

**DARK FIBER
INDEFEASIBLE RIGHT OF USE (“IRU”) AGREEMENT
FOR PROJECT B**

Between

MuniNet Fiber Agency

And

Commonwealth of Kentucky

Dated: August 30, 2019

EXHIBITS

Exhibit A	Segments
Exhibit B	Fiber Splicing, Testing, and Acceptance Standards and Procedures
Exhibit C	Cable Installation Guidelines
Exhibit D	Sites
Exhibit E	Fiber Handoff
Exhibit F	Building Entrance Cable
Exhibit G	Project Records
Exhibit H	Maintenance Agreement
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Exhibit L	MuniNet Construction Costs

DARK FIBER IRU AGREEMENT

THIS DARK FIBER IRU AGREEMENT FOR PROJECT B (this "Agreement") is made as of the 29th day of August, 2019 (the "Effective Date") by and between MuniNet Fiber Agency ("MuniNet"), a public agency of the Commonwealth of Kentucky created pursuant to an Interlocal Cooperation Agreement among a group of Kentucky municipal electric utilities, having its principal office at 1500 Broadway, Paducah Kentucky 42001 and Commonwealth of Kentucky ("Commonwealth"), having its principal office at 702 Capital Avenue, Frankfort, Kentucky 40601 (MuniNet and Commonwealth are each referred to herein as a "Party" and collectively as "Parties").

BACKGROUND:

Whereas:

A. Pursuant to RFP 758 1500000003-5 issued July 11, 2014 (as amended from time to time, the "RFP"), the Commonwealth selected Macquarie Infrastructure Developments LLC ("Macquarie") to design, build, finance, operate and maintain a statewide fiber optic network, known generally as the NG-KIH Network, to provide broadband services to the citizens of the Commonwealth (the "Project");

B. On December 22, 2014, the Commonwealth and Macquarie entered into a master agreement (as amended from time to time, the "Master Agreement") in respect of the Project;

C. In 2015, Macquarie assigned its rights and obligations under the Master Agreement to KentuckyWired Infrastructure Company, Inc. ("Project Co."). Project Co. then entered into a Project Implementation Agreement with KentuckyWired Operations Company, LLC ("Operations Co.");

D. On September 3, 2015, the Commonwealth and Project Co. entered into a project agreement (as amended from time to time, the "Project Agreement") in respect of the Project and to facilitate the financing of the Project. As part of this Project Agreement, Operations Co. and its subcontractors have specifically designed and tailored the NG-KIH Network to the geographic area of the Commonwealth in a series of "rings";

E. A component of the NG-KIH Network is located in western Kentucky;

F. The Commonwealth and MuniNet entered into a Dark Fiber IRU Agreement effective as of January 31, 2018 ("First IRU") for MuniNet to provide the services identified in the First IRU;

G. MuniNet, through ownership or other arrangements, has the rights to use or intends to develop a fiber optic communication system along the Route providing fiber optic connectivity to the Sites, all as said system is depicted on Diagram 1 of Exhibit A (the "System").

H. MuniNet can provide fiber located in western Kentucky that fits the design specifications, if any, of the NG-KIH Network as may be set forth in this Agreement; and

I. Commonwealth desires to acquire from MuniNet, and MuniNet desires to provide to Commonwealth, an indefeasible right of use with respect to certain optical fibers in the System upon the terms and conditions set forth below and as further depicted in Exhibit A attached hereto.

J. MuniNet desires to acquire from Commonwealth, and Commonwealth desires to provide to MuniNet, an indefeasible right of use with respect to certain optical fibers described in Section 2.6 hereof upon the terms and conditions set forth below and as generally depicted in Diagram 2 of Exhibit A hereof.

NOW, THEREFORE, in consideration of the mutual promises set forth below, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

ARTICLE I DEFINITIONS

Capitalized terms and phrases used in this Agreement shall have the following meanings:

"Acceptance Date" shall have the definition set forth in Exhibit B.

"Acceptance Standards" means the standards set forth in Exhibit B with respect to the testing and condition of the Commonwealth Fibers and the MuniNet Fibers.

"Affiliates" means, with respect to any entity, an entity controlling, controlled by, or under common control with such entity by means of direct or indirect majority equity ownership.

"Agreement" or "Dark Fiber IRU Agreement for Project B" shall have the definition set forth in the first paragraph, above.

"Available" means that the Commonwealth Fibers or the MuniNet Fibers, as the case may be, meet the standards set forth in Sections 2, 3 and 4 of Exhibit B attached hereto.

"Ballard Segment" is the portion of the Route running from Paducah, McCracken County, Kentucky to the Ballard County Memorial High School, in La Center, Ballard County, Kentucky as is generally depicted in Diagram 1 of Exhibit A attached hereto.

"Building Entrance Cable" shall have the meaning set forth in Section 2.3 of this Agreement.

"Business Day" means a day other than Saturday, Sunday or a federal or state holiday in the Commonwealth of Kentucky.

"Cable" means the fiber optic cable included in the System, the Building Entrance Cables, the Commonwealth Fibers, the MuniNet Fibers and includes their respective associated splicing connections, splice boxes, vaults, and conduit.

“Carlisle Segment” is the portion of the Route running from Mayfield, Graves County, Kentucky to Arlington, Carlisle County, Kentucky as is generally depicted in Diagram I of Exhibit A attached hereto. The terminal point for this Segment in Arlington will be at approximately 36°79'05.81 N latitude and -89°01'28.12 W longitude and includes 58 fibers.

“Change” means an alteration, addition, deletion or other modification to the System or Sites, including but not limited to Site relocations, made in accordance with Article VII of this Agreement.

“Change Form” means the Change document referenced in Article VII of this Agreement and attached as Exhibit I.

"Claim" means any claim, action, dispute, or proceeding of any kind between Commonwealth (or any of its Affiliates, successors or assigns) and MuniNet (or any of its Affiliates, successors, or assigns) and any other claim, transaction, occurrence, loss, liability, expense or other matter arising out of, in connection with, or in any way related to, the Commonwealth IRU, the MuniNet IRU, the Cable, the System, the Network, this Agreement or any other instrument, arrangement or understanding related to the Commonwealth IRU or the MuniNet IRU.

"Commonwealth Equipment" means optronic (opto-electrical), electronic, or optical equipment or materials, facilities or other equipment owned, possessed or utilized (other than the System), by Commonwealth.

"Commonwealth Fibers" means those certain Fibers in which Commonwealth shall be granted an IRU hereunder as set forth in Section 2.1 and Section 2.3.

"Commonwealth IRU" shall have the definition set forth in Section 2.1.

"Connecting Point" means one of the points identified in Section 1 of Exhibit E at which the network or facilities of an Interconnecting Party may be authorized to connect to the System in accordance with the terms and conditions set forth in Exhibit E of this Agreement.

"Contract Price" shall have the definition set forth in Section 3.1.

“Customary Industry Practice” means using standards, practices, methods and procedures to a good commercial standard, conforming to federal, state, county and city law and ordinances and exercising the degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a qualified, skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances.

“Effective Date” shall have the meaning set forth in the introductory paragraph of this Agreement.

"Facility Owner" means any entity (other than MuniNet) owning any portion of the System and leasing said portion to MuniNet or providing an IRU to MuniNet in said portion of the System.

"Fiber Acceptance Testing" means the fiber acceptance testing described in Exhibit B.

“Fiber Termination” means that for each of the Commonwealth Fibers entering a Site or a hut/colocation facility as provided herein, said Commonwealth Fibers will be terminated at a fiber distribution panel (FDP) and jumpered with Standard Connector Angled Physical Contact Single Mode Fiber Jumper (SC APC SMF Jumper) to the FDP.

"Fiber(s)" means any optical fibers that are MuniNet Fibers and any optical fibers contained in the System and the Building Entrance Cables, including the Commonwealth Fibers and the fibers of any third party in the System, excluding, however, any fibers granted (whether through ownership, IRU, lease, or otherwise) to Government Authorities in exchange for use of streets, rights of way, or other property under the jurisdiction of such entity.

"Force Majeure Event" shall have the definition set forth in Section 21.1.

"Government Authority" means any federal, state, regional, county, town, municipal, territorial, or tribal government, whether domestic or foreign, or any department, agency, bureau, or other administrative, regulatory or judicial body of any such government, including, without limitation, any multinational body obtaining authority from any of the foregoing.

"Indefeasible Right of Use" or "IRU" is an exclusive, indefeasible right to use the specified property, but does not convey title, ownership, or rights of possession in any real or personal property.

"Indemnatee" shall have the definition set forth in Section 14.1.

"Indemnitor" shall have the definition set forth in Section 14.1.

“Interconnecting Party” or “Interconnecting Parties” means MuniNet, the Commonwealth or a Permitted User which connects its equipment to the System or Network in accordance with the terms and conditions of this Agreement and, with respect to a Permitted User, in accordance with the terms and conditions of a written agreement with the Parties.

"Lenders" means one or more financial institutions, vendors, suppliers or other financing sources utilized by MuniNet or Commonwealth, as the case may be.

"Maintenance Agreement" shall mean that certain Maintenance Agreement attached and incorporated herein as Exhibit H, between MuniNet and Commonwealth whereby MuniNet provides maintenance and repair services to Commonwealth in connection with the Commonwealth Fibers and the Commonwealth provides maintenance and repair services to MuniNet in connection with the MuniNet Fibers.

"MuniNet Fibers" means those certain Fibers within the Network that are owned, leased, or otherwise controlled by Commonwealth, whether as of the Effective Date or thereafter, in which MuniNet is granted or shall be granted an IRU under the terms of this Agreement.

“MuniNet IRU” means the IRU granted by the Commonwealth to MuniNet in certain Fibers in the Network as described in Section 2.6 below.

"NG-KIH Network" or "Network" means the Next Generation Kentucky Information Highway Project (AKA KentuckyWired).

"Network Operation Center" or "NOC" means a telecommunications point of presence and, unless the context indicates otherwise, refers to a MuniNet-designated point of presence along the Route depicted in Diagram 1 of Exhibit A.

"Nodes" means the Sites identified as Paducah (Site 1793) and Murray (Site 1792).

"Outage" means that the Commonwealth Fibers or the MuniNet Fibers are not Available.

"Permitted Users" means OpenFiber Kentucky Company, LLC, KentuckyWired Operations Company, LLC, NG-KIH Design Build LLC and LTS Kentucky Managed Technical Services LLC.

"Point of Presence" or "POP" means a physical place where a Party or authorized third party has a presence authorized under this Agreement for access to the System or the Network, generally in the form of a switch or router.

"Representatives" shall have the definition set forth in Section 19.1.

"Required Rights" shall have the meaning assigned to the term in Section 4.2.

"Released Party" means each of the following:

- a. Any Affiliates of the other Party, Facility Owners, and any Lenders, except to the extent such Lender has assumed a Party's position under this Agreement by reason of default by such Party or foreclosure by the Lender;
- b. Any employee, officer, director, stockholder, member, or trustee of the other Party or its Affiliates or Lenders; or
- c. Assignees of the entities included in the above subparagraphs (a) or (b) and any employee, officer, director, stockholder, partner, member, or trustee of such assignees.

"ROW" means right-of-way.

"Route" shall mean each route upon which a portion of the System is or will be constructed and installed and shall include each of the Segments and Sites.

"Segment(s)" means the Ballard Segment or the Carlisle Segment, as the context requires, when referred to individually, or both the Ballard Segment and Carlisle Segment when referred to collectively.

"Site(s)" shall mean the sites listed in Exhibit D.

"Span" means a discrete portion of the System or Network and may refer to a portion of the System or Network between two Transmission Sites or between a Transmission Site and a

point of presence or a System end point or Network end point, or to a portion of the System or Network between two points of presence or a point of presence and a System end point or Network end point, or a portion of the System or Network affected by relocation or other circumstance.

“Straight Fusion Splice” means that all Fibers will be spliced using a fusion splicer and the resulting splice loss will fall within the limits specified in Exhibit B – Fiber Splicing, Testing & Acceptance Standards and Procedures.

“System” shall have the meaning set forth in Paragraph G above.

"Taking" shall have the definition set forth in Section 21.2.

"Term" means the term of this Agreement as set forth in Section 9.1, and includes any renewal term, as may be agreed to by the Parties in writing.

“Third Parties” means private entities (including but not limited to NG-KIH Design Build LLC) that may have authorization to construct last mile fiber spurs to Sites.

"Transmission Sites" means the MuniNet-designated optical amplifier, regenerator, or junction sites along the Route as specified in Exhibit A.

ARTICLE II CONVEYANCE OF IRU

2.1. Conveyance upon Acceptance. Effective as of the later to occur of the respective Acceptance Date for each Segment and contingent upon Commonwealth's timely making of each payment provided for in Section 3.3 of this Agreement, MuniNet hereby grants to Commonwealth an exclusive IRU during the Term (the "Commonwealth IRU"), for the purposes and under the conditions described herein, in the certain Fibers allocated by MuniNet to the Commonwealth in accordance with Section 2.3 within the Building Entrance Cables leading from each of the Sites identified in **Exhibit D – Sites** and the specific Fibers running from the connection of each such Building Entrance Cable to the MuniNet System across and within the MuniNet System to the MuniNet NOC in Paducah, Mayfield or Murray designated by MuniNet as serving each such Site in the applicable quantity of Fibers specified in **Exhibit D – Sites**. It is understood and agreed that the Commonwealth Fibers connecting certain of the Sites will be located within a portion of the MuniNet System that includes a Route comprising the Segments more particularly described as follows:

- a. the Ballard Segment which will extend along United States Highway 60 from the intersection of U.S. 60 and Hobbs Road in McCracken County, Kentucky, to the Ballard County Memorial High School as generally depicted in **Exhibit A – Segments** as the westernmost terminus of the MuniNet System in Ballard County, Kentucky. MuniNet shall complete the construction of the Cable for the Ballard Segment on or before six calendar months from the Effective Date; and
- b. the Carlisle Segment which will extend along Kentucky Highway 80 from Mayfield to Arlington and along Kentucky Highway 1371 from Milburn to

Kentucky Highway 1377 as generally depicted in **Exhibit A - Segments**. MuniNet shall complete the construction of the Cable for the Carlisle Segment on or before nine calendar months from the Effective Date.

2.2. Construction Responsibilities. MuniNet shall be responsible for all elements of construction of the Segments and the Building Entrance Cables, including but not limited to: walkouts, staking, engineering, permitting, pole attachments and pole attachment agreements, make ready engineering and construction, conduit access, required ROW and/or easements, all fiber optic cable required for construction of the Segments and installation of the Building Entrance Cables. MuniNet shall also be responsible for making the Fiber Terminations at each Site for which it is required to do so under Section 2.3 of this Agreement and shall meet the standards set forth in **Exhibit B – Fiber Splicing, Testing and Acceptance Standards and Procedures** and **Exhibit C – Cable Installation Guidelines**. Commonwealth shall be responsible for all elements of construction of the portions of the Network required to provide the MuniNet IRU to MuniNet, including but not limited to, walkouts, staking, engineering, permitting, pole attachments and pole attachment agreements, make ready engineering and construction, conduit access, required ROW and/or easements, providing all fiber optic cable and associated facilities required for construction of the applicable portions of the Network. Commonwealth will ensure that the MuniNet Fibers shall be constructed and installed so as to meet the Fiber Splicing, Testing, and Acceptance Standards and Procedures set forth in Exhibit B and the Cable Installation Guidelines set forth in Exhibit C of this Agreement.

2.3. Sites and Building Entrance Cable. MuniNet shall be responsible for extending and installing certain fiber optic cables from the Route to the Sites designated in Exhibit D of this Agreement (each, a “Building Entrance Cable”) in accordance with the guidance provided in Exhibit F. At each such Site, MuniNet will bring the Building Entrance Cable to a fiber termination panel at a location established by agreement of the Commonwealth and MuniNet. MuniNet at its cost shall supply the fiber termination panel for each Site at which 12 or fewer connections are to be made as shown in Column I of **Exhibit D - Sites**. The Commonwealth will be responsible for providing fiber termination panels at Sites requiring more than 12 connections. The Parties will establish, on a Site by Site basis, where the Building Entrance Cable will enter the structure on the Site and where the fiber termination panel at which the Building Entrance Cable will be terminated will be located within said structure. Provided, however, if the Parties have not agreed as to where the fiber termination panel will be located by the time that MuniNet is ready to install the Building Entrance Cable at the Site, MuniNet will (i) install a 4x4 backboard sheet at a location of MuniNet’s choosing that is compatible with Good Industry Practice, (ii) mount a fiber termination panel to the backboard, (iii) coil 25 feet of cable at the Site, and (iv) terminate the Building Entrance Cable at the fiber termination panel on the backboard. In all other instances, MuniNet will (i) install a 4x4 backboard sheet at the agreed location, (ii) mount a fiber termination panel to the backboard, (iii) coil 25 feet of Cable at the Site, and (iv) terminate the Building Entrance Cable at the fiber termination panel on the backboard. Notwithstanding anything contained herein to the contrary, if a Building Entrance Cable has been installed to a particular Site by MuniNet prior to the Effective Date of this Agreement, then the existing fiber installation to said Site shall satisfy the requirements of this Section and shall be deemed to be accepted by the Commonwealth. The Commonwealth will provide at its expense all jumpers required for connecting the Commonwealth Equipment to the fiber termination panels at the Sites. The Commonwealth shall have an IRU (upon the terms and conditions described in Section 2.1)

in the number of Fibers in the Building Entrance Cable for a particular Site as is shown in the column I of Exhibit D designated as “Fiber Needed” pertaining to the respective Site. All other Fibers within such Building Entrance Cable may be employed or granted (whether through ownership, IRU, lease or otherwise) by MuniNet for any lawful purpose.

