

NEO RHIO

Northeast Ohio Regional Health Information Organization



Request for Proposal

**Northeast Ohio Regional Health Information Organization
Federal Communications Commission
Rural Health Care Pilot Program**

**HEALTHNET
NETWORK CONSTRUCTION AND SERVICES**

February 25, 2009

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**Request for Proposal
HealthNet Network Design
February 25, 2009**

1 Opening Instructions

Carefully read the information contained in this RFP and submit a complete response to all requirements, specifications, and questions as directed.

Contact for this RFP:

**Mr. Mark T. Ansboury
Sr. Vice President and Chief Technology Officer
OneCommunity
216-923-2200
mark.ansboury@onecommunity.org
<http://www.onecommunity.org>**

1.1 Questions and Inquiries

Respondents who have questions about the RFP should call or e-mail such questions to the Contact for this RFP (herein Contact) by the dates noted in the RFP schedule in Table 1.

Responses to questions which involve an interpretation or change to this RFP will be issued in writing by addendum and emailed to all parties recorded by OneCommunity as having replied to the RFP and have elected to proceed with responding to the RFP.

It is the responsibility of the respondents to ensure that OneCommunity has the correct contact information. Oral and other interpretations or clarifications will be without legal effect. Companies receiving this proposal other than directly from OneCommunity or through the Universal Services Administrative Company/Federal Communication Commissions public web site are responsible for notifying the Contact that they are in receipt of a proposal package and for providing a name, address and e-mail in the event an addendum is issued.

All materials submitted in response to this request become the property of OneCommunity and project partners and may become a part of any resulting contract. Award or rejection of a proposal response does not affect this right. The respondents by submitting a proposal, agrees that any cost incurred in responding to this RFP, or in support of activities associated with this request, is to be borne by the respondent and can not be billed to OneCommunity or project partners.

OneCommunity will incur no obligation or liability whatsoever to anyone by reason of issuance of this RFP, or action by anyone relative thereto.

1.2 RFP Schedule of Events and Dates

All events and dates are subject to change. OneCommunity will give reasonable notice of changes via email notification to those continuing in the RFP process.

Mandatory Respondent Conference:

Date: March 6, 2009
 Time: 10:00 AM to 12:00PM
 Location:
 Cleveland Chop House
 Banquet Room
 824 West St. Clair Ave
 Cleveland, Ohio 44113

Please RSVP: Polly L. Tyree
 Executive Assistant
polly.tyree@onecommunity.org – e-mail
 216-923-2200 - Main
 216-621-3042 - Fax
 216-923-2244 - Direct

1.3 Table 1: RFP Events and Dates

RFP Event	Projected Schedule
RFP Release to USAC	February 23, 2009
Posted USAC Web Site – Public Notice	February 25, 2009
Mandatory Respondent Conference	March 6, 2009
Intent to Respond Notification and Questions Submitted	March 20, 2009
OneCommunity Issued Response to Vendor Questions	March 27, 2009
Proposal Submitted for Review	April 10, 2009
Proposal Review Begins	April 13, 2009
Respondent Selection, and Contract Terms Finalized	April 30, 2009
Contracts signed	May 2009

2 Evaluation Process

OneCommunity will review the proposals by assessing the relationship between each proposal and the section of the RFP that the proposal addresses against the evaluation criteria below. Respondents that address the entire RFP will be evaluated by each of the evaluation criteria and a composite evaluation score for all sections proposed. OneCommunity will review all submissions (except those rejected as non-

compliant) and will compare and rank all proposals, according to the criteria set forth below, using the weighted ranking system below.

- **Contracting Options and Price** – OneCommunity is looking for the most cost effective approach to develop and implement the extension of OneCommunity’s HealthNet to meet the design goals of the FCC RHCP Project. Creative contract approaches and pricing options will be evaluated on their long term financial impact and ability to lower the overall operating costs of the network.

- **Understanding of the Project and Approach** – The objective as defined in the RFP is to create a a scalable broadband fiber network service infrastructure for HealthNet that promotes access to high capacity services while managing to create a low cost operational support for the rural health care institutions. It is the intent of OneCommunity to provide additional broadband capacity to other community stakeholders with the intent of lowering the overall cost to the healthcare community. Respondents will be evaluated on their ability to provide solutions that address the general intent of the RFP to serve the Rural Healthcare community but also on their ability to help promote low cost broadband services to other community stakeholders, including education, local government and non-profit organizations.
 - Additional considerations will be given to those respondents that present a Network Design that provides:
 - **PRACTICALITY:** OneCommunity will review proposals to determine whether the proposed service can reasonably be implemented. OneCommunity is not opposed to innovative technologies, as long as those technologies have a demonstrable capacity to provide service within the Northeast Ohio serving areas.
 - **OPEN ACCESS PLATFORMS:** OneCommunity would prefer proposals that include or are capable of serving as an open access platform for other telecommunications and network service providers.

- **Ability to integrate with the OneCommunity HealthNet** – The RFP identifies the current operational deployment and design of the OneCommunity HealthNet network. Respondents will be evaluated on their ability to seamlessly integrate with the Current HealthNet infrastructure and services.

- **Technical and Service Specifications** – Respondents solutions will be evaluated on their clear understanding of the specifications and their ability to meet or exceed the specifications.
- **Experience, Financial Viability and References** – Respondents should have 5 years of experience and a history of successfully constructing and integrating fiber optic networks and network services. OneCommunity is concerned that any Respondent will have in hand financial support or adequate capital to initiate and complete the proposal. Successful proposals must show adequate resources to complete the proposal within the proposed time. This information may be submitted as confidential information not subject to general disclosure. Vendors should supply at least three references for projects of similar scope.
- **Representation and Warranties** – Respondents will be evaluated on their ability to provide additional representations and warranties for their equipment materials and work product. OneCommunity is interested in assurances of performance, especially as represented by experience or qualifications of key personnel and services provided, and warranties of performance that the respondents may provide.
- **Documentation** – Respondents will be evaluated on their examples and similar project reports and documentation that will be provided as part of their solution.

Evaluation Criteria:	Point System	Percentage of Evaluation
Contracting Options and Price	60 Points	20%
Understanding of the Project and Approach	60 Points	20%
Ability to Integrate with OneCommunity HealthNet	60 Points	20%
Technical and Service Specifications	60 Points	20%
Experience, Financial Viability and References	30 Points	10%
Representation and Warranties	15 Points	5%
Documentation	15 Points	5%
Total Points	300 Points	100%

OneCommunity reserves the right to:

- Request clarification from any Respondent on any or all aspects of its quotation or proposal;
- Cancel and/or reissue this RFP at any time;
- Retain all Quotations or Proposals submitted in response to this RFP; and,

- Invite some, all, or none of the Respondent for interviews and further discussion

3 Introduction

OneCommunity and the Northeast Ohio Regional Health Information Organization (NEO RHIO) are issuing this Request for Proposal (RFP) network construction and services that address the open network infrastructure requirements of HealthNet.

3.1 OneCommunity Background

OneCommunity is a non-profit technology corporation providing ultra high speed network services to healthcare, education, government and non-profit civic institutions in Northeast Ohio. It currently operates a fiber optic network serving the Northeast Ohio that is one of the largest and fastest in the world.

Together with NorTech, One Community has been a primary supporter of NEO RHIO during its formative stages, and was also the lead agent in the design and development of the HealthNet grant application. OneCommunity will be HealthNet's technology provider for this initiative, and will serve as the prime contractor/project coordinator for the Federal Communication Commissions (FCC) Pilot Project.

OneCommunity owns and operates the current technology platform for most of the urban hospitals that belong to HealthNet connecting over 70 hospitals, clinics and healthcare service organizations. This project will be a natural extension of this broadband platform to rural facilities.

3.2 Northeast Ohio Health Information Organization

The NEO RHIO is a non-profit corporation serving Northeast Ohio. It is an inclusive, multi-stakeholder collaboration dedicated to improving the quality, safety and efficiency of healthcare in Northeast Ohio through the use of information technology and the secure exchange of health information. NEO REHIO has ten founding medical partners representing thirty-two facilities, twenty-eight of which are connected via a broadband network provided by OneCommunity.

NEO RHIO's role is to serve as the health care stakeholder representing the interest of its members and the patients they serve. The NEO RHIO is a Regional Health Information Organization that serves as a health information exchange system by connecting healthcare providers, insurers and public health officials with patient health information. The NEO RHIO provides the key governance, security, privacy, tools, standards and telemedicine applications needed for the network.

NEO RHIO is an inclusive, multi-stakeholder collaborative dedicated to improving the quality, safety and efficiency of healthcare in Northeast Ohio through the use of information technology and the secure exchange of health information.

To support that mission, participants developed the following goals. The NEO RHIO will work to:

- Make all necessary healthcare information available to patients and providers where it is needed, when it is needed
- Provide a secure, confidential, patient-controlled environment for health information exchange
- Provide opportunities for patients to more actively participate in their healthcare
- Reduce duplicative testing, administrative burdens, and other barriers to cost-effective healthcare
- Enable important public health functions including biosurveillance and telemedicine
- Enable more effective disease prevention and chronic disease management
- Enable healthcare research using de-identified data
- Reduce disparities in healthcare
- Provide transparency to enhance quality assessment and value comparison
- Enhance the economic viability of the region

3.3 HealthNet Background and Objectives

The Northeast Ohio Regional Health Information Organization (NEO RHIO), OneCommunity and other key medical and technology partners have developed a collaborative program to support the expansion of health information and telemedicine services for rural, underserved and urban communities throughout NE Ohio

HealthNet is designed support the region's telemedicine and health information exchange (HIE) efforts.

The HealthNet initiative provides medical facilities with high-speed broadband connectivity, collaboration with Internet 2 (I2) and National LambdaRail (NLR), and supports innovative telemedicine services and urban-rural provider partnerships.

The HealthNet initiative provides medical facilities with high-speed broadband connectivity, collaboration with Internet 2 (I2) and National LambdaRail (NLR), and supports innovative telemedicine services and urban-rural provider partnerships.

3.4 Federal Communications Commission Rural Health Care Pilot Program

In April 2004, the President issued an Executive Order to provide leadership for the development and nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care.

On September 26, 2006, the Federal Communications Commission (FCC) adopted the *Rural Health Care Pilot Program Order* (RHCPP), which established a rural health care pilot program to encourage the provision of telehealth and telemedicine services throughout the nation. Under the pilot program, selected applicants will receive up to 85 percent of the costs associated with:

- Building state and regional high-speed broadband networks;
- Connecting those networks to Internet2 or National LambdaRail, Inc. (dedicated nationwide backbone providers);
- Providing advanced telecommunications and information services for the network.

On November 19, 2007 the FCC dedicated over \$417 million for the construction of 69 statewide or regional broadband telehealth networks in 42 states and three U.S. territories under the Rural Health Care Pilot Program. OneCommunity/HealthNet was awarded \$11.3 million to connect Northeast Ohio.

4 Purpose of Request for Proposal

OneCommunity and its Northeast Ohio regional partners proposed the creation of HealthNet, a Northeast Ohio Broadband initiative, in support of the Telemedicine and Health Information Exchange (HIE). This investment will serve as a catalyst for collaboration amongst health, education and government and the creation of the Northeast Ohio Regional Health Information Organization (NEO RHIO). Additional investment from our economic development community and the State of Ohio has enabled access to Ohio's Broadband Network and provided national access to Internet 2 (I2) and the National Lambda Rail (NLR).

Future Objectives:

- broadband is universally available across the rural and urban communities and quality healthcare is available not only in the hospital but to every citizen at their clinic, doctors office or in the comfort of their home;
- access to medical information is immediate and in real-time and used by doctors to improve the quality of the care for their patients;
- wellness education is enabled by broadband and is part of prevention and disease management;
- patients can be universally monitored and connected to their care givers wherever they are at in a convenient and private fashion and;
- underserved healthcare community has access to the same quality of health services that are readily available in our major urban hospitals.

This is the vision that OneCommunity and NEO RHIO are investing in for Northeast Ohio. OneCommunity has an existing broadband network, a significant healthcare technology coordination role and an established partner network that includes the rapidly growing NEO RHIO, regional urban and rural healthcare providers, and a consortium of vendors, technology researchers and government advisers.

