



Office: 270.542.4121
Fax: 270.542.4800
10725 Bowling Green Road, P.O. Box 97
Auburn, KY 42206
RECEIVED
FEB 26 2015

PUBLIC SERVICE
COMMISSION

Jeff R. Derouen, Executive Director
KY Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

Case No. 2015-00063

February 19, 2015

Re: In the Matter of the Application of Logan Telephone Cooperative, Inc. for a Certificate of Public Convenience and Necessity for Construction of a Fiber-to-the-Premise Network

Dear Mr. Derouen,

Attached for your review is an Application for a Certificate of Public Convenience and Necessity for the construction of a fiber-to-the-premise (FTTP) network in a specific operating area of Logan Telephone Cooperative, Inc.

Enclosed are one (1) original application and ten (10) copies. Also enclosed are one (1) copy of the maps, plans, specs and drawings of the proposed construction in pdf format on compact disk and two (2) copies on paper.

If you have any questions about this application please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Gregory A. Hale". The signature is written in a cursive, flowing style.

Gregory A Hale
General Manager/Executive Vice President
ghale@loganphone.com
Main: 270.542.4121
Fax: 270.542.4800

RECEIVED

FEB 26 2015

PUBLIC SERVICE
COMMISSION

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**THE APPLICATION OF LOGAN TELEPHONE)
COOPERATIVE, INC. FOR A CERTIFICATE)
OF PUBLIC CONVENIENCE AND NECESSITY)
FOR THE CONSTRUCTION OF FIBER-TO-THE-)
PREMISE IN A PORTION OF LOGAN COUNTY,)
KENTUCKY)**

Case No. 2015-00063

**APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND
NECESSITY FOR CONSTRUCTION OF FIBER-TO-THE-PREMISE**

Logan Telephone Cooperative, Inc.(Logan), pursuant to KRS 278.020 and 807 KAR 5:001, hereby submits this application for a certificate of public convenience and necessity (CPCN) for the construction of Fiber-to-the-Premise (FTTP) in a portion of Logan County, Kentucky.

1. Pursuant to 807 KAR 5:001 Section 14(1) The full name, address and email address of Logan is Logan Telephone Cooperative, Inc., P.O. Box 97, 10725 Bowling Green Road, Auburn, KY 42206, ghale@loganphone.com.
2. Pursuant to 807 KAR 5:001 Section 14(2) Logan is a Kentucky Cooperative Corporation in good standing and our Articles of Incorporation are attached as Exhibit A.
3. Pursuant to 807 KAR 5:001 Section 15(2)(a) we provide the following facts relied upon to show that the proposed construction will be required by public convenience and necessity.
 - a. Currently Logan members are requesting higher speed broadband services than are available through Logan's existing copper/fiber hybrid network.
 - b. In the FCC's 2014 Measuring Broadband Report¹ the FCC found that the average speed subscribed had reached 21.2 Megabytes, an increase of 36% over the previous year. This type of speed, and the speeds Logan members will need in the future, will require a FTTP network.

¹ <http://data.fcc.gov/download/measuring-broadband-america/2014/2014-Fixed-Measuring-Broadband-America-Report.pdf> pages 13-14 See Exhibit B

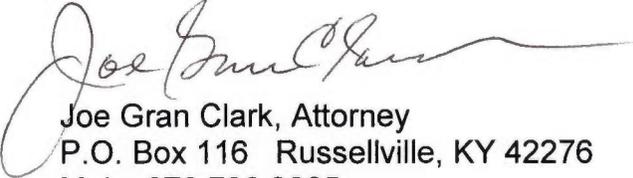
- c. It is generally known that fiber will be an economic engine for long term growth and will create new opportunities in employment, education, health care and entrepreneurship. Quality of life for members will increase as work-from-home opportunities, entertainment services, cloud computing, and other IP offerings require very high speed broadband only available through FTTP networks like those proposed in this application.
4. Pursuant to 807 KAR 5:001 Section 15(2)(b) Logan does not require franchise approval from any public authority to deploy the facilities described herein. Any highway or railway permits will be obtained prior to start of construction. The majority of this construction will be on private right-of-way.
5. Pursuant to 807 KAR 5:001 Section 15(2)(c) Logan provides the following description of the proposed location, construction manner and identifies any competitors.
 - a. The proposed location for this construction is an area in and around the city of Lewisburg that Logan currently serves by copper cable coming from its Lewisburg Central Office. Maps showing the proposed area and the effected routes are included with this application. This area is located in our Lewisburg exchange.
 - b. This project will enable Logan to provide enhanced broadband services to an additional 733 locations. Initially Logan will offer members service up to 100 megabits per second through this active fiber network. The proposed project will provide members with the most advanced broadband infrastructure available. This infrastructure will allow for the offering of other advanced services in the future.
 - c. Fiber optic cable will be placed between Logan's Lewisburg Central Office and each inhabitable premise that desires service on the proposed routes. The cable will be direct buried at a depth of at least 30 inches. The interface between the buried main line cable and the subscriber cable or drop will be in a below ground level handhole or an above ground pedestal.
 - d. In addition to the fiber-optic cable facilities, Logan will place electronic equipment in its Lewisburg central office to transport the optical signal from the central switch and central network to each customer. This optical signal will be converted at the customer's premise to an electrical signal for service to the customer's telephone, computer or other network device.

- e. Even though this project will not use RUS financing, the construction will be performed under Rural Utilities Service (RUS) specifications for direct buried plant and for customer premise cable.
 - f. Logan has competition in fixed broadband services from Suddenlink Communications in portions of the proposed construction area but no other companies provide basic voice services in our service areas. No other companies have deployed FTTP networks in our service areas.
 - g. Logan expects construction to begin in April 2015 and be completed in October 2015 with customers cutover to the new network beginning in October 2015 and ending in the first quarter of 2016.
6. Pursuant to 807 KAR 5:001 Section 15(2)(d), two copies of the required maps, plan, specs and drawings are being included with this application as well as one copy in pdf format on compact disk.
 7. Pursuant to 807 KAR 5:001 Section 15(e) Logan plans to finance all proposed construction, engineering and electronics through the use of existing capital assets. Logan currently holds zero debt and has enough projected cash on hand to meet the financial requirements of this project.
 8. Pursuant to 807 KAR 5:001 Section 15(f) Logan estimates that annual operational costs will significantly decline in the areas where FTTP is deployed. While it is difficult to identify costs savings in just a portion of our network, A FTTP Council study² reports that survey respondents estimate an average of over 20 percent savings in operational costs due to Active FTTP deployment.
 9. At this time, Logan does not anticipate any local telephone rate adjustments associated with this project. As the commission is well aware, Logan may be required by the Federal Communications Commission to raise rates in the future to meet federal urban benchmarks in order to receive Logan's full share of Universal Service or Connect America Fund dollars.

² <http://www.ftthcouncil.org/d/do/1136> page 10 See Exhibit C

Based on the foregoing, and in accordance with KRS 278.020, Logan Telephone Cooperative respectfully requests that the Commission issue a CPCN to deploy a FTTP network in the included service area.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Joe Gran Clark", with a long horizontal flourish extending to the right.