2.4. Completion of Construction.

MuniNet shall complete construction as required and set forth in this Agreement.

2.5. Additional Fibers. Commonwealth may request the grant of an IRU in additional fibers from MuniNet in either of the Segments. Likewise, MuniNet may request the grant of an IRU from Commonwealth in additional fibers in the Network. Neither MuniNet nor Commonwealth shall have any obligation to provide such IRUs in additional fibers, however, and such a request by either Party shall not be considered a request for a Change for purposes of this Agreement. Any such grant shall be effective only upon the written agreement of both Parties based upon mutually agreeable pricing, terms and conditions.

2.6. MuniNet IRU. No later than December 31, 2020 the Commonwealth shall grant to MuniNet an exclusive IRU during the Term in six (6) Fibers within each Span of the Network as generally depicted in Diagram 2 of Exhibit A and more particularly described below:

- a. Nortonville to Irvington. A Span beginning at a meet me point located at an existing fiber slack loop located at 186 Mockingbird Drive in Nortonville, Kentucky, to a point located within the structure at 229 N. First Street, Irvington, KY 40146, which point is designated as Node Site 1791 on the Network.
- b. Irvington to Louisville. A Span beginning at a point located within the structure at Site 1791 to a point located within the structure at 2321 South 1st Street Louisville, Kentucky, 40292 which point is designated as Node Site 1732 on the Network.
- c. Louisville Node to Level 3/CenturyLink and Cogent POP Facilities. A Span beginning at a point located within the structure at Site 1732 to a point located within the manhole (generally referred to as “Handhole A”) which is located outside the Level 3/CenturyLink POP at 848 South 8th Street, Louisville, Jefferson County, Kentucky, as depicted in Exhibit A. The Span shall continue from the Level 3/CenturyLink POP to a FDP within the Cogent facility located at 332 West Broadway, Louisville, Jefferson County, Kentucky as generally depicted on the aerial photo map included as part of Exhibit A. At the Level/CenturyLink 3 POP (generally depicted as point B on the aerial photo map included as part of Exhibit A), Commonwealth at its sole expense shall install underground conduit running from its 1730 backbone splice enclosure to Handhole A and will leave a 125-foot tail of the MuniNet Fibers in Handhole A. Commonwealth will cooperate with Level 3/CenturyLink to facilitate the extension of the fiber tail from Handhole A to Handhole B and the splicing of applicable MuniNet Fibers to the Level 3/CenturyLink house fibers as assigned by Level 3/CenturyLink. The Parties’ respective responsibilities regarding connecting the MuniNet Fibers to the Cogent facility are set forth in **Exhibit K – Cogent Facility Responsibilities**.

- d. Murray to Hopkinsville. A Span beginning at a point located within the structure at 401 Olive Street, Murray, Kentucky, which point is designated as Node 1792 on the Network to a point located within the structure at 1820 East 9th Street, Hopkinsville, Kentucky, which point is designated as Node Site 207 on the Network.
- e. Hopkinsville to Bowling Green. A Span beginning at a point located within the structure at the Node Site 207 on the Network to a point located within the structure at 1 Big Red Way Bowling Green, KY, Kentucky, which point is designated as Node Site 254 on the Network.
- f. Bowling Green to Glasgow. A Span beginning at a point located within the structure at Node Site 254 on the Network to a point located within the structure at 129 State Avenue, Glasgow Kentucky, 42141 which point is designated as Node Site 233 on the Network.
- g. Glasgow to Elizabethtown. A Span beginning at a point located within the structure at as Node Site 233 on the Network to a point located within the structure at 600 College St., Elizabethtown Kentucky 42701, which point is designated as Node Site 190 on the Network.
- h. Elizabethtown to Louisville. A Span beginning at a point located within the structure at Node Site 190 on the Network to a point located within the structure at Node Site 1732 on the Network.

2.7. MuniNet Fiber Terminations. Within five (5) Business Days after completion of the testing required by **Exhibit B – Fiber Splicing, Testing, and Acceptance Standards and Procedures**, Commonwealth and MuniNet shall meet to determine whether the fiber terminations will use a Straight Fusion Splice or Fiber Termination.

ARTICLE III CONSIDERATION

3.1. Consideration Package. Each Party acknowledges and agrees that the benefits to be received by it under this Agreement constitute good and sufficient consideration for such Party's undertaking of the various obligations assigned to it under this Agreement. The Parties further agree that the respective obligations to be performed by the Parties hereunder, including the cash payments to be made and costs incurred for new construction, the grants of IRUs, the making of fiber trades, the provision of fiber optic cable, FDPs and other facilities, the furnishing of co-location space and associated costs during the Term, and the provision of maintenance services and attendant costs during the Term, are estimated to be roughly commensurate in value by them.

- a. The Contract Price shall be the portion of the consideration package to be paid to MuniNet by Commonwealth in cash for the new construction to be performed by MuniNet described in Section 2.2. The full estimated costs of materials and labor for such new construction by MuniNet (exclusive of any costs associated with any rock boring or Change) are set forth in Exhibit L – MuniNet Construction Costs in

the total amount of \$847,087.50 (the "Estimated Cost"). Promptly following the Effective Date, MuniNet will solicit bids in conformity with applicable bidding statutes for the furnishing of the materials and performance of the construction work to be performed by MuniNet. If the bid(s) selected by MuniNet as the best evaluated bid(s), including costs of a payment bond and performance bond (the "Bid Price"), total less than or equal to the Estimated Cost, then the Contract Price shall be deemed to be the Estimated Cost. If the Bid Price is greater than the Estimated Cost, MuniNet shall promptly provide notice of same to Commonwealth along with copies of all bid documents requested by Commonwealth. Commonwealth shall have ten (10) Business Days after receipt of said notice in which to provide written notice to MuniNet as to whether Commonwealth will accept the Bid Price as the Contract Price. If the Commonwealth provides such notice to MuniNet, then the Contract Price shall be deemed to be the Bid Price. If the Commonwealth declines to accept the Bid Price or fails to provide such notice to MuniNet in a timely manner, then MuniNet shall immediately refund to Commonwealth any payment received pursuant to Section 3.3 of this Agreement and this Agreement will be deemed to be terminated. Notwithstanding any provision of this Section 3.1 to the contrary, should the Bid Price be greater than 115% of the Estimated Cost, MuniNet shall have sole and absolute right to terminate this Agreement by giving written notice of such termination to Commonwealth within five (5) Business Days after the opening of the bids unless Commonwealth assures MuniNet in writing within five (5) Business Days of receipt of such termination notice that Commonwealth will pay the full Contract Price within thirty (30) days of Commonwealth's receipt of such termination notice and such payment is actually received by MuniNet within said 30-day period. Should the Agreement be terminated pursuant to this subsection a. of Section 3.1, MuniNet will promptly refund any payment received pursuant to Section 3.3. If a Contract Price is established as provided in this Section 3.1, such Contract Price will be exclusive of any additional amounts that may be payable to MuniNet for rock boring costs in accordance with Subsection c. of this Section 3.1.

- b. The Parties acknowledge and agree that, aside from payment of the Contract Price and any amounts owed for rock boring or in connection with any Change, no monetary payments are being made by one Party to the other Party for performance by the other Party of its obligations hereunder. Aside from the monetary payments by one Party to the other mentioned in the preceding sentence, the consideration to be received by a Party for the performance of its obligations hereunder shall consist of the benefits expected to be enjoyed by the other Party's furnishing for no additional monetary charge of (i) an IRU in the strands of Fiber at the locations and covering the distances specified in this Agreement; (ii) co-location spaces and associated services at the locations identified in this Agreement; and (iii) maintenance services for the Cable, co-location spaces and facilities as described in this Agreement.
- c. The Contract Price to be paid for MuniNet's construction of the Segments and the Building Entrance Cables does not include any recovery by MuniNet of the costs of boring through rock. MuniNet shall maintain detailed records of the precise

locations along the Route and the paths of the Building Entrance Cables at which rock formations are encountered that in Customary Industry Practice make boring of the rock for installation of the Cable necessary or advisable. MuniNet shall maintain detailed records of the locations and linear footage of all borings performed on account of rock and the costs incurred for the performance of such boring work. MuniNet shall make regular reports to the Commonwealth concerning the extent, locations, and costs of rock boring work done for purposes of constructing the Cable in the Segments and the Building Entrance Cables. All records to be kept by MuniNet pursuant to this Section 3.1.c. shall be available for inspection by the Commonwealth at all reasonable times. Rock boring work shall be performed for MuniNet by a contractor selected in compliance with the public bidding statutes applicable to MuniNet. For all rock boring work performed in connection with construction of one or more of the Segments and with extension of the Building Entrance Cables to any of the Sites, MuniNet's fully-allocated costs, including MuniNet's reasonable overhead charge, for performance of the work by MuniNet (as reasonably determined by MuniNet, but not to exceed the greater of \$42.50 per foot or contract price determined by bid solicitation) shall be paid by the Commonwealth. No more frequently than monthly, MuniNet will invoice Commonwealth for rock boring costs incurred during construction and Commonwealth shall make payment for such rock boring costs within thirty (30) days of receiving MuniNet's invoice.

3.2. Method of Payment. Commonwealth shall pay the Contract Price and any other monetary payments to be made to MuniNet under this Agreement by wire transfer of United States currency to an account or accounts designated by MuniNet in writing.

3.3. Time of Payment. Unless Commonwealth has paid the full Contract Price under the circumstances described in subsection a. of Section 3.1, Commonwealth shall make the payment for new construction costs within thirty (30) days of receiving MuniNet's invoice as specified below:

- a. Commonwealth shall make a payment of \$423,543.75 (representing 50% of the Estimated Cost) that is due on the Effective Date. Said payment shall be applied against the Contract Price to be established in accordance with Section 3.1.a. MuniNet acknowledges that pursuant to KRS 45.453, the Commonwealth has thirty (30) days after the Effective Date in which to make the payment required by this subsection. The Parties agree that for each calendar day after the Effective Date that said payment is not received by MuniNet, a day shall be added to the respective dates by which MuniNet is required to have completed construction of the Segments as set forth in Section 2.1 of this Agreement;
- b. Commonwealth shall make a payment of \$211,771.88 (representing 25% of the Estimated Cost) upon completion of the Ballard Segment to be constructed under this Agreement;

- c. Commonwealth shall make a payment of \$211,711.87 (representing approximately 25% of the Estimated Cost) upon completion of the Carlisle Segment to be constructed under this Agreement;
- d. Commonwealth shall make a payment equal to the Contract Price plus (i) the total amount owed to MuniNet for any rock boring under Subsection c. of Section 3.1 or Changes (to the extent not previously paid), less (ii) the total of the amounts previously paid by Commonwealth pursuant to Subsections a., b. and c. of this Section 3.3, upon the completion of the Building Entrance Cables, connection of all the Sites, compliance of the Commonwealth Fibers in each of the Segments with the applicable Acceptance Standards, and MuniNet's delivery to Commonwealth of the Project Records specified in Exhibit G to the Agreement. This subsection of Section 3.3 shall apply regardless of whether Commonwealth has paid the full Contract Price under the circumstances described in subsection a. or Section 3.1.

3.4. Provision of Fiber. Commonwealth and MuniNet shall each furnish Cable containing at least the appropriate count of fiber optic strands for the IRU each Party is providing to the other in the System or Network, as the case may be. The fiber optic cable shall meet ITU-T standards for single-mode optical fiber and cable (including Recommendation ITU-T G.652).

ARTICLE IV CONSTRUCTION

4.1. Fiber Acceptance Testing. Exhibit B sets forth Post-Construction Fiber Acceptance Testing procedures and test deliverables that MuniNet shall provide to Commonwealth, and the procedures for determining the Acceptance Date of a Segment. Notwithstanding the foregoing, all Commonwealth Fibers in the Segments shall meet the Acceptance Standards as described in Exhibit B on or before the respective construction completion dates for the Segments as set forth in Section 2.1, as such dates may be adjusted in accordance with the terms of this Agreement. Exhibit B also sets forth the Post-Construction Fiber Acceptance Testing procedures and test deliverables that Commonwealth shall provide to MuniNet, and the procedures for determining the Acceptance Date for each Span containing MuniNet Fibers. Notwithstanding the foregoing, all MuniNet Fibers in the applicable Spans of the Network shall meet the Acceptance Standards as described in Exhibit B on or before the construction completion date for the Spans as set forth in Section 2.6, as such date may be adjusted in accordance with the terms of this Agreement.

4.2. Acceptance Date Obligations. As of the Acceptance Date of the Commonwealth Fibers in any Segment, MuniNet hereby represents and warrants on an ongoing basis throughout the remainder of the Term that:

- a. MuniNet shall have obtained all rights, licenses, authorizations, easements, leases, fee interests, or agreements necessary to provide for the occupancy by such Segment of real property or fixtures (such as conduit, bridges, river crossings, or transmission towers);

- b. MuniNet is the legal owner of the Commonwealth Fibers or shall have obtained by IRU agreement, lease, or otherwise the right to use any portion of the System along the Segment or Span it does not own; and
- c. such Segment and the Commonwealth Fiber in such Segment shall be free of defects in materials and workmanship and is installed and constructed, at a minimum, in accordance with the specifications set forth in Exhibits B and C.

The rights MuniNet is required to obtain pursuant to Subsections (a) and (b) above are referred to as "Required Rights." Subject to the terms of Section 9.2, MuniNet shall renew or replace existing Required Rights through the Term.

As of the Acceptance Date of the MuniNet Fibers in a particular Span, Commonwealth hereby represents and warrants on an ongoing basis throughout the remainder of the Term with respect to that particular Span, or as of December 31, 2020, with respect to all MuniNet Fibers, that:

- d. Commonwealth shall have obtained all rights, licenses, authorizations, easements, leases, fee interests, or agreements necessary to provide for the occupancy by such MuniNet Fibers of real property or fixtures (such as conduit, bridges, river crossings, or transmission towers);
- e. Commonwealth is the legal owner of the MuniNet Fibers or shall have obtained by IRU agreement, lease, or otherwise the right to use the portion of the Network along the Spans containing MuniNet Fibers that it does not own; and
- f. the MuniNet Fiber shall be free of defects in materials and workmanship and is installed and constructed, at a minimum, in accordance with the specifications set forth in Exhibits B and C.

The rights Commonwealth is required to obtain pursuant to Subsections (d) and (e) above are also Required Rights. Subject to the terms of Section 9.2, Commonwealth shall renew or replace expiring or terminated Required Rights throughout the Term.

4.3. Provision of As-Built Drawings. Within two (2) months after the Acceptance Date of a Segment, MuniNet will provide Commonwealth with as-built drawings for the Segment complying with the requirements for as-built drawings as set forth in Exhibit G. If there is a material change in the as-built drawings as a result of maintenance or relocation, MuniNet shall deliver updated as-built drawings to Commonwealth with respect to the relevant Segment within the later of one-hundred eighty (180) calendar days following the completion of such change or thirty (30) calendar days after receipt of Commonwealth's request. Within two (2) months after the Acceptance Date of a Span, Commonwealth will provide MuniNet with as-built drawings for the Span complying with the same requirements as are applicable to MuniNet under Exhibit G. If there is a material change in the as-built drawings as a result of maintenance or relocation, Commonwealth shall deliver updated as-built drawings to MuniNet with respect to the relevant Span within the later of one-hundred eighty (180) calendar days following the completion of such change or thirty (30) calendar days after receipt of MuniNet's request.

4.4. Compliance with Exhibit C – Cable Installation Guidelines. MuniNet and Commonwealth shall complete all construction required of them, respectively, under this Agreement in accordance with Exhibit C – Cable Installation Guidelines.

4.5. Carlisle Construction Timing and Schedule. MuniNet’s construction work on the Carlisle Segment will commence upon payment in full of the costs of all make ready work on the infrastructure of West Kentucky Rural Electric Cooperative Corporation (“WKRECC”), as such costs are determined solely by WKRECC, and completion of make ready work, as applicable, by WKRECC. MuniNet will perform the make ready engineering, including submittal packages, for the portion of the System located in WKRECC’s service area, including all required follow-up with WKRECC. Commonwealth represents that the costs of WKRECC’s make ready work will be paid to MuniNet in advance by NG-KIH Design Build LLC (“LLC”). Amounts received by MuniNet from LLC shall not be considered as a credit against the Contract Price. Should LLC fail to pay to MuniNet, in advance, the full amount of WKRECC’s make ready costs, as estimated by WKRECC, MuniNet may suspend all construction work required to be performed by it under this Agreement until such time as LLC has paid the full amount of all such make-ready work. Rather than suspend work, MuniNet may elect to employ so much of the payment to be made by the Commonwealth under Subsection a. of Section 3.3 as may be necessary to pay the make ready costs of WKRECC and all such funds used to pay WKRECC’s make ready costs shall be deemed not to have reduced the amount owed on the Contract Price. Upon the Effective Date, MuniNet will promptly initiate any formal request necessary to obtain attachment rights on WKRECC’s poles and infrastructure. The Parties acknowledge that WKRECC will have up to 90 days thereafter to prepare make ready estimates and that WKRECC will have an additional 90 days after receipt of the full estimated amount of its make ready costs in which to perform all required make ready work. For each day after the expiry of the 90-day period for WKRECC to perform make ready work that the work has not been completed by WKRECC, an additional day shall be added to the completion date for MuniNet’s work on the Carlisle Segment as set forth in Subsection b. of Section 2.1.

