

R. Brooks Herrick  
502-540-2376  
brooks.herrick@dinsmore.com

RECEIVED

DEC 03 2018

PUBLIC SERVICE  
COMMISSION

December 3, 2018

***Via Hand Delivery***

Gwen R. Pinson  
Executive Director  
Public Service Commission  
211 Sower Blvd.  
P. O. Box 615  
Frankfort, KY 40601

***Re: Application for Certificate of Public Convenience and Necessity for  
Construction of Fiber Optic Cable - Kentucky Public Service Commission  
Case No. 2018- 00405***

Dear Ms. Pinson:

Enclosed for filing is an original and ten (10) copies of the Application for Certificate of Public Convenience and Necessity for Construction of Fiber Optic Cable on behalf of Thacker-Grigsby Telephone Company, Inc. Please return a file stamped copy to our courier.

For the reasons fully set forth in the Application, Thacker-Grigsby respectfully requests that the Commission grant it a Certificate of Public Convenience and Necessity no later than January 4, 2019.

Thank you, and if you have any questions with regard to this matter, please call me.

Sincerely,

DINSMORE & SHOHL LLP

  
R. Brooks Herrick, Esq.

Enclosures

RECEIVED

DEC 03 2018

PUBLIC SERVICE  
COMMISSION

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

*In the Matter of:*

THE APPLICATION OF THACKER- )  
GRIGSBY TELEPHONE COMPANY )  
INC. FOR A CERTIFICATE OF )  
PUBLIC CONVENIENCE AND )  
NECESSITY FOR THE )  
CONSTRUCTION OF FIBER )  
OPTIC CABLE )

CASE NO. 2018- 00405

**APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE  
AND NECESSITY FOR CONSTRUCTION OF FIBER OPTIC CABLE**

Pursuant to KRS 278.020(1) and 807 KAR 5:001 §§ 14 and 15, Thacker-Grigsby Telephone Company Inc. (“Thacker-Grigsby”) hereby submits this application for a certificate of public convenience and necessity for the construction of fiber optic cable in Knott County, Kentucky.

1. The full name, address, and email address of Thacker-Grigsby is Thacker-Grigsby Telephone Company, Inc., 60 Communications Lane, P.O. Box 789, Hindman, Kentucky 41822. Applicant’s electronic mail contact for this application is Ms. Kim Jones, k.jones@tgtel.net.

2. Thacker-Grigsby is a Kentucky corporation, incorporated on May 7, 1956, and is in good standing with the Kentucky Secretary of State. A copy of Thacker-Grigsby’s Articles of Incorporation and all amendments thereto is attached hereto as Exhibit A.

3. Thacker-Grigsby is a rural incumbent local exchange carrier serving parts of Knott County, Perry County, Floyd County, and Breathitt County, Kentucky. As of September 30, 2018, Thacker-Grigsby has 4,428 residential customers and 965 business customers.

4. Construction of the fiber optic cable is required by public convenience and necessity. The purpose of the new construction is to deploy a Fiber-to-the-Home (“FTTH”)

overbuild in the designated areas to provide broadband data services to customers that currently do not have this capability. This will permit Thacker-Grigsby to deliver high-speed Internet service, virtual private networks, video services, and multiple lines in these areas.

5. The existing copper cable where construction is proposed is over 50 years old, and the strand is not reusable. The FTTH overbuild will consist of new strand and fiber optic cable on existing joint-use poles and on Thacker-Grigsby owned poles. Plans are to deploy a Gigabit Passive Optical Network (GPON) system providing sufficient bandwidth for current and future community requirements.

6. Advance telecommunications services, including broadband, are critical to the economic and social development of the rural communities in Knott County, Kentucky. In former Governor Fletcher's *Prescription for Innovation Plan*, deployment of advanced technologies such as fiber optics were recognized as essential to economic deployment. It is this type of technology that will help improve medical services, educational services, and numerous other economic opportunities to Thacker-Grigsby's customers.

7. The proposed fiber network deployment encompasses existing subscribers and will also help to meet the needs of potential growth in the affected exchanges. Construction of the network is expected to begin during the Spring of 2019 and is projected to be completed in December 2022.

8. The proposed construction will allow Thacker-Grigsby to deploy fiber to provide high speed broadband service to 100 percent of its customers in the Cody, Pippa Passes, and Hindman exchanges.

9. In compliance with 807 KAR 5:001 § 9(2)(b), Thacker-Grigsby states that it does not require any additional franchise approval from any public authority to deploy the fiber optic cable in the affected exchanges.

10. In the affected exchanges, the fiber network will result in a significant replacement of existing copper plant to meet the present and anticipated broadband demand of its customers. The fiber optic cable will be deployed where much of Thacker-Grigsby's copper plant is currently deployed. The construction will consist primarily of aerial cable and strand, although there may be some conventional burying, boring, and micro-trenching. Thacker-Grigsby does anticipate that the new construction will compete with some CATV-based Voice over Internet Protocol (VOIP) services in the Cody, Pippa Passes and Hindman exchanges. There are no other line-based competitive local exchange carriers or broadband providers serving customers in the Cody, Pippa Passes or Hindman exchanges.

11. Thacker-Grigsby estimates that the incremental costs to operate the fiber network after it has been fully deployed will be negligible. The operational costs, which consist primarily of labor, will be met by existing staff. While it has yet to quantify the savings at the completion of the proposed construction, Thacker-Grigsby anticipates the proposed network deployment will actually result in operational savings over time.

12. Pursuant to 807 KAR 5:001 § 15(b)(2)(d) and KRS 322.340, three copies of the required map prepared by a registered engineer and showing the proposed route for the fiber deployment in the affected exchanges are attached as Exhibit B. The plans and specifications of the proposed plant, equipment, and facilities that are depicted on the map attached at Exhibit B, are fully explained in the description attached at Exhibit C under the heading "Proposed System Improvements."