Joe Gran Clark, Attorney
P.O. Box 116 Russellville, KY 42276
Main: 270.726.2085
Fax: 270.726.2081
jgclarklaw@bellsouth.net

LOGAN TELEPHONE
COOPERATIVE
EXHIBIT A

ARTICLES OF INCORPORATION OF LOGAN
COUNTY RURAL TELEPHONE COOPERATIVE CORPORATION

KNOW ALL MEN BY THESE PRESENTS: that the following persons do associate themselves together to form a corporation under the laws of the Commonwealth of Kentucky: W. Gaston Coke, Auburn, Kentucky; Loyd Johns, R. F. D., Lewisburg, Kentucky; John McCarley, R. F. D., Russellville, Kentucky; R. B. Porter, Quality, Kentucky; Buford Campbell, R. F. D., Adairville, Kentucky; R. H. Bailey, R. F. D., Homer, Kentucky; H. L. Barnes, Lewisburg, Kentucky; A. G. Johnson, R. F. D., Adairville, Kentucky; T. I. Mobley, R. F. D., Auburn, Kentucky.

ARTICLE I. The Logan County Rural Telephone Cooperative Corporation, Inc. is formed pursuant to provisions of KRS 279.310 to KRS 270.600.

ARTICLE II. The name of the corporation shall be Logan County Rural Telephone Cooperative Corporation, Inc.

ARTICLE III. The address of its principal office shall be Russellville, Kentucky, and the incorporators are as follows: W. Gaston Coke, Auburn, Kentucky; Loyd Johns, R. F. D., Lewisburg, Kentucky; John McCarley, R. F. D., Russellville, Kentucky; R. B. Porter, Quality, Kentucky; Buford Campbell, R. F. D., Adairville, Kentucky; R. H. Bailey, R. F. D., Homer, Kentucky; H. L. Barnes, Lewisburg, Kentucky; A. G. Johnson, R. F. D., Adairville, Kentucky; T. I. Mobley, R. F. D., Auburn, Kentucky.

ARTICLE IV. The trustees shall be the same as the Incorporators and they shall have the power to adopt by-laws for this corporation.

ARTICLE V. The corporation shall operate in parts of Logan, Todd, Muhlenberg, Butler, Warren, and Simpson counties, Kentucky.

ARTICLE VI. The private property of the trustees and members of the cooperative shall not be subject to the payment of the debts of the corporation.

ARTICLE VII. The corporation shall have perpetual existence.

ARTICLE VIII. W. Gaston Coke, Auburn, Kentucky, shall be process agent.

IN TESTIMONY WHEREOF, witness the hands of the parties
hereto this 15th day of May, 1954.

R. H. Bailey
Loyd Johns
H. L. Barnes
A. G. Johnson
T. I. Mobley

J. B. Campbell Jr.
John D. McCarley
R. B. Porter
W. Gaston Coke

STATE OF KENTUCKY
COUNTY OF LOGAN

I, J. Cranville Clark, a notary public in and for the
county and state aforesaid, do hereby certify that the foregoing
Articles of Corporation of Logan County Rural Telephone Cooperative
Corporation, Incorporated were this day produced to me in my
office by W. Gaston Coke, Loyd Johns, John McCarley, R. B. Porter,
Buford Campbell, R. H. Bailey, H. L. Barnes, A. G. Johnson,
T. I. Mobley, and acknowledged and delivered by said parties to
be their act and deed.

Witness my hand this 15th day of May, 1954.

J. Cranville Clark
Notary Public, Logan County, Ky.
Comm Exp 20 Jan 1958

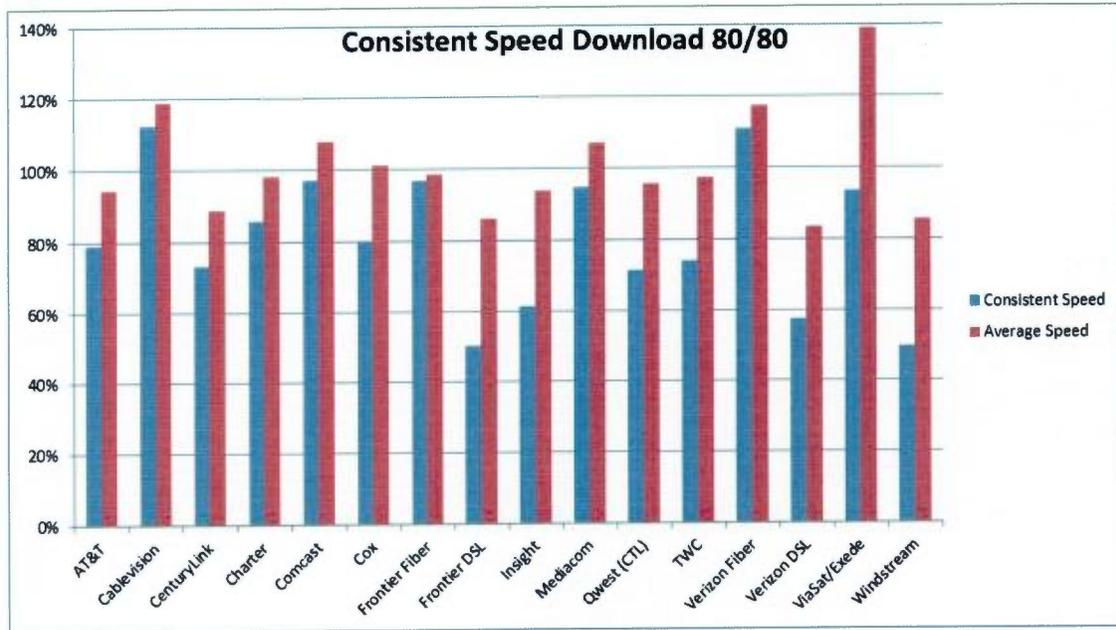
ORIGINAL COPY
FILED AND RECORDED

MAY 24 1954

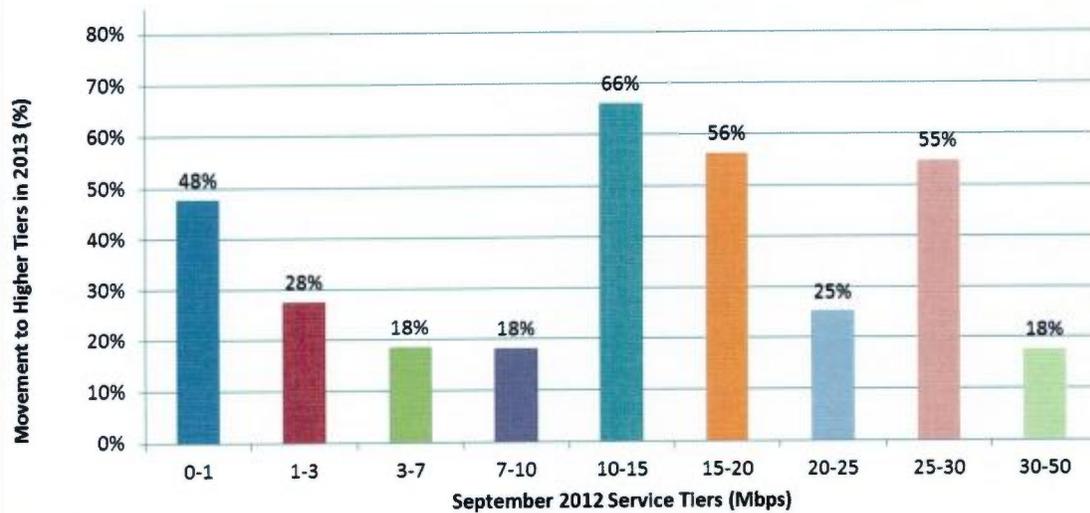
Charles K. Connell
SECRETARY OF STATE OF KENTUCKY
FRANKFORT, KENTUCKY
BY W. L. Davis
CHIEF CORP. CLERK