OneCommunity and NEO RHIOs creation of HealthNet is made of fiber optic cable, wireless and high quality switching devices that can connect medical facilities. Currently, data from each of the facilities is aggregated for a number of telemedicine applications and record storage in Northeast Ohio.

The FCC Rural Health Care Pilot (RHCP) Grant provided to HealthNet will be extended into over twenty-two (22) counties covering the rural communities' needs in Northeast Ohio. With this help OneCommunity and NEO RHIO will be able to gather additional community investment in the development of our regions health, education and workforce development making the rural healthcare initiative a viable and long-term sustainable business model.

4.1 Project Goals

The goal of HealthNet is to extend the current network and install additional gigabyte optical fiber connections to hospitals in the rural areas of Northeastern Ohio. In order to provide the levels of broadband that are required for Health information Exchange (HIE) and telemedicine applications, the kinds of services that are routinely available in rural areas are not sufficient. Typically, rural areas may have access to T1 circuits (1 .5 Mbps), but generally these service by extremely expensive and there are typically no services faster than T1 available at an affordable and sustainable price. In order to satisfactorily transmit and receive medical imaging, and to improve the quality of medical care that can be provided, speeds in a different order of magnitude are required. NEO RHIO HealthNet will provide 100 Mbps of bandwidth, upstream and downstream, to all locations connected via wireless, and will provide 1 gigabit of bandwidth, upstream and downstream, to all locations connected via fiber. In our proposed network design, over 80% of the locations included in our proposal will have the benefit of at least 1 gigabit.

Specific objectives of the proposal include:

- Immediately connecting fifteen (15) with the potential of five to seven additional rural hospitals located in the Northeast Ohio rural health region over a dedicated broadband network;
- extending the OneCommunity/NEO RHIO broadband services to rural providers;
- providing the connecting framework for a regional repository that employs secure telehealth applications for chronic disease monitoring and continuing education services; and
- Implementing sustainable enterprise solutions using HIT for eligible providers in rural and underserved counties. This network is expected to improve the quality and reduce the cost of health care.

5 Project Scope

5.1 Overview

OneCommunity is seeking proposals for professional engineering, equipment, fiber, installation, testing and maintenance services to design and create an aerial and underground fiber optic cable network and the equipment required to deliver high bandwidth and redundant services for hospitals spanning 22 counties in Northeast Ohio as proposed in this RFP. Optionally OneCommunity is looking for Indefeasible Right of Refusal Agreements for fiber or network service arrangements that provide sufficient capacity to meet the growing needs of the Healthcare community.

Respondents should have qualifications and experience in the design or stated components of aerial and underground fiber optic cable systems.

Respondents should submit qualifications and experience and attach a list of similar projects, services or products which the Respondent has been involved in the past five years, giving date of contract, describing the scope of work, size of project, equipment, fiber and name of company's contact and phone number.

OneCommunity is seeking to provide the best solution and economic value for the entire project and has identified that the geographic scope of the project and communities involved present distinct challenges to any Respondent. **Therefore, in order to accomplish this objective Respondents my choose based on their ability, expertise and cost models to respond to any or all defined sections of the RFP.** In order to complete a proper evaluation and comparison of the responses, the Respondents need to submit their responses by first identifying the geographic zone or zones (5.1.1) as defined below and then the Functional Sections (5.1.2) of their responses.

OneCommunity reserves the right to request clarification from any Respondent on any or all aspects of its quotation or proposal; retain all quotations or responses submitted in response to this RFP; and, invite some, all, or none of the Respondent for interviews and further discussion. **Additionally, we reserve the right to accept all or part of the responses of any proposal based on the evaluation criteria.**

5.1.1 Geographic RFP Responses

The first defined section of the RFP is the geographic community Zones as describe as follows:

- OneCommunity has broken the 22 county coverage area into (3) zones;
 - Eastern Zone containing Ashtabula, Geauga, Lake, Trumbull, Portage, Summit, and Mahoning, Cuyahoga counties.
 - Western Zone containing Ottawa, Sandusky, Seneca, Huron, Erie, Lorain, Medina, Cuyahoga.
 - Southern zone containing Ashland, Wayne, Stark, Columbiana, Holmes, Coshocton, Tuscarawas, and Carrolton counties.

The Respondents may choose to respond the RFP based on the geographic zones. Respondents must clearly state which zone or zones they are responding to and if there are any overlap features or functions.

5.1.2 Functional Sections RFP Responses

After the Respondent has determined the zone or zones for the RFP response they will then define the functional sections they are responding to. These functional areas include:

- Network Engineering, Installation and Testing
- Construction Management
- Fiber Optics and Fiber Optics Network Hardware
- Fiber Construction – Ring and Lateral
- Fiber Testing
- Network Hardware and Equipment
- Network Maintenance and Repair

6 Description of Information for Network Delivery

6.1 Geographic Zones Defined

6.1.1 Eastern Zone

OneCommunity is requiring the construction of a fiber ring throughout the Eastern Zone that will interconnect with the existing OneCommunity Fiber rings. The construction of the fiber network will follow the guidelines as specified in Section 6. The rural hospital locations that need to be considered in the eastern region construction are indicated in Table 6-1

Location	Address	Latitude	Longitude
Ashtabula County Medical Center	2420 Lake Avenue Ashtabula, OH 44004	41.8808	-80.7966
Glenbeigh Health Sources	2863 State Rte 45, Rock Creek, OH 44084-9352	41.67214	-80.8568
UHHS Brown Memorial Hospital	158 Main Road Conneaut, OH 44030	41.9369	-80.5865
UHHS Memorial Hospital of Geneva	870 W Main St., Geneva, Ohio 44041	41.80062	-80.9611

Table 6-1 Eastern Zone Hospitals

6.1.1.1 Preliminary Fiber Ring Placement Design – Eastern Region

In order to support a vendor response to the RFP the following section outlines the current fiber ring placement design.

As noted OneCommunity has an established network that when appropriate will support this project and reduce overall expenditures. OneCommunity has established a preliminary route with an estimation of overhead and underground placement of the Eastern Zone fiber ring. The following is a description of the preliminary routes that OneCommunity would be interested in placing define as the Eastern Fiber Ring. This route is preliminary and subject to change, along with the actual placement of rings overhead and underground.

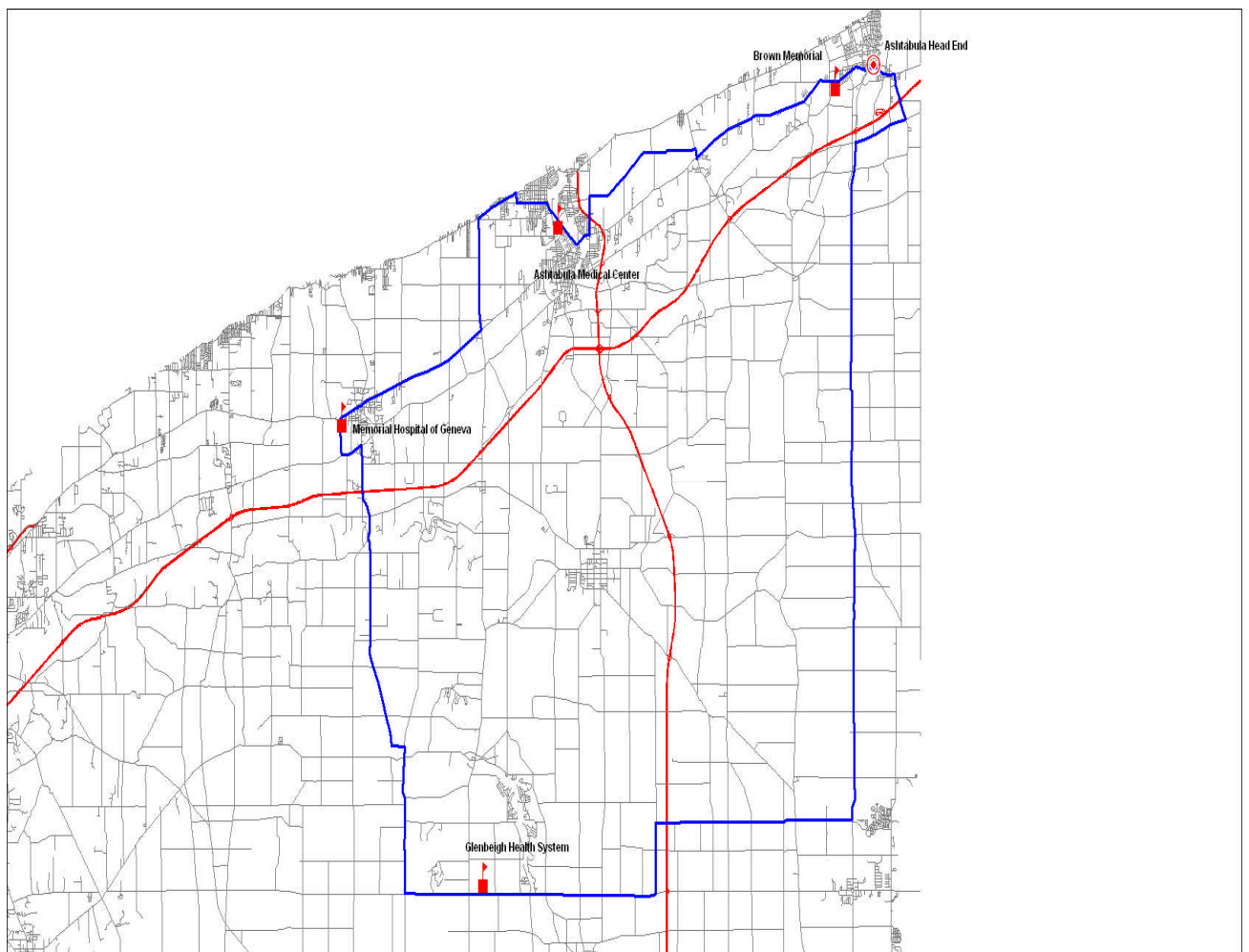


Figure 6-1 Eastern Region

The route OneCommunity would like to take is as follows:

- Leaving Conneaut, Ohio on Furnace Road South to Bushnell Rd. East to County Road 411 (Middle Road) South. Follow Rt.411 South to Township Rd. 345 West. On Twp 345 west to county Rd.342 South (Middle Road) to State Rt. 6 east into North Richmond.
- In North Richmond follow State Rt. 7 South to County Road. 12 (Footville Richmond Road) East to Route 193 South to Route 182 East. Follow Route. 182 East to County Road 27 South to Township Road 577 East. Follow Route 577 to Knowlton Road North to County Road 166. These routes will go

around Rock Creek. On Route 166 East follow it to State Route 45 North up to Glenbeigh Health Sources on State Route 45

- After passing Glenbeigh Health Sources follow Route 45 North to County Road 307 East, follow Rt. 307 east to Walter Main Rd. North up to State Route 20 East. Follow Route 20 to pass UHHS Memorial Hospital on Route 20. After passing UHHS Memorial follow Rt. 20 into Ashtabula, Ohio. Once in Ashtabula on Route 20 follow West Ave. North to Lake Avenue South passed Ashtabula General Hospital
- Continue on Lake Avenue South back to Route 20 East into Conneaut. Once into Conneaut on Route 20 the path goes past UHHS Brown Memorial Hospital. Once past the hospital there will be a connection back to the start of this ring on Furnace Road South.

Estimated Ground and Pole Placement

This is the projected ring that will connect the hospitals in the Eastern ring. The total ring miles is an estimated 101 miles or 534,000 feet with an estimated 346,000 feet being placed underground and the remaining being placed on utility poles.

The description above is a proposed and preliminary route with only estimated footages to obtain a complete fiber ring for the hospitals mentioned for the Eastern ring.