13. The total estimated cost of the new construction in Kentucky is \$25,253,676.00. Financing for this project has been secured through the Rural Utilities Services (RUS) in the amount of \$20,527,964.00, with the remaining expenditures being financed through Thacker-Grigsby's general funds. The loan was previously approved by RUS under the M Loan Design. The approval letter from RUS is attached as Exhibit D.

14. Pursuant to KRS 278.300(10), no approval from the Commission was required prior to entering into the financing agreement with RUS because the "evidence[] of indebtedness is subject to the supervision or control of the federal government or any agency thereof."

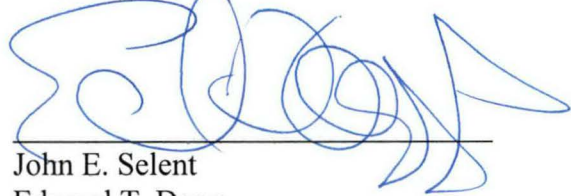
15. Thacker-Grigsby has attached as Exhibit E, the USDA-RUS Operating Report for Telecommunications Borrowers to demonstrate its ability to meet the financial obligations under the loan. At the end of the 2017 period, Thacker-Grigsby had retained earnings of \$80,180,497. Thacker-Grigsby's financial condition is such that it can service the RUS debt without requiring any rate adjustments, under its reasonably foreseeable operating circumstances.

16. RUS has imposed a deadline of February 6, 2019 for Thacker-Grigsby to complete all steps necessary to enter into the loan agreement with RUS. Upon being granted a CPCN from the Commission, Thacker-Grigsby must take additional steps, including appropriate board action, prior to entering into the loan agreement. Accordingly, Thacker-Grigsby respectfully requests that the Commission grant its application for a CPCN no later than January 4, 2019.

WHEREFORE, pursuant to KRS 278.020(1), Thacker-Grigsby Telephone Company Inc. respectfully requests that the Commission issue a Certificate of Public Convenience and Necessity authorizing the deployment of Fiber-to-the-Home capability throughout the Cody, Pippa Passes, and Hindman exchanges in Knott County, Kentucky.

This the 3rd day of December, 2018.

Respectfully submitted,

A handwritten signature in blue ink, appearing to be "John E. Selent", written over a horizontal line.

John E. Selent

Edward T. Depp

R. Brooks Herrick

**Dinsmore & Shohl LLP**

101 S. Fifth St., Suite 2500

Louisville, KY 40202

(502) 540-2300

(502) 585-2207 (fax)

john.selent@dinsmore.com

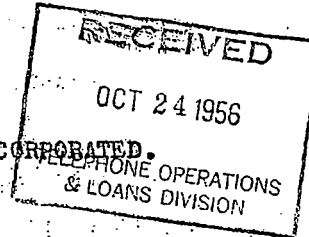
tip.depp@dinsmore.com

brooks.herrick@dinsmore.com

*Counsel to Thacker-Grigsby Telephone  
Company, Inc.*

# EXHIBIT A

ARTICLES OF INCORPORATION  
OF  
THACKER-GRIGSBY TELEPHONE COMPANY, INCORPORATED.



Know all men by these presents:

That we, Robert Thacker, Leburn, Knott County, Kentucky, Janice Grigsby, Leburn, Kentucky, and Junealla Thacker, Leburn, Kentucky, do associate to form a corporation under the laws of the State of Kentucky.

Article I. The corporation hereby proposed to be organized shall be named and known as Thacker-Grigsby Telephone Company, Incorporated, by which name it may contract and be contracted with, sue and be sued, adopt a corporate seal and do its business.

Article II. The principal office and place of business of said Corporation shall be in the Town of Hindman, Knott County, Kentucky.

Article III. The nature of the business proposed to be transacted, promoted, and carried on by this corporation shall be constructing, maintaining, promoting, and owning telephones, telephone lines, and telephone equipment and appliances, and carrying on and operating a telephone line and lines in Knott County, Kentucky, and other counties in the State of Kentucky; also purchasing and owning of rights of way for telephone lines and other real estate necessary for use in its business for offices, plants, and other purposes in carrying on said business; also purchasing, owning, and selling of telephones, telephone equipment and appliances, plants, machinery, and equipment; also with the right and power to do any and all things necessary in carrying on its said business of furnishing telephone service over its lines in Knott County, Kentucky, and adjoining counties, and to obtain and own franchises and certificates of necessity for constructing, maintaining, and operating telephone lines and furnishing telephone service; also with the full right and power to own, buy, sell, lease, or mortgage any of its said property or equipment, and with the right and power to borrow money and mortgage its said property as security therefor.



The corporation shall further have power to make contracts and to do any and all things usually done by similar corporations engaged in a similar business, and any and all things necessary in carrying on its business of furnishing telephone service.

Article IV. The capital stock of the corporation shall be Thirty Thousand ( \$30,000.00) Dollars, which shall be divided into 300 shares of the par value of \$100.00 each.

Article V. The names, places of residence, and number of shares of stock subscribed by each stockholder are as follows:

Janice Grigsby, Leburn, Kentucky----- 150 shares.

Robert Thacker, Leburn, Kentucky----- 140 shares.

Junella Thacker, Leburn, Kentucky----- 10 shares.

Article VI. The corporation shall commence business as soon as practicable after these articles of incorporation are filed in the office of the Secretary of State of Kentucky and in the Knott County Court Clerk's Office, and after fifty per cent of the capital stock of this company has been in good faith subscribed, and such subscription certified to the Secretary of State of Kentucky.

The corporation shall continue for ninety nine years unless sooner dissolved by a vote of at least two-thirds of the capital stock issued.

Article VI. The affairs and business of the corporation shall be conducted by three directors, one of whom shall be elected president of the board, and another vice-president. The president of the Board shall be the chief executive officer of the company.