4.6. Ballard Construction Timing and Schedule. MuniNet’s construction work on the Ballard Segment will commence upon payment in full of the costs of all make ready work on the infrastructure of Jackson Purchase Energy Corporation (“JPEC”), as such costs are determined solely by JPEC, and completion of make ready work, as applicable, by JPEC. MuniNet will perform the make ready engineering, including submittal packages, for the portion of the System located in JPEC’s service area, including all required follow-up with JPEC. Commonwealth represents that the costs of JPEC’s make ready work will be paid to MuniNet in advance by LLC. Amounts received by MuniNet from LLC shall not be considered as a credit against the Contract Price. Should LLC fail to pay to MuniNet, in advance, the full amount of JPEC’s make ready costs, as estimated by JPEC, MuniNet may suspend all construction work required to be performed by it under this Agreement until such time as LLC has paid the full amount of all such make-ready work. Rather than suspend work, MuniNet may elect to employ so much of the payment to be made by the Commonwealth under Subsection a. of Section 3.3 as may be necessary to pay the make ready costs of JPEC and all such funds used to pay JPEC’s make ready costs shall be deemed not to have reduced the amount owed on the Contract Price. Upon the Effective Date, MuniNet will promptly initiate any formal request necessary to obtain attachment rights on JPEC’s poles and infrastructure. The Parties acknowledge that JPEC will have up to 90 days thereafter to prepare make ready estimates and that JPEC will have an

additional 90 days after receipt of the full estimated amount of its make ready costs in which to perform all required make ready work. For each day after the expiry of the 90-day period for JPEC to perform make ready work that the work has not been completed by JPEC, an additional day shall be added to the completion date for MuniNet's work on the Ballard Segment as set forth in Subsection a. of Section 2.1.

4.7. KY Dam Village Site 1318 Construction Timing and Schedule. MuniNet's construction work on site 1318 will commence upon payment in full of the costs of all make ready work on the infrastructure of West Kentucky Rural Electric Cooperative Corporation ("WKRECC"), as such costs are determined solely by WKRECC, and completion of make ready work, as applicable, by WKRECC. MuniNet will perform the make ready engineering, including submittal packages, for the portion of the System located in WKRECC's service area, including all required follow-up with WKRECC. Commonwealth represents that the costs of WKRECC's make ready work will be paid to MuniNet in advance by LLC. Amounts received by MuniNet from LLC shall not be considered as a credit against the Contract Price. Should LLC fail to pay to MuniNet, in advance, the full amount of WKRECC's make ready costs, as estimated by WKRECC, MuniNet may suspend all construction work required to be performed by it under this Agreement until such time as LLC has paid the full amount of all such make-ready work. Rather than suspend work, MuniNet may elect to employ so much of the payment to be made by the Commonwealth under Subsection a. of Section 3.3 as may be necessary to pay the make ready costs of WKRECC and all such funds used to pay WKRECC's make ready costs shall be deemed not to have reduced the amount owed on the Contract Price. Upon the Effective Date, MuniNet will promptly initiate any formal request necessary to obtain attachment rights on WKRECC's poles and infrastructure. The Parties acknowledge that WKRECC will have up to 90 days thereafter to prepare make ready estimates and that WKRECC will have an additional 90 days after receipt of the full estimated amount of its make ready costs in which to perform all required make ready work. For each day after the expiry of the 90-day period for WKRECC to perform make ready work that the work has not been completed by WKRECC, an additional day shall be added to the completion date for MuniNet's work on the Carlisle Segment as set forth in Subsection b. of Section 2.1.

4.8. Commonwealth Construction Responsibilities. Commonwealth shall be responsible for making all arrangements and performing all work necessary to provide the MuniNet IRU as described in Section 2.6 above, including but not limited to performing or securing all necessary construction work, obtaining all required ROWs and easements, walkouts, staking, engineering, permitting, pole attachments, make ready, conduit access, all required fiber and equipment installation, building entrance, termination on fiber panels within Sites, and performing the fiber characterization tests or other testing required of Commonwealth under Section 4.1. Commonwealth shall be responsible for ensuring that all portions of the Network containing MuniNet Fibers are constructed in accordance with the Cable Installation Guidelines set forth in Exhibit C. Should the Acceptance Date for all of the MuniNet Fibers not occur on or before the deadline established in Section 2.6 for Commonwealth to grant MuniNet an IRU in each of the Spans described in Section 2.6, then MuniNet shall have the right to receive from Commonwealth, upon submission of an invoice for same, payment for granting extensions of Commonwealth's performance obligations under this Agreement (each, an "Extension Payment"). Each Extension Payment shall be one-twelfth (1/12) of the Estimated Cost (i.e., \$847,087.50 / 12 = \$70,590.63) for each calendar month, or portion thereof, until such

time as all Acceptance Standards applicable to the MuniNet Fibers shall be satisfied and the MuniNet IRU shall be fully operational. If, by December 31, 2021, the Acceptance Standards applicable to the MuniNet Fibers are not satisfied and the MuniNet IRU is not fully operational, then MuniNet may terminate this Agreement by giving written notice to Commonwealth. In the event of such termination, MuniNet shall retain (at no expense to MuniNet and with no refund obligation) all Extension Payments made or then owed by Commonwealth, all payments made by Commonwealth pursuant to Section 3.3 of this Agreement, and the Fiber constructed by it in the Segments. In addition, in the event of such a termination by MuniNet, the Commonwealth IRU shall be forfeited, Commonwealth shall have no interest in the Fiber or other facilities of MuniNet or its members under this Agreement, including colocation facilities, and MuniNet shall have no further obligation to the Commonwealth under this Agreement.

ARTICLE V CONNECTION AND ACCESS TO THE SYSTEM

5.1. Connections. Subject to the provisions herein, Commonwealth shall pay for and arrange all connections of the Commonwealth Equipment and its other facilities with the Commonwealth Fibers at the points of demarcation set forth in Exhibit E.

5.2. No Unauthorized Access to System. Except as expressly permitted by this Agreement, Commonwealth shall not use or access any Fibers or NOC belonging to MuniNet, or other part of the System, or permit any third party, including the Permitted Users, to use or access the same, without the prior written consent of MuniNet. Commonwealth shall be entitled to access the Commonwealth Fibers from all reasonable and customary access points, including without limitation all associated (a) splicing connections; (b) splice boxes and vaults; (c) with regard to Commonwealth Fibers installed above ground, cabinets and huts; and (d) with regard to Commonwealth Fibers installed below ground, handholes, manholes, and conduits. Except as expressly permitted by this Agreement, MuniNet shall not use or access the Commonwealth Fibers, any Commonwealth NOC, or any other part of the Network, or permit any third party, to use or access the Commonwealth Fibers, any Commonwealth NOC, or any other part of the Network, without the prior written consent of Commonwealth. MuniNet shall be entitled to access the MuniNet Fibers from all reasonable and customary access points, including without limitation all associated (a) splicing connections; (b) splice boxes and vaults; (c) with regard to MuniNet Fibers installed above ground, cabinets and huts; and (d) with regard to MuniNet Fibers installed below ground, handholes, manholes, and conduits.

5.3. Commonwealth Co-location Sites. As part of the consideration exchanged under this Agreement, MuniNet will cause space to be made available at the premises of three of MuniNet's member utilities for the purposes of housing certain Commonwealth Equipment and making certain Network interconnections under terms and conditions as follows:

- a. 1500 Broadway Street, Paducah, McCracken County, Kentucky. MuniNet will cause its member, Paducah Power System (PPS), to provide Commonwealth with access seven (7) days per week, twenty-four (24) hours per day, with card access to the Commonwealth to be established by written agreement among the Parties and PPS within sixty (60) days of the Effective Date of this Agreement, to

MuniNet's NOC at PPS and with four (4) units of rack space and all associated power and cooling within said NOC to house Commonwealth Equipment within sixty (60) days of the Effective Date of this Agreement, and up to two (2) additional units of rack space within forty-five (45) days of the Commonwealth's written request, as specified below:

- i. Commonwealth will place its Node 1793 site in MuniNet's NOC at PPS;
 - ii. MuniNet will provide an FDP to terminate fiber from each of the customer Sites and any spare fiber optic cables;
 - iii. Commonwealth will place its two (2) 288-count fiber optic backbone cables through MuniNet-provided diverse entries into the PPS NOC, and Commonwealth will terminate all fiber optic cables in the appropriate Commonwealth-provided FDP;
 - iv. Commonwealth will place Commonwealth provided SC APC SMF Jumpers to the appropriate equipment;
 - v. Fiber assignments for each Site and spare fiber optic cables will be tested and provided by MuniNet as provided in **Exhibit B – Fiber Splicing, Testing, and Acceptance Standards and Procedures** and Column K to **Exhibit D - Sites**; and
 - vi. Commonwealth agrees to execute a colocation agreement with PPS that contains such standard terms and conditions as are typically found in such agreements and which are not inconsistent with the terms of this Agreement prior to placing Commonwealth Equipment, fiber optic cable or other facilities within the MuniNet NOC at PPS.
- b. 401 Olive Street, Murray, Calloway County, Kentucky. MuniNet will cause its member, Murray Electric Service (MES), to provide Commonwealth with access seven (7) days per week, twenty-four (24) hours per day, on an on-call protocol basis with access to the Commonwealth at one hour or less to be established by written agreement among the Parties and MES within sixty (60) days of the Effective Date of this Agreement, to MuniNet's NOC at MES and with seven (7) units of rack space and all associated power and cooling within said NOC to house Commonwealth Equipment, as specified below:
- i. Commonwealth will place its Node 1792 site in MuniNet's NOC at MES;
 - ii. MuniNet will provide an FDP to terminate fiber from each of the customer Sites and any spare fiber optic cables;
 - iii. Commonwealth will place its two (2) 288-count fiber optic backbone cables through MuniNet-provided diverse entries into the MuniNet NOC at MES, and Commonwealth will terminate all fiber optic cables in the appropriate Commonwealth-provided FDP;

- iv. Commonwealth will place Commonwealth-provided SC APC SMF Jumpers to the appropriate equipment;
 - v. Fiber assignments for each Site and spare fiber optic cables will be tested and provided by MuniNet as provided in **Exhibit B – Fiber Splicing, Testing, and Acceptance Standards and Procedures** and Column K to **Exhibit D - Sites**; and
 - vii. Commonwealth agrees to execute a colocation agreement with MES that contains such standard terms and conditions as are typically found in such agreements and which are not inconsistent with the terms of this Agreement prior to placing Commonwealth Equipment, fiber optic cable or other facilities within the MuniNet NOC at MES.
- c. 301 East Broadway, Mayfield, Graves County, Kentucky Transmission Site. MuniNet will cause its member, Mayfield Electric and Water Service (MEWS), to provide Commonwealth with access seven (7) days per week, twenty-four (24) hours per day, on an on-call protocol basis with access to the Commonwealth at one hour or less to be established by written agreement among the Parties and MEWS within sixty (60) days of the Effective Date of this Agreement, to MuniNet's NOC at MEWS and with one (1) unit of rack space and all associated power and cooling within said NOC to house Commonwealth Equipment, as specified below:
- i. Commonwealth will place its FDP and equipment in MuniNet's NOC at MEWS;
 - ii. MuniNet will provide an FDP to terminate fiber from each of the customer Sites and any spare fiber optic cables;
 - iii. Commonwealth at its sole expense will extend its one (1) 144-count fiber optic cable from Commonwealth's backbone network from the northeast corner of 8th and Water Streets in Mayfield, Kentucky, through a MuniNet-provided single entry into the NOC at MEWS, and Commonwealth will terminate all fiber optic cables in the appropriate Commonwealth-provided FDP;
 - iv. Commonwealth will place Commonwealth-provided SC APC SMF Jumpers to the appropriate equipment;
 - v. Fiber assignments for each Site and spare fiber optic cables will be tested and provided by MuniNet as provided in **Exhibit B – Fiber Splicing, Testing, and Acceptance Standards and Procedures** and Column K to **Exhibit D - Sites**; and
 - vi. Commonwealth agrees to execute a colocation agreement with MEWS that contains such standard terms and conditions as are typically found in such agreements and which are not inconsistent with the terms of this Agreement

prior to placing Commonwealth Equipment, fiber optic cable or other facilities within the MuniNet NOC at MEWS.

5.4 MuniNet Co-location Site. Beginning no later than December 31, 2020, and continuing through the Term, Commonwealth will provide to MuniNet access seven (7) days per week, twenty-four (24) hours per day to twelve (12) rack units of rack space at the University of Louisville's Data Center located at Miller Information Technology Center, 2315 S. First Street Walk, Room LL01, Louisville, Jefferson County, Kentucky, 40292, including all associated power and cooling, to house MuniNet's facilities and equipment and to permit authorized interconnections. Beginning no later than December 31, 2020, and continuing through the Term, Commonwealth will provide to MuniNet access seven (7) days per week, twenty-four (24) hours per day to twelve (12) rack units of rack space including all associated power and cooling, to house MuniNet's facilities and equipment and to permit authorized interconnections at each of the following Commonwealth Node sites:

- a. Madisonville
- b. Henderson
- c. Owensboro
- d. Irvington
- e. Hopkinsville
- f. Bowling Green
- g. Glasgow
- h. Elizabethtown

**ARTICLE VI
THIS SECTION INTENTIONALLY LEFT BLANK**

**ARTICLE VII
CHANGES TO THE SYSTEM**

7.1 Request for a Change. Either the Commonwealth or MuniNet ("Applicant" or "Respondent" as the case may be) may propose a Change in the form of a modification of the Route, the System, design specifications, colocation arrangements, or provision of or interconnection with the MuniNet Fibers, or the addition, elimination or relocation of one or more Sites by giving written notice to the other Party using the Change Form attached to this Agreement at **Exhibit I**. The Applicant shall provide all information regarding the proposed Change, including but not limited to, a detailed description of the proposed Change, its impact on the System or Network, Applicant's proposed equitable adjustment of the Contract Price or other component of the consideration package, and the applicable dates by which MuniNet shall have completed construction of any affected Segment or by which Commonwealth shall provide the

MuniNet IRU, all information required by the Change Form and any other information which may support the Change request.

7.2 Change Meeting. If promptly requested by either Party, a meeting will be held within fifteen (15) Business Days of Respondent's receipt of the Change Form to discuss the proposed Change, its potential impact on the System or Network, its costs or any other matter relating to the Change or to the System or Network. Prior to or during the meeting, the Respondent may request additional information which the Applicant agrees to provide within ten (10) Business Days of the request. The Parties may agree to multiple meetings to discuss the proposed Change. Applicant may amend the Change Form to address concerns raised by Respondent in the course of the Parties' discussions.

7.3 Respondent's Review of Change. The Respondent may reject any request for a Change if the Change Form is incomplete or if, upon review of the Change Form and all supporting information, the Respondent reasonably determines that the Change could have a negative impact on the System or Network, that the proposed adjustments of the Contract Price or other component of the consideration package and/or construction completion deadlines are insufficient or inequitable, or that any other terms and conditions of the proposed Change are inequitable or impracticable of performance. The Respondent shall complete its review of the Change within twenty (20) Business Days of the later to occur of Respondent's receipt of the Change Form (as same may be amended) and the last meeting held in accordance with Section 7.2 of this Article.

7.4 Approval or Rejection of Change. If the Respondent elects to reject the proposed Change upon completion of its review of the proposed Change in accordance with Section 7.3 of this Article, the Respondent shall provide a written response explaining the basis for its rejection of the Change. Approval of a Change may be demonstrated by the signature of an authorized representative of Respondent on the Change Form or by other written statement approving the Change. Upon execution by the Parties of the Change Form or other written agreement setting forth the terms and conditions of the Change, work may begin to perform the Change.

7.5 Payment. If payment for a Change is due from the Commonwealth, it shall pay the Change costs within thirty (30) days of its written approval of the Change. If payment for a Change is due from MuniNet, it may (a) provide a credit to the Commonwealth to be applied against any payment due from the Commonwealth under this Agreement or (b) make a lump sum payment within thirty (30) days of the Commonwealth's approval of the Change under Section 7.4 of this Article.

7.6 Dispute. If the Applicant disagrees with the Respondent's rejection of a Change, the Applicant may within five (5) Business Days of receiving the rejection of the Change initiate a Claim under the dispute procedure set forth in Article XXII of this Agreement.

7.7 Records. The Applicant and Respondent shall maintain all documents relating to each Change, including electronic documents, in accordance with **Exhibit H** and the Kentucky Open Records Act.