6.1.2 Western Zone

OneCommunity is requiring the construction of a fiber ring throughout the Western Zone that will interconnect with the existing OneCommunity Fiber rings. The construction of the fiber network will follow the guidelines as specified in Section 6. The rural hospital locations that need to be considered in the western region construction are indicated in Table 6-2

Location	Address	Latitude	Longitude
Firelands Regional Health System	1101 Decatur St. Sandusky, Ohio 44870	41.4463	-82.7096
Fisher Titus Medical Center	272 Benedict Avenue Norwalk, Ohio 44857	41.22618	-82.60208
H B Magruder Memorial Hospital	615 Fulton Street, Port Clinton, Ohio 43452	41.50637	-82.93312
Bellevue Hospital	1400 W. Main Street Bellevue, Ohio 44811-8004	41.2784	-82.8578
Memorial Hospital – Fremont	715 S. Taft Ave Fremont, OH 43420	41.34026	-83.1352

Pending Hospitals

Fostoria Community Hospital	501 Van Buren St Fostoria Oh 44830	41.16398	-83.42282
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Mercy Hospital Tiffin	485 West Market St. Tiffin, Ohio 44883	41.11321	-83.19023
Mercy Hospital Willard	110 East Howard St. Willard, Ohio 44890	41.0486	-82.7259

Table 6-2 Western Zone Hospitals

6.1.2.1 Preliminary Fiber Ring Placement Design – Western Region

In order to support a vendor response to the RFP the following section outlines the current fiber ring placement design.

As noted OneCommunity has an established network that when appropriate will support this project and reduce overall expenditures. OneCommunity has established a preliminary route with an estimation of overhead and underground placement of the Western Zone fiber ring. The following is a description of the preliminary routes that OneCommunity would be interested in placing define as the Western Fiber Ring. This route is preliminary and subject to change, along with the actual placement of rings overhead and underground.

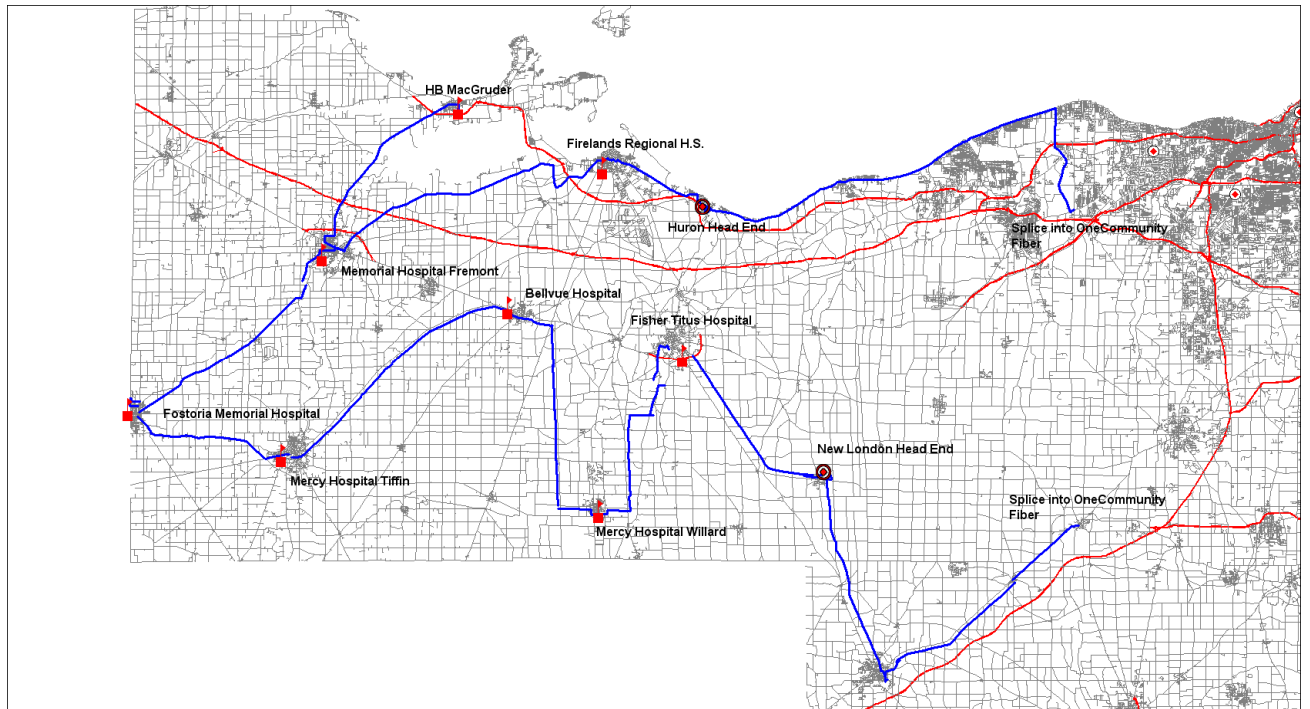


Figure 6-2 Western Region

The route OneCommunity would like to take is as follows:

- OneCommunity has a splice point on the corner of Route.20 (Center Ridge Rd) and Route.83 (Avon Belden Rd.) in North Ridgeville. Placing fiber from that point heading into the city of Elyria Ohio and through the city on city streets. An estimated 12 miles or 64000 feet of overhead placement will be required.
- On the western section of the city of Elyria, on County Road 57 (Russia Rd) On 57 go 16 miles or 84480 Feet to Route. 51 North to State Route.113 West Follow Route. 113 West to Route. 58 North to Route 13 West, follow Route.13 to State Route. 250 North to the beginning of Sandusky, Ohio.

The total route is an estimated 25 miles or 132,000 feet of placement. Of the 132,000 feet of placement there will be an estimated 92,000 feet of underground with the remaining 40,000 feet be placed on utility poles.

- Inside Sandusky, Ohio all placement will be overhead on utility poles through the city. A path up to and past Firelands Community Hospital on city streets will be required. Once past Firelands Hospital and through the city leaving on Hayes street. (To past Providence Hospital) to West Perkins Ave. west to Old Railroad Road South. This is an estimated 14 miles or 74,000 feet of placement through the city of Sandusky.
- On Old Railroad road heading South to Route 20 west to Routet.269 south to Rt. 101 west to Route 247 west to Whitemore to Route 232 South to Route 241 West to Route 204 south to Beeler Road . West to Route 198 South to Route 221 (E. Cole Road) to city edge of Ballville, Ohio. This route consists of 26 miles or 138,000 feet of placement. In this placement there will be an estimated 105,600 Feet of underground placed with the remaining 32,400 feet placed on utility poles.
- In Ballville we would place on all over utility poles through Ballville to Freemont, Ohio on Route. 530 (Cleveland Ave.) up past Memorial Hospital. We then would continue south on Taft to Buckland south (Route 132) out of Freemont, Ohio an estimated overhead placement through Ballville and Freemont is 18 miles or 95000 feet on utility poles.
- Out of, Freemont on Route 132 south to Route 12 South into Fostoria, Ohio. This route is an estimated 16 miles or 84,500 feet of placement. Within that placement there will be an estimated 55,000 Feet of underground fiber with the remaining balance on utility poles.
- Into Fostoria, Ohio a path on all overhead utility poles past Fostoria Community Hospital This route through the city of Tiffin is an estimated 3 miles or 16,000 Feet.
- Leaving Fostoria on Township Road 21 South to Township Road 112 west into Tiffin, Ohio. This route is an estimated 10 miles or 52,800 feet which of that an estimated 43,000 Feet can be placed under ground with the remaining on utility poles.
- Into Tiffin, Ohio a path past Mercy Hospital Tiffin to Route 101. Through the city of Tiffin all fiber will be placed on utility poles. This route through the city of Tiffin is an estimated 6 miles or 32,000 Feet.

- On State Route. 101 a path North to Rt. 177 North to Route 20 into Bellevue, Ohio. This route is an estimated 18 miles or 95,000 Feet of that will be an estimated 62,000 Feet of underground and 33,000 feet on utility poles.
- Into Bellevue, Ohio on Route 20, path past Bellevue Hospital on Route 20 through the city on utility poles to County Road 30 South. This route through the city of Bellevue is an estimated 11 miles or 58,100 Feet.
- On County Road. 30 South to Township Road 78 into Willard, Ohio. This route is an estimated 16 miles or 84,500 Feet which 63,000 Feet could be placed underground with the remaining on utility poles.
- Into Willard, Ohio a path past Mercy Hospital Willard on utility poles in alley ways. In Willard there will be an estimated 4 miles or 21,500 Feet of overhead placement on utility poles through Lodi.
- Once past Hospital and out of Willard on Route 103 East to Route 45 North to Route 162 East to County Rd. 150 North to Norwalk , Ohio . This is an estimated 17 miles or 90,000 Feet with an estimated 67,000 Feet of underground placement and the remaining 23,000 Feet on utility poles.
- Into Norwalk a path around and back out of Norwalk to Route 250 south. A path from Fisher Titus Hospital to the fiber path around the city will be needed because of the location of the hospital and the crossing of Norwalk Bypass with no crossings. An estimated placement of 5 miles or 26,000 Feet over head on utility poles.
- Out of Norwalk the city on Route 250/ Route 13 South to State Route 162 into New London, Ohio. This route is an estimated 14 miles or 74,000 Feet of which 44,000 Feet is an estimated underground footage with the remaining 30,000 Feet placed on utility poles.
- Into New London, Ohio all overhead placement on utility poles through the city at an estimated 3 miles or 16,000 Feet.
- Out of New London on route 60 South to Ashland, Ohio. This route is an estimated 13 miles or 68,000 Feet, which there will be an estimated 40,000 Feet underground with the remaining 18,000 Feet on utility poles.
- Once into Ashland , Ohio , the Western Fiber Ring would end and the Southern Fiber Ring would continue
- There will be one other preliminary fiber route that will be from Freemont to Port Clinton, Ohio. This preliminary route is proposed to go on Route 53 North up to Port Clinton that is estimated 9 miles or 47,000 Feet. 18,000 Feet will be underground with the remaining 29,000 Feet overhead on utility poles.

The description above is a proposed and preliminary route with only estimated footages to obtain a complete fiber ring for the hospitals mentioned for the Western ring.

6.1.3 Southern Zone

OneCommunity is requiring the construction of a fiber ring throughout the Southern Zone that will interconnect with the existing OneCommunity Fiber rings. The construction of the fiber network will follow the guidelines as specified in Section 6. The rural hospital locations that need to be considered in the Southern region construction are indicated in Table 6-3

Location	Address	Latitude	Longitude
Twin City Hospital	820 N 3rd St Dennison, OH 44621	40.40096	-81.3336
Union Hospital	659 boulevard Dover, Ohio 44622	40.51418	-81.4571
Wooster Community Hospital	1761 Beall Ave Wooster, Ohio 44691	40.8204	-81.9343
Coshocton	1460 Orange St, Coshocton 43812	40.27046	-81.8478
Samaritan Regional Health System	1025 Center Street, Ashland Ohio 44805	40.85909	-82.3105

Pending Hospitals

Dunlap Memorial Hospital	832 Main Street South Orrville, OH 44667	40.83171	-81.7646
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Table 6-3 Southern Zone Hospitals

6.1.3.1 Preliminary Fiber Ring Placement Design –Southern Region

In order to support a vendor response to the RFP the following section outlines the current fiber ring placement design.

As noted OneCommunity has an established network that when appropriate will support this project and reduce overall expenditures. OneCommunity has established a preliminary route with an estimation of overhead and underground placement of the Southern Zone fiber ring. The following is a description of the preliminary routes that OneCommunity would be interested in placing define as the Southern Fiber Ring. This route is preliminary and subject to change, along with the actual placement of rings overhead and underground.