The first board of directors shall be elected by the stockholders by ballot at such time and place as a majority of the stockholders may determine, and thereafter an election of directors shall be held at the company's Office in Hindman, Kentucky, at the annual meeting of the stockholders which shall be on the first Monday in February of each year. *Changed to " " " " April in 1965*

The board of directors shall at their first meeting elect one of their number president, and another vice-president. They shall also

elect a secretary-treasurer of the company, who shall hold office for one year, unless removed by a majority of the directors. A majority of the directors shall have power to remove the secretary-treasurer at any time.

The board of directors shall have power to make all such by-laws and rules to regulate the business of the company as will not be inconsistent with these articles of incorporation, the laws of the State of Kentucky, and of the United States of America.

Article VIII. The process agent for the company upon whom process for the company may be served shall be Robert Thacker, Leburn, Kentucky.

Article IX. The highest amount of indebtedness which the corporation may incur at any one time shall be Two Hundred and Fifty Thousand (\$250,000.00) Dollars.

Article X. The private property of the stockholders shall not be subject to the payment of the debts of the corporation.

IN TESTIMONY WHEREOF, witness the signatures of the incorporators hereof, this the 5th day of May, 1956.

Robert C. Thacker  
Janice Grigsby  
Junella Thacker

STATE OF KENTUCKY ( )  
COUNTY OF KNOTT ( ) SCT.

The undersigned, Leroy Sturdivant, a Notary Public in and for the county and state aforesaid, hereby certifies that the foregoing articles of incorporation of Thacker-Grigsby Telephone Company, Incorporated, was on the 5th day of May, 1956, produced to me in my said county and state by Robert Thacker, Janice Grigsby, and Junella Thacker, and signed in my presence by each of them and acknowledged by them and each of them to be their free act and deed.

My Commission expires the 5 day of May, 1956.

Given under my hand, this the 5th day of May, 1956.

Leroy Sturdivant  
Notary Public Knott County, Kentucky

STATE OF KENTUCKY  
COUNTY OF KNOTT /SCT.

I, Roy Mullins, Clerk of the County Court for the County and State aforesaid, do certify that the foregoing instrument of writing was on the 14 day of May, 1956, lodged in my office for record whereupon the same with the foregoing and this certificate have beendly deorded in my office.

Given under my hand this 14 day of May, 1956.

Roy Mullins, Clerk

By Betty Mullins D.C.

*Recorded in Deed Book 80  
at page 291*

*Thomas J. Stovall*  
SECRETARY OF STATE OF KENTUCKY  
FRANKFORT, KENTUCKY  
BY *[Signature]* CHIEF CLERK

MAY 7 1956

ORIGINAL COPY  
FILED AND RECORDED

**Commonwealth of Kentucky**  
**Department of State**



**Office of Secretary of State**

THELMA L. STOVALL, SECRETARY

**ARTICLES OF AMENDMENT**

I, *THELMA L. STOVALL*, Secretary of State of the Commonwealth of Kentucky, do hereby certify that Articles of Incorporation of

THACKER-GRIGSBY TELEPHONE COMPANY, INCORPORATED

Hindman, Kentucky

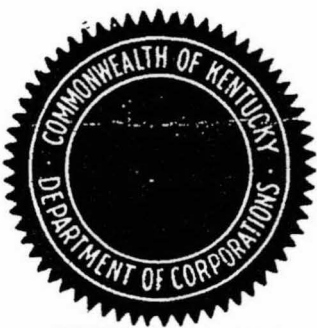
have been amended pursuant to Articles of Amendment, duly signed and acknowledged according to law, this day filed in my office by said corporation, and that all taxes, fees and charges payable upon the filing of said Articles of Amendment have been paid.

Witness my official signature this 15th day

of March, 1965

*Thelma L. Stovall*  
Secretary of State

Assistant Secretary of State



SECRETARY OF STATE

*Thelma L. Stovall*  
Secretary.

MAR 15 1965

*Thelma L. Stovall*  
SECRETARY OF STATE OF KENTUCKY  
FRANKFORT, KENTUCKY  
*Thelma L. Stovall*  
ASSISTANT SECRETARY OF STATE

STOCKHOLDERS MEETING OF  
THACKER-GRIGSBY TELEPHONE COMPANY, INCORPORATED.  
FEBRUARY I, 1965.

The stockholders of Thacker-Grigsby Telephone Company, Inc. met at its office in Hindman, Knott County, Kentucky, on February I, 1965, being the regular annual meeting place and date, pursuant to notice to the stockholders as required by law, and there was present Robert Thacker, Janice Grigsby, Junella Thacker, Dennis Cornett, and Nezra Cornett, they being the owners of a majority of the capital stock of the corporation, Robert Thacker, President, presiding, and there being a quorum present the meeting was called to order by the president and the following business was transacted.

A motion was made by Janice Grigsby and seconded by Junella Thacker that Article IV of the articles of incorporation of Thacker-Grigsby Telephone Company, Inc. as amended by amendment dated May 3, 1957, be amended so that as amended said article shall read as follows:

The capital stock of the corporation shall be Five Hundred Thousand (\$500,000.00) Dollars, and of this amount Four Hundred and Ninety Thousand (\$490,000.00) Dollars shall be divided into 4,900 shares of Common stock with a par value of \$100.00 each and shall have full voting rights and privileges. The remaining Ten (\$10,000.00) Dollars of the capital stock shall be divided into 50, five per cent cumulative preferred shares with a par value of \$100.00 each and 200 five per cent cumulative preferred shares with a par value of \$25.00 each. The preferred shares shall have no voting rights or privileges, shall be non-participating, and may at the option of the corporation be redeemed by the corporation on any anniversary of the preferred stock certificates.

Also that the second literary paragraph of Article VII of the articles of incorporation of Thacker-Grigsby Telephone Company, Inc. be amended so that as amended it shall read as follows:

The first Board of Directors shall be elected by the stockholders by ballot at such time and place as a majority of the stockholders shall determine, and thereafter an election of directors shall be held at the company's office in Hindman, Kentucky at the annual meeting of the stockholders which shall be on the first Monday in April of each year.