7.8 Change Costs. Where the Parties have not agreed on a lump sum amount (which may include an allowance for overhead and profit) or unit pricing for determining the value of work to

be performed under a proposed Change or of any Claim pertaining to an adjustment of the Contract Price or other component of the consideration package, such value of the work (the "Change Costs") will be determined as provided in this subsection. The Change Costs means the sum of all costs necessarily incurred and paid by the Party performing the Change (the "Change Party") in the proper performance of the work. Such costs shall be in amounts no higher than those prevailing in the locality of the System or affected portion of the Network, as the case may be, and shall include the following items:

- a. Costs of all materials and equipment furnished and incorporated in the Change work, including costs of transportation and storage thereof, suppliers' field services required in connection therewith;
- b. Payments made by Change Party to subcontractors for work performed or furnished by subcontractors;
- c. Payments made by Change Party to engineers for professional services provided or furnished by engineers under an agreement with the Change Party;
- d. Costs of special consultants and independent contractors (including, but not limited to, surveyors, attorneys, testing laboratories, and accountants) employed for services specifically related to the Change Work;
- e. Supplemental costs directly related to performance of the Change Work such as utilities, fuel, safety and sanitary facilities at the work site, premiums or costs for any required bonds or permits, and all costs associated with acquisition of needed rights-of-way, permits, and/or easements; and

In addition to the foregoing Change Costs, the Change Party shall also be allowed a fixed fee for overhead and profit of ten (10) percent of the sum of the Change Costs.

7.9 Rights-of-Way, Permits, Easements. The Change Party shall make commercially reasonable efforts to acquire rights-of-way, permits, and/or easements required to perform the Change, but shall have no liability under this Agreement arising by virtue of any inability on its part to acquire such rights-of-way, permits, or easements at a cost or within a time frame that the other Party deems reasonable and acceptable.

7.10 Period for Requesting Changes. Should the Commonwealth or MuniNet request a Change affecting the Route, System or a Site after construction work on the Segments has been substantially completed, the Parties will determine if an addendum to this Agreement or a new agreement is required. Should the Commonwealth or MuniNet request a Change affecting the Network, MuniNet Fibers, or a colocation site, after the MuniNet IRU has become operational, the Parties will determine if an addendum to this Agreement or a new agreement is required. Each Party agrees to negotiate in good faith concerning any Change proposed by the other Party to which this Section applies, but shall not be required to perform or pay for any work requested in such

Change request unless the terms for performance of the requested Change are mutually agreed to by both Parties.

ARTICLE VIII USE OF THE SYSTEM

8.1. Notice of Damage. Commonwealth and MuniNet shall each promptly notify the other Party of any matters pertaining to any damage or impending damage to or loss of continuity of the Commonwealth Fibers or the MuniNet Fibers that are known to it or that could reasonably be expected to adversely affect the Commonwealth Fibers or the MuniNet Fibers as provided in the Maintenance Agreement.

8.2. Preventing Interference with Other Fibers. Neither Commonwealth nor MuniNet shall use equipment, technologies, or methods of operation that interfere in any way with or adversely affect the System or the use of the System by the other Party or authorized third parties or the respective fibers, equipment, or facilities of the other Party or authorized third party. Each Party shall take all reasonable precautions to prevent damage to the System and to Fibers used or owned by the other Party or third parties. Notwithstanding the above, the provisions of this Section shall not prevent a Party from using commercially reasonable equipment, technologies, or methods of operation if the interference or adverse effect on the other Party or a third party results primarily from such other Party's or third party's use of equipment, technologies, or methods of operation that are not commercially reasonable or that are not standard in the telecommunications industry.

8.3. Liens. Commonwealth shall not cause or permit any part of the System to become subject to any mechanic's, materialmen's, or vendor's lien, or any similar lien. MuniNet shall not cause or permit any of Commonwealth's rights under this Agreement to become subject to any mechanic's, materialmen's, vendor's lien, or any similar lien. If a Party breaches its obligations under this Section, it shall immediately notify the other Party in writing, and shall promptly cause such lien to be discharged and released of record without cost to the other Party.

ARTICLE IX TERM

9.1. Term. Subject to the Commonwealth's right to terminate this Agreement earlier in accordance with 200 KAR 5:312, the Term of the Agreement shall begin on the Effective Date and end on the twenty-seventh (27th) day of October, 2047.

9.2. Condition on Renewal; Termination after Term. The Parties may, but are not required to, renew or extend this Agreement upon the expiry of the Term upon such terms and conditions as the Parties may agree upon in writing. Neither Party shall be required, however, to extend the Term, renew the Agreement or otherwise agree to Commonwealth's or any third party's use of the Fiber or System after the Term. During any extension period, unless the Parties agree otherwise in writing, MuniNet may terminate the Agreement with respect to a Segment on at least twelve (12) months' notice. MuniNet may provide such notice terminating the Agreement pursuant to this Section, however, only if MuniNet or the Facility Owner has made a bona fide

determination to decommission the Cable in the Segment within six (6) months of the date for which MuniNet gives notice of termination of the Agreement.

9.3. Effect of Termination. No termination of this Agreement shall affect the rights or obligations of any Party hereto:

- a. with respect to any payment hereunder for services rendered prior to the date of termination or with respect to recovery of all amounts permissible under 200 KAR 5:312;
- b. pursuant to Articles XI (Audit Rights), XIV (Indemnification), XV (Limitation of Liability), XVI (Insurance), XVII (Taxes and Governmental Fees), XIX (Confidentiality), XX (Prohibition on Improper Payments), XXII (Dispute Resolution), or XXIII (Rules of Construction) or Sections 12.2 (Exclusion of Warranties); or
- c. pursuant to other provisions of this Agreement that, by their sense and context, are intended to survive termination of this Agreement.

ARTICLE X MAINTENANCE AND RELOCATION

10.1. Maintenance. MuniNet will provide maintenance of the Commonwealth Fibers during the Term and pursuant to the Maintenance Agreement attached hereto and incorporated herein as Exhibit H. Commonwealth will provide maintenance of the MuniNet Fibers during the Term and pursuant to the Maintenance Agreement attached hereto and incorporated herein as Exhibit H.

10.2. MuniNet Relocation Procedures. If MuniNet or Commonwealth is required by a third party with legal authority to do so, to relocate all or any portion of the System, the MuniNet Fibers or the Commonwealth Fibers, the Party owning the facilities to be relocated shall provide the other Party with thirty (30) calendar days' prior notice of any such relocation, if possible, and shall proceed with such relocation. The Party owning the facilities to be relocated shall have the right to direct such relocation, including the right to determine the extent of, the timing of, and methods to be used for such relocation, provided that any such relocation:

- a. shall be constructed and tested in accordance with the specifications and requirements set forth in this Agreement and applicable Exhibits;
- b. shall not adversely affect the use, operation or performance of Commonwealth's or MuniNet's network or business, or change any colocation spaces, Connecting Points or end points of the Segments; and
- c. shall not interrupt service to MuniNet or Commonwealth except to the extent deemed necessary by MuniNet or Commonwealth, as applicable, to effect the relocation in accordance with Customary Industry Practice after giving at least fourteen (14) days' notice to the other Party of the date, time and expected duration of the interruption.

10.3. Maintenance of Commonwealth Equipment Excluded. MuniNet shall have no obligation under this Agreement to maintain, repair, or replace Commonwealth Equipment. Commonwealth shall have no obligation under this Agreement to maintain, repair, or replace MuniNet equipment.

ARTICLE XI AUDIT RIGHTS

11.1. Subject to the Commonwealth's and MuniNet's obligations under the Kentucky Open Records Act, each Party shall keep such books and records (which shall be maintained on a consistent basis and substantially in accordance with generally accepted accounting principles) and shall readily disclose the basis for any charges (except charges fixed in advance by this Agreement or by separate agreement of the Parties) or credits, ordinary or extraordinary, billed or due to the other Party under this Agreement and shall make them available for examination, audit, and reproduction by the other Party and its duly authorized agents or representatives for a period of one (1) year after such charge or credit is billed or due.

ARTICLE XII WARRANTIES

12.1. Warranties Relating to Agreement Validity. In addition to any other representations and warranties contained in this Agreement, each Party hereto represents and warrants to the other that:

- a. it has the full right and authority to enter into, execute, deliver, and perform its obligations under this Agreement;
- b. it has taken all requisite corporate action to approve the execution, delivery, and performance of this Agreement;
- c. its execution of and performance under this Agreement shall not violate any applicable existing regulations, rules, statutes, or court orders of any local, state, or federal government agency, court, or body; and
- d. this Agreement constitutes a legal, valid and binding obligation enforceable against such Party in accordance with its terms.

12.2. EXCLUSION OF WARRANTIES. EXCEPT FOR THE LIMITED EXPRESS WARRANTIES SET FORTH IN SECTION 12.1, MUNINET MAKES NO WARRANTY TO COMMONWEALTH OR ANY OF ITS REPRESENTATIVES, AFFILIATES, USERS OF ITS IRU, OR LENDERS, WHETHER EXPRESS OR IMPLIED OR STATUTORY, AS TO THE INSTALLATION, DESCRIPTION, QUALITY, MERCHANTABILITY, COMPLETENESS, USEFUL LIFE, FUTURE ECONOMIC VIABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY FIBERS, THE SYSTEM, OR ANY SERVICE PROVIDED HEREUNDER OR DESCRIBED HEREIN, OR AS TO ANY OTHER MATTER, ALL OF WHICH WARRANTIES ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

12.3. No Third-Party Warranties. No Facility Owners, Released Parties or Lenders have made any representation or warranty of any kind, express or implied, to Commonwealth concerning MuniNet, the Commonwealth Fibers, the Cable, or the System or as to any of the matters set forth in Sections 12.1 or 12.2. No Lenders of the Commonwealth have made any representation or warranty of any kind, express or implied, to MuniNet concerning Commonwealth, the Commonwealth Fibers, the Cable, or the System or as to any of the matters set forth in Sections 12.1 or 12.2.

ARTICLE XIII DEFAULT

13.1. Default and Cure. The Commonwealth may terminate this Agreement for either default or convenience in accordance with 200 KAR 5:312. Except as set forth in Section 13.2, a Party shall not be in default under this Agreement until one of the following events occurs: (i) said Party fails to make a payment of any undisputed amount required under this Agreement when due and such failure continues for more than ten (10) days after such Party receives written notice of such failure from the other Party; provided, however, that the notice and supporting statement concerning the amount in dispute were provided in accordance with Section 13.2; or (ii) either Party fails to perform or comply with any other material obligation, agreement, term, or provision of this Agreement applicable to it and such failure continues for more than thirty (30) days after such Party receives written notice of such failure from the other Party; provided, however, that if such failure to perform or comply cannot reasonably be cured within such thirty (30) day period, and if the Party receiving notice of such failure is proceeding promptly and with due diligence in curing the same, the time for curing such failure shall be extended for a period of time as may reasonably be necessary to complete such curing. Any event of default may be waived at the non-defaulting Party's option. Upon the failure of a Party to timely cure any such default after notice thereof from the other Party and expiration of the above cure periods, then the non-defaulting Party may, subject to the terms of Articles XV (Limitation of Liability) and XXII (Dispute Resolution), pursue any legal remedies it may have under applicable law or principles of equity relating to such breach.

13.2. Disputed Amounts. Notwithstanding any provision to the contrary in Sections 13.1 or 13.3, either Party shall have the right to dispute in good faith any amount due under this Agreement, provided that (i) the disputing Party provides written notice of such dispute to the other Party by the date that any such amount is due; (ii) the disputing Party presents a written statement of any billing discrepancies to the other Party in reasonable detail together with supporting documentation and evidence within fifteen (15) days after the date that any such amount is due; and (iii) the disputing Party negotiates in good faith with the other Party to resolve any such dispute within sixty (60) calendar days of the date any such amount is due. When the Parties agree to a resolution of a dispute, Commonwealth shall pay any amounts owed to MuniNet in accordance with such resolution within thirty (30) days of the resolution of such dispute. When the Commonwealth is owed an amount as a result of a resolved dispute, MuniNet shall provide a credit of such amount on Commonwealth's next invoice or, if final payment has been made by the Commonwealth for construction of the Segments and installation of the Building Entrance Cables to the Sites, within thirty (30) days of resolution of the dispute. In the event the Parties fail to mutually resolve or settle the dispute within sixty (60) days of the date any such disputed

amount is due, the Parties will pursue resolution of the dispute in accordance with Article XXII of this Agreement.

13.3. Failure to Pay. If Commonwealth is in default under Section 13.1(i) for failure to pay any undisputed amounts owed under this Agreement, and such failure continues for a period of ten (10) calendar days after receipt of MuniNet's notice that it will disconnect the Commonwealth Fibers, MuniNet may, in addition to the remedies set forth in Section 13.1, disconnect the Commonwealth Fibers from all Connecting Points and from all Commonwealth Equipment on MuniNet's or other person's premises (including the premises of a MuniNet member utility) and cease providing power and other services. MuniNet shall restore such Connecting Points and Commonwealth Equipment connections and resume providing services only if Commonwealth before such restoration (a) pays MuniNet's bona fide estimate of all costs incurred or expected to be incurred with respect to actions taken by MuniNet pursuant to this Section 13.3, and (b) pays all past-due amounts with applicable interest pursuant to KRS 45.454. In the event that, upon a failure timely to pay all Contract Price payments under Section 3.1 above or other amounts owed to MuniNet under this Agreement (such as any rock boring adder that may apply), Commonwealth does not take the actions described in clauses (a) and (b) above in this Section 13.3 within thirty (30) days after MuniNet's disconnection of the Commonwealth Fibers or cessation of services as described above in this Section, then, in addition to all other remedies described in this Section 13.3, this Article XIII or otherwise in this Agreement, MuniNet shall have the right to terminate this Agreement and the Commonwealth IRU with respect to the Commonwealth Fibers and Commonwealth shall have no further rights under this Agreement.

13.4. Interest. If Commonwealth fails to make any payment under this Agreement when due, such amounts shall accrue interest, from the date such payment is due until paid, including accrued interest, at a rate (unless specifically described elsewhere in this Agreement) equal to one percent (1%) per annum or, if lower, the highest percentage allowed by law.

ARTICLE XIV INDEMNIFICATION

14.1. Indemnification. To the extent permitted by law, including but not limited to Section 177 of the Kentucky Constitution, the Commonwealth and MuniNet (each Party known individually as the "Indemnitor") hereby agree to indemnify, defend, protect and hold harmless the other Party and its employees, officers, directors, members, managers, and the employees, officers, and directors of its members (the "Indemnitee"), from and against, and assumes liability for: (i) claims made by a third party for any injury, loss or damage to any person, tangible property or facilities of any person to the extent arising out of or resulting from the grossly negligent acts or omissions or willful misconduct of the Indemnitor or its officers, employees, servants, Affiliates, agents, contractors, licensees, invitees and vendors, or any entity for whom it is in law responsible, arising out of or in connection with the performance by Indemnitor of its obligations under this Agreement; (ii) any claims, liabilities or damages arising out of any violation by Indemnitor of any regulation, rule, statute or court order of any Government Authority in connection with the performance by Indemnitor of its obligations under this Agreement; and (iii) any liability to a third party arising directly or through one or more intermediaries from an action or claim brought by the Indemnitor against such third party, but only to the extent such third party has a right of indemnification, impleader, cross claim, contribution or other right of recovery

against the Indemnitee for any indirect, special or consequential damages awarded against such third party in favor of the Indemnitor.

14.2. Material and Continuing Obligation. Each Party's obligation to indemnify, defend, protect, and save the other Party harmless is a material obligation to the continuing performance of the other Party's obligations hereunder.

ARTICLE XV LIMITATION OF LIABILITY

15.1. EXCLUSION OF INDIRECT DAMAGES. SUBJECT TO 200 KAR 5:312 IN THE CASE OF MUNINET'S DEFAULT, BUT NOTWITHSTANDING ANY PROVISION OF THIS AGREEMENT TO THE CONTRARY, NEITHER PARTY, NOR ITS MEMBERS OR AFFILIATES, SHALL BE LIABLE TO THE OTHER PARTY OR ITS EMPLOYEES, OFFICERS, DIRECTORS, MEMBERS, MANAGERS, FACILITY OWNERS, LENDERS AND AFFILIATES FOR ANY SPECIAL, INDIRECT, OR PUNITIVE DAMAGES, OR DAMAGES FOR LOST REVENUE OR LOST PROFITS, WHETHER FORESEEABLE OR NOT, ARISING OUT OF OR IN CONNECTION WITH SUCH PARTY'S PERFORMANCE OR FAILURE TO PERFORM ITS RESPECTIVE OBLIGATIONS HEREUNDER, INCLUDING, BUT NOT LIMITED TO LOSS OF PROFITS OR REVENUE (WHETHER ARISING OUT OF (I) TRANSMISSION INTERRUPTIONS OR PROBLEMS, ANY INTERRUPTION OR DEGRADATION OF SERVICE OR OTHERWISE; (II) CLAIMS OF COMMONWEALTH, WHETHER OCCASIONED BY ANY OBLIGATIONS PERFORMED BY, OR FAILED TO BE PERFORMED BY, THE OTHER PARTY; OR (III) ANY OTHER CAUSE WHATSOEVER, INCLUDING BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, OR STRICT LIABILITY, ALL CLAIMS FOR WHICH INDIRECT DAMAGES ARE HEREBY SPECIFICALLY WAIVED. NOTHING CONTAINED IN SECTION 15.1 SHALL BE DEEMED TO LIMIT AN INDEMNITOR'S OBLIGATIONS UNDER SECTION 14.1. FOR PURPOSES OF CLARITY, COMMONWEALTH SHALL ONLY BE ENTITLED TO SEEK DAMAGES THAT WOULD OTHERWISE BE EXCLUDED PURSUANT TO THIS SECTION 15.1 TO THE EXTENT THAT COMMONWEALTH IS PROHIBITED FROM WAIVING THE DAMAGES DESCRIBED IN SECTION 15.1 PURSUANT TO 200 KAR 5:312.