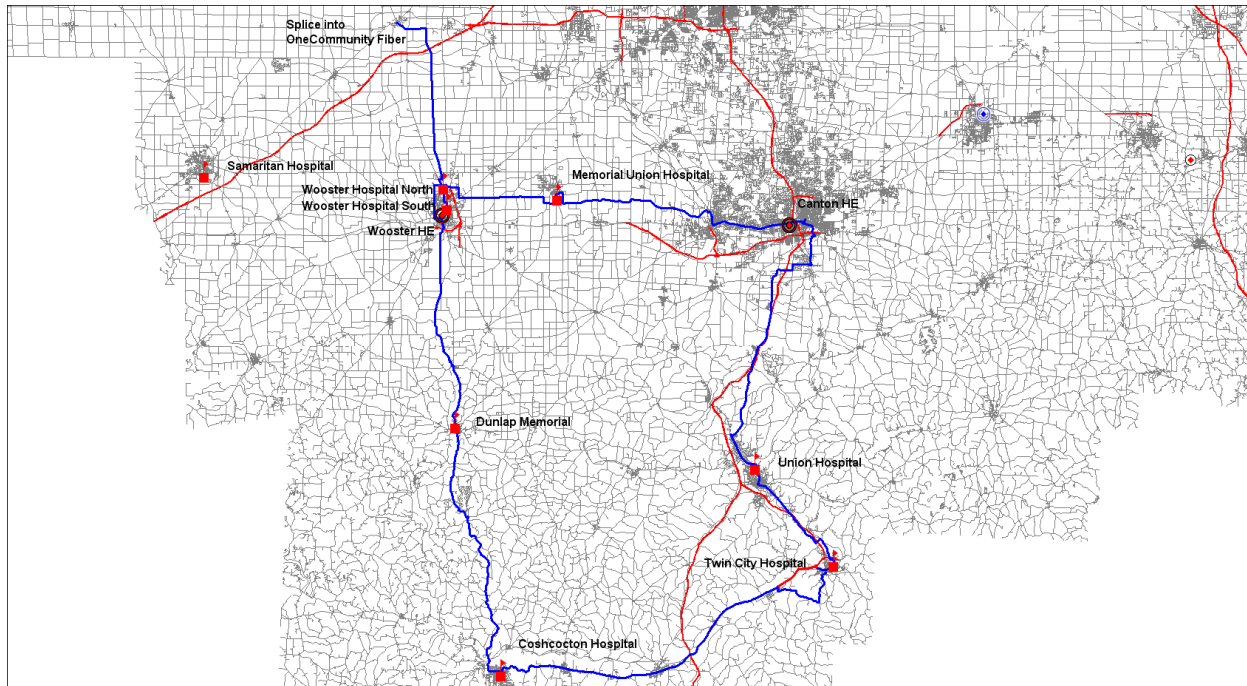


Figure 6-3 Southern Region

The route OneCommunity would like to take is as follows:

- Into Ashland, Ohio a path to and past Samaritan Health System through the city on utility poles at an estimated 6 miles or 32,000 Feet.
- Out of the city of Ashland, Ohio on Cleveland Ave. North or Highway 42 North to Lodi, Ohio. This route is an estimated 15 miles or 80,000 Feet. Of which an estimated 42,000 Feet will be underground with the remaining placed on utility poles.
- Into Lodi there will be an estimated 4 miles or 21,000 Feet of overhead placement on utility poles through Lodi. This path will be past Lodi Community Hospital
- Leaving Lodi on State Rt. 83 (Wooster Road.) East to county Road. 97 (Greenwich Road.) East to county Road. 6 (Friendsville Road.) South into Wooster Ohio. This route is an estimated 14 miles or 74,000 Feet with an estimated 52000 Feet of underground placement. The remaining would be overhead on utility poles.
- Into Wooster Ohio, a path through the city, past Wooster Community Hospital North then continuing south past Wooster Community Hospital South continuing south leaving Wooster on county Road. 176 (Prairie Lane.). This path will be on utility poles for an estimated 5 miles or 26,000 Feet.
- Leaving Wooster on County Road 176 (Prairie Lane.) south to State Road 83 south (Millersburg Road.) , continuing south through Holmesville into Millersburg, Ohio This route is an estimated 16 miles or 85000 Feet , which there will be an estimated 34,000 Feet underground placement with the remaining placed on utility poles .

- Into Millersburg Ohio there will be an estimated 2 miles or 11,000 Feet of overhead placement on utility poles through Millersburg. This path will be past Joel Pomerene Hospital continue south on route 62/83.
- Leaving Millersburg on route 62/83 south to county Road. 83 continuing on county Road. 83 into Coshocton, Ohio. This route is an estimated 21 miles or 111,000 Feet with an estimated 85,000 Feet of underground placement and the remaining being placed on utility poles.
- Into Coshocton Ohio, a path through the city, past Coshocton Community Hospital to county Road 16 East. This path will be on utility poles for an estimated 4 miles or 21,000 Feet.
- Leaving Coshocton Ohio on County Road. 16 East continue East through West Lafayette, county 16 turns into county Road. 9. Continuing on Rt.9 East into Newcomerstown, through town to East State Street North to Beagle Club Road. East, two miles on Beagle Club Road the route will crosses State Rt. I-77 to Shoemaker Road East. The route will follow Shoemaker Road East to State Route. 36. On Route 36 go through Port Washington continuing on rt. 36 East through Gnadenhutten continuing to Uhrichsville/Dennison, (known as the twin city) This route is an estimated 28 miles or 148,000 Feet with an estimated 99,000 Feet underground with the remaining placed on utility poles and one major Highway crossing.
- Once into Uhrichsville/Dennison the path will past Twin City Hospital then continue out of Uhrichsville North on county Road. 64 (Eastport Road SE). This path will be on utility poles for an estimated 8 miles or 42,000 Feet.
- Leaving the Twin City on county Road. 64 North to Johnson Road West to North Water St which turns into Brightwood Dr. North, continuing on Brightwood Dr. North to E. High St in New Philadelphia. This route is estimated 7 miles or 37,000 Feet with an estimated 13,000 Feet of underground placement, the remaining 24,000 Feet placed on utility poles.
- Once into New Philadelphia, a path past Union Hospital then continuing North through New Philadelphia into Strasburg. This path is an estimated 11 miles or 58000 Feet; all will be placed on utility poles.
- Leaving Strasburg on Township Road. 421 to Fort Laurens Road. North continuing into Bolivar, through Bolivar on Sherman Church Road. North into Canton Ohio, this estimated path is 16 miles or 85,000 Feet with an estimated 55,000 Feet underground and the remaining 30,000 Feet placed on utility poles.
- Into Canton Ohio the path will be placed past Aultman Hospital, then continue north to past Mercy Medical Hospital or vicinity. Once in the area of Mercy Medical the path will start heading West on Tuscarawas St. West through Canton to 3rd. Street. NE to Cherry Road. NE which crosses river. Cherry St turns into Wooster St. NW out of Canton. This estimated path is 12 miles or 64,000 Feet of overhead placement.
- Leaving Canton on Wooster St West to Deerfield Avenue South to County Road 7 (Church Street) West to Wayne St North into Orrville, Ohio. This estimated path is 13 miles or 69,000 Feet with an estimated 45,000 Feet being placed underground and the remaining placed on utility poles.
- Into Orrville Ohio a path will past Dunlap Memorial Hospital. This is an estimated 2 miles or 11,000 Feet of overhead placement on utility poles.

- Leaving Orrville Ohio heading West on route 7 to township Road. 47 North up to County Road 23 (Back Orrville Road) West back into the city of Wooster Ohio. This path is an estimated 8 miles or 43,000 Feet with an estimated 26,000 Feet placed underground and the remaining 20,000 Feet placed on utility poles. This being the last section of the south fiber ring which would complete and have redundancy on the South fiber ring.

The description above is a proposed and preliminary route with only estimated footages to obtain a complete fiber ring for the hospitals mentioned for the Southern ring.

6.2 Functional Sections

OneCommunity is seeking to provide the best solution and economic value for the entire project and has identified that the geographic scope of the project and communities involved present distinct challenges to any Respondent. Therefore, in order to accomplish this objective Respondents may choose based on their ability, expertise and costs to respond to any or all defined sections of the RFP. In order to complete a proper evaluation and comparison responses, the Respondents need to submit their responses by first identifying the geographic zone or zones (5.1.1) as defined below and then the Functional Sections (5.1.2) of their responses.

6.2.1 Network Engineering, Installation and Testing

The preliminary fiber routes and equipment design provided are based on integrating the new build into the existing OneCommunity HealthNet framework. Respondents are encouraged to review the design and where appropriate make alternative suggestions based on their experience that will positively impact the cost and performance objectives of the network. Respondents will need to provide their detailed response for fiber network for one or all of the three zones presented. Respondents are expected to provide detailed and accurate documentation of the proposed routes before the project moves to a construction process.

The network engineering firm will need to provide a comprehensive list of permits that are applicable for the fiber construction, this includes and pole permits, railroad crossing permits bridge and highway crossing permits, and any right of way permits for underground construction. Where possible the network engineering design should consider lower cost underground alternatives.

Respondent must provide an accurate estimation of all make ready work required for pole attachment. All pole attachments can reside in either the communications or power zones. A detailed list of pole owners and contact information for work submittal must also be provided.

Respondents must provide a detailed business case for the zone or zones and overall business case to allow the OneCommunity evaluation team to decide on the best solution that fits the needs of OneCommunity and its customers.

Respondents must provide an estimated link budget for all fiber optic spans.

Format of the final network design build plans must be submitted to OneCommunity in an AutoCAD (.DWG or .DWF) format as well in a Bentley Fiber systems format.

- Detailed path for each segment of Eastern zone construction project.
- Pricing for path walkouts for each region to gather all construction information
- Finalized list of all poles used for aerial attachment. List must also include pole owner and contact information for OneCommunity records.
- Accurate cost analysis of all pole permits including non-reoccurring and reoccurring costs for attachments
- Firm cost on make ready for all aerial attachments
- Detailed list of required permits for poles, Railway crossings, Bridge or Highway Crossings and contact information for permit submittal
- Pricing schedule to complete and submit all required permits on behalf of OneCommunity.
- Detailed pricing schedule for construction broken down into the (3) regions
- Detailed construction plan with timelines and benchmarks
- List of sub-contractors with similar project experience.
- As-Built prints both in ISO A0 (ANSI E 34" x 44") hardcopy and electronic formats submitted in an AutoCAD (.DWG or .DWF) format as well as in a Bentley Fiber Systems (.OSP) format.
- Detailed proposed splicing diagram

6.2.2 Construction Management

Construction Management Respondents must have a developed and proven management team with a track record of successfully implemented large scale local, regional and national projects. Construction Management and/or Project Manager should have at least 7 years in past small, medium, and large projects. Project Management has to be familiar with the following

- **Construction Preparation** – This part of the process involves getting all items ready for construction. This would include make ready on utility poles, right away agreements for undergrounds spans, and closing any issues with materials needed to construct the infrastructure. This process would also include a final review of all construction plans and maps and checking to ensure all paperwork was filed and received.
- **Materials** – This step involves ordering all the materials to bring the project together. This includes Cables, hardware, and equipment. This process will involve interaction with the vendors to nail down delivery dates and material availability.
- **Permits** – This process involves filing all the appropriate paperwork with the various facility providers for access to poles and utility right of ways. This process involves filing the proper paperwork with the utilities as well as with the various counties the infrastructure will pass.

- **Path Engineering** – Path engineering involves walking the fiber routes to survey poles, railroad crossings, and bridge under/over passes. This process is to ensure that the fiber path chosen can be physically built on the structures available. During this process all available poles will be surveyed and recorded, any underground spans are measured for distance and public utilities are noted, and any obstructions are surveyed and recorded. After this process all information should be gathered for the permitting process.
- **Site Preparation** – This involves a few different steps depending on the type of sites. Site surveys will need to be performed on all locations to determine available space, power, and environmental requirements. Collocation agreements will have to be established between the NEORHIO Hospitals and One Community. This would also involve and pre-site installation work that is required to bring the site to operational status.
- **Site Constructions** – This process involves physically installing the equipment and hardware to support the network infrastructure. This will also include any site entrances and cabling required connecting outside plant into the physical space.
- **Project Monitoring and Control** – The Project Management team should be able to utilize various methods and tools to ensure that all tasks are being completed on time and within a determined budget. These tools include Microsoft Project 2003, Risk mitigation and management plans, and the communications plan. All these tools are updated and distributed to the appropriate parties daily, weekly or monthly based or as needed. Any changes or variations to these plans, which have not been mutually agreed to by both **OneCommunity** and the Construction management team will be reviewed during the regular status meetings. If significant change or modification is required that will adversely affect the master project plan a Project Change Request will be used to document the changes for tracking and change control.
- **Project Reporting** The project reporting entails weekly internal project status meetings. During the meeting, the Project Manager will review the current project status report. These meetings are for the project team. Issues and tasks will be delegated to the proper departments and timelines will be established for task completion. During project status meetings internal staff will report both successful task progression and issues relating to specific tasks. Any issues with any tasks shall be reported by the project manager and recorded in the issue log for tracking and resolution purposes. All Project Managers, Project Supervisors and Construction Managers will be included in the distribution of the project status report and issues log.

