



Brian Bingle
City Administrator
P.O. Box 395
Nixa, MO 65714
bbingle@nixa.com
(417) 725-3785

Date: February 19, 2014

TO: Federal Communication Commission (Staff)
FROM: Brian J. Bingle, City of Nixa, MO City Administrator

SUBJECT: Expression of Interest—Rural Trials
Docket No. 10-90

Background:

The City of Nixa, MO is a city of 19,022, following the 2010 U.S. decennial census. In 1990, the Census Bureau had the city's population at 4,706. This staggering growth rate of 304%, over the last 20 years, has propelled Nixa as Missouri's fastest growing city. Nixa is located in Christian County. It is recognized as the 44th fastest growing county in the nation. The fact that Christian County is growing faster than any other county in 30 other states speaks volumes about Nixa's future growth potential. Current local copper based broadband delivery systems are inadequate and their replacement is not only necessary but essential to advance Nixa's present and future economic opportunities. Many of Nixa's residents work from home to distant locations. The ability for businesses to establish server farms here could lead to strengthening the local economy through job creation. Taking into consideration our local community college who offers networking and computer information science degrees, the ground work is already in place for the residents to get the education to not only maintain the fiber network, (job creation) but also potentially the server farms that are established (place of work). It is the City of Nixa's intent to install and operate a community wide, robust, accessible and affordable FTTP system.

Nixa owns and operates all municipal utility services. It is imperative that fiber, recognized as the fifth utility, exist within our community to contribute and compliment Nixa's commercial and residential customers. To date Nixa has devoted substantial resources in the hiring of an engineering firm who has prepared preliminary FTTP construction plans. The City of Nixa is committed to providing all of its utility easements and rights-of-way to accommodate community-wide, fiber installation.

Missouri Law (Mo. Rev. Stat. 392.410(7)) Missouri bars municipalities and municipal electric utilities from selling or leasing certain telecommunications services to the public. Exceptions exist for telecommunications services used for internal purposes; for educational, emergency and health care uses; and for "Internet type services." Sales of telecommunications services to other providers are also subject to various restrictions.

The City of Nixa does not have an ETC license, but if funded the City would retain an ETC licensed provider as a partner in this project.

Geographic Territory:

The City of Nixa is intending to serve its incorporated boundaries as well as those immediately adjacent territories located within census tracts: M0043020201, M0043020202, M0043020203, M0043020204 and

M0043020205. This service territory will have the ability of servicing 26,715 persons, with a projected 2018 population of 28,683.

List of Anchor Institutions:

The City of Nixa is privileged to have the Nixa Public School District located within our City. Nixa Public School has received accreditation with distinction for the last twelve years in a row. Nixa High School was just named (2013) Gold Star School by the Missouri Department of Elementary Education. And its High School also was named U.S. Department of Education Blue Ribbon School. To sustain this level of excellence, sufficient accessible and robust broadband width is vital. The School District manages one High School, one Junior High School, two middle schools, one magnet (Science, Technology, Engineering, Arts and Math (S.T.E.A.M)), four elementary and one early learning center.

The City has six buildings, ten wells, nine water towers, three electrical substations and eleven lift stations. The majority of our utility infrastructure has inadequate accessibility to fiber in support of a SCADA system.

Within the City there are 16 financial institutions, four/medical/urgent care facilities and five hundred and thirty places of work.

Proposed Technology:

It is the City of Nixa's intent to fully accept ownership of the fiber asset and provide all operations and maintenance of the city-wide system. The City will serve as the ISP and it will wholesale the broadband width to telephone and television providers. It is the City's interest in accommodating a Gigabit Passive Optical Network (G-PON) system. Shared bandwidth by subscribers connected to the same equipment port will have available 2.4 gigs downstream and 1.2 gigs upstream. Equipment "dynamically" divides bandwidth to each subscriber. However, different speed offerings will be made available to our customers, starting at 10 mbps. The City has not yet established a pricing schedule not knowing its total capital expenditure; nevertheless, it is the City's intent to charge an amount that merely off-sets debt service and annual operations and maintenance. Cost benefit to the City is the availability of a robust fiber system that will stimulate further economic development within the community.

State and/or Local support:

The City of Nixa is not receiving any broadband funding from the State and/or Federal Governments at this time. The City is however receptive to and in favor of contributing utility funds towards the city-wide fiber construction that will service the utilities SCADA system. The City's preliminary engineering design estimates that this amount is \$4,000,000. All city utility easements and rights-of-way are capable of supporting the underground installation of the proposed community-wide fiber network.

Existing Providers:

The City has three providers within our incorporated boundaries (AT&T, Sudden Link and Sho-Me Electric). The City of Nixa has reached out to AT&T and Sudden-Link advocating that they privately invest in FTTP rather than the current ancillary copper based system. To date, they have chosen not to make this investment. Sho-Me's system was assessed in conjunction with the City's preliminary engineering design. Based on our review their fiber routes did not lend itself to the FTTH architecture and the fiber was not entirely adequate for the FTTH design, which was to only have one active equipment site. If multiple active equipment sites were placed around the City, Sho-Me fiber could be an option; however, Sho-Me's business plan is strictly for bulk commercial use and is not available for residential or "last mile" application.

Project Timeline:

The City of Nixa has a complete set of preliminary construction plans from Finley Engineers that will accommodate full 100% FTTP build out to each premise within the City. Within six months, the City can complete a full set of construction plans and award a general contractor bid for a shovel ready project.

Scalability:

Finley Engineer's preliminary design contemplates 15 quadrants within the City, with a fiber distribution hut (FDH) located in each quadrant. The design recommends a Gigabit Passive Optical Network (G-PON) configuration with capability of Active Ethernet (AE) where requested. System design accommodates 100% pass-by availability for all of Nixa's premises. This configuration supports connectivity to residences, businesses and health care institutions, educational and municipal facilities with a multitude of services.

Total Utility Investment:

Initial Capital Expenditures:

Central Office (CO) (Building/Site/Racking/Power)	\$363,185.00
Electronic Equipment	\$204,746.00
Outside Plant (Distribution)	\$11,567,124.00
Outside Plant (Ring)	<u>\$2,946,858.00</u>
Total	\$15,081,913.00
Less SCADA route construction (local contribution)	\$4,637,938.00
FTTP Subtotal	\$10,443,975.00

(Notes)

- Assumes 2013-2014 construction pricing
- Assumes one large project; yearly "phased" approach would require CPI adder
- Excludes service provider costs

Incremental Capital Expenditure

Per subscriber:	\$1,868.50
Total Cost assuming 100% take rate	\$28,378,154.00

One Time Capital Infrastructure Investment Needed

\$23,740,216

Total Project Cost

\$28,378,154