NOTWITHSTANDING THE FOREGOING, THE LIQUIDATED DAMAGES PROVISIONS SET OUT IN EXHIBIT H HERETO ARE EXCEPTED FROM THIS EXCLUSION HEREIN; PROVIDED, HOWEVER, THAT SAID LIQUIDATED DAMAGES SHALL NOT BECOME APPLICABLE TO MUNINET UNLESS AND UNTIL MUNINET HAS RECEIVED PAYMENT OF THE FULL CONTRACT PRICE AND ALL OTHER AMOUNTS OWED TO IT UNDER SECTION 3.1 OF THIS AGREEMENT AND THE MUNINET IRU IN ALL SPANS OF THE NETWORK DESCRIBED IN SECTION 2.6 OF THIS AGREEMENT BECOMES FULLY OPERATIONAL.

15.2 No Recourse Against Released Parties. Neither Party shall have any recourse of any kind against any Released Party or any assets of a Released Party in respect of any Claim except in the case of such Released Party's gross negligence or willful misconduct, it being expressly agreed and understood that no liability whatsoever shall attach to, or be incurred by, any

Released Party in respect of any other Claims under, or by reason of, this Agreement or any other instrument, arrangement or understanding related to the Commonwealth IRU. Each Party waives all such recourse to the extent set forth in this Section on behalf of its successors, assigns, and any entity claiming by, through, or under such Party.

15.3 Commonwealth Contracts. To the extent Commonwealth is permitted to allow other parties to use the Commonwealth Fibers for any purpose, Commonwealth, in any contract or offering of service, capacity, or rights of use that involves use of the System, shall include in such contract or offering a written limitation of liability that is binding on Commonwealth's customers and is at least as restrictive in all material respects as the limitations set forth in Sections 15.1 and 15.2.

ARTICLE XVI INTENTIONALLY LEFT BLANK

ARTICLE XVII TAXES AND GOVERNMENTAL FEES

17.1. Taxation of Commonwealth. MuniNet understands that as of the Effective Date, Commonwealth represents that it is a tax-exempt entity. Accordingly, and notwithstanding the remainder of this Article, MuniNet shall not, directly or indirectly, seek reimbursement or contribution from Commonwealth for any tax from which Commonwealth is, in fact, exempt.

17.2. Commonwealth Obligations. The Commonwealth represents that it is not subject to taxation.

17.3. MuniNet Obligations. Subject to Sections 16.2 above, MuniNet shall timely report and pay any and all sales, use, income, gross receipts, excise, transfer, ad valorem or other taxes, and any and all franchise fees or similar fees properly assessed against it due to its construction, ownership, physical location or use (other than use of the Commonwealth Fibers) of the System.

ARTICLE XVIII NOTICE

18.1. Notice Addresses. Unless otherwise provided in this Agreement, all notices and communications concerning this Agreement shall be in writing and addressed to the other Party as follows:

If to Commonwealth: Commonwealth of Kentucky
Attention: Secretary
Finance and Administration Cabinet
702 Capital Avenue, Room 383
Frankfort, Kentucky 40601

Facsimile No. (501) 564-6785

With a copy to: Kentucky Communications Network Authority
Attention: Executive Director
201 St. Clair Street, 4th Floor
Frankfort, Kentucky 40601
Facsimile No. (502) 564-0883

If to MuniNet: MuniNet Fiber Agency
Attn: Administrator
P.O. Box 1095, 401 Olive Street
Murray, Kentucky 42071
Facsimile No. (270) 753-6494

With a copy to: MuniNet Fiber Agency
Attention: Chief Technical Officer
P.O. Box 180, 1500 Broadway
Paducah, Kentucky 42002-0180
[for courier delivery use 42001]
Facsimile No. (270) 575-4027

or at such other address as may be designated in written notice delivered to the other Party.

18.2. Notice and Invoice Delivery. Unless otherwise provided herein, notices and invoices shall be hand delivered, sent by registered or certified U.S. Mail, postage prepaid, or by commercial overnight delivery service, or transmitted by facsimile, and shall be deemed served or delivered to the addressee or its office when received at the address for notice specified above when hand delivered, upon confirmation of sending when sent by facsimile, on the day after being sent when sent by overnight delivery service, or three (3) United States Postal Service business days after deposit in the mail when sent by U.S. mail.

ARTICLE XIX CONFIDENTIALITY

19.1. Confidentiality Obligation. To the extent permitted by the Kentucky Open Records Act ("KORA"), if either Party provides confidential business or proprietary or trade secret information ("Confidential Information") to the other or, if in the course of performing under this Agreement or negotiating this Agreement a Party learned Confidential Information regarding the facilities or plans of the other, the receiving Party shall (a) protect the Confidential Information from disclosure to third parties with the same degree of care accorded its own confidential and proprietary information, but in any case with at least reasonable care and (b) refrain from using such Confidential Information except in negotiating or performing under this Agreement. Notwithstanding the above, a Party may provide such Confidential Information to its directors, officers, members, managers, employees, agents, attorneys, contractors, and consultants (collectively, the "Representatives"), and to its Affiliates, Lenders, Facility Owners,

potential assignees (who are bound by a written agreement restricting use and disclosure of such Confidential Information on at least as stringent terms as are contained herein), and Representatives of Affiliates, in each case whose access is reasonably necessary. Each such recipient of Confidential Information shall be informed by the Party disclosing Confidential Information of its confidential nature in writing, and shall be directed to treat such information confidentially and shall agree to abide by these provisions. In any event, each Party shall be liable (with respect to the other Party) for any breach of this provision by any person or entity to which that Party discloses Confidential Information. Should Commonwealth receive a request under the KORA to which Confidential Information provided by MuniNet is responsive, Commonwealth shall promptly give MuniNet notice of such request before disclosing any information with respect to such request; provided, however, that Commonwealth shall use its best efforts to ensure that any and all such Confidential Information is treated as exempt from disclosure pursuant to the KORA, and that if some portion of the information must be disclosed under the KORA, so much of the Confidential Information as qualifies as exempt from disclosure under the KORA will be redacted and not disclosed. The terms of this Agreement (but not its execution or existence) shall be considered Confidential Information for purposes of this Article, except as set forth in Section 19.3. The obligations set forth in this Section shall survive expiration or termination of this Agreement for a period of two (2) years, except that, with respect to any Confidential Information designated by the disclosing Party as a trade secret, and entitled to protection as such, the obligations set forth in this Section shall survive such expiration or termination indefinitely.

19.2. Permitted Disclosures. Notwithstanding any other provision herein, neither MuniNet nor Commonwealth shall be required to hold confidential any Confidential Information that:

- a. becomes publicly available other than through the recipient's disclosure in violation of the requirements of this Article;
- b. is required to be disclosed by a Government Authority, regulatory authority, or judicial order, rule, or regulation or proceedings with respect to this Agreement or a Party's obligations as a public entity, provided that a Party subject to such requirement shall promptly notify the other Party of such requirement;
- c. is independently developed by a person or entity without use of, or reference to the disclosing Party's Confidential Information;
- d. becomes available to a person or entity without restriction from a third party who is not otherwise restricted from disclosing such Confidential Information;
- e. is required by its Lender and is given to such Lender on a confidential basis;
or
- f. to the extent disclosure by the receiving Party is required by applicable law or regulation.

19.3. Goodwill and Publicity. Neither Party shall use the name, trade name, service mark, or trademark of the other in any promotional or advertising material without the prior written consent of the other. The Parties shall coordinate and cooperate with each other when making public announcements related to the terms of this Agreement and each Party shall have the right to promptly review, comment upon, and approve any publicity materials, press releases, or other public statements by the other Party that refer to, or that describe any aspect of, this Agreement.

ARTICLE XX PROHIBITION ON IMPROPER PAYMENTS

20.1. Neither Party shall use any funds received under this Agreement for illegal purposes or a purpose not contemplated by the terms of the Agreement or in compliance with ethical operation of the Party's business. Neither Party shall pay any commission, fees or rebates to any employee of the other Party. If either Party has reasonable cause to believe that one of the provisions in this Article has been violated, it, or its representative, upon presentation of evidence supporting such reasonable cause, may audit the books and records of the other Party for the sole purpose of establishing compliance with such provisions. Any such audit must be performed during the normal business hours of the Party being audited and in a manner that does not unreasonably interfere with the business operations of the Party being audited.

ARTICLE XXI FORCE MAJEURE; EMINENT DOMAIN

21.1. Excused Performance. Neither MuniNet nor Commonwealth shall be in default under this Agreement with respect to any delay in its performance caused by any of the following conditions (each a "Force Majeure Event"): (a) act of God; (b) fire; (c) flood; (d) material shortage or unavailability not resulting from the responsible Party's failure to timely place orders or take other necessary actions therefor; (e) government codes, ordinances, laws, rules, regulations, or restrictions; (f) war, acts of terrorism, vandalism or civil disorder; (g) Cable cuts not due to the gross negligence or willful act of MuniNet; or (h) any other cause beyond the reasonable control of the Party whose performance is delayed. The Party claiming relief under this Article shall promptly notify the other in writing of the existence of the Force Majeure Event relied on, the expected duration of the Force Majeure Event, and the cessation or termination of the Force Majeure Event. The Party claiming relief under this Article shall exercise commercially reasonable efforts to minimize the time for any such delay.

21.2. Eminent Domain. Should any portion of Commonwealth Fibers belonging to MuniNet or the underlying Facility Owner be acquired by eminent domain, nationalization, or expropriation (each of which, a "Taking") by any authority or entity possessing such power, then in that event MuniNet shall have the option, in its sole discretion, to either (i) receive the full amount of any awards resulting from the Taking and at its sole cost relocate all or any portion of the Commonwealth Fibers which is the subject of the Taking in accordance with the provisions of Section 10.2; or (ii) be excused from performance of its obligations to the extent provided in Section 21.1.

ARTICLE XXII DISPUTE RESOLUTION

22.1. It is the intent of MuniNet and Commonwealth that any disputes which may arise between them, or between the employees of each of them, be resolved as quickly as possible. Quick resolution may, in certain circumstances, involve immediate decisions made by the Parties' authorized representatives. When such resolution is not readily achieved, the Parties hereto agree to resolve such disputes in accordance with the provisions of this Article. Any election herein to engage in mediation of the dispute shall not be binding upon either Party and is in addition to any other remedies available under the Agreement or law.

22.2. Commonwealth and MuniNet shall each designate, by separate letter, representatives as points of contact and decision making with respect to the obligations and rights of the Parties, said letters to be furnished by each Party to the other within thirty (30) days from the Effective Date. Any disputed issues arising during the term of this Agreement shall in all instances be initially referred to the Parties' designated representatives. The Parties' designated representatives shall endeavor to render a mutually agreeable resolution of the disputed issue, in writing, within seventy-two (72) hours of such referral. Either Party may replace its designated representative upon written notice to the other Party identifying the new designated representative.

22.3. By mutual agreement, the Parties' designated representatives may continue to seek resolution of any Claims or disputes arising under the terms and provisions of this Agreement which the Parties' representatives have been unable to resolve within the seventy-two (72) hour time period. If the Parties' designated representatives do not resolve the dispute, the claimant may present its Claim in writing to the other Party within thirty (30) days after the circumstances which gave rise to the claim or dispute took place or became known to the claimant, or within thirty (30) days after the date on which the Parties' representatives acknowledge in writing their inability to achieve resolution, whichever is later. The written claim shall contain a concise statement of the Claim or issue in dispute, together with relevant facts and data to support the Claim.

22.4. Any controversies or disputes arising out of or relating to this Agreement that are not resolved in accordance with the preceding procedure may upon agreement of both MuniNet and Commonwealth be referred to nonbinding mediation. An aggrieved Party shall be under no obligation to engage in mediation before proceeding with resolution of its Claims in accordance with Section 22.6 herein. When a Claim is referred to mediation, the Parties shall endeavor to select a mutually acceptable mediator knowledgeable about issues relating to the subject matter of this Agreement. In the event the Parties are unable to agree on a mediator, either Party may apply to the Franklin Circuit Court, Frankfort, Franklin County, Kentucky to appoint a mediator. The mediator shall not have the authority, power or right to alter, change, amend, modify, add or subtract from any provision of this Agreement, assess damages or costs to either Party, or to award punitive damages.

22.5. During the continuance of any mediation process, each Party shall continue to perform its respective obligations under this Agreement.

22.6. Should any controversy, Claim or dispute not be resolved through the dispute resolution process set forth in this Article XXII, any Party believing itself to be aggrieved may pursue resolution of its Claims in accordance with the provisions of KRS 45A.225 through 45A.255.

ARTICLE XXIII RULES OF CONSTRUCTION

23.1. Interpretation. The captions or headings in this Agreement are strictly for convenience and shall not be considered in interpreting this Agreement or as amplifying or limiting any of its content. Words in this Agreement that import the singular connotation shall be interpreted as plural, and words that import the plural connotation shall be interpreted as singular, as the identity of the parties or objects referred to may require. References to "person" or "entity" each include natural persons and legal entities, including corporations, limited liability companies, partnerships, sole proprietorships, business divisions, unincorporated associations, governmental entities, and any entities entitled to bring an action in, or that are subject to suit in an action before, any state or federal court of the United States. The word "including" means "including, but not limited to." "Days" refers to calendar days and "Business Days" has the meaning assigned in Article I. Unless expressly defined herein, words having well-known technical or trade meanings shall be so construed.

23.2. Cumulative Remedies. Except as set forth to the contrary herein, any right or remedy of MuniNet or Commonwealth shall be cumulative and without prejudice to any other right or remedy, whether contained herein or not.

23.3. No Third-Party Rights. Nothing in this Agreement is intended to provide any legal rights to any person or entity not an executing Party to this Agreement except to the extent, if any, as is expressly provided under the indemnification and insurance provisions.

23.4. Agreement Fully Negotiated. This Agreement has been fully negotiated between and jointly drafted by MuniNet and Commonwealth.

23.5. Industry Standards. Except as otherwise set forth herein, for the purpose of this Agreement, the generally accepted standards, practices, methods and procedures of performance followed by members of the telecommunications industry in the relevant market engaging in an undertaking of similar scope and size shall be the measure of whether a Party's performance hereunder is reasonable in terms of the degree of skill, care, diligence and prudence required.

23.6. Cross References. Except as the context otherwise indicates, all references to Exhibits, Articles, Sections, Subsections, Clauses, and Paragraphs refer to provisions of this Agreement.

23.7. Limited Effect of Waiver. The failure of either MuniNet or Commonwealth to enforce any of the provisions of this Agreement, or the waiver thereof in any particular instance, shall not be construed as a general waiver or relinquishment on its part of any right provided for in such provision, but the same shall nevertheless be and remain in full force and effect.

23.8. Severability. If any term, covenant or condition in this Agreement shall, to any extent, be invalid or unenforceable in any respect under the laws governing this Agreement, the remainder of this Agreement shall not be affected thereby, and each term, covenant or condition of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

23.9. No Partnership Created. The relationship between MuniNet and Commonwealth shall not be that of partners, agents, or joint venturers for one another, and nothing contained in this Agreement shall be deemed to constitute a partnership or agency agreement between them for any purposes, including federal income tax purposes. MuniNet and Commonwealth, in performing each of their obligations hereunder, shall be independent contractors or independent parties and shall discharge their contractual obligations at their own risk.

ARTICLE XXIV ASSIGNMENT

24.1. Conditions to Effective Assignment. Subject to the other terms and conditions set forth in this Article XXIV, an assignment or other transfer of this Agreement or a Party's rights or obligations hereunder, in whole or in part, to any other party shall not be effective without (a) the non-assigning Party's prior written consent, which consent shall not be unreasonably withheld, conditioned, or delayed; (b) the written agreement of the assignee to be bound by all terms and conditions of this Agreement; and (c) such assignee's agreement to promptly cure all prior defaults of the assigning Party under this Agreement. If assignment is permitted under this Article without the non-assigning Party's consent, then the assignor shall give prior written notice of the assignment to the non-assigning Party.

24.2. Consent Not to be Unreasonably Withheld. The non-assigning Party shall not unreasonably withhold, delay, or condition its consent required hereunder to an assignment if neither the assigning Party nor the proposed assignee is in default under this Agreement or any other agreement with the non-assigning Party.