The vote being called upon the motion resulted as follows:

Janice Grigsby for it  
Junella Thacker for it  
Dennis Cornett for it  
Nezra Cornett for it  
Robert Thacker for it

The holders and owners of a majority of the stock of the corporation having voted for the motion, it was declared carried, and ordered that the articles of incorporation be amended accordingly.

*Robert C. Thacker*  
President, Thacker-Grigsby Telephone  
Company.

Attest:

*Janice Grigsby*  
Secretary.

ORIGINAL COPY  
FILED AND RECORDED

MAR 15 1965

*Thelma L. Stovall*  
SECRETARY OF STATE OF KENTUCKY  
FRANKFORT, KENTUCKY  
*Thelma L. Stovall*  
ASSISTANT SECRETARY OF STATE

AMENDMENT TO THE ARTICLES OF INCORPORATION  
OF  
THACKER-GRIGSBY TELEPHONE COMPANY, INCORPORATED.

At the regular annual meeting of the stockholders of Thacker-Grigsby Telephone Company, Incorporated, held at its office in Hindman, Kentucky, on the first Monday in February, 1965, which was February 1, 1965, pursuant to notice to all the stockholders of said corporation as required by law, a quorum being present, a resolution of the corporation was adopted by vote of a majority of all the voting stock of the corporation, a copy of which is attached hereto and made a part hereof as much as if set out herein in full, and marked "A" for identity, authorizing and directing that Article IV of the Articles of Incorporation of Thacker-Grigsby Telephone Company, Inc. as amended by resolution and amendment, dated May 3, 1957, and pursuant to said resolution the Articles of Incorporation of Thacker-Grigsby Telephone Company, Inc. are hereby amended as follows:

I. Article IV of the Articles of Incorporation of Thacker-Grigsby Telephone Company, Inc. as amended by amendment dated May 3, 1957, is hereby amended so that as amended said article shall read as follows:

The capital stock of the corporation shall be Five Hundred (\$500,000.00) Dollars, and of this amount Four Hundred and Ninety (\$490,000.00) Dollars shall be divided into 4,900 shares of common stock, with a par value of One Hundred (\$100.00) Dollars each and shall have full voting rights and privileges. The remaining Ten Thousand (\$10,000.00) Dollars of the capital stock shall be divided into 50 five per cent cumulative preferred shares with a par value of \$100.00 each, and 200 five per cent cumulative preferred shares with a par value of \$25.00 each. The preferred shares shall have no voting rights or voting privileges, shall be non-participating, and may at the option of the corporation be redeemed by the corporation at any anniversary of the preferred stock certificates.

2. The second literary paragraph of Article VII of the Articles of Incorporation of Thacker-Grigsby Telephone Company, Inc. is hereby amended so that as amended said paragraph shall read as follows:

The first Board of Directors shall be elected by the stockholders by ballot at such time and place as a majority of the stockholders shall determine, and thereafter an election of directors shall be held at the Company's Office in Hindman, Kentucky, at the annual meeting of the stockholders which shall be on the first Monday in April of each year.

IN TESTIMONY WHEREOF, witness the signature of Thacker-Grigsby Telephone Company by Robert Thacker, President, and Robert Thacker, President of said corporation, and Janice Grigsby, Secretary, this Feb. 22, 1965.

Thacker-Grigsby Telephone Company, Inc.  
By Robert C. Thacker President.

ATTEST:

Janice Grigsby  
Secretary.

STATE OF KENTUCKY {  
COUNTY OF KNOTT { SCT.

The undersigned, Franklin D. Adams, a Notary Public in and for Knott County, Kentucky, hereby certifies that the foregoing amendment to the articles of incorporation of Thacker-Grigsby Telephone Company, Inc, was on the 22 day of Feb., 1965, produced to me in my said County and State by Robert Thacker, President of Thacker-Grigsby Telephone Company, and Janice Grigsby, secretary of said corporation, and signed by them and each of them in my presence and acknowledged by them to be their free act and deed as president and secretary of said corporation, and to be the act and deed of said corporation.