Bi-weekly reviews will be held with the Construction Management. The purpose of these meetings will be to review the budget, project plan status and progress and impact of any proposed changes to the scope of the project. Scheduling of meetings will be determined between the Project Manager /OneCommunity and the

Construction Manager on awarded of project. E-mail distribution lists for project status reports and issues logs will be determined at this time.

Subcontractors

Construction Management will coordinate and determine subcontractors to perform work. The substitution of one sub-contractor for another is at the discretion for the project manager. **Construction Management** will be responsible for the subcontractors meeting terms and conditions of the specifications.

6.2.3 Fiber Optics and Fiber Optics Network Hardware

6.2.3.1 Fiber Specifications

The fiber optic cable proposal should be considered for the entire project covering the eastern, western and southern zones. This will be a bulk purchase providing the maximum discounts.

- The supplier shall test the cable for conformance to the referenced ICEA and EIA specifications.
- The supplier shall furnish test data to assure that the cable and fibers meet the specifications contained herein.
- The supplier shall supply a copy of the factory test results with each reel. The data package shall be protected by a weather proof pouch or by the reel lagging. The data shall contain, as a minimum, attenuation measurements for every fiber, project name, cable length, and product part number.
- Optical fibers shall be manufactured by a manufacturer with the demonstrated capacity to manufacture the specified glass. OneCommunity will require SMF-28e, LEAF or True Wave equivalent or better fiber specification that meets ITU-T g.652.D or ITU-U G.655, as demonstrated to the satisfaction of OneCommunity and its Consultant.
- The fiber optic cable shall be suitable for aerial/duct placement.
- The central member shall be a fiberglass reinforced plastic. It may be over coated with polyethylene for sizing of the cable core.
- The fiber optic cable shall be of the loose tube buffer design. Each cable shall contain individually colored optical fibers which are easily distinguishable and do not adhere to one another. Fibers shall be placed in dual layered buffer tubes in groups no greater than 12 (twelve). The fibers and buffer tubes shall be colored in accordance with REA-PE-90.
- The cable shall not contain any splices of any material.
- The fiber optic cable shall withstand a maximum tensile loading of 600 lbs. during installation with no damage.
- The jacket shall be smooth, free from surface damage and irregularities, and free striping. Severe damage or recurring irregularities may be cause for rejection of the cable by OneCommunity

6.2.3.2 Fiber and Hardware broken into the three geographic zones

Vendors should submit quotes for the following items using the specification indicated in section 6.2.3.2. For consistency and to simplify maintenance please quote a quantity's indicated for comparative analysis for all three zones.

The Eastern Zone estimated 101 miles with estimated 50/50 breaks down into overhead and underground builds.

Total estimated fiber for the Eastern zone would be 18 reels 96ct loose tube @ 30,000' ea. plus 1 reel of 12ct loose tube @ 20,000' for entrance laterals fiber into hospitals

Aerial Placement

- Total (6.6m / .25" Class A) strand will be 230000', along with the strand, all necessary hardware to attach to poles, I.E. Three Bolt Clamps, Strap and Spacers, Bonding / Grounding Clamps, Lashing Clamps and 0.10m lashing wire.
- Total of 5000 Fiber Markers
- Total of 350 Sno-Shoe's for aerial back loops
- Total of 200 Screw Anchors and associated hardware.
- Total of 20 Splice Enclosures to accommodate 96ct fiber in/out with a 12ct for the Hospitals
- Total of 40 splice trays for Splice Enclosures

Underground Placement

- Total estimated 50 miles underground with 30% 80,000' in 2" duct (Arnco) and the rest directly (Plowed / Trenched or Bored)
- Total of 30 - 17"x 24" pull vaults
- Total of 100 Riser Guard U Galvanized 2" x 8 Feet.

Internal / Interior fiber Placement

There are a total of four hospitals in Zone One:

- Total of four Rack / Wall mount Splice Enclosures
- Total of eight bulk heads to mount in splice enclosures
- Total of 48 Pig Tails LC connectors one end (Fiber to Bulk Head jumpers)
- Total of 48 Pig Tails with LC to LC connectors (Unknown Meters/Footages)

The Western Zone is estimated 240 miles with an estimated 40/60 break down into overhead and underground builds.

Total estimated fiber for Zone Two would be 42 reels 96ct loose tube @ 30,000' ea. plus 1 reel of 12ct loose tube @ 20,000' for entrance laterals fiber into hospitals.

Aerial Placement

- Total (6.6m / .25" Class A) strand will be 482000', along with the strand, all necessary hardware to attach to poles, I.E. Three Bolt Clamps, Strap and Spacers, Bonding / Grounding Clamps, Lashing Clamps and 0.10m lashing wire.
- Total of 10000 Fiber Markers
- Total of 410 Sno-Shoe's for aerial back loops
- Total of 900 Screw Anchors and associated hardware.
- Total of 80 Splice Enclosures to accommodate 96ct fiber in/out with a 12ct for the Hospitals
- Total of 240 splice trays for Splice Enclosures

Underground Placement

- Total estimated 150 miles underground with 30% 23,800 in 2" duct (Arnc) and the rest directly (Plowed / Trenched or Bored)
- Total of 200 - 17"x 24" pull vaults
- Total of 200 Riser Guard U Galvanized 2" x 8 Feet.

Internal / Interior fiber Placement

There are a total of ten hospitals in Zone Two:

- Total of Ten Rack / Wall mount Splice Enclosures
- Total of Twenty bulk heads to mount in splice enclosures
- Total of 120 Pig Tails LC connectors one end (Fiber to Bulk Head jumpers)
- Total of 120 Pig Tails with LC to LC connectors (Unknown Meters/Footages)

The Southern Zone estimated 190 miles with an estimated 40/60 break down into overhead and underground builds.

Total estimated fiber for Zone Three would be 33 reels 96ct loose tube @ 30,000' ea. plus 1 reel of 12ct loose tube @ 20,000' for entrance laterals fiber into hospitals

Aerial Placement

- Total (6.6m / .25" Class A) strand will be 402000', along with the strand, all necessary hardware to attach to poles, I.E. Three Bolt Clamps, Strap and Spacers, Bonding / Grounding Clamps, Lashing Clamps and 0.10m lashing wire.

- Total of 5000 Fiber Markers
- Total of 200 Sno-Shoe's for aerial back loops
- Total of 450 Screw Anchors and associated hardware.
- Total of 40 Splice Enclosures to accommodate 96ct fiber in/out with a 12ct for the Hospitals
- Total of 120 splice trays for Splice Enclosures

Underground Placement

- Total estimated 114 miles underground with 30% 126,720 in 2" duct (Arnc o) and the rest directly (Plowed / Trenched or Bored)
- Total of 60 - 17"x 24" pull vaults
- Total of 120 Riser Guard U Galvanized 2" x 8 Feet.

Internal / Interior fiber Placement

There are a total of seven hospitals in Zone Three:

- Total of seven Rack / Wall mount Splice Enclosures
- Total of fourteen bulk heads to mount in splice enclosures
- Total of 84 Pig Tails LC connectors one end (Fiber to Bulk Head jumpers)
- Total of 84 Pig Tails with LC to LC connectors (Unknown Meters/Footages)

6.2.4 Fiber Construction – Ring and Lateral

OneCommunity is looking for fiber optics plant construction firms to perform all the necessary builds associate in section 6.2.1. Detailed quotes must be provided to include the following functions:

- Walkout of proposed design to gather all information for permitting and construction.
- Installation of fiber optics system as proposed in section 6.2.1 of this RFP.
- Detailed splicing diagrams
- Final as-builts

Construction Vendors

- All vendors must have at least 10 years experience constructing Aerial and underground fiber optics systems.
- Vendors must adhere to the rules and regulation dictated by each of the 22 counties.
- Vendor must provide a detailed project plan and timeline for construction.

Deliverables

- A detailed quote for construction of the specified zone being quoted
- Detailed project plan and deployment schedule for the specific zones being quoted.
- List of previous construction projects with a minimum of (3) references.

6.2.5 Fiber Testing

The fiber testing shall be conducted by the selected Respondent in accordance with the following;

- Test equipment used under this contract shall be from manufacturers that have a minimum of 5 years experience in producing field test equipment. Manufacturers must be ISO 9001 certified.
- All test tools of a given type shall be from the same manufacturer, and have compatible electronic results output.
- Test equipment shall be capable of measuring relative or absolute optical power in accordance with TIA/EIA-526-7, "Measurement of Optical Power Loss of Installed Single-Mode Cable Plant."
- Test equipment shall be capable of nulling out the loss and length of the test jumpers used to interface with the cable plant.
- Test equipment shall incorporate 1310 and 1550nm sources in same unit for single mode testing.
- Information shall be stored at 0dB reference for all calibration wavelengths.
- Resolution shall be at least 0.1dB.
- Accuracy shall be ± 0.2 dB
- Calibration shall be NIST standards.

Test Jumpers

- Test jumpers shall have a mode field diameter nominally equal to that of the cable plant being measured
- Test jumpers shall be between 1 to 5 meters long, and shall contain fibers with coatings that remove the cladding of light.
- Test jumpers shall be of sufficient quality so as to have a negligible effect upon the measurement result.
- Test jumpers shall be compliant with FOTP-171.

Test Preparation

- All connections, ferrules and coupling sleeves, at the optical test points shall be cleaned prior to measurement.

Test Process

- Testing shall be of the optical link. An optical link is defined as the passive cabling network between two optical cross-connects. This includes cable, connectors and splices but does not include active components. The link test contains the representative connector loss at the patch panel associated with the mating of patch cords but does not include the performance of the connector at the equipment interface.
- 100% of all installed cabling shall be tested. All tests must pass acceptance criteria as defined below.
 - Single mode Acceptance Criteria
 - All single mode Cabling shall meet the TIA-568-A loss and length criteria for backbone links. Backbone cabling is the interbuilding cable between buildings. It includes the cross connect connectors and splices (if any).
 - Backbone link criteria:
 - Attenuation 1310 nm1: \leq fiber length (km) x .4 dB/km
 - + number connector pairs x 0.75 dB
 - + number of splices x 0.3 dB
 - Attenuation 1550 nm2: \leq fiber length (km) x .22 dB/km
 - + number connector pairs x 0.75 dB
 - + number of splices x 0.3 dB
- If the splice loss during the initial test greater then 0.20 dB. Then an average bi-directional splice loss over 5 successive tests must show to be less then 0.3dB for acceptance.
- If the connector loss during the initial test is greater then 0.5dB. Then an average bi-directional connector loss over 5 successive tests must show to be less then 0.75dB for acceptance.

Documentation

- Test reports shall be submitted in hardcopy and electronic format. Hand-written test reports are not acceptable.
- Hardcopy reports are to be submitted in labeled 3 ring binders.
- Electronic reports are to be submitted on CD format. If proprietary software is used, disk or CD shall contain any necessary software required to view test results. If the results are delivered in a standard format like Excel, Access, and CSV files, etc. then Software to read these files are not required.
- Test reports shall include the following information for each cabling element tested:
 - Actual measured attenuation (loss) at all wavelengths, expected attenuation and the margin. An individual test that fails the link attenuation criteria shall be marked as FAIL.
 - Reference method.
 - Number of mated connectors and number of splices (if any).
 - Actual length and expected length. Any individual test that fails the link length criteria shall be marked as FAIL

- Group refractive index (GRI) at all wavelengths, if length was optically measured.
- Tester manufacturer, model, serial number and software version.
- Fiber ID number and project/job name.
- Auto test specification used.
- Overall pass/fail indication.
- Date and time of test.
- Test reports shall be submitted within 7 business days of completion of testing.

6.2.6 Network Hardware and Equipment

OneCommunity is looking for proposals from vendors that meet the appropriate operational, scalability and maintenance requirements for HealthNet and demonstrate the ability deliver cutting edge services to the hospitals being served by OneCommunity and NEO RHIO in Northeast Ohio. OneCommunity is looking for vendors who are technical leaders in their specific field and will review and evaluate all solutions that meet the requirements dictated in this RFP. OneCommunity will also be looking for vendors that have a proven track record of incorporating research and development of new technologies into their existing platforms without compromising their existing products and services.

OneCommunity is taking proposals from vendors for equipment covering the 3 distinct eastern, western and southern regions by broken out in the three distinct categories.