24.3. Assignments to Particular Classes of Entities. The provisions of Section 24.1 notwithstanding:

- a. MuniNet may grant a security interest in some or all of its rights and obligations under this Agreement or in the assets of the System or in the MuniNet IRU to any Lender to MuniNet. If Commonwealth so requests, MuniNet shall obtain from any such Lender a written non-disturbance agreement substantially to the effect that such Lender acknowledges Commonwealth's rights and interests under this Agreement and agrees not to disturb such rights and interests so long as Commonwealth is in compliance with the terms and provisions of this Agreement, including, without limitation, the payment in full when due of all amounts payable by Commonwealth hereunder.
- b. Commonwealth may grant a security interest in some or all of its rights and obligations under this Agreement in all or any part of the Commonwealth

IRU, to a Lender to Commonwealth. If MuniNet so requests, Commonwealth shall obtain from any such Lender a written agreement substantially to the effect that (i) such Lender is subject to all of the terms and conditions of this Agreement that are binding on Commonwealth, and (ii) to the extent such Lender exercises its rights as a secured party, (A) it does not acquire any greater rights or assume any lesser obligations than were available to or imposed upon Commonwealth prior to such exercise and (B) it would be subject to any rights and remedies available to MuniNet under this Agreement at such time.

- c. Either Party may assign its interest in this Agreement without the prior consent of the other Party (i) to any entity that is a successor to such Party by merger, consolidation, sale or transfer of all members' interests, or operation of law; (ii) to a purchaser of all or substantially all of such Party's assets; (iii) to any entity that acquires all of the System, including the Segments; or (iv) to an Affiliate of such Party, so long as, in the case of any assignment to an Affiliate, the assignor remains fully and jointly and severally liable for all its obligations hereunder.

24.4. Agreement Binds Successors. This Agreement and the rights and obligations under this Agreement (including the limitations on liability and recourse set forth in this Agreement benefiting the other Party and the Released Parties) shall be binding upon and shall inure to the benefit of MuniNet and Commonwealth and their respective permitted successors and assigns.

24.5. Change in Control not an Assignment. Notwithstanding any presumptions under applicable state law that a change in control of a Party constitutes an assignment of an agreement, a change in control of a Party shall not be deemed an assignment for purposes of this Agreement.

24.6. Right to Subcontract. MuniNet may subcontract for construction, installation, testing, maintenance, repair, restoration, relocation, or other operational and technical services it is obligated to provide hereunder or may have the underlying Facility Owner or its contractor perform such obligations, but MuniNet in any event shall remain fully and directly responsible to Commonwealth for the performance of such services and obligations.

ARTICLE XXV

ENTIRE AGREEMENT; AMENDMENT; EXECUTION

25.1. Integration; Exhibits. This Agreement constitutes the entire and final agreement and understanding between MuniNet and Commonwealth with respect to the subject matter hereof and supersedes all prior agreements relating to the subject matter hereof, which are of no further force or effect. The Exhibits referred to herein are integral parts hereof and are made a part of this Agreement by reference. Where the terms of the Agreement and an Exhibit conflict, the Exhibit will control.

25.2. No Parol Amendment. This Agreement may only be amended, modified, or supplemented by an instrument in writing executed by duly-authorized representatives of MuniNet and Commonwealth.

25.3. Counterparts. This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

25.4. Electronic and Facsimile Delivery. This Agreement may be duly executed and delivered by a Party by execution and delivery of the signature page of a counterpart to the other Party by electronic mail in "portable document format" (".pdf") form, or by any other electronic means or by Facsimile; *provided* that, if delivery is made by electronic mail in .pdf form, or by any other electronic means, the executing Party shall promptly deliver a complete counterpart that it has executed to the other Party.

25.5. Governing Law. This Agreement shall be governed by and construed and enforced in accordance with the laws of the Commonwealth of Kentucky without regard to the conflict of laws rule of that state.

IN WITNESS WHEREOF and in confirmation of their consent to the terms and conditions contained in this Agreement and intending to be legally bound hereby, MuniNet and Commonwealth have executed this Agreement as of the dates set forth below.

MUNINET FIBER AGENCY

By: [Signature]
Print Name: Monty Fry
Title: General Manager
Date: 8/30/19

ATTEST:

By: [Signature]
Print Name: Tony Thompson
Title: Chairman
Date: 8/30/2019

COMMONWEALTH OF KENTUCKY

By: [Signature]
Print Name: WILLIAM M. LANDRUM
Title: Secretary, Finance, Administration, Postal
Date: 22 October 2019

ATTEST:

By: [Signature]
Print Name: Chris Jones
Title: Carol Carol
Date: 10/22/2019

EXHIBIT A
Segments

Diagram 1

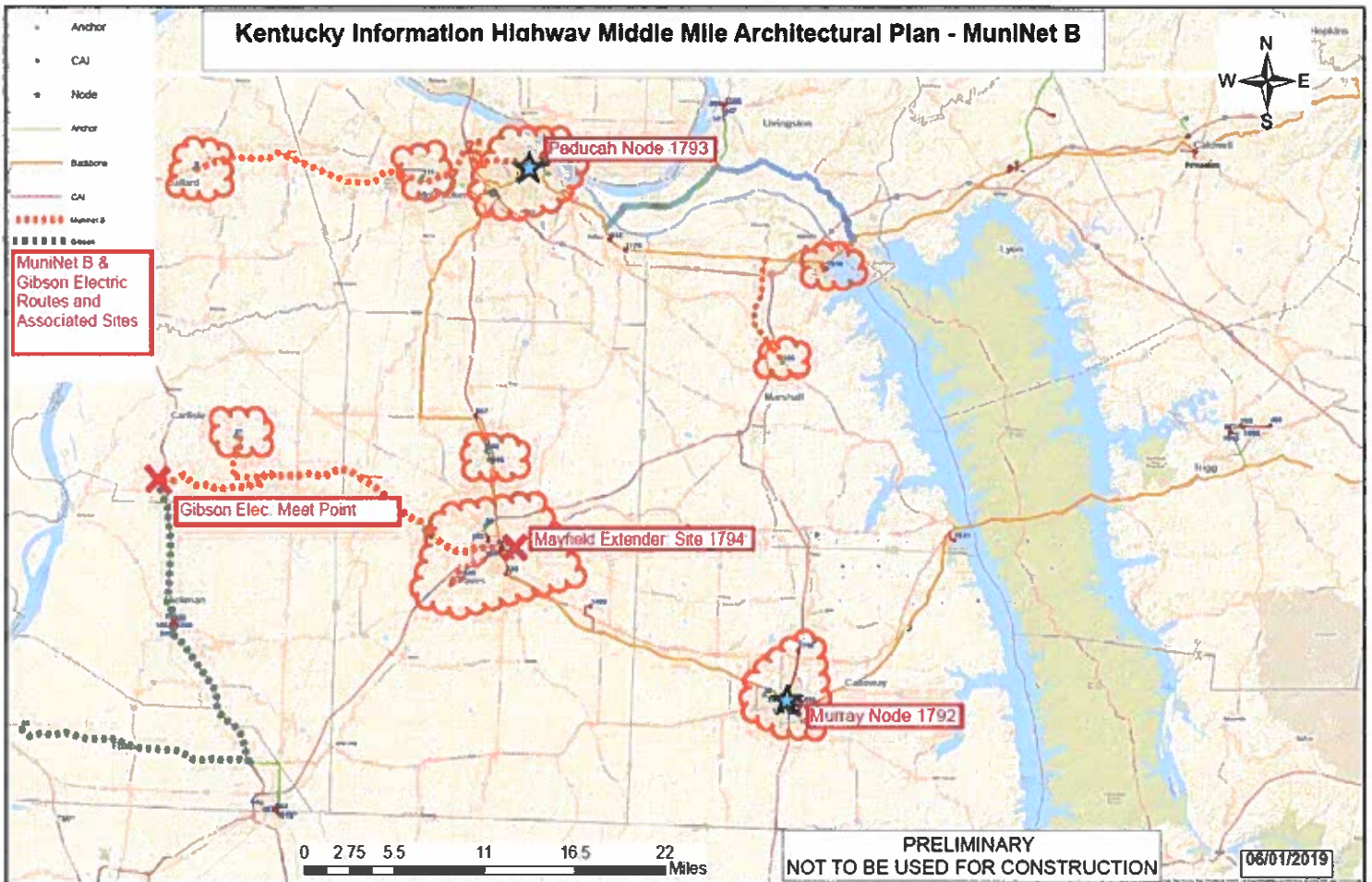
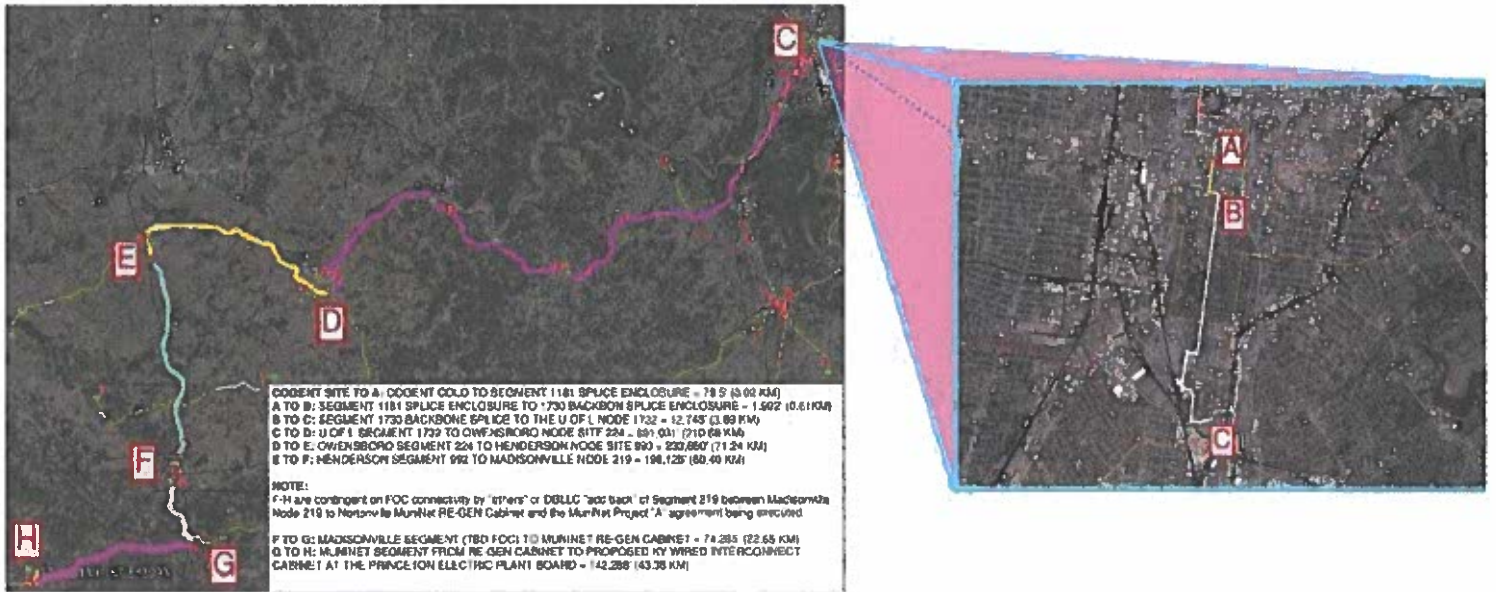


Diagram 2

Exhibit A



Level 3/CenturyLink Point of Presence

Exhibit A

Build new UG duct to Level 3 handhole A. Coordinate with Level 3 to make penetration into Level 3 handhole one week in advance. Upon completion of duct placement leave a 125' tail in Level 3 handhole A. Upon house fiber assignments from the Dark Fiber Group Level 3 will coordinate extending fiber tail from handhole A to handhole B and will prep tail into Level 3 splice closure and splice to the assigned house fibers.

Level 3 Meet Me Handhole A:
Latitude - Longitude:
38.243228, -85.765762



Exhibit A

EXHIBIT B
Fiber Splicing, Testing, and Acceptance Standards and Procedures

1. Initial Construction Testing

- a. During initial construction, MuniNet and Commonwealth shall use an optical time domain reflectometer ("OTDR") to test splices and an OTDR and a 0.5-km launch reel to test pigtail connectors. Such initial construction tests shall be uni-directional and performed at 1550 nm.
- b. If the combined front-end connectors and pigtail splice loss value exceeds 0.8 dB, the fiber owner shall break the splice and re-splice until the loss value is 0.8 dB or less. If the fiber owner is unable to achieve a loss value of 0.8 dB or less after five total splicing attempts, the splice shall be marked as Out-of-Spec ("OOS"). The 0.8 dB spec does not apply to fibers that are being spliced that have different mode-fields. Splice loss may be higher due to the mode-field mismatch.
- c. If the loss value for a splice, when measured in one direction with an OTDR, exceeds 0.3 dB, the fiber owner shall break the splice and re-splice until the loss value is 0.3 dB or less, provided that, if the fiber owner is not able to achieve a loss value of 0.3 dB after three total splicing attempts, then the fiber owner shall mark the splice as OOS. The 0.3 dB loss spec does not apply to fibers that are being spliced that have different mode-fields. Splice loss may be higher due to the mode-field mismatch.

2. End-to-End Testing

- a. After the fiber owner has established end-to-end connectivity on the fibers during initial construction, it shall:
 - i. perform bi-directional OTDR end-to-end tests to record splice loss measurements,
 - ii. test continuity to confirm that no fibers have been "frogged" or crossed at any splice points, and
 - iii. record loss measurements using a light source and a power meter.
- b. At Fiber termination points, the pigtail splice loss shall be at least .80 dB, and the reflection level at such termination points shall be less than -50dB.
- c. The fiber owner shall perform the bi-directional OTDR end-to-end testing at 1550 nm, and 1310 nm for the Segments. The results of such tests shall not be deemed within specification unless showing loss measurements between fiber distribution panels at each end of the Segment are in accordance with the loss specifications set forth by the ITU-T G.652 standard for dB per kilometer loss. The fiber owner shall measure and verify losses for each splice point in both directions and average the loss values. The fiber owner

shall mark any splice points as OOS that have a splice loss greater than 0.3 dB per event. The fiber owner shall also designate as OOS any cumulative splice loss across a Span consisting of the entire Segment if the bi-directionally averaged cumulative splice loss across such Span exceeds 0.15 dB per km at 1310 nm, 0.25 dB per km at 1550 nm. Any such OOS splice points or Segment Spans shall be subject to Section 4, below.

3. Post-Construction Testing

After performing permanent splicing (in conjunction with repair of a cable cut, replacement of a segment of cable, or other work after initial installation and splicing of the cable), the test procedures set forth in Section 2 (End-to-End Testing) of this Exhibit shall apply to the relevant fibers and cable segments. The provisions in Sections 5 (OTDR Equipment and Settings) and 6 (Acceptance Test Deliverables) of this Exhibit, that are relevant to such testing shall also apply. The fiber owner may, after the Acceptance Date, adopt any alternative methods of testing that are generally accepted in the industry and that provide sufficient data to fulfill the objectives of the tests set forth in this Exhibit.

4. Out-of-Spec Splices

Out-of-Spec (OOS) splices or Spans shall be noted, but shall not preclude Acceptance of a fiber if the OOS condition does not affect transmission capability (based on use of then-prevailing telecommunications industry standards applicable to equipment generally used with the relevant type of fiber) or create a significant possibility of an outage. In the event either party is later able to reasonably establish that the OOS splice or Span affects service, the fiber owner shall take necessary action to bring the splice or Span into compliance with the applicable specifications under Section 1 of this Exhibit. If the fiber owner is unable to bring the OOS or Span into compliance with the applicable specifications in Section 1 of this Exhibit, the fiber owner will notify the other Party of the OOS or Span with options to resolve the issue within three (3) Business Days.

5. OTDR Equipment and Settings

The fiber owner shall use OTDR equipment and settings that are, in its reasonable opinion, suitable for performing accurate measurements of the fiber installed. Such equipment and settings shall include, without limitation, equipment models compatible for testing and able to support the following settings:

- a. Index of refraction settings:

	1310 nm	1550 nm	1625nm
Lucent Truwave (Classic and RS)	1.4707	1.4701	
Corning SMF-28	1.4675	1.4681	[N/A]
Corning SMF-LS	1.471	1.470	
Corning LEAF	N/A	1.469	
Corning MetroCore	N/A	1.469	
Sumitomo Fiber	1.467	1.467	

b. Tests of a pigtail connector and its associated splice:

4 km Range
50ns Pulse

1. m Resolution

6. Acceptance Test Deliverables

The fiber owner shall provide computer media (CD-ROM) and or hard copies containing the following information for the relevant fibers and cable segments:

- a. Verification of end-to-end fiber continuity with power level readings for each fiber taken with a stable light source and power meter.
- b. Verification that the loss at each splice point is either (i) in accordance with 2.C. above or (ii) in accordance with the requirements of Section 4 of this Exhibit.
- c. The final bi-directional OTDR test data, with distances.
- d. Cable manufacturer, cable type (buffer/ribbon), fiber type, number of fibers, number of fibers per tube, and distance of each section of cable between splice points.
- e. Provide document for Chromatic Dispersion & PMD measurements. This is to validate if there is an issue with fiber delivery the fiber owner will repair or replace.