LOGAN TELEPHONE EXHIBIT B

Measuring Broadband America



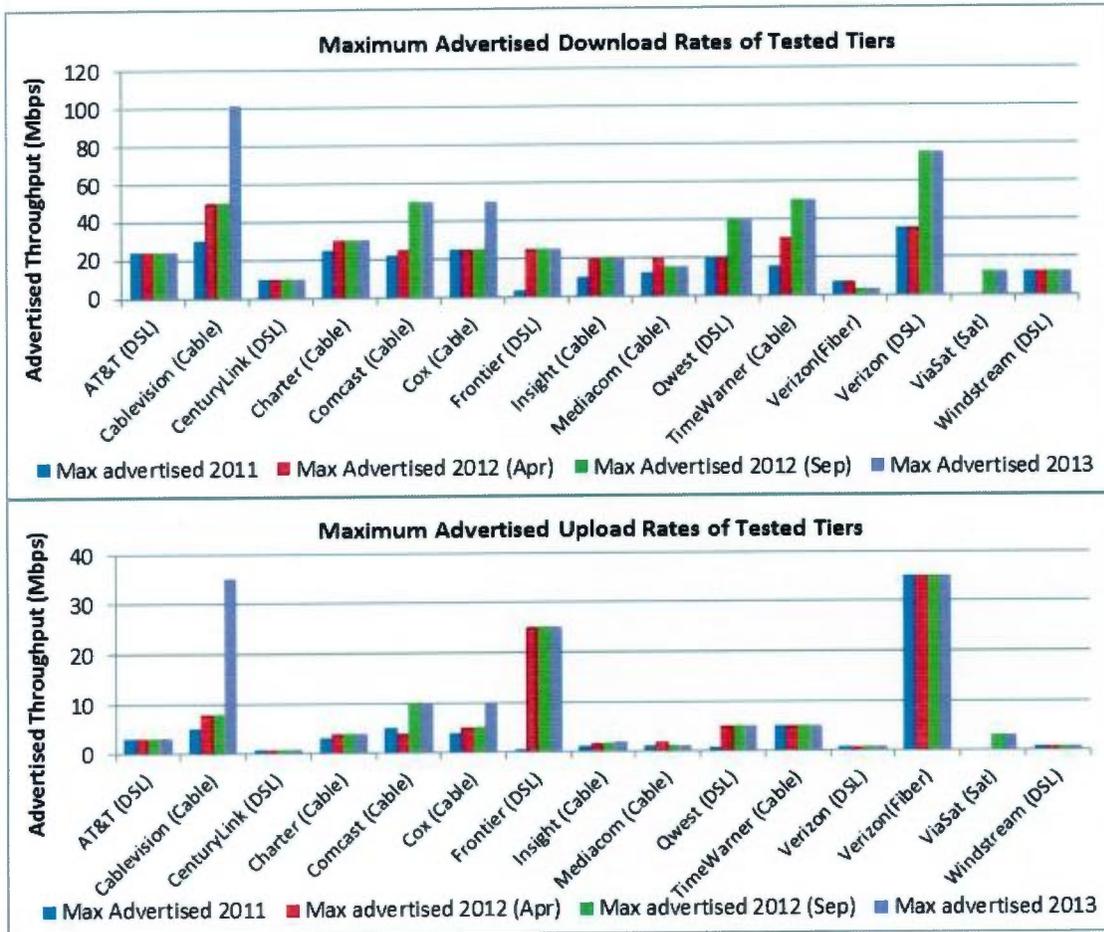
3. Consumers are continuing to migrate to faster speed tiers.



This chart shows that consumers are moving to faster speed tiers, continuing the trend that we highlighted both in the February 2013 Report and the July 2012 Report. Specifically, the bars represent the percentage of volunteers from each of the September 2012 tested speed tiers that moved to a higher speed tier by the September 2013 testing period. Movement to a higher speed tier can occur in two ways: 1) a consumer can subscribe to a higher tier from the

same or competing ISP or 2) an ISP can upgrade service for all consumers within a specific service tier. In our tests of download speed, we added five new tiers above 30 Mbps from the last testing period,²⁰ and our tests of upload performance included one additional offering above 8 Mbps.²¹ In this Report, we find the average subscribed speed is now 21.2 Mbps, representing an average annualized speed increase of about 36 percent from the 15.6 Mbps average of 2012.