- **Category 1 – Physical Hardware** including racks, power systems, and hardware
- **Category 2 – Backbone / Premise Dense Wave Division Multiplexing** Including equipment to interface with the present OneCommunity backbone as well as robust service delivery to 19 end locations.
- **Category 3 – Ethernet backbone and customer demarcation equipment.**

Vendors can respond to any or all categories in whole or in parts to provide the best possible solution.

6.2.6.1 Physical Hardware

OneCommunity/NEO RHIO will be installing hardware that supports the network backbone and service delivery at the HealthNet customer premise equipment. OneCommunity wants to provide a clean and efficient installation that provides functionality as well as aesthetics. OneCommunity is looking for Hardware for (2) distinct types of installation. These (2) installation types for this project include:

- Regional gateway – These locations are collocations that help distribute service throughout a region. Vendors should prepare quotes for (6) regional gateways.

- Customer Premise – These are the (19) hospitals that serviced by the OneCommunity network. Vendors should prepare quotes for (19) customer premise build-outs.

6.2.6.2 Hardware Specifications

Please use the following rack specification to quote out the appropriate hardware.

- Racking
 - 4 Post Rack (Open or Closed)
 - Width 19"
 - Height 84"
 - Depth 29"
 - 12-24 mounting screw holes
 - EIA-310-D hole pattern (1 3/4" High Rack Units (RU))
 - Color Black
- Cable Management
 - 84" x 6" wide vertical cable management with cable fingers and fiber optics spools to be installed on both front and back channels
 - Medium cable rings for Top and Bottom of rack
 - Front to back cable trays
- Uninterruptible power supply (UPS)
 - 5000VA rack mountable
 - Input Voltage up to 240V/30Amp
 - Output (2) NEMA L6-30R and a minimum of (4) NEMA L5-15/20R
 - Minimum of 4 hours of battery on Full load
 - SNMP Monitoring
 - 3 years of maintenance
 - Battery replacement schedule and cost of battery replacement
- Metered Power Strips with Automatic Transfer Switch
 - 20A 120V capacity
 - Must have Automatic Transfer Switch Feature
 - Minimum of (6) L5-20R receptacles
 - SNMP Monitoring

Deliverables

- Quotes for the required items broken out by location
- Specification sheets on all quoted hardware
- Any vendor recommendations or suggestions
- Details on RMA process and costs for maintenance.
- List of recommended on-site spares for mission critical components.

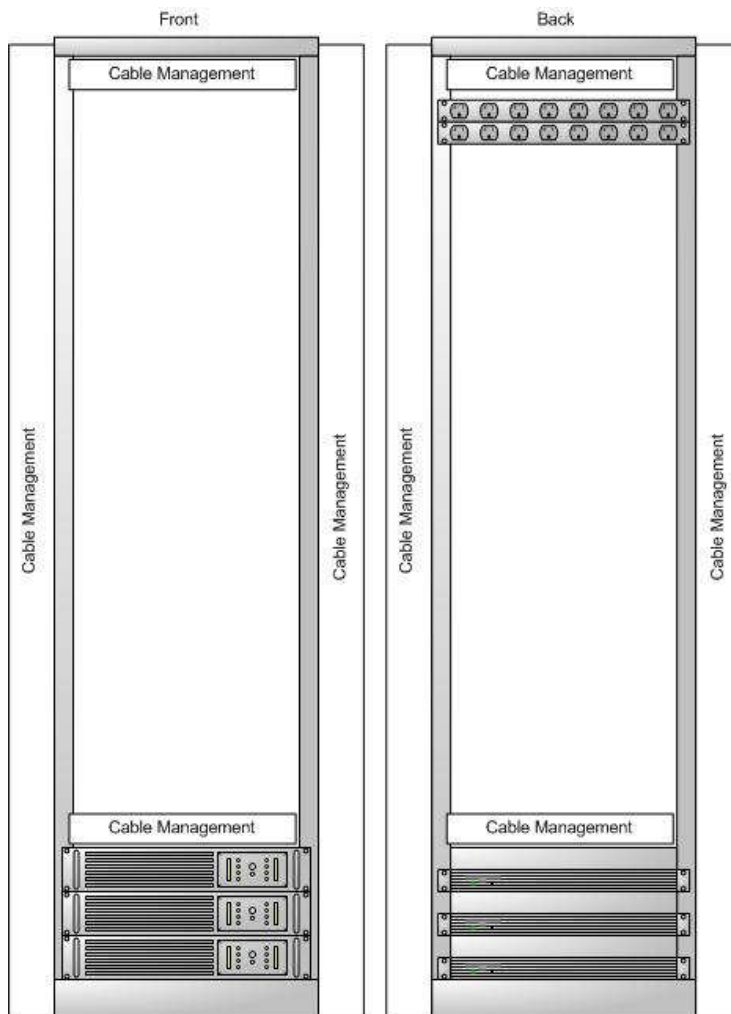


Figure 6.1 – Typical rack layout

6.2.6.3 Regional Gateway

Vendors should submit quotes for the following items using the specification indicated in section 6.2.6.2. Please provide a quote for six (6) regional gateway configurations.

Each Regional Gateway will require the following items

- (1) 4 Post Rack
- (4) Vertical Cable managers on all (4) channels of rack
- (4) Horizontal medium cable rings
- (1) UPS 240V/30A Input with at least (2) NEMA L6-20R and a minimum of (4) NEMA L5-15/20R
- (2) Metered Power Strips with minimum of (8) 20 amp outputs
- (100) 12-24 Mounting Screws
- (5000) feet of Category 5 Cable
- (20) 1 Meter Single Mode, LC-LC Duplex Jumper

- (20) 3 Meter Single Mode, LC-LC Duplex Jumper
- (20) 6 Meter Single Mode, LC-LC Duplex Jumper
- (10) 10 Meter Single Mode, LC-LC Duplex Jumper
- (20) 1 Meter Single Mode, LC-SC Duplex Jumper
- (20) 3 Meter Single Mode, LC-SC Duplex Jumper
- (20) 6 Meter Single Mode, LC-SC Duplex Jumper
- (10) 10 Meter Single Mode, LC-SC Duplex Jumper
- (20) 1 Meter Multi Mode, LC-LC Duplex Jumper
- (20) 3 Meter Multi Mode, LC-LC Duplex Jumper
- (20) 6 Meter Multi Mode, LC-LC Duplex Jumper
- (10) 10 Meter Multi Mode, LC-LC Duplex Jumper
- (4) MIL SPEC:MIL-T-713EB, Type P Class1 Waxed RoHS Lacing Cord
- (3) Write on Label Dispenser with 1 ¼" x ¾"
- (1) 19" Copper Grounding Bar
- (60) 1" x 5" wide Velcro Tie Wraps

6.2.6.4 Customer Premise

Vendors should submit quotes for the following items using the specification indicated in section 6.2.6.2 and Figure 6.2 which shows the typical configuration of the rack including the UPS, cable management, and metered powered strips. Please provide a quote for nineteen (19) customer premise configurations.

Each Customer Premise requires the following items

- (1) 4 Post Rack
- (4) Vertical Cable managers on all (4) channels of rack
- (4) Horizontal medium cable rings
- (1) UPS 120VAC/20A Input with at least (4) NEMA L5-15/20R outputs
- (2) Metered Power Strips with a minimum of (6) 20 amps outputs
- (100) 12-24 Mounting Screws
- (5000) feet of Category 5 Cable
- (20) 1 Meter Single Mode, LC-LC Duplex Jumper
- (10) 3 Meter Single Mode, LC-LC Duplex Jumper
- (10) 6 Meter Single Mode, LC-LC Duplex Jumper
- (5) 10 Meter Single Mode, LC-LC Duplex Jumper
- (20) 1 Meter Single Mode, LC-SC Duplex Jumper
- (10) 3 Meter Single Mode, LC-SC Duplex Jumper
- (10) 6 Meter Single Mode, LC-SC Duplex Jumper
- (5) 10 Meter Single Mode, LC-SC Duplex Jumper
- (20) 1 Meter Multi Mode, LC-LC Duplex Jumper
- (10) 3 Meter Multi Mode, LC-LC Duplex Jumper
- (10) 6 Meter Multi Mode, LC-LC Duplex Jumper
- (5) 10 Meter Multi Mode, LC-LC Duplex Jumper
- (4) MIL SPEC:MIL-T-713EB, Type P Class1 Waxed RoHS Lacing Cord
- (3) Write on Label Dispenser with 1 ¼" x ¾"

- (1) 19" Copper Grounding Bar
- (60) 1" x 5" wide Velcro Tie Wraps

6.2.6.5 Backbone Dense Wave Division Multiplexing (DWDM)

OneCommunity will require a vendor to quote a robust and flexible DWDM system that can provide backbone services and interface with HealthNets Fujitsu Flashwave 7500s and Flashwave 7120 core network and provide consistent customer service management. OneCommunity will review and evaluate all solutions that meet the present requirements dictated in this RFP.

OneCommunity has developed specification on (2) distinct equipment classifications. These Specifications refer to equipment used to support the network backbone and equipment to support customer traffic aggregation. These specifications are described in detail in the following sections.

6.2.6.6 Specifications for Backbone DWDM requirement

One Community requires the following minimum specifications for the DWDM backbone network:

- Minimum of 32 channels
- Must be able to support Ethernet speeds of 1 Gigabit, 10 Gigabit, 40 Gigabit (a roadmap for 40G optics in the next year is acceptable)
- Must be able to support SONET speeds of OC-3, OC-12, and OC-192
- Must be able to support Storage Area Networking protocols
- Must be able to support Alien Wave Forms
- Must support WSS ROADM with 8 degree hub (6 degree hub is acceptable if roadmap for 8 degree is before December 2009)
- All Transponders/Muxponders must be tunable to all wavelengths available to the system
- System must support Automatic Span loss Adjustment
- Units must be 19" rack mountable
- DC or AC power accepted, please supply DC rectifier with specifications when submitting bid if DC is required.
- Chassis must be NEBS level 3 compliant
- System must be able to be SNMP monitored
- System should have Network Management System
- Must be able to support spans of 100km

6.2.6.7 Specifications for Customer Premise DWDM

OneCommunity requires the following minimum specifications for DWDM customer access network:

- Minimum of 32 channels on Ring
- Minimum of 4 channels to customer premise

- Must be able to support Ethernet speeds of 1 Gigabit, 10 Gigabit, 40 Gigabit (a roadmap for 40G optics in the next year is acceptable)
- Must be able to support SONET speeds of OC-3, OC-12, and OC-192
- Must be able to support Storage Area Networking protocols
- Must be able to support Alien Wave Forms
- All Transponders/Muxponders must be tunable to all 40 wavelengths available to the system
- System must support Automatic Span loss Adjustment
- Units must be 19" rack mountable
- Units must not exceed (6) rack Units
- DC or AC power accepted, Please supply DC rectifier with specifications when submitting bid
- System must be able to be SNMP monitored
- System should have Network Management System

6.2.6.8 Design

Vendors are asked to provide the most detailed solution and provide detailed documentation on the design and its function. OneCommunity will require the vendor to submit data sheets on all items quoted in this section.

Vendors should provide pricing for equipment maintenance for three years with a 72 hour parts replacement plan.

Vendor should include documentation and pricing for equipment support and RMA processing for defective equipment.

A detailed cost analysis and bill of materials should be provided for recommended on-site spares for all critical or service affecting components.

6.2.6.9 Backbone Design

The Backbone design consist of (8) locations that will provide high speed regional aggregation. OneCommunity has a present DWDM system between Cleveland, Akron, Youngstown, and Ashtabula using the Fujitsu Flashwave 7500s. All provided solutions must be compatible with existing Fujitsu Flashwave 7500 platform. The following is a description of each node and its present status.

