transport for 107,967 broadband customers by year 5 of the project. The cost of the network is $624 per premise passed and $1,135 per end user broadband customer. The large scale of the project makes this the most cost effective solution to providing broadband services to the residents of the Upper Peninsula of Michigan. Using the guidance from the ARRA job creation white paper, it is expected that the UPFL will create 1,332 job years.