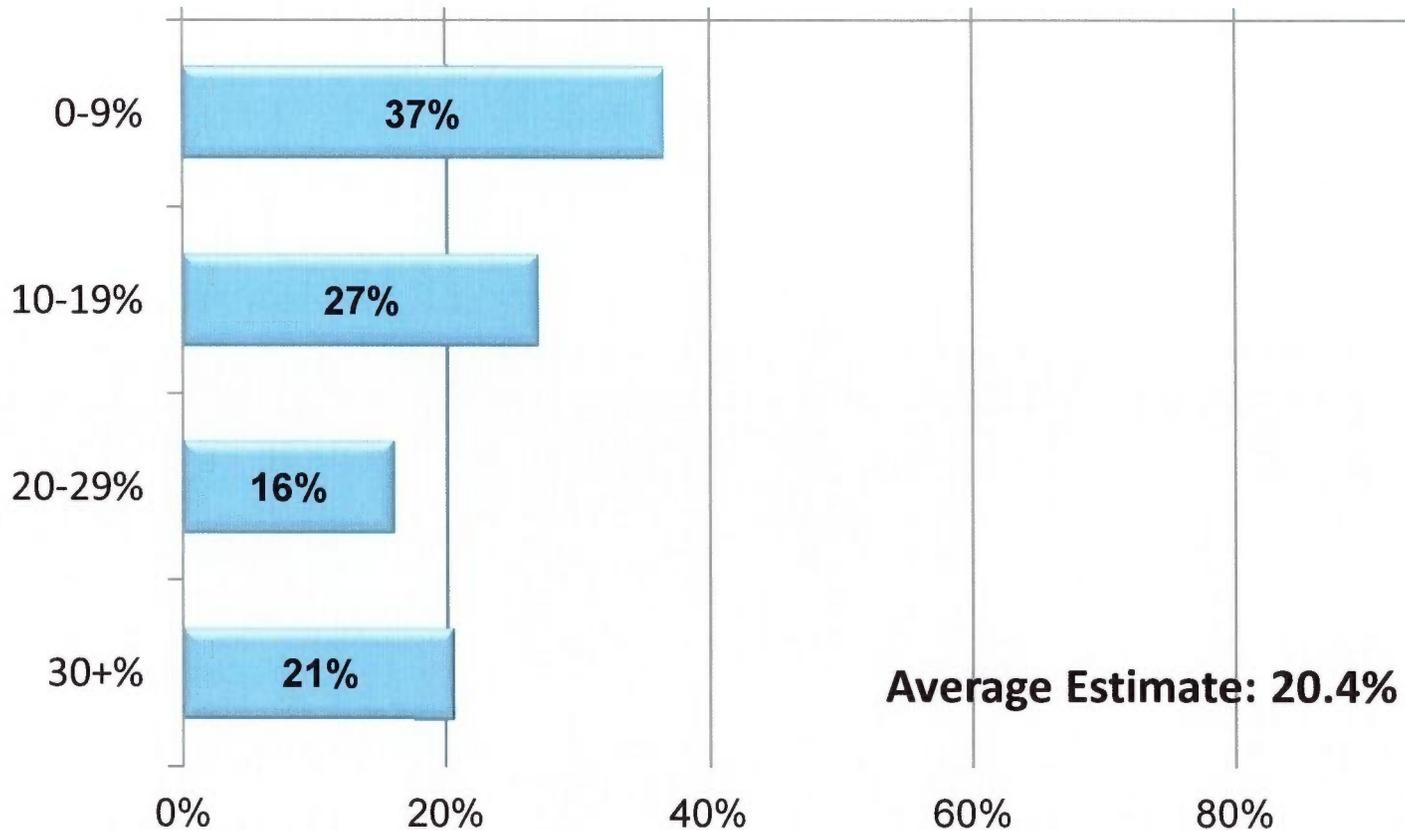
4. Improvements in Speed are not Uniform Across Speed Tiers Tested



Our report focuses on the most popular speed tiers offered by an ISP- that is, the maximum speed used by a major percentage of an ISP's consumers. We note that a particular ISP may offer faster speed tiers either throughout their territory or in specific portions of their territory that are not as popular as the speed tiers we tested. However, as the Commission's goal is to advance high speed Internet access to all Americans, we believe highlighting the maximum speed *among the popular speed tiers*, is the most effective way to demonstrate the spread of high speed Internet access.

FTTH Reduces Operations Costs

Estimated Opex Savings among Those with Active FTTH Customers



**Building Fiber-to-the-Home
Communities Together**



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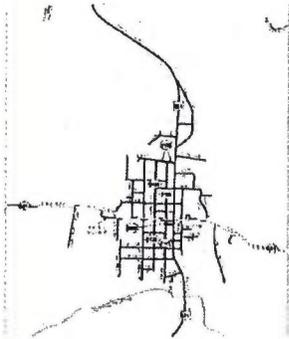
FEB 26 2015

PUBLIC SERVICE
COMMISSION



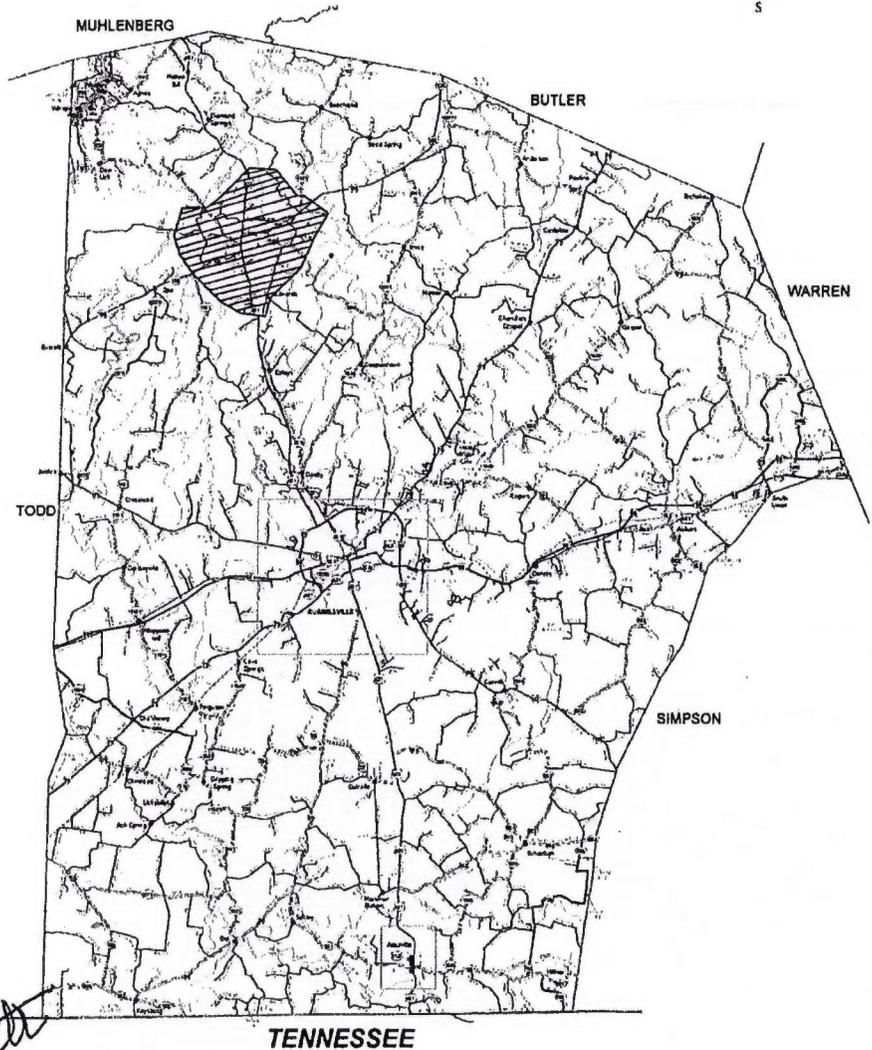
RUSSELLVILLE

0 1,000 2,000 3,000 4,000 Feet



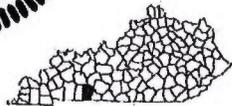
ADAIRVILLE

0 1,000 2,000 4,000 Feet



- State Primary Road System**
- Interstate
 - Freeway
 - Other State Primary
 - State Secondary
 - Rural Secondary
 - Supplemental Road
 - Unimproved
 - Paved or Concrete
 - Bridge
 - Railroad
 - Stream
 - City/Town
 - Airport
 - Incorporated Area
 - Lake
 - State Park
 - National Park or Recreation Area
 - Defense Facility
 - Wildlife Area
 - Geological Area
 - State, National, or Private Forest