- Cleveland Node
 - Presently has a DWDM node using a Fujitsu Flashwave 7500s.
 - Presently has (2) Fujitsu Flashwave 7120 systems
 - Present system drops (7) 10 Gigabit circuits, (4) 1 Gigabit Circuits, and (1) OC-12
 - Has 4 Degree WSS
 - System is attached to Cisco 6509 and Cisco 6504
 - Future need to support 8 degree ROADM
- Akron Node

- Presently has a DWDM node using a Fujitsu Flashwave 7500s
 - Presently has (1) Fujitsu Flashwave 7120 system
 - Present System drops (5) 10 Gigabit Circuits and (3) 1 Gigabit Circuits
 - Has 4 Degree WSS
 - System is attached to a Cisco 6504
 - Future need to support 8 degree ROADM
- Youngstown
 - Presently has a DWDM node using a Fujitsu Flashwave 7500s
 - Presently has (2) Fujitsu Flashwave 7120 systems.
 - Present System Drops (2) 10 Gigabit Circuits, (1) 1 Gigabit Circuit, and (1) OC-12
 - System attached to a Cisco 6504
 - Future Need to support 8 degree ROADM
- Canton
 - New site
 - Future need to support 4 degree ROADM
 - Future need to support (4) 10 Gigabit circuits
 - Will connect to the existing Akron Fujitsu Flashwave 7500s
- Huron
 - New Site
 - Future need to Support 4 Degree ROADM
 - Future need to support (4) 10 Gigabit circuits
 - Future Gateway to Toledo and Detroit
 - Will attach to the existing Cleveland Fujitsu Flashwave 7500s
- New London
 - New site
 - Future need to support (2) 10 Gigabit circuits
- Medina
 - New Site
 - Future need to support 8 degree ROADM
 - Future need to support (8) 10 Gigabit circuits
 - Will connect to the existing Akron Fujitsu Flashwave 7500s
- Wooster
 - New site
 - Future Need to support 4 degree ROADM
 - Future Need to support (4) 10 Gigabit circuits
 - Future gateway to Mansfield and Columbus
- Ashtabula
 - Existing Location
 - Presently has a DWDM node using a Fujitsu Flashwave 7500s
 - Presently Drops (1) 10 Gigabit Circuit
 - System attached to a Cisco 6504
 - Future gateway to Erie

A diagram of the backbone is shown in figure 6.2 with estimates of the proposed distances.

For DWDM power, only the Akron location has available DC power, all other locations will require an AC powered device or require DC rectifiers to power the equipment. Provide cost and details on the proposed power system to power the devices.

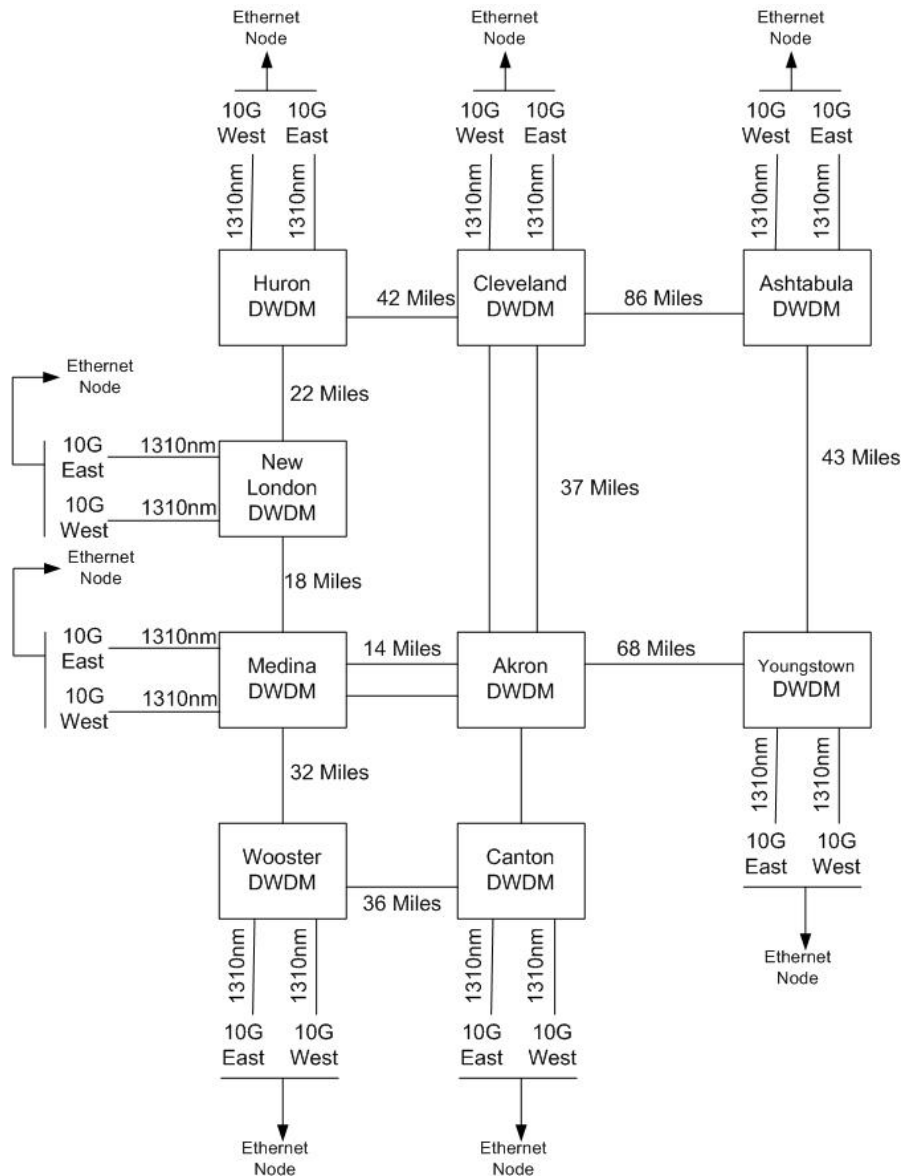


Figure 6.2 – DWDM backbone network diagram

6.2.6.10 Western Ohio DWDM network

The Western Ohio DWDM network consist of (7) locations in a ring formation. The (7) locations are customer premises and should be designed per the Customer Premise DWDM specifications.

For DWDM power, all locations will require an AC powered device or require DC rectifiers to power the equipment. Provide cost and details on the proposed power system to power the devices.

Since these DWDM elements are located at customer premises, space is a critical decision factor.

Each node on this ring is a new element

The DWDM design should meet all design specifications. The proposed backbone is shown in figure 6.3.

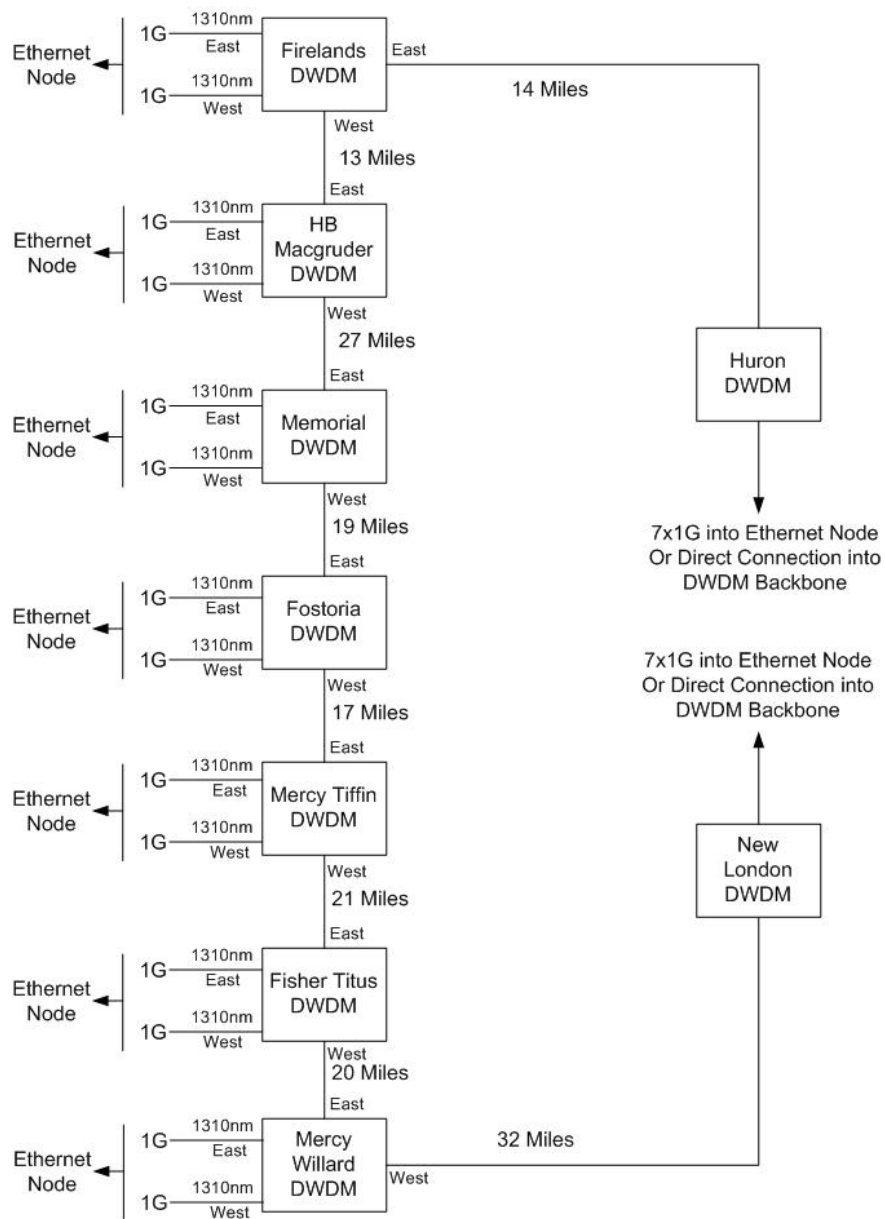


Figure 6.3 – Western Ohio DWDM network

6.2.6.11 Southern Ohio DWDM network

The Southern Ohio DWDM network consist of (7) locations in a ring formation. The (7) locations are customer premises and should be designed per the Customer Premise DWDM specifications. For DWDM power, all locations will require an AC powered device or require DC rectifiers to power the equipment. Provide cost and details on the proposed power system to power the devices.

Since these DWDM elements are located at customer premises, space is a critical decision factor. Each node on this ring is a new element. The DWDM design should meet all design specifications. A diagram if the proposed backbone is shown in figure 6.4.

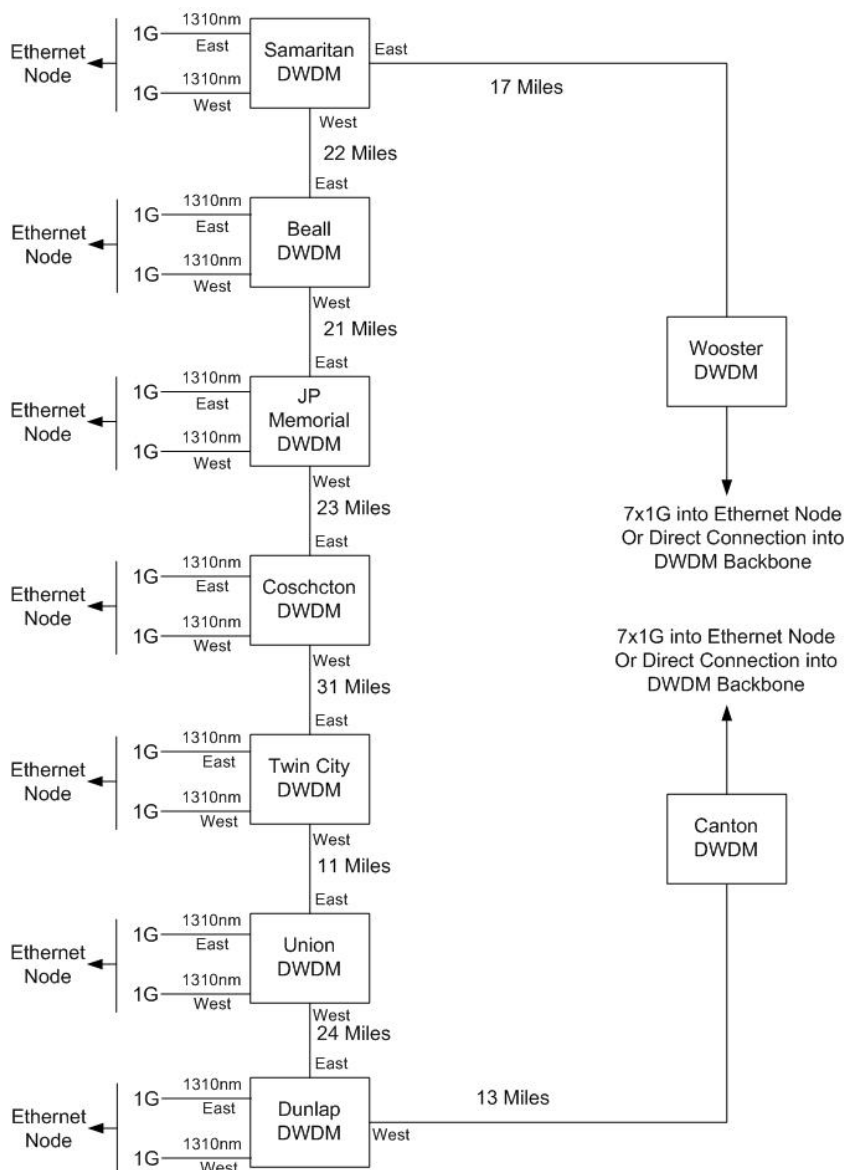


Figure 6.4 – Southern Ohio DWDM network

6.2.6.12 Eastern Ohio DWDM network

The Eastern Ohio DWDM network consist of (4) locations in a ring formation. The (4) locations are customer premises and should be designed per the Customer Premise DWDM specifications. For DWDM power, all locations will require an AC powered device or require DC rectifiers to power the equipment. Provide cost and details on the proposed power system to power the devices.