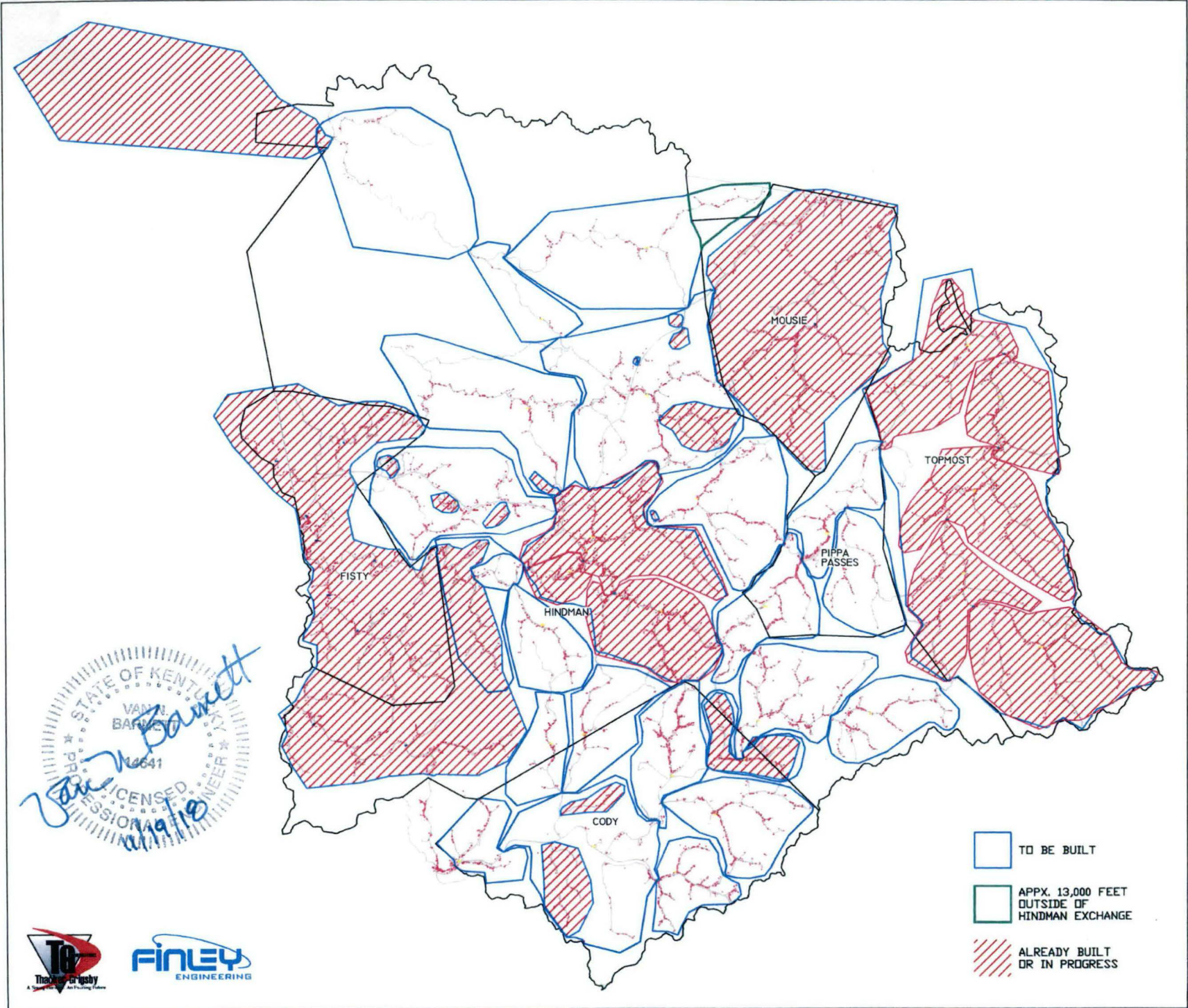
My Commission expires the 28 day of Sept., 1968.

Given under my hand, this the 23 day of Feb., 1965.

Franklin D. Adams  
Notary Public Knott County, Kentucky.