STATE OF KENTUCKY
 JOHN BENNETT
 2/2/2015
 LICENSED PROFESSIONAL ENGINEER



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Kentucky
 UNBROKEN SPIRIT

State Primary Road System
LOGAN COUNTY

2 1 0 2 4
 1/4 1/2 1 1 1/2 2 Miles

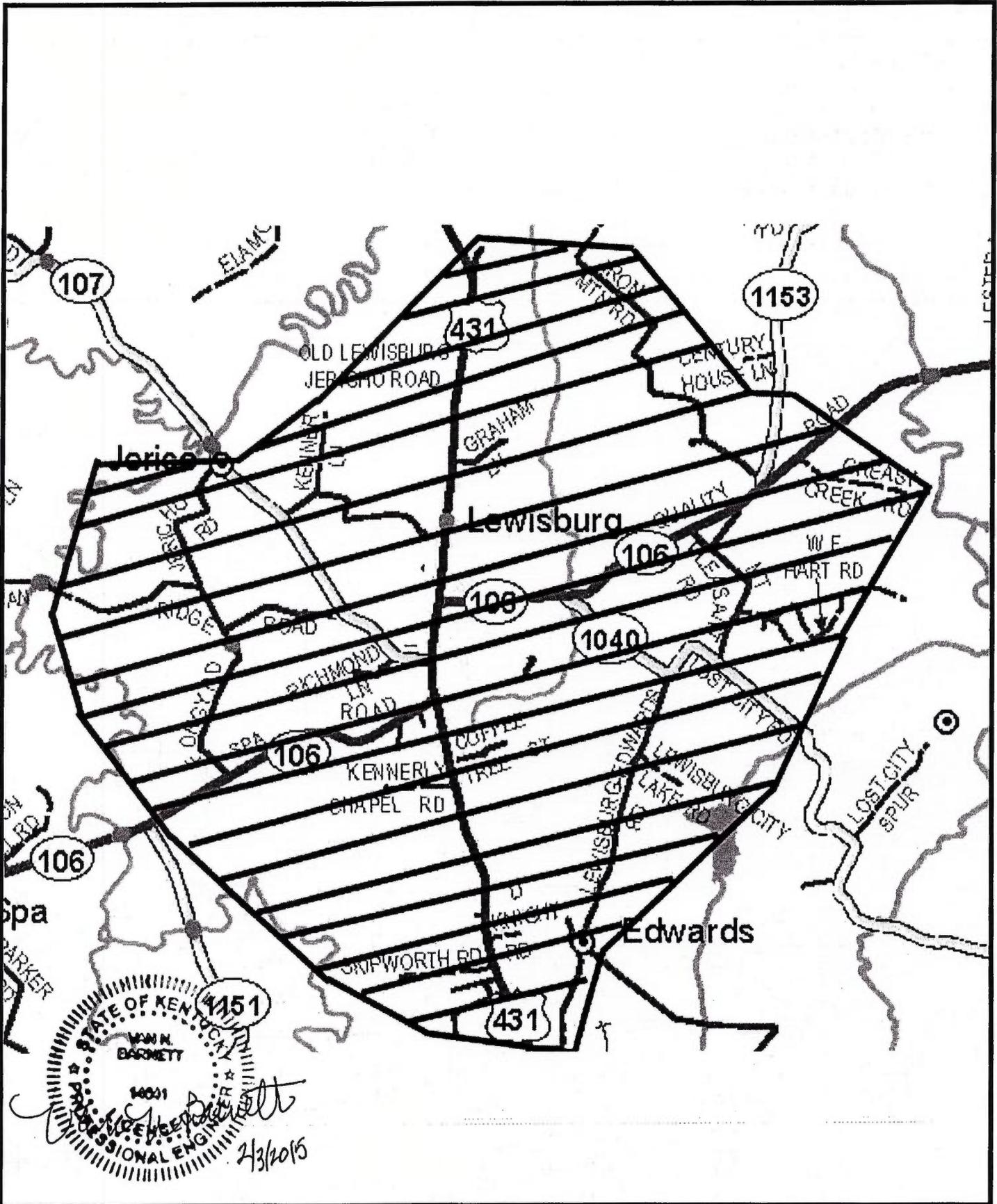
Last map revision: NOVEMBER 2014
 Road centerlines collected using GPS technology
 Kentucky State Plane Coordinate System (NAD83)
transportation.ky.gov/planning

State Primary Road System LOGAN COUNTY KENTUCKY 071

SHEET
1 OF 2
10LT-14020

CPCN APPLICATION
LEWISBURG





STATE OF KENTUCKY
 VAN N. BARNETT
 14001
Van N. Barnett
 PROFESSIONAL ENGINEER
 2/3/2015

SHEET
 2 OF 2
 10LT-14020

GPCN APPLICATION
 LEWISBURG

FINLEY
 ENGINEERING
UNIVERSITY OF KY COLLEGE OF ENGINEERING
 LICENSE # 14001
 WWW.FINLEYENGINEERING.COM

LOGAN
 TELEPHONE COOPERATIVE

Logan Telephone Cooperative
2015 Lewisburg Plans and Specifications

Logan Telephone Cooperative (Logan) plans to construct Fiber-To-The-Premise (FTTP) facilities to 733 premises in and around the City of Lewisburg in the Lewisburg exchange of Logan County. Plans are to deploy this active FTTP system to increase the broadband speeds available to customers. This construction will afford this portion of Logan County with State-of-the-Art broadband facilities.

The only other communications provider in this area is Sudden Link Cable TV. Sudden Link has limited fiber-optic facilities in the area and is not a traditional voice provider.

Logan's fiber optic cable will be placed between the Lewisburg Central Office and each inhabitable residential premise and each business premise on the proposed routes. This cable will be direct buried at a minimum depth of 30 inches. The interface between the buried main line cable and the subscriber cable will be either in a below ground level handhole or an above ground pedestal.

In addition to the fiber-optic cable facilities, Logan will place electronic equipment in the Lewisburg Central Office to transport the optical signal from the central office to each premise. Calix will be the primary manufacturer for this equipment. This optical signal will be converted at the customer's premise to an electrical signal in Internet Protocol (IP) format for service to the customer's computer or network device.

Construction will be performed under Rural Utilities Service (RUS) specifications for direct buried plant and for customer premise cable. Construction is expected to start in April and complete by October 2015. All required highway permits will be obtained prior to construction start. The majority of this construction will be on private right-of-way.