7. General Testing Procedures and Acceptance

- a. As soon as the fiber owner determines that the Party's Fibers in a given Span meet the Acceptance Standards such that there is Fiber connectivity between all fiber distribution panels along such Span or connectivity to the Party's

requested spliced off-net location, it shall provide the deliverables set forth in Section 6 of this Exhibit. The Party shall have fourteen (14) calendar days after receipt of test deliverables for any Span to provide the fiber owner written notice of any bona fide determination that the Party's Fibers on such Span do not meet the Acceptance Standards. Such notice shall identify the specific data that indicate a failure to meet the Acceptance Standards.

- b. Upon receiving written notice pursuant to Subsection 7.A of this Exhibit, the fiber owner shall either:
 - i. expeditiously take such action as shall be reasonably necessary to cause such portion of the Party's Fibers to meet the Acceptance Standards and then re-test the Party's Fibers in accordance with the provisions of this Exhibit; or
 - ii. provide the Party written notice that the fiber owner disputes Party's determination that the Party's Fibers do not meet the Acceptance Standards.
- c. After taking corrective actions and re-testing the Party's Fibers, the fiber owner shall provide the Party with a copy of the new test deliverables and the Party shall again have all rights provided in this Article with respect to such new test deliverables. The cycle described above of testing, taking corrective action and re-testing shall take place until the Party's Fibers meet the Acceptance Standards.
- d. If the fiber owner provides notice to the Party pursuant to Clause B (ii), the Party shall within five (5) calendar days of such notice designate by written notice to the fiber owner the names and addresses of three reputable and independent fiber optic testing companies. The fiber owner shall designate one of such companies to conduct an independent re-test of the Party's Fibers for the relevant Span. If, after such re-testing, the testing company determines that the Party's Fibers
 - i. meet the Acceptance Standards, then Commonwealth shall pay the testing company's charges for performing the testing and the acceptance date for the relevant Span shall be fourteen (14) days after the fiber owner provided its test deliverables.
 - ii. do not meet the Acceptance Standards, then the fiber owner shall pay the testing company's charges for performing the testing and shall perform the corrective action and re-testing set forth in Subsection B(i).
- e. Unless a Party provides a written objection pursuant to Subsection A, the

acceptance date of a Span shall occur on the fourteenth (14th) day after the fiber owner provides the test deliverables for that Span, or, if earlier, the date the Party provides written acceptance of such Span. The Party's acceptance (pursuant to this subsection or of Subsection C) of the last Span within a Segment shall constitute "Acceptance" of the Party's Fibers for such Segment. The date of Acceptance for each Segment shall constitute the "Acceptance Date" of such Segment.

- f. Acceptance testing shall progress Span by Span along the System as Cable splicing progresses, so that test deliverables may be reviewed in a timely manner. The Party shall have the right, but not the obligation, to have an individual present to observe such testing and the fiber owner shall provide the Party at least seven (7) days' prior notice of its testing schedule. Within thirty (30) calendar days after the fiber owner conclusion of the Fiber Acceptance Testing in any given Span, the fiber owner shall provide the Party with a copy of the test deliverables.

EXHIBIT C
Underground Cable Installation Guidelines

1. Material

- a. Existing construction may not comply with portions of these Cable Installation Guidelines.
- b. Steel or PVC conduit shall be minimum schedule 40 wall thickness.
- c. Any exposed steel conduit, brackets or hardware (e.g., bridge attachments) shall be hot-dipped galvanized after fabrication.
- d. All split steel shall be flanged.
- e. Handholes shall have a minimum H-15 loading rating.
- f. Manholes shall have a minimum H-20 loading rating.
- g. Warning signs shall display universal do not dig symbol, "Warning-Buried Fiber-Optic Cable," company name and logo, local and emergency One Call toll-free numbers.

2. Minimum Depths

Minimum cover required in the placement of the conduit/cable shall be forty-two inches (42"), except in the following instances:

- a. Existing construction may not comply with portions of these Cable Installation Guidelines as existing fiber is typically buried at a depth of 30 to 36 inches.
- b. The minimum cover across streams, river washes, and other waterways shall be sixty inches (60") below the clean out line or existing grade, whichever is greater.
- c. At locations where the cable crosses other subsurface utilities or other structures, the cable/conduit shall be installed to provide a minimum of twelve inches (12") of vertical clearance from the utility/obstacle. The cable/conduit can be placed above the utility/obstacle, provided the minimum clearance and applicable minimum depth can be maintained; otherwise the cable/conduit shall be installed under the existing utility or other structure.
- d. In rock, the cable/conduit shall be placed to provide a minimum of eighteen inches (18") below the surface of the solid rock, or provide a minimum of forty-two inches (42") of total cover, whichever requires the least rock excavation.
- e. Where existing pipe is used, current depth is sufficient.

3. Buried Cable Warning Tape

- a. All cable/conduit installed by "open cut" method shall be installed with buried cable warning tape. In such case, the warning tape shall be:
 - b. laid a minimum of twelve inches (12") above the cable/conduit

- c. generally placed at a depth of twenty-four inches (24") below grade and directly above the cable/conduit
- d. a minimum of three inches (3") wide and display "Warning-Buried Fiber-Optic Cable," a company name, logo and emergency one-call toll-free number repeated every twenty-four inches (24").

4. Conduit Construction

- a. Conduits may be placed by means of trenching, plowing, jack and bore, multi-directional bore or directional bore.
- b. Conduits shall generally be placed on a level grade parallel to the surface, with only gradual changes in grade elevation.
- c. Steel conduit shall be joined with threaded collars, Zap-Lok or welding. (Welding is the preferred method.)
- d. All jack and bores shall use HDPE or steel conduit.
- e. All directional or mini-directional bores shall use HDPE or steel conduit.
- f. Any cable placed in swamp or wetland areas shall be placed in HDPE, PVC, or steel conduit.

Where required by the permitting agency:

- a. all crossings of paved city, county, state, federal, and interstate highways, or railroad crossings shall be encased in steel conduit,
- b. all longitudinal cable runs under paved streets shall be placed in steel or concrete encased PVC conduit,
- c. all cable placed in metropolitan areas shall be placed in steel or concrete covered PVC conduit, and
- d. at all foreign utility/underground obstacle crossings, steel conduit shall be placed and shall extend at least five feet (5') beyond the outer limits of the obstacle in both directions.

5. Innerduct Installation

- a. No cable shall be placed directly in any split/solid steel conduit without innerduct. This might not be the case in existing fiber.
- b. Innerduct(s) shall extend beyond the end of all conduits a minimum of eighteen inches (18"). No cable shall be placed directly in any split/solid steel conduit without innerduct. This might not be the case with existing fiber.

6. Cable Installation in Conduit

- a. The cable shall be installed using either a sealed pneumatic cable blowing system or a powered pulling winch and hydraulic powered assist pulling wheels.
- b. The maximum pulling force to be applied to the cable shall be six hundred pounds

- (600 lbs.).
- c. Sufficient pulling assists shall be available and used to insure the maximum pulling force is not exceeded at any point along the pull.
 - d. The cable shall be lubricated at the reel and all pulling assist locations.
 - e. A pulling swivel breakaway rated at six hundred pounds (600 lbs.) shall be used at all times.
 - f. Splices shall be allowed only at planned junctions and reel ends.
 - g. All splices shall be contained in a handhole or manhole.
 - h. A minimum of twenty meters (20m) of slack cable shall be left in all intermediate handholes and manholes.
 - i. A minimum of thirty meters (30m) of slack cable shall be left in all splice locations.
 - j. A minimum of fifty meters (50m) of slack cable shall be left in Transmission Sites and points of presence.
 - k. PVC conduit/innerduct may be split, with the cable installed inside the split duct and plowed in.

7. Manholes and Handholes

- a. Manholes shall be placed in traveled surface streets and shall have locking lids. This might not be the case with existing fiber.
- b. Handholes shall be placed in all other areas.

8. EMS Markers

EMS Markers shall be placed directly above the lid of all buried handholes or shall be fabricated into the lids of the handholes.

9. Cable Markers (Warning Signs)

- a. Cable markers shall be installed at all changes in cable running line direction, splices, pull boxes, assist-pulling locations, and at both sides of street, highway or railroad crossings.
- b. Markers shall be spaced at intervals of no more than five hundred feet (500') apart in metropolitan areas (areas where there is either extensive development and improvement or rapid growth (new building construction)) and within line of sight (not to exceed one thousand feet (1,000')) in non-metropolitan areas.
- c. Markers shall be positioned so that they can be seen from the location of the cable and generally set facing perpendicular to the cable running line.
- d. Splices and pull boxes shall be marked on the cable marker post.

10. Aerial Cable Installation Guidelines

Cables are supported on a minimum of 6.6M EHS galvanized suspension strand or sizes identified on IFC drawings for specific spans. After the strand has been placed, it should be tensioned so that the final sag with cable in place conforms to the following table of clearances:

Table 2. Maximum String Tension – 6.6M EHS and 6M Steel Strand

Temperature		Stringing Tension in Pounds		
°F	°C	Spans Under 250'	Spans Between 250' and 450'	Spans Over 450'
0	-18	900	850	775
20	-7	800	750	725
40	4	700	675	650
60	15	600	600	600
80	27	500	525	550
100	38	425	475	525

11. Strand Splicing

When splicing strand, subcontractor shall use a DBLLC-approved strand splice. All splices shall be made within 3 feet of the pole and shall be placed on the opposite side when crossing roads, waterways, and railroads. A mid-span splice is not authorized.

12. Methods of Obtaining Stringing Tension

Subcontractor shall determine the temperature of the air by placing a thermometer in a vertical position in approximately the same sun or shade conditions existing along the section of strand being tensioned. Subcontractor shall use appropriate means up to and including a dynamometer to determine the tension of the suspension strand.

For best results, subcontractor shall first pull the strand until it is tighter than the desired tension, then slack off until the desired tension is obtained. This extra tension should not exceed 125% of the designed stringing tension or 500 pounds, whichever is less.

The points at which strand tension should be measured under various conditions are as follows:

- a. Straight sections free from changes in grade:
 - i. Fewer than 10 spans – Measure the tension near the middle of the section of strand.
 - ii. 10 to 20 spans – Measure the tension first at a point about two-thirds of the distance from the pulling end, then at a point about one-third of the distance from the pulling end.
 - iii. More than 20 spans – Measure the tension first at a point about three-fourths of the distance from the pulling end, then at a point about one-half of the distance, then at one-fourth of the distance.
- b. Sections including changes in grade or corners:
 - i. Measure the tension first at the far side of the farthest corner or pole where change in grade occurs, then at each corner or change-in-grade pole, working toward the pulling end.

- ii. As the desired tension is obtained in each portion of the strand being pulled, subcontractor shall tighten the bolts of the suspension clamps.

13. Tensioning and Sagging of Cable Strand

When tensioning strand for the use of supporting cable(s), the strand shall be tensioned to:

- a. Provide sufficient support for the cable(s) and cable apparatus under the expected outside plant weather conditions (i.e., heat, cold, ice, and wind), and
- b. Meet clearance minimums engineered by DBLLC Engineering.

It is imperative that this tension be calculated using an industry-approved strand tensioning tool to meet the minimum tensioning requirements for the strand size and cable weight for the existing pole line.

There are instances when tensioning strand to its recommended or full capacity could lead to contact with the existing cable plant. This is common when cables are placed between or below existing plants. In these cases, it is recommended to place the strand at a tension that will adequately support the cable, meeting structural requirements, and provide enough sag to comport with the existing aerial cables.

If a conflict occurs between the strand tension requirements and matching the sag of an adjacent plant, the preferred method is to match the existing utility attachers, as long as this does not create any violations. If violations are created, rearrangement of the existing plant, such as moving the plant up or down on the pole, may be required.

At all times, cable clearances must be maintained over roadways and from electric utilities.

14. Suspension Bolts

Suspension bolts are used to secure the suspension clamps to the pole. The bolts are available with one end threaded ("A" bolt) or with both ends threaded ("B" bolt). The double-threaded type bolt is generally used where it is planned to place two strands, one on each side of the pole, at the same level.

The length of the bolt to be used is determined by the diameter of the pole plus the amount required extending the bolt through the suspension clamp and nuts. The bolt must be long enough to extend at least three complete threads beyond the outer nut. The end of the bolt must not extend more than 2" beyond the nut. Any excess must be cut off and the bolt end shall be painted with a cold galvanizing compound.

15. Suspension Clamps

A cable suspension clamp supports all sizes of suspension strand at inline poles and 6.6M or 6M strand at corner poles with less than 10-foot pull. The suspension clamp must be a type recommended for the size of suspension strand used. The corner suspension clamp supports 6.6M or 6M suspension strand

at corners where the pull is 10 to 50 feet. At any corner where the pull is greater than 50 feet, the strand must be dead-ended and guyed each way.

16. Guy Hooks/Pig Ears

Guy hooks and pig ears are used to terminate suspension strand or guy strand. The guy hook or pig ear can be attached to the pole with the same bolt that supports the suspension strand for the main cable.

17. Thimble Eye Bolts

Two types of thimble eye bolts shall be used:

- a. Angled (bent) thimble eye bolts are used to terminate guy strand when the lead-over-height ratio is less than 1.25".
- b. Straight thimble eye bolts are used when the ratio is greater than 1.25". Thimble eye bolts can be used to terminate all sizes of guy strand and, when equipped with an eye nut, can be used for dead-ending suspension strands of all sizes.

18. Guy Grips ("B" Strand Grips)

Guy grips, sometimes referred to as "B" strand grips, may be used to terminate guy strand and suspension strand on guy hooks pig ears, strain insulators, and eye-type hardware. The grips are made of spirally-formed high-strength steel wires and are available in sizes corresponding to the outside diameters of standard galvanized strand.

19. Strandvises

The strandvise consists of three parts: a cartridge, a yoke, and a bail. The bail and the yoke may be reused, but the cartridge may not. Subcontractor shall use a long bail with strain insulators, and a short bail on eye-type hardware and guy hooks.

20. Guys

Down guys are attached to the pole, applying downward forces at various angles, most typically between 20 and 45 degrees to the pole. The guy hook hardware has spurs or prongs that dig into wood poles and provide supplementary bonding and stability for the guy wire/guy hook attachment.

21. Anchors and Guy Rods

Guy rods of size 5/8 inch by 8 feet (5/8" x 8') used with expanding anchors are to be made of galvanized steel having an integral single, double, or triple thimble. Down guards or guy guards shall be used.

22. Stainless Steel Banding

Stainless steel bands are to be Type 201 and meet ASTM A666 standards including, but not limited to, chemical composition requirements of carbon, manganese, phosphorus, sulfur, silicon, chromium, and nickel and the tensile and break strengths. Use stainless steel banding with fully rounded smooth edges for safety and easy installation with a proper banding tool.

23. Stainless Steel Banding Buckles

Stainless steel banding buckles are to be Type 201 and meet all ASTM A666 standards including, but not limited to, its chemical composition requirements of carbon, manganese, phosphorus, sulfur, silicon, chromium, and nickel, and be made of fully annealed stainless steel material.

24. Aluminum Hardware Mounting Plate

Subcontractor shall use aluminum extruded mounting plates 5/8" thick x 11" tall x 2" wide and plated bolts and nuts.

25. Expanding Anchors

For eight blade-type expanding anchors, a pincer-type nut retainer is welded to the underside of the base to retain the guy rod nut. The wires used to hold the blades to the anchor base plate must not be removed. These wires will shear off during the expanding process.

Where practical, use earth augers to bore the hole for the anchor. Expanding anchors develop most of their holding power by the blades engaging undisturbed earth. Therefore, it is important that the hole is no larger than necessary to admit the unexpanded anchor.

26. Screw Anchors

Screw anchors are available in a variety of helix configurations, rod sizes, and thimble eyes. Proper selection depends on the type of soil and the guying requirements. Correct installation is achieved only when the anchor is installed using the appropriate torque for the particular soil and anchor type, as recommended by the manufacturer. Installation torque is usually measured using a device connected in series with the wrench and digger kelley bar during installation.

27. Bonding and Grounding for Aerial Plant

The connection to a vertical grounding conductor of a power system is made in the communications space on a pole by using an approved connector. Subcontractor shall bond a guy or strand section with an approved grounding clamp using a #6 solid bare copper wire with split-bolt connector. When a new vertical ground is required, a #6 solid bare copper wire will be placed from the communications strand down the pole to a new copper-clad steel ground rod having a minimum diameter of 5/8" and a minimum length of 8'. All interconnecting grounding conductors shall be #6 bare copper laid in smooth curves. Subcontractor shall bond at every pole with existing ground, or every 1,320 feet where existing grounds do not exist. Subcontractor shall leave ground rod 6" above ground at the bottom of pole, attaching a universal ground rod clamp to the new #6 solid bare copper wire.

28. Drip Loop

The drip loop will be located below the point of entry on the building to keep moisture from penetrating the building. The loop will be hand-formed; the maximum bending radius will not

exceed the manufacturer's specifications and will not be more than a 12" loop. Pass-through pole locations shall have a drip loop of no less than 2" and no more than 4".