# EXHIBIT B

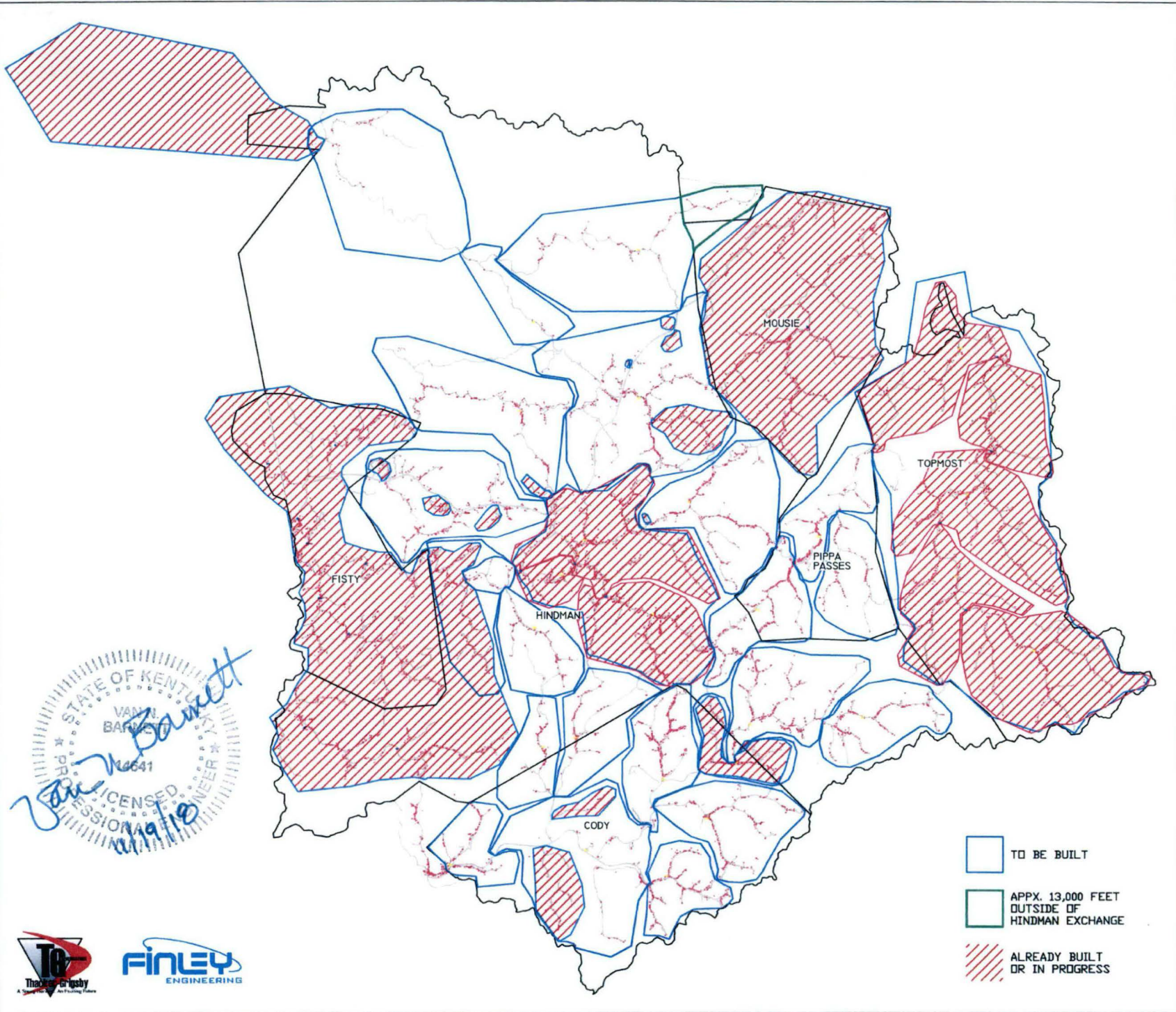




STATE OF KENTUCKY  
 VAN BARNETT  
 14641  
 LICENSED PROFESSIONAL ENGINEER  
 01/19/10

- TO BE BUILT
- APPX. 13,000 FEET OUTSIDE OF HINDMAN EXCHANGE
- ALREADY BUILT OR IN PROGRESS





# EXHIBIT C

THACKER-GRIGSBY TELEPHONE COMPANY, INC.  
KENTUCKY 536 M LOAN DESIGN  
NARRATIVE

**GENERAL**

The purpose of this Loan Design is to support a loan application for financing from Rural Utilities Service (RUS) for Thacker-Grigsby Telephone Company, Inc. (Thacker-Grigsby). Thacker-Grigsby is headquartered in Hindman, Kentucky and operates six (6) exchanges in Eastern Kentucky: Cody, Fisty, Hindman, Mousie, Pippa Passes and Topmost. The exchanges cover Knott County as well as very small portions of Floyd and Perry Counties. As a result of funding through the American Recovery and Reinvestment Act (ARRA), the Company also provides broadband services in previously unserved areas of Breathitt County, Kentucky; for Services Projections, reference Tab C Breathitt Data Services Projections December 2017.

Fisty and Mousie have already been converted to FTTP; the prior RUS L loan provided for expanding FTTP to all of Topmost and a portion of the Hindman exchange – Topmost (Phase 1) is completed, Topmost (Phase 2) is in construction and Hindman (Phase 3) bid has been awarded with construction underway. The switching system upgrade which was also part of the RUS L loan has been installed and that project has been closed out.

TVS Cable, Inc. is a wholly owned subsidiary (through a holding company – Allied Services, LLC). TVS operates a hybrid-fiber coaxial (HFC) network that extends into Breathitt, Floyd, Knott, Letcher, Leslie and Perry counties. In addition, Thacker-Grigsby is a 20% owner of East Kentucky Network (dba Appalachian Wireless) which offers voice and 4G data in an 18 county area in eastern Kentucky.

Thacker-Grigsby provides voice and broadband data services to customers in their ILEC territory through a combination of FTTP and DSL technology. The FTTP buildout began in 2008 as part of a long-term migration strategy to an all fiber network. While DSL was necessary and an economical means of entry for offering broadband service, it is no longer adequate for most customers due to the technical limitations and variations imposed by distance and bandwidth; further, operational costs for copper plant is not competitive with fiber based services.

Prior RUS loans were used to upgrade the network infrastructure and provide FTTP to some customers, more work remains to be done to expand the FTTP to the entire customer base.

The financing requested in this Loan Design will be used for FTTP construction in Cody, Pippa Passes and the remainder of the Hindman exchanges. Thacker-Grigsby has utilized Gigabit Passive Optical Network (GPON) architecture in previous deployments and will continue to do so with this project. The total proposed expenditures for the five-year loan period are \$20,527,964.00.

**ACCESS LINES – CUSTOMER DISCUSSION**

The access line forecast as given in the Subscriber Projections section of the Financials tab in RD-

**THACKER-GRIGSBY TELEPHONE COMPANY, INC.**  
**KENTUCKY 536 M LOAN DESIGN**  
**NARRATIVE**

Apply, was derived from the RUS 479 forms and based on analysis of the subscriber line growth experienced between 2012 and 2016 (year-end). Thacker-Grigsby has experienced a significant decrease in access lines during this time period due primarily to customers transitioning from landline to mobile devices for voice and data. Some decrease can be attributed to a migration from dial-up to DSL internet but this movement has run its course and further erosion is expected to come exclusively from mobile devices and other providers.

Thacker-Grigsby's service area is located in southeastern Kentucky and is best characterized as "rural, remote and economically distressed." The Appalachian Regional Commission has so designated not only Knott County, but every other surrounding county with the exception of Pike as "distressed." The population has been in a steady decline over the past decade – the need to offer high bandwidth broadband is necessary for Thacker-Grigsby to retain and attract new customers and to create fewer reasons for the population to continue leaving in search of employment and educational opportunities which rely so heavily on high speed data connections.

Given the steady decline of voice access lines and voice services, it is critical for Thacker-Grigsby to be able to offer higher speed data to remain competitive and meet the demands of their customer base. The ultimate plan is for an all fiber network and retirement of all copper plant.

### **EXISTING SYSTEM**

#### **Central Office Equipment:**

The existing switching network consists of a Genband C15 with distributed call agents in Cody and Hindman plus dual-homed media gateways in both locations. This network is equipped with Emergency Standalone and interconnected with low latency optical rings and the system is equipped with VoIP capabilities and secured by redundant Session Border Controllers. E911, voice mail, custom call/CLASS features, changed number announcements, and automatic number announcer are all also provided.

#### **Outside Plant Facilities:**

Thacker-Grigsby fiber optic and copper outside plant is predominately aerial construction. FTTP construction is complete in Fisty and Mousie, part of Topmost with the remainder of Topmost under contract; Hindman has some areas already converted to FTTP and some additional routes are also under contract as part of the RUS L loan. Recent aerial construction has been particularly burdensome due to the costs and long lead times for foreign pole "make ready."

#### **Access Equipment:**

The existing FTTP equipment is a mixture of early deployed Calix C7 and, more recently, E7; the existing DSL service is provided primarily with UMC-1000.

THACKER-GRIGSBY TELEPHONE COMPANY, INC.  
KENTUCKY 536 M LOAN DESIGN  
NARRATIVE

**Transport:**

Interoffice and inter-carrier transport utilizes multiple SONET rings with equipment from Cisco, Fujitsu and Lucent. Internal transport is primarily within the Calix Access equipment using Gigabit and 10 Gigabit transport.