LOGAN TELEPHONE COOPERATIVE

The World At Your Fingertips



Logan Telephone Cooperative, Inc.
Lewisburg
Outside Plant Cost Estimates

10-LT-14011

Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
BDO5G	30	\$200.00	\$6,000.00	\$393.85	\$11,815.50	\$593.85	\$17,815.50
SUBTOTAL SECTION BDO			\$6,000.00		\$11,815.50		\$17,815.50
BFO12RW	42,612	\$2.80	\$119,313.60	\$1.13	\$48,279.40	\$3.93	\$167,593.00
BFO12RI	8,334	\$1.00	\$8,334.00	\$1.03	\$8,609.02	\$2.03	\$16,943.02
BFO12RIE	8,012	\$1.31	\$10,495.72	\$1.03	\$8,276.40	\$2.34	\$18,772.12
BFO24RW	34,648	\$2.80	\$97,014.40	\$1.19	\$41,196.47	\$3.99	\$138,210.87
BFO24RI	4,456	\$1.00	\$4,456.00	\$1.09	\$4,852.58	\$2.09	\$9,308.58
BFO24RIE	3,048	\$1.31	\$3,992.88	\$1.09	\$3,319.27	\$2.40	\$7,312.15
BFO48RW	20,338	\$2.80	\$56,946.40	\$1.86	\$37,798.17	\$4.66	\$94,744.57
BFO48RI	6,628	\$1.00	\$6,628.00	\$1.76	\$11,655.34	\$2.76	\$18,283.34
BFO48RIE	2,656	\$1.31	\$3,479.36	\$1.76	\$4,670.58	\$3.07	\$8,149.94
BFO72RW	190	\$4.71	\$894.90	\$1.71	\$324.98	\$6.42	\$1,219.88
BFO72RI	1,090	\$1.00	\$1,090.00	\$1.42	\$1,548.24	\$2.42	\$2,638.24
BFO96RW	7,294	\$2.90	\$21,152.60	\$1.68	\$12,270.70	\$4.58	\$33,423.30
BFO144RW	16,600	\$3.00	\$49,800.00	\$2.01	\$33,299.60	\$5.01	\$83,099.60
BFO144RI	7,345	\$1.00	\$7,345.00	\$1.91	\$13,999.57	\$2.91	\$21,344.57
BFO144RIE	10,876	\$1.31	\$14,247.56	\$1.91	\$20,729.66	\$3.22	\$34,977.22
BFO216RW	3,198	\$3.15	\$10,073.70	\$2.50	\$7,997.88	\$5.65	\$18,071.58
BFO216RI	9,816	\$1.11	\$10,895.76	\$2.40	\$23,567.23	\$3.51	\$34,462.99
BFO216RIE	544	\$1.31	\$712.64	\$2.40	\$1,306.09	\$3.71	\$2,018.73
BFO288RW	12,088	\$3.15	\$38,077.20	\$3.07	\$37,059.39	\$6.22	\$75,136.59
BFO288RI	14,322	\$1.31	\$18,761.82	\$2.97	\$42,476.19	\$4.28	\$61,238.01
BFO288RIE	4,784	\$1.31	\$6,267.04	\$2.97	\$14,188.39	\$4.28	\$20,455.43
BFO864RI	7,756	\$1.35	\$10,470.60	\$7.53	\$58,408.11	\$8.88	\$68,878.71
BFO864RIE	544	\$2.25	\$1,224.00	\$7.53	\$4,096.70	\$9.78	\$5,320.70
1) (BFO864RW	11,084	\$2.50	\$27,710.00	\$7.76	\$86,019.60	\$10.26	\$113,729.60
1A) & BFO144R)D	11,770	\$1.85	\$21,774.50	\$2.02	\$23,728.32	\$3.87	\$45,502.82
2) (BFO216RW	2,032	\$3.15	\$6,400.80	\$2.50	\$5,081.83	\$5.65	\$11,482.63
2a) & BFOV(1x1.50))D	1,512	\$0.89	\$1,345.68	\$0.74	\$1,118.88	\$1.63	\$2,464.56
3) (BFO24RW	9,492	\$2.90	\$27,526.80	\$1.19	\$11,285.99	\$4.09	\$38,812.79
3a) & BFOV(1x1.25))D	8,678	\$0.89	\$7,723.42	\$0.63	\$5,467.14	\$1.52	\$13,190.56
4) (BFO72RW	11,834	\$2.90	\$34,318.60	\$1.71	\$20,240.87	\$4.61	\$54,559.47
4a) & BFOV(1x1.25))D	10,316	\$0.89	\$9,181.24	\$0.63	\$6,499.08	\$1.52	\$15,680.32
5) (BFO288RW	3,640	\$4.10	\$14,924.00	\$3.07	\$11,159.51	\$7.17	\$26,083.51
5a) & BFOV(1x1.50))D	2,968	\$0.89	\$2,641.52	\$0.74	\$2,196.32	\$1.63	\$4,837.84
6) (BFO288RW	1,626	\$4.10	\$6,666.60	\$3.07	\$4,984.99	\$7.17	\$11,651.59
6a) & BFOV(1x1.50))D	1,430	\$0.89	\$1,272.70	\$0.74	\$1,058.20	\$1.63	\$2,330.90

Logan Telephone Cooperative, Inc.
Lewisburg
Outside Plant Cost Estimates

10-LT-14011

Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
7) (BFO144RW	3,886	\$2.90	\$11,269.40	\$2.02	\$7,834.18	\$4.92	\$19,103.58
7a) & BFOV(1x1.50))D	3,330	\$0.89	\$2,963.70	\$0.74	\$2,464.20	\$1.63	\$5,427.90
BFOV(1x0.75)I	40	\$9.00	\$360.00	\$0.63	\$25.20	\$9.63	\$385.20
BFOV(1x1.25)	300	\$9.25	\$2,775.00	\$0.63	\$189.00	\$9.88	\$2,964.00
BFOV(1x1.25)H	18,365	\$9.25	\$169,876.25	\$0.63	\$11,569.95	\$9.88	\$181,446.20
BFOV(1x1.25)HR	1,628	\$27.00	\$43,956.00	\$0.63	\$1,025.64	\$27.63	\$44,981.64
BFOV(1x1.25)HRR	492	\$84.69	\$41,667.48	\$0.63	\$309.96	\$85.32	\$41,977.44
BFOV(1x1.25)I	230	\$9.00	\$2,070.00	\$0.63	\$144.90	\$9.63	\$2,214.90
BFOV(1x1.25)T	60	\$13.33	\$799.80	\$0.63	\$37.80	\$13.96	\$837.60
BFOV(1x1.50)H	3,410	\$9.25	\$31,542.50	\$0.74	\$2,523.40	\$9.99	\$34,065.90
BFOV(1x1.50)HR	1,034	\$27.00	\$27,918.00	\$0.74	\$765.16	\$27.74	\$28,683.16
BFOV(1x1.50)HRR	215	\$84.69	\$18,208.35	\$0.74	\$159.10	\$85.43	\$18,367.45
BFOV(1x5)H	20	\$12.50	\$250.00	\$10.00	\$200.00	\$22.50	\$450.00
BFOV(1x5)HR	60	\$37.00	\$2,220.00	\$10.00	\$600.00	\$47.00	\$2,820.00
BFOV(1x5)HRR	630	\$95.00	\$59,850.00	\$10.00	\$6,300.00	\$105.00	\$66,150.00
BFOV(1x5)T	60	\$22.50	\$1,350.00	\$10.00	\$600.00	\$32.50	\$1,950.00
BFOV(2x1.25)H	446	\$10.00	\$4,460.00	\$1.29	\$575.34	\$11.29	\$5,035.34
BFOV(2x1.50)H	3,979	\$10.00	\$39,790.00	\$1.49	\$5,928.71	\$11.49	\$45,718.71
BFOV(2x1.50)HR	745	\$37.00	\$27,565.00	\$1.49	\$1,110.05	\$38.49	\$28,675.05
BFOV(2x1.50)I	160	\$9.00	\$1,440.00	\$1.49	\$238.40	\$10.49	\$1,678.40
BFOV(3x1.25)H	180	\$12.38	\$2,228.40	\$1.89	\$340.20	\$14.27	\$2,568.60
BFOV(3x1.50)H	3,730	\$12.38	\$46,177.40	\$2.22	\$8,280.60	\$14.60	\$54,458.00
BFOV(4x1.25)H	300	\$12.38	\$3,714.00	\$2.52	\$756.00	\$14.90	\$4,470.00
BFOV(4x1.50)H	280	\$12.38	\$3,466.40	\$2.96	\$828.80	\$15.34	\$4,295.20
BFOV(4-3x2)	544	\$6.69	\$3,639.36	\$7.80	\$4,243.20	\$14.49	\$7,882.56
BFOV(5-3x2)	810	\$6.69	\$5,418.90	\$8.00	\$6,480.00	\$14.69	\$11,898.90
BFOV(5x1.50)H	490	\$15.00	\$7,350.00	\$3.70	\$1,813.00	\$18.70	\$9,163.00
SUBTOTAL SECTION BFO			\$1,225,484.98		\$684,113.46		\$1,909,598.44
BHF(12x12x12)	14	\$205.94	\$2,883.16	\$98.32	\$1,376.48	\$304.26	\$4,259.64
BHF(22x42x30) TIER 15	389	\$400.00	\$155,600.00	\$326.90	\$127,164.10	\$726.90	\$282,764.10
BHF(24x36x24) TIER 15	1	\$375.00	\$375.00	\$450.00	\$450.00	\$825.00	\$825.00
BHF(30x48x30) TIER 15	16	\$513.33	\$8,213.28	\$650.00	\$10,400.00	\$1,163.33	\$18,613.28
BHF(30x48x36) TIER 15	1	\$616.00	\$616.00	\$725.00	\$725.00	\$1,341.00	\$1,341.00
SUBTOTAL SECTION BH			\$167,687.44		\$140,115.58		\$307,803.02
BM2	275	\$28.08	\$7,722.00	\$30.81	\$8,472.75	\$58.89	\$16,194.75