29. Aerial Cable

Lashing aerial cable will be accomplished with a cable guide and "C" type of lasher or bigger. Suspension clamps should be tightened at least one span ahead of the cable lashing operation. This is necessary to keep tension from building up in the strand as lashing progresses. Assist rollers may be required to support the cable above streets and other obstacles during the lashing process. All work will be in compliance with authorities having jurisdiction.

30. "D" Lashing Wire Clamp ¼"

The "D" lashing wire clamp ¼" bug nut will be placed 12" from the center of the pole on both the field and node sides of the pole. Subcontractor shall place groove plates over the strand and cross the lashing wire over top of the strand two wraps, following the lay of the strand. Subcontractor shall thread lashing wire between the stud collar and first washer, then wrap it a half turn around the stud. Subcontractor shall not wrap lashing wire 360 degrees around the stud. Subcontractor shall tighten nut and tuck free end of lashing wire into clamp. If over lashing, subcontractor shall place a second wire between the two flat washers and repeat the process.

31. Over-lashed Cable

Over-lashing will be the same practice as lashing aerial cable. When the number of cables being over-lashed or the physical size of the cable being over-lashed exceeds manufacturer specifications for the lasher, a larger lasher will be required.

32. Lashing Wire

The lashing wire (0.045 type 302) to aerial cable will be lashed tightly against the strand. This is accomplished by proper adjustment of the rear cable lifter on the lasher and particularly by not permitting the lashing wire to slack off during any of the lashing, terminating, or splicing operations.

33. Forming Lashed Cable

At poles, splices, or other points where the cable is not held snugly against the strand, the cable should be formed in a long, smooth curve; supported in this position; and kept free from possible contact with hardware or other points of interference that might cause sheath abrasion.

34. Lashing Clamp Placement

Subcontractor shall use lashing wire clamps placed at 12 inches from the center of the pole to terminate lashing wire. Subcontractor shall place cable spacers at 9 and 15 inches from the center of the pole for cable supports at dead-end and dip pole locations. To provide separation between strand and cable at suspension clamps, subcontractor shall place the suspension clamp so that the strand groove and strand are below the suspension bolt.

34. Cable Tension

To keep excessive cable out of the spans during the lashing operation, the subcontractor must observe the following:

- a. A moderate amount of tension should be maintained in the cable ahead of the lasher.
- b. At cable section ends, the splice point ends and their slack loops should be supported to the strand so as not to damage the fiber optic cable.
- c. At dip poles, the cable slack loop should be secured to the strand after the lashing wire has been terminated.

35. Double Lashing Special Crossings

Double lashing is required on special crossings, which include those over interstate highways, waterways, and railways. Subcontractor shall use two sets of wire to lash the cable to the strand. The termination on the lashing wire will use two clamps.

36. Slack Loops

A slack loop is a spare amount of optical fiber, or slack cable, looped for storage at strategic locations. In the event of a break or other required services, slack cable is used to aid in restoration. Unless otherwise stated, a slack loop shall have a length of 150 feet. Attachment methods are as follows:

- a. Where slack loops will be secured temporarily on a pole, subcontractor shall use a new suspension clamp or the appropriate size bolt that would be used in the clamp shall be permanently mounted at the approved attachment height to secure the temporary storage coil.
- b. When securing a temporary storage coil inside a building, subcontractor shall use a newly installed J-hook, snap lock conduit fitting, or similar piece of hardware to secure the slack loop, even if stored above a drop ceiling.
- c. For all other applications, the slack loop shall be secured so that it shall be out of the way of the customer and general public access.
- d. The cable shall not be secured in a manner that will cause damage to the existing structure or the cable itself.
- e. Appropriate size snow shoes are to be used to form all slack loops. A 17" aluminum snow shoe fiber optic storage bracket, B materials part number FOSP-17-TMK, is to be used to form all slack loops.

37. Slack Loop Deployment

Where indicated on the DBLLC IFC drawings, the subcontractor shall install 150' of slack loop cable. Deltec strapping and lashing wire with clamps to terminate wire will be used to store the slack loop. Loops must be secured in a horizontal orientation and must not be allowed to rotate to a vertical orientation.

38. Aerial Cable Identification Tags

An identification tag indicating the owner of the support strand and the fiber optic cable shall be attached on the fiber optic cable at each pole. The tag shall be a UV-rated weatherproof wrap-around type to fit the fiber optic cables. Subcontractor is responsible to adhere to DBLLC naming and tag identification requirements. The approved tag will be PMS 659 blue in color with black lettering.

39. Riser/Dip Pole

39.1. Wood Pole

When cable transitions from aerial to underground, subcontractor shall cover the cable end with a 2- inch plastic U-guard within 6 inches of the cable's bend at height of attachment. At ground level, a 1.25" schedule 40, 36" radius 90-degree sweep will be connected to the SDR11 1.25" HDPE. The 1.25" sweep will be placed 6" above ground under the U-guard at the base. All open ends of the HDPE shall be neatly trimmed and sealed/plugged with an approved weatherproofing material.

39.2 Metal Pole

When cable transitions from aerial to underground, subcontractor shall cover the cable end with a 2- inch plastic U-guard within 6 inches of the cable's bend at height of attachment. The U-guard shall be mounted using 0.5" stainless steel banding and buckles attached every 12". At ground level, a 1.25" schedule 40, 36" radius 90-degree sweep will be connected to the SDR11 1.25" HDPE. The 1.25" sweep will be placed 6" above ground under the U-guard at the base. All open ends of the HDPE shall be neatly trimmed and sealed/plugged with an approved weatherproofing material.

Updating of Guidelines

Either party may revise these Cable Installation Guidelines to include new procedures, materials, or processes so long as the changes achieve the objectives of the specifications set forth above and are in accordance with, or superior to, then-current telecommunications industry standards.

Exhibit D - Sites

Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J	Column K	Column L	Column N
Site ID	Site Category	Site Name	Address	City	County	Zip Code	Segment Type	Fiber Needed at Sites	County Site with Spares for Wholesale	Sites & Wholesale Spares (I+J)	LGE/KU	Notes
8	K-12	Ballard Memorial High School	3561 Paducah Rd Barlow, KY 42024	LaCenter	Ballard	42024	Anchor	4	8	12	4	
28	K-12	Calloway Co. Board	2110 College Farm Rd Murray, KY 42071	Murray	Calloway	42071	Anchor	4			0	
31	K-12	Carlisle Co. High School	4557 State Rt 1377 Bardwell, KY 42023	Bardwell	Carlisle	42023	Anchor	4	8	12	4	
69	K-12	Graves Co. High School	1107 Housman St. Mayfield, KY 42066	Mayfield	Graves	42066	Anchor	4			0	
108	K-12	Marshall Co. High	416 High School Rd Benton, Ky 42025	Benton	Marshall	42025	Anchor	4	8	12		
110	K-12	Mayfield Ind. Board	914 E College St Mayfield, KY 42066	Mayfield	Graves	42066	Anchor	4	8	12		

Exhibit D

111	K-12	McCracken Co. Public Schools	435 Berger Rd Paducah, KY 42001	Paducah	McCracken	42003	Anchor	4	8	16	0
124	K-12	Murray Ind. Board	208 S 13th St Murray, KY 42071	Murray	Calloway	42071	Anchor	4	8	12	0
132	K-12	Paducah Ind. Board	800 Caldwell St. Paducah, Ky 42003	Paducah	McCracken	42003	Anchor	4			
244	KCTCS	West Kentucky Community & Technical College - Main Campus	4810 Alben Barkley Dr, Paducah, KY 42001	Paducah	McCracken	42001	Anchor	4			
245	KCTCS	West Kentucky Community & Technical College - Purchase Training Center	234 Pioneer Industrial Drive, Mayfield, KY 42066	Mayfield	Graves	42066	Anchor	4			0
246	KCTCS	West Kentucky Community & Technical College - Skilled Craft Training Center	70 Hickory Road, Hickory, KY 42051	Mayfield	Graves	42066	Anchor	4			0
251	University	Murray State University	175 Chestnut St, Bldg 46,	Murray	Calloway	42071	Anchor	4			

Exhibit D

			Murray, KY 42701									
336	Government Site	CFC DCBS GRAVES CO	333 CHARLES DR	Mayfield	Graves	42066	CAI	2				
367	Government Site	CFC DCBS MCCRACKEN CO	206 N 8th St	Paducah	McCracken	42001	CAI	2				
406	Government Site	CFC OTS MCCRACKEN CO	2855 Jackson St	Paducah	McCracken	42003	CAI	2				
453	Government Site	CHFS DCBS Calloway Co	203 S 6th St	Murray	Calloway	42071	CAI	2				
507	Government Site	CHS CSHCN PURCHASE DIST OFFICE	400 Park Ave Bldg D	Paducah	McCracken	42001	CAI	2	8	10		
511	Government Site	CHS Child Support McCracken Co	325 South Eighth st	Paducah	McCracken	42003	CAI	2				
615	Government Site	District 1 WAN Circuit	5501 KY Dam Rd (P.O. Box 3010)	Paducah	McCracken	42003	CAI	2				
640	Government Site	DJJ-Mayfield-YDC	3179 STATE ROUTE 45 S	Mayfield	Graves	42066	CAI	2				
663	Government Site	DOT-DDL Calloway Co	312 N 4TH ST	Murray	Calloway	42071	CAI	2				
730	Government Site	Graves Co Clerk	101 E South St	Mayfield	Graves	42066	CAI	2				
778	Government Site	JUS COR/ADMIN SERV P&P Paducah	400 S 6th St	Paducah	McCracken	42003	CAI	2				

Exhibit D

1144	Government Site	Mayfield Probation and Parole	101 N 7th St, Hall Hotel, 3d floor, Suite 11	Mayfield	Graves	42066	CAI	2			
1145	Government Site	McCracken County Circuit Clerk - DATA ONLY	301 South 6th st	Paducah	McCracken	42003	CAI	2			
1173	Government Site	NR EP/McCracken Co	130 EAGLE NEST DR	Paducah	McCracken	42003	CAI	2			
1203	Government Site	OPA Calloway County	503 N 16th St	Murray	Calloway	42071	CAI	2			
1251	Government Site	Purchase District Health Department	916 Kentucky Avenue	Paducah	McCracken	42003	CAI	2			
1318	Government Site	TOU PK/ Kentucky Dam Village SRP	113 Administrative Dr (160 Upper Village Inn)	Gilbertsville	Marshall	42044	CAI	2			
1373	Government Site	KYTC - Calloway County Clerk - MVL	208 S 5th St	Murray	Calloway	42071	CAI	2			
1376	Government Site	WFD OET MCCRACKEN CO	416 S 6th St	Paducah	McCracken	42003	CAI	2			
1600	Library	Calloway County Public Library	710 Main Street, Murray, KY 42071	Murray	Calloway	42071	CAI	2			

Exhibit D

1621	Library	Graves County Public Library	601 North 17th Street, Mayfield, KY 42066	Mayfield	Graves	42066	CAI	2			
1662	Library	McCracken County Public Library	555 Washington Street, Paducah, KY 42003	Paducah	McCracken	42003	CAI	2			
Added Locations											
1748	Government Site	DCBS - Calloway County	3415 US Highway 641 North, Murray, KY 42071	Murray	Calloway	42071	CAI	2			
1792	Telco - Collo	Murray Electric NOC	401 Olive Street, Murray, KY 42071	Murray	Calloway	42071	NOC (Node)	N/A			Collo provided by MuniNet/Fiber provided by DB LLC
1793	Telco - Collo	Paducah Power System NOC	1500 Broadway Street, Paducah, KY 42001	Paducah	McCracken	42001	NOC (Node)	N/A			Collo provided by MuniNet/Fiber provided by DB LLC
1794	Telco - Collo	Mayfield Power - Extender Site	301 East Broadway, Mayfield, KY 42066	Mayfield	Graves	42066	EXT	N/A			Collo provided by MuniNet/Fiber provided by DB LLC

Column Descriptions

Column	Label	Description
I	Fiber Needed	Service fibers terminated on FDP in each site
J	County Site with Spares for Wholesale	Wholesale fibers available at a slack loop closest to the designated site
K	Sites & Wholesale Spares (I+J)	Sum of columns I & J
L	LGE/KU	KU fibers available at a slack loop closest to the designated site

Exhibit D

EXHIBIT E

Interconnection Procedures and Fiber Handoff

Fiber handoff is expected at existing fiber slack loops or splice points. These will be at least ½ mile on either side of a thru splice. The locations of these are indicated in Exhibit A – Segments.

Fiber handoff at the Level 3 and Cogent facilities are described in Section 2.6 and further in Exhibits A – Segments and K – Cogent Facility Responsibilities.

1. Permitted Connecting Points Commonwealth may request that MuniNet establish Connecting Points with other telecommunications facilities (“**Interconnect Facilities**”) at Commonwealth’s sole expense, which shall be equal to MuniNet’s cost, at (i) points where the Cable is spliced along the System, (ii) fiber distribution panels at the Cable end points, or (iii) fiber distribution panels at Transmission Sites ((i) (ii) and (iii) collectively, “**Connecting Points**”). Commonwealth shall have no right to establish any connection to the System other than at such locations. Commonwealth may request the right to establish connections to the System at other locations. Subject to any underlying agreements, MuniNet shall not unreasonably withhold permission for such additional connections. A determination by MuniNet of the existence of any of the conditions described in Subsection 2.B of this **Exhibit E** shall not be deemed an unreasonable denial of permission for additional connections.

2. Requests for Interconnections

A. Connection Requests. Commonwealth shall provide MuniNet at least sixty (60) days’ prior written notice (the “**Interconnect Notice**”) of the date it requests that a connection be completed or sixty (60) days’ prior written notice if the connection requires installation of Commonwealth Equipment at a Transmission Site. The Interconnect Notice shall set forth a description of the work required to be performed including:

- (i) the connection location (which shall be at a permitted Connecting Point as set forth in Section 1 of this Exhibit E);
- (ii) a copy of Commonwealth’s construction design drawings including a diagram of the desired location of the Interconnect Facilities and Commonwealth Equipment;
- (iii) identification of all Interconnect Facilities and Commonwealth Equipment to be installed;
- (iv) Commonwealth’s requested installation schedule;
- (v) any excess cable storage requirements;
- (vi) the space, power, environmental and other requirements for the Interconnect Facilities and Commonwealth Equipment;
- (vii) the estimated in-service and termination dates for the interconnection; and

(viii) all other information reasonably required by MuniNet.

B. Response to Requests. Within twenty-one (21) days of receiving the Interconnect Notice, MuniNet shall respond with its acceptance or objections to the proposed interconnection. MuniNet shall use commercially reasonable efforts to accommodate the request, but may restrict such work to the planned System work periods referred to in **Exhibit H**. MuniNet may decline to make a requested connection if MuniNet determines, in its reasonable discretion, that there is a significant likelihood that (i) Commonwealth's use of a proposed connection would cause a material and adverse effect on the System or the use thereof; (ii) use of a particular location will cause a significant technical impediment; (iii) the making or existence of the connection presents a risk of creating an interruption of transmission; (iv) MuniNet has no rights to interconnect to the Cable at such point due to restrictions existing in the underlying rights or an inability to obtain other required permits, authorizations or approvals; or (v) there are unreasonable costs and/or logistics required to make such interconnection.

3. Demarcation and Ownership

A. Demarcation Points. MuniNet shall designate an installation demarcation point and a maintenance demarcation point (which may be a different point) for each interconnection in order to safeguard and maintain sole control over the System. MuniNet shall perform all installation work on facilities on its side of the installation demarcation point and shall perform all post-installation work on facilities on its side of the maintenance demarcation point. Commonwealth shall pay the costs of such installation and post-installation work as set forth in this Exhibit. Installation responsibilities of MuniNet for the Interconnect Facilities shall extend no further than the boundary of MuniNet's right of way or other property unless otherwise mutually agreed to by the parties.

B. Ownership. Commonwealth shall retain ownership of Interconnect Facilities during the Term. At the end of the Term, title to any portion of an Interconnect Facility located on MuniNet premises or right of way not removed by Commonwealth within one-hundred and eighty (180) days shall pass to MuniNet unless the Parties agree otherwise.

4. Installation of New Interconnect Facilities

A. Spur Cable. Commonwealth or its contractors shall, prior to the requested connection date, provide a spur cable adequate to reach the Connecting Point with an additional length (minimum 100 feet) sufficient for MuniNet to perform splicing.

B. Rights of Way and Equipment. Commonwealth shall provide, at its sole cost and expense, any and all necessary rights of way, permits, access rights and/or any required consents or authorizations, and MuniNet-approved materials and equipment (including cables and conduit) necessary for the construction, use, operation, maintenance and repair of all Interconnect Facilities. At Commonwealth's request, to the extent permitted under MuniNet's lease or other agreements relating to a co-location facility, and if space is available, MuniNet shall at its sole discretion provide to Commonwealth access to building entrances, conduits and risers at the co-location facility or use of MuniNet's rights to install such building entrances, conduits or risers necessary in connection with constructing Interconnect Facilities. Such access or use of rights shall be at such additional charges to which MuniNet and Commonwealth may agree. Commonwealth shall be subject to all limitations and restrictions for conduits, risers and building entrances imposed by

the applicable underlying owner. Commonwealth shall be solely responsible for placement, construction and installation of all Commonwealth facilities required to interconnect at the Connecting Point