Thacker-Grigsby maintains redundant 10G connections for data traffic to the Internet interconnected with AT&T in Jackson and in Whitesburg.

**Toll Traffic Routing:**

Toll traffic is currently supported via the East Kentucky Network OC-192 fiber ring to the tandem in Winchester. A one-way incoming only toll route exists between Cody and Hazard. A trunking diagram is included in D-6.

**Existing Services Provided:**

Thacker-Grigsby currently offers voice and data services throughout the ILEC territory. Voice services include local, Extended Area Service and long distance as well as a variety of custom calling features. Data services include dial-up and broadband with residential packages up to 10M/512k (down/up respectively) and symmetrical business packages of 100M/100M.

Video services are provided through Thacker-Grigsby's subsidiary, TVS Cable. TVS Cable offers a variety of video packages which include analog and digital channels, high definition channels, premium movie channels, pay-per-view and digital video recorder (DVR) services. In addition, TVS offers high-speed internet and VoIP services over the HFC.

Thacker-Grigsby in conjunction with TVS Cable offers triple-play packages to customer in areas where FTTP has been completed. This provides customers with a convenient option to get voice, data and video over a single fiber connection with a single bill.

**PROPOSED SYSTEM IMPROVEMENTS**

**Design Summary and Analysis:**

The proposed system upgrades are based on the overall migration to IP technology and directed towards an all fiber distribution plant. All new FTTP remotes or Optical Line Terminals (OLTs) will be interconnected to the existing data network with 10G transceivers.

FTTP outside plant construction will be completed in the remainder of Hindman and all of Cody and Pippa Passes exchanges.

THACKER-GRIGSBY TELEPHONE COMPANY, INC.  
KENTUCKY 536 M LOAN DESIGN  
NARRATIVE

**Central Office Equipment**  
NO LOAN FUNDS REQUESTED

**Outside Plant Facilities:**

LOAN FUNDS REQUESTED

FTTP Outside Plant Construction will be completed throughout Cody and Pippa Passes and the remainder of Hindman as part of this project. This will consist of 243 route miles of cable and 184 miles of fiber drops to 2,776 of the remaining non-fiber fed subscribers. Thacker-Grigsby is also going to undertake, using general funds, construction of fiber facilities in five (5) of their Hindman wirecenters, encompassing approximately 500 customers. Upon completion of the construction outlined in this document, along with additional construction undertaken utilizing general funds, Thacker-Grigsby will have fiber drops to all existing subscribers in these three (3) exchanges.

Although past cable construction has been virtually all aerial, the cost and timeliness of make-ready and pole attachment costs continues to increase; in past construction, it was automatically assumed all construction would be aerial, now, a more critical eye is turned on the subject to press for conventional burying, boring and even micro-trenching alternatives to aerial construction, due to inability to control or contain costs and schedules. The Borrower's Environmental Report will be geared towards placing cable underground knowing full well that some sections may not even be practical or permitted to do so; in this manner, the more stringent requirements and constraints for below ground placement will have already been acknowledged and given conditional approval before field engineering starts and thus, will eliminate future delays due to lack of approval.

Thacker-Grigsby is fully aware, buried construction may be slightly more expensive than aerial however, "make ready" costs, which heretofore have not been budgeted, have become significant (e.g. ~25% of construction in some cases) in addition to hampering timely construction.

Aerial mainline construction will typically be on existing poles or within five feet (5') of existing poles generally parallel to roads / highways on public right of way. Buried mainline construction will be alongside roads/highways on public right of way or may, with RUS approval, involve micro-trenching in the base of the roadway. Drops will be buried whenever possible on private right of way.

The FTTP design will be based on GPON architecture, each exchange will be divided into serving areas each with splitters and/or electronics from which distribution fiber will be constructed. This design will minimize the fiber sizes and reduce initial construction costs but still retain future possible migration to Point-to-Point Ethernet (Active Ethernet) if bandwidth request drives the need.

The outside plant costs were derived from the L loan actual Outside Plant contract costs adjusted and extrapolated, as appropriate for the exchange construction conditions and aerial/buried construction percentages with an adder for buried construction. The actual "M" Loan design will be performed in conjunction with field engineering as part of the post-loan activities.

**THACKER-GRIGSBY TELEPHONE COMPANY, INC.**  
**KENTUCKY 536 M LOAN DESIGN**  
**NARRATIVE**

The proposed construction schedule is a 4-year plan with the 5<sup>th</sup> year to be used as a contingency plan for any construction delays and cutover. Although the majority of funding in this Loan Application is for fiber optic outside plant which will ultimately result in the complete replacement of all existing copper plant, the actual removal of existing copper facilities will take place approximately 6-18 months after the Loan Construction Period has ended. No removal or retirement funds are expected to be expended during the Loan Construction Period and, consequently, no funds are identified in the application and the financial impact(s) of the removals and retirements has not been factored into the Loan Application.

**Access Equipment:**

NO LOAN FUNDS REQUESTED – requirements will be met with internal funds and installation forces.

GPON FTTP equipment will be placed in all remote and central office buildings as needed for the new FTTP customers to be added to the network. Calix E7 equipment was used in the last Loan and the plan is to continue – using a modular chassis with GPON OLT cards and optical transceivers as needed. Customer premise equipment includes the Calix ONTs enclosures, modules and battery backup. To date, the preferred ONT mounting has been external to the premises. A breakdown of the equipment costs are included in D-4 for informational purposes only.