Logan Telephone Cooperative, Inc.
Lewisburg
Outside Plant Cost Estimates

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Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
BM2A	159	\$23.83	\$3,788.97	\$9.29	\$1,477.11	\$33.12	\$5,266.08
BM53	176	\$26.30	\$4,628.80	\$33.40	\$5,878.40	\$59.70	\$10,507.20
BM53L	400	\$31.97	\$12,788.00	\$41.30	\$16,520.00	\$73.27	\$29,308.00
BM60(1x0.75)I	120	\$9.00	\$1,080.00	\$0.63	\$75.60	\$9.63	\$1,155.60
BM60(1x1.25)	5,387	\$9.25	\$49,829.75	\$0.63	\$3,393.81	\$9.88	\$53,223.56
BM60(1x1.25)D	7,225	\$9.25	\$66,831.25	\$0.63	\$4,551.75	\$9.88	\$71,383.00
BM60(1x1.25)R	2,975	\$27.00	\$80,325.00	\$0.63	\$1,874.25	\$27.63	\$82,199.25
BM60(1x1.25)RR	1,680	\$84.69	\$142,279.20	\$0.63	\$1,058.40	\$85.32	\$143,337.60
BM60(1x1.50)	50	\$9.25	\$462.50	\$0.74	\$37.00	\$9.99	\$499.50
BM60(1x1.50)D	140	\$9.25	\$1,295.00	\$0.74	\$103.60	\$9.99	\$1,398.60
BM60(1x1.50)R	80	\$27.00	\$2,160.00	\$0.74	\$59.20	\$27.74	\$2,219.20
BM60(1x1.50)RR	350	\$84.69	\$29,641.50	\$0.74	\$259.00	\$85.43	\$29,900.50
BM60(1x3)	330	\$12.50	\$4,125.00	\$2.75	\$907.50	\$15.25	\$5,032.50
BM60(1x3)R	60	\$37.00	\$2,220.00	\$2.75	\$165.00	\$39.75	\$2,385.00
BM60(1x3)RR	60	\$95.00	\$5,700.00	\$2.75	\$165.00	\$97.75	\$5,865.00
BM60(1x4)	120	\$12.50	\$1,500.00	\$3.50	\$420.00	\$16.00	\$1,920.00
BM60(1x4)D	160	\$12.50	\$2,000.00	\$3.50	\$560.00	\$16.00	\$2,560.00
BM60(1x4)R	60	\$37.00	\$2,220.00	\$3.50	\$210.00	\$40.50	\$2,430.00
BM60(1x4)RR	60	\$95.00	\$5,700.00	\$3.50	\$210.00	\$98.50	\$5,910.00
BM60(2x1.25)	210	\$10.00	\$2,100.00	\$1.29	\$270.90	\$11.29	\$2,370.90
BM60(2x1.25)D	880	\$10.00	\$8,800.00	\$1.29	\$1,135.20	\$11.29	\$9,935.20
BM60(2x1.25)R	320	\$37.00	\$11,840.00	\$1.29	\$412.80	\$38.29	\$12,252.80
BM60(2x1.25)RR	340	\$95.00	\$32,300.00	\$1.29	\$438.60	\$96.29	\$32,738.60
BM60(2x1.50)	50	\$10.00	\$500.00	\$1.49	\$74.50	\$11.49	\$574.50
BM60(2x1.50)D	560	\$10.00	\$5,600.00	\$1.49	\$834.40	\$11.49	\$6,434.40
BM60(2x1.50)I	120	\$10.00	\$1,200.00	\$1.49	\$178.80	\$11.49	\$1,378.80
BM60(2x1.50)R	1,082	\$37.00	\$40,034.00	\$1.49	\$1,612.18	\$38.49	\$41,646.18
BM60(2x1.50)RR	765	\$95.00	\$72,675.00	\$1.49	\$1,139.85	\$96.49	\$73,814.85
BM60(3x1.50)D	260	\$12.38	\$3,218.80	\$2.22	\$577.20	\$14.60	\$3,796.00
BM60(3x1.50)R	70	\$37.00	\$2,590.00	\$2.22	\$155.40	\$39.22	\$2,745.40
BM60(3x1.50)RR	80	\$95.00	\$7,600.00	\$2.22	\$177.60	\$97.22	\$7,777.60
BM61(1)	316	\$10.00	\$3,160.00	\$0.00	\$0.00	\$10.00	\$3,160.00
BM71	5,533	\$10.67	\$59,037.11	\$0.50	\$2,766.50	\$11.17	\$61,803.61
BM71E(12)	5,533	\$12.17	\$67,336.61	\$0.50	\$2,766.50	\$12.67	\$70,103.11
BM71E(18)	5,533	\$14.00	\$77,462.00	\$0.50	\$2,766.50	\$14.50	\$80,228.50
BM71E(24)	5,533	\$16.67	\$92,235.11	\$0.50	\$2,766.50	\$17.17	\$95,001.61
BM71CF	510	\$27.67	\$14,111.70	\$0.50	\$255.00	\$28.17	\$14,366.70
BM73	40	\$25.00	\$1,000.00	\$3.33	\$133.20	\$28.33	\$1,133.20