Since these DWDM elements are located at customer premises, space is a critical decision factor. Each node on this ring is a new element. The DWDM design should meet all design specifications. A diagram if the proposed backbone is shown in figure 6.5.

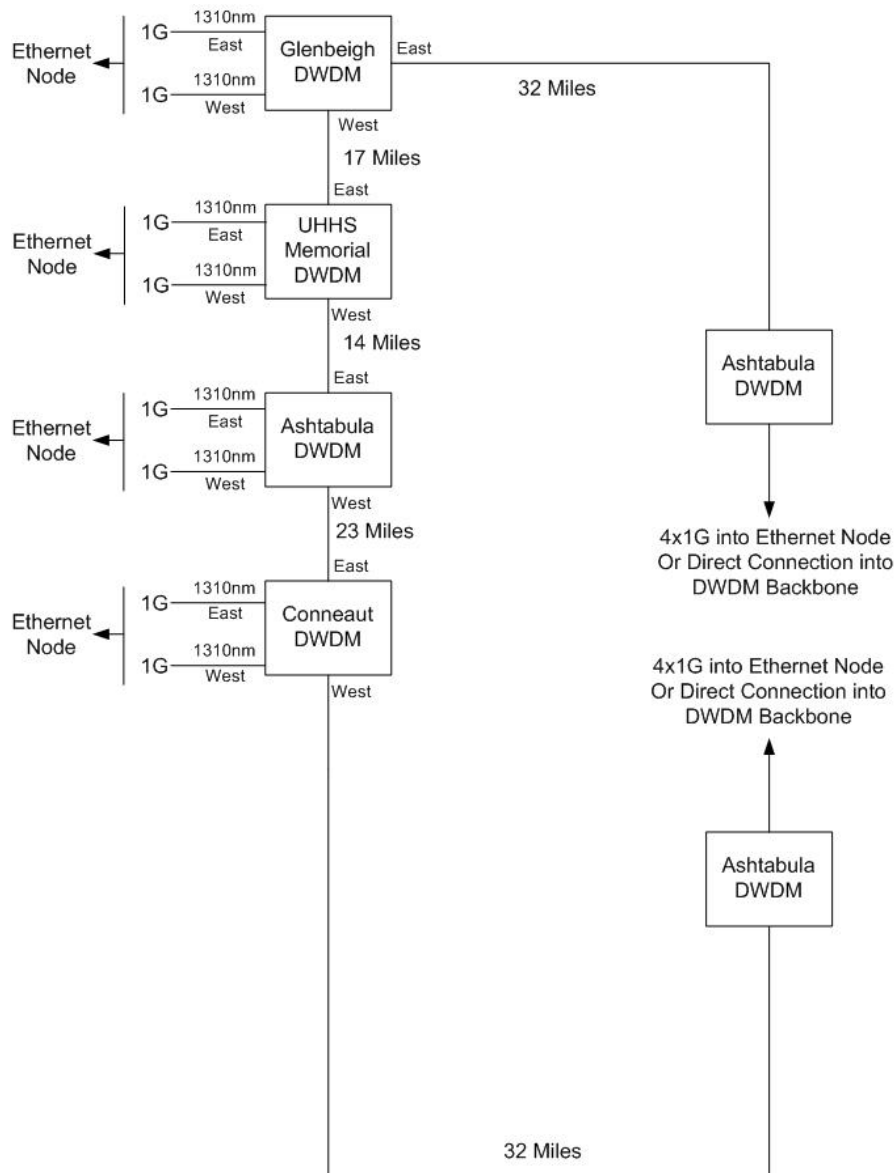


Figure 6.5 – Eastern Ohio DWDM network

6.2.6.13 DWDM Network Deliverables

DWDM Backbone

- Detailed quote including cost of all components in a system broken out by location
- Detailed specifications on design and choice of solution
- Data Sheets on all components used in a system
- Vendor's roadmap for system improvements in the 2008 -2010 fiscal years.
- Specifications on Network Management systems and requirements to host the NMS software including costs for on-site installation, turn-up and testing of management system
- Cost for 3 years of maintenance and support for 72 hour equipment replacement
- Detailed list of onsite spares for critical or service affecting components
- Cost breakdown for advanced support of chosen equipment

DWDM Customer Access

- Detailed quote including cost of all components in a system broken out by location
- Detailed specifications on design and choice of solution
- Data Sheets on all components used in a system
- Vendor's roadmap for system improvements in the 2008 -2010 fiscal years.
- Specifications on Network Management systems and requirements to host the NMS software including costs for on-site installation, turn-up and testing of management system
- Cost for 3 years of maintenance and support for 72 hour equipment replacement
- Detailed list of onsite spares for critical or service affecting components
- Cost breakdown for advanced support of chosen equipment

6.2.6.14 Ethernet Backbone and Customer demarcation equipment

OneCommunity HealthNet Ethernet Backbone is based on Cisco 6500 series switches and provides the framework for regional MPLS Metro Ethernet Services. OneCommunity is looking for a vendor to provide a detailed solution that provides integrated Metro Ethernet MPLS services and end-to-end management of HealthNet customer premise services. OneCommunity is looking for vendors who are technical leaders in their specific field of service delivery. OneCommunity will review and evaluate all solutions that meet the present requirements dictated in this RFP, but will also be looking for vendors who are researching and developing new technologies into their systems and has a proven track record of performance and service. Customer handoff on both the Client side and Network side will be Ethernet ranging in speeds from 10 Megabits to 10 Gigabits.

Vendors should provide pricing for equipment maintenance for a three year term with a 72 hour parts replacement plan

Vendor should include documentation and pricing for equipment support and RMA processing for defective equipment

A detailed cost analysis and bill of materials should be provided for recommended on-site spares for all critical or service affecting components.

6.2.6.15 Specifications of Ethernet Backbone Equipment

- Units must be able to support at a minimum (8) 10/100/1000 Copper connections either as hardened RJ45 or Small form factor (SFP) RJ45
- Units must be able to support at a minimum of (12) Optical Gigabit connection at 850nm Multimode, 1310nm Single-mode optics, and 1550nm Single mode optics
- Unit must be able to support at a minimum of (8) 10 Gigabit optical connections at 850nm Multimode optics, 1310nm Single mode optics, and 1550nm Single-mode optics.
- Prefer to have Small Form Factor (SFP) optics, Gigabit Interface converters (GBIC) connection will be accepted.
- Prefer to have X2 10 Gigabit modules, but XENPAK 10 Gigabit modules are acceptable
- Dual Power Supplies are required
- Maximum equipment size of (12) RU preferred.
- Units must be able to be monitored via SNMP through Solar Winds.
- System must be able to support Multiprotocol Label switching (MPLS) protocol and be able to use at a minimum the following routing protocols
 - Open Shortest Path First (OSPF) Version 2
 - Border gateway Protocol (BGP) Version 4
 - Static Routing
- System should support Ethernet over MPLS (EoMPLS)
- System should be able to support at a minimum layer 2 Virtual LANS (VLAN), Dot1Q trunks, QinQ trunks, L2Protocol-Tunnels.
- Unit should have memory to support a minimum of 200,000 routes.
- System must be able to be accessed via Telnet or SSH for remote configuration
- 3 years of equipment maintenance

6.2.6.16 Specifications of Ethernet Customer Demarcation equipment

- Units must be able to support at a minimum (4) 10/100/1000 Copper connections either as hardened RJ45 or Small form factor (SFP) RJ45
- Units must be able to support at a minimum of (6) Optical Gigabit connection at 850nm Multimode, 1310nm Single-mode optics, and 1550nm Single mode optics
- Unit must be able to support at a minimum of (4) 10 Gigabit optical connections at 850nm Multimode optics, 1310nm Single mode optics, and 1550nm Single-mode optics.

- Prefer to have Small Form Factor (SFP) optics, Gigabit Interface converters (GBIC) connection will be accepted.
- Dual Power Supplies are required
- Power is preferred at 120V, but 240V will be considered.
- Maximum equipment size of (4) RU preferred.
- Units must be able to be monitored via SNMP through Solar Winds.
- System must be able to support at a minimum the following routing protocols
 - Open Shortest Path First (OSPF) Version 2
 - Border gateway Protocol (BGP) Version 4
 - Static Routing
- System should support Ethernet over MPLS (EoMPLS)
- System should be able to support at a minimum layer 2 Virtual LANS (VLAN), Dot1Q trunks, QinQ trunks, L2Protocol-Tunnels.
- System must be able to be accessed via Telnet or SSH for remote configuration
- 3 years of equipment maintenance

6.2.6.17 Deliverables

Ethernet backbone Equipment

- Detailed cost analysis including cost breakdown of all components in the proposed system broken out by location
- Detailed specifications on equipment chosen
- Data Sheets on all components used in proposed system
- Equipment roadmap for system improvements in the 2008 -2010 fiscal years.
- Cost for 3 years of maintenance and support for 72 hour equipment replacement
- Detailed list of onsite spares for critical or service affecting components
- Cost breakdown for advanced support of chosen equipment

Ethernet customer Premise Equipment

- Detailed cost analysis including cost breakdown of all components in the proposed system broken out by location
- Detailed specifications on equipment chosen
- Data Sheets on all components used in proposed system
- Equipment roadmap for system improvements in the 2008 -2010 fiscal years.
- Cost for 3 years of maintenance and support for 72 hour equipment replacement
- Detailed list of onsite spares for critical or service affecting components
- Cost breakdown for advanced support of chosen equipment

6.2.7 Network Maintenance and Repair

OneCommunity is seeking quotes for a cost on fiber maintenance and restoration services for the fiber optics systems proposed in this RFP.

Vendor may bid on this section as a whole or in parts.

6.2.7.1 Specifications

- Vendor must have personnel located in Northeast Ohio
- Vendor must have availability personnel available 24x7x365.
- Vendor must make best efforts to locate a break within (4) hours of outage notification for fiber optic breaks.

6.2.7.2 Deliverables

- Quote for Maintenance services
 - Need cost breakdown to perform general maintenance of fiber plant
 - Need costs breakdown to perform fusion splicing on existing plant
 - Prefer cost to be as a monthly charge and additional cost charged as time and materials
- Quotes for restoration services
 - Provide cost to have personnel available for fiber restoration 24x7x365
 - Provide costs to have a (4) hour response to a service outage
 - Prefer cost to be as a monthly charge and additional cost charged as time and materials

7 Disclaimer

Vendors responding to this RFP will not be compensated in any way. Also, responding to this RFP will not enhance any vendor's chances of receiving future work from OneCommunity or the HealthNet project. Similarly; not responding to this RFP will not be a detriment to any vendor when competing for future work.

8 How to Respond – General Instructions

Responses must be prepared in Microsoft Word and be clearly labeled as “Request for Proposal – HealthNet”. Please provide two (2) hardcopies with one (1) electronic copy in CD format.

Contact Information:

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