**Transport Equipment:**

NO LOAN FUNDS REQUESTED

**Toll Traffic Routing:**

NO LOAN FUNDS REQUESTED

**Proposed Services:**

NO LOAN FUNDS REQUESTED

**Prior Loan Funds:**

NO LOAN FUNDS REQUESTED



# EXHIBIT D



United States Department of Agriculture

**Rural Development**

Rural Utilities Service

1400 Independence Ave SW,  
Room 2844 Stop 1597  
Washington, DC 20250

Voice 202.720.0800

COPY

September 21, 2018

Mr. William Grigsby  
President  
Thacker-Grigsby Telephone Company Incorporated  
60 Communications Lane  
Hindman, Kentucky 41822

Dear Mr. Grigsby:

We are pleased to inform you that your application for a loan from the Rural Utilities Service Telecommunications Program has been approved. We are offering you a loan in the amount of \$20,528,000 at the Cost-of-Money interest rate for a term of 23 years. The loan is subject to the terms of the enclosed Loan Agreement. The loan designation for your project is KY 536-M42. This designation should be referenced in all future correspondence concerning this loan.

Please indicate your acceptance of this offer by having the president or other authorized official sign the second copy of this letter and returning it and the executed Form AD-3031 by close of business on September 26, 2018, both by email and in hard copy to:

Mr. Shawn B. Arner, Deputy Assistant Administrator  
Loan Origination and Approval Division  
Stop 1597, Room 2844, South Building  
1400 Independence Avenue, SW  
Washington, DC 20250-1597  
[Shawn.Arner@wdc.usda.gov](mailto:Shawn.Arner@wdc.usda.gov)

Mr. Grigsby

Page 2

Upon receipt of the second copy of this letter and the Form AD-3031, the loan documents will be prepared and forwarded in the near future for execution. This loan is approved with the understanding that the loan documents will be authorized and executed by your organization and returned to us within the time period which will be set forth in the letter of transmittal.

Sincerely,




CHAD PARKER  
Assistant Administrator  
Telecommunications Program  
Rural Utilities Service

ACCEPTANCE:

Thacker-Grigsby Telephone Company, Incorporated

Enclosure

By:   
Name: William K. Grigsby  
Title: President  
Date: September 24, 2018

AA# RT-3842

# EXHIBIT E

USDA-RUS

BORROWER DESIGNATION

**OPERATING REPORT FOR  
TELECOMMUNICATIONS BORROWERS**

KY0536

PERIOD ENDING

September, 2018

INSTRUCTIONS- See RUS Bulletin 1744-2

**PART B. STATEMENTS OF INCOME AND RETAINED EARNINGS OR MARGINS**

ITEM	PRIOR YEAR	THIS YEAR
1. Local Network Services Revenues	1,078,346	1,054,084
2. Network Access Services Revenues	3,837,984	3,831,419
3. Long Distance Network Services Revenues		
4. Carrier Billing and Collection Revenues	8,535	8,136
5. Miscellaneous Revenues	366,657	441,151
6. Uncollectible Revenues	27,000	27,000
<b>7. Net Operating Revenues (1 thru 5 less 6)</b>	<b>5,264,522</b>	<b>5,307,790</b>
8. Plant Specific Operations Expense	1,032,197	1,483,512
9. Plant Nonspecific Operations Expense (Excluding Depreciation & Amortization)	490,122	498,618
10. Depreciation Expense	1,799,585	1,583,415
11. Amortization Expense	1,706	1,706
12. Customer Operations Expense	644,204	627,180
13. Corporate Operations Expense	815,149	969,328
<b>14. Total Operating Expenses (8 thru 13)</b>	<b>4,782,963</b>	<b>5,163,759</b>
15. Operating Income or Margins (7 less 14)	481,559	144,031
16. Other Operating Income and Expenses		
17. State and Local Taxes	35,299	256,500
18. Federal Income Taxes	304,011	626,250
19. Other Taxes	201,322	(128,816)
<b>20. Total Operating Taxes (17+18+19)</b>	<b>540,632</b>	<b>753,934</b>
21. Net Operating Income or Margins (15+16-20)	(59,073)	(609,903)
22. Interest on Funded Debt	140,066	184,909
23. Interest Expense - Capital Leases		
24. Other Interest Expense		
25. Allowance for Funds Used During Construction		
<b>26. Total Fixed Charges (22+23+24-25)</b>	<b>140,066</b>	<b>184,909</b>
27. Nonoperating Net Income	7,890,249	702,653
28. Extraordinary Items		
29. Jurisdictional Differences		
30. Nonregulated Net Income	709,112	1,125,663
<b>31. Total Net Income or Margins (21+27+28+29+30-26)</b>	<b>8,400,222</b>	<b>1,033,504</b>
32. Total Taxes Based on Income	3,575,033	882,750
33. Retained Earnings or Margins Beginning-of-Year	73,294,841	80,180,497
34. Miscellaneous Credits Year-to-Date		
35. Dividends Declared (Common)	105,840	105,840
36. Dividends Declared (Preferred)	110	110
37. Other Debits Year-to-Date		
38. Transfers to Patronage Capital		
<b>39. Retained Earnings or Margins End-of-Period [(31+33+34) - (35+36+37+38)]</b>	<b>81,589,113</b>	<b>81,108,051</b>
40. Patronage Capital Beginning-of-Year		
41. Transfers to Patronage Capital		
42. Patronage Capital Credits Retired		
<b>43. Patronage Capital End-of-Year (40+41-42)</b>	<b>0</b>	<b>0</b>
44. Annual Debt Service Payments	986,766	1,317,636
45. Cash Ratio [(14+20-10-11) / 7]	0.6691	0.8163
46. Operating Accrual Ratio [(14+20+26) / 7]	1.0378	1.1497
47. TIER [(31+26) / 26]	60.9733	6.5893
48. DSCR [(31+26+10+11) / 44]	10.4803	2.1277

USDA-RUS  <b>OPERATING REPORT FOR TELECOMMUNICATIONS BORROWERS</b>	BORROWER DESIGNATION  KY0536
INSTRUCTIONS - See RUS Bulletin 1744-2	PERIOD ENDED September, 2018
<b>CERTIFICATION LOAN DEFAULT NOTES TO THE OPERATING REPORT FOR TELECOMMUNICATIONS BORROWERS</b>	