Logan Telephone Cooperative, Inc.
Lewisburg
Outside Plant Cost Estimates

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Unit	Quantity	Labor	Extended Labor	Material	Extended Material	Unit Cost	Total Cost
BM83	733	\$23.63	\$17,320.79	\$7.50	\$5,497.50	\$31.13	\$22,818.29
SUBTOTAL SECTION BM			\$946,418.09		\$70,357.50		\$1,016,775.59
HBFOXL	3	\$241.25	\$723.75	\$776.11	\$2,328.33	\$1,017.36	\$3,052.08
HBFOL	3	\$231.24	\$693.72	\$545.40	\$1,636.20	\$776.64	\$2,329.92
HBFOM	85	\$201.00	\$17,085.00	\$407.49	\$34,636.65	\$608.49	\$51,721.65
HBFOS	316	\$201.00	\$63,516.00	\$377.94	\$119,429.04	\$578.94	\$182,945.04
SUBTOTAL SECTION HBF			\$82,018.47		\$158,030.22		\$240,048.69
HO1	1,959	\$31.83	\$62,354.97	\$0.54	\$1,057.86	\$32.37	\$63,412.83
HO1R	5,460	\$22.00	\$120,120.00	\$1.09	\$5,951.40	\$23.09	\$126,071.40
SUBTOTAL SECTION HO			\$182,474.97		\$7,009.26		\$189,484.23
MDU6	1	\$108.50	\$108.50	\$40.37	\$40.37	\$148.87	\$148.87
MDU12	16	\$108.50	\$1,736.00	\$40.37	\$645.92	\$148.87	\$2,381.92
NIDO	635	\$82.38	\$52,311.30	\$46.58	\$29,578.30	\$128.96	\$81,889.60
NIDO9	81	\$132.38	\$10,722.78	\$59.56	\$4,824.36	\$191.94	\$15,547.14
SUBTOTAL SECTION NID			\$64,878.58		\$35,088.95		\$99,967.53
SEBO2	160,700	\$2.15	\$345,505.00	\$0.20	\$32,140.00	\$2.35	\$377,645.00
SEBO2E(24)	10,828	\$2.75	\$29,777.00	\$0.28	\$3,031.84	\$3.03	\$32,808.84
SEBO2I	4,972	\$1.75	\$8,701.00	\$0.20	\$994.40	\$1.95	\$9,695.40
SEBO6	7,092	\$2.15	\$15,247.80	\$0.26	\$1,843.92	\$2.41	\$17,091.72
SUBTOTAL SECTION SE			\$399,230.80		\$38,010.16		\$437,240.96
WBHF	3	\$316.67	\$950.01	\$6.67	\$20.01	\$323.34	\$970.02
WDUCT	86	\$175.00	\$15,050.00	\$75.00	\$6,450.00	\$250.00	\$21,500.00
WDUCT(4")	2	\$350.00	\$700.00	\$125.00	\$250.00	\$475.00	\$950.00
SUBTOTAL SECTION WW			\$16,700.01		\$6,720.01		\$23,420.02
XXBHF	31	\$170.33	\$5,280.23	\$0.00	\$0.00	\$170.33	\$5,280.23
XXHBFO	1	\$120.33	\$120.33	\$0.00	\$0.00	\$120.33	\$120.33
SUBTOTAL SECTION XX			\$5,400.56		\$0.00		\$5,400.56
GRAND TOTAL			\$3,096,293.90		\$1,151,260.64		\$4,247,554.53

**LOGAN TELEPHONE COOPERATIVE
LEWISBURG
ELECTRONICS ESTIMATES**

<u>PART NUMBER</u>	<u>MODEL</u>	<u>DESCRIPTION</u>	<u>UNIT COST</u>	<u>QTY</u>	<u>TOTAL COST</u>
100-04011	844 ONT	844 GigaCenter ONT	\$ 300.00	425	\$ 127,500.00
100-04068	UPS	INDOOR UPS WALL MOUNT 12V 7.2AH 24W	\$ 46.00	425	\$ 19,550.00
100-03894	UPS	INDOOR UPS POWER CORD 7 PIN TO 8 PIN 10' BLACK	\$ 9.00	425	\$ 3,825.00
100-01485	ONT	760GX ONT	\$ 825.00	3	\$ 2,475.00
100-01693	ONT	766GX-R ONT	\$ 1,581.75	1	\$ 1,581.75
	UPS	UPS-50WATTS Single ONT UPS	\$ 173.00	4	\$ 692.00
100-03249	ONT	717GE ONT	\$ 309.00	11	\$ 3,399.00
100-02062	UPS	UPS-24WATTS Single ONT UPS	\$ 46.00	11	\$ 506.00
100-02063	UPS	UPS Power Cord	\$ 5.00	11	\$ 55.00
100-01578	ENCLOSURE	717GE ONT Indoor Enclosure	\$ 29.00	11	\$ 319.00
100-03448	ONTCMN-INDOOR	ONT FIBER MGMT ASSEMBLY QTY 20	\$ 180.00	25	\$ 4,500.00
000-00529	E7-20	E7-20 SYSTEM PACKAGE	\$ 2,089.50	2	\$ 4,179.00
100-02092	E7-20	E7-20 SWITCH CONTROL PROCESSOR	\$ 4,196.50	4	\$ 16,786.00
100-02093	E7-20	E7-20 GE-24X CARD	\$ 2,796.50	22	\$ 61,523.00
100-01790	E7	E7 LINE CARD BLANK	\$ 20.00	18	\$ 360.00
100-01792	OIM AE	2X 1GE BIDI CSFP DUAL BIDI 20 KM 1490 NM LC	\$ 168.75	264	\$ 44,550.00
100-01660	OIM TRANSPORT	1GE SFP MULTI-MODE 500M 850NM LC	\$ 60.00	4	\$ 240.00
ELECTRONICS TOTAL					\$ 292,040.75
SALES TAX					\$ 17,522.45
FREIGHT					\$ -
110-00724	800GE RSG	EXTENDED WARRANTY 4 YEARS FOR 844 GigaCenter ONT	\$ 20.00	425	\$ 8,500.00
110-00707	WARRANTY	EXTENDED WARRANTY 5 YEARS FOR 000-00529	\$ 1,000.00	1	\$ 1,000.00
INSTALLATION		RACKS, RECTIFIRERS, PATCH PANELS, SPLICE BOX, LABOR			\$ 40,000.00
GRAND TOTAL					\$ 359,063.20

**LOGAN TELEPHONE COOPERATIVE
LEWISBURG FTTP
TOTAL CONSTRUCTION ESTIMATE**

Drops	733
Route Miles	48.21
Drop Miles	34.59
Total Miles	82.80
OSP Estimate	\$4,247,555
Electronics Estimate	\$359,063
Engineering Estimate	\$584,812
Total Estimate	<u>\$5,191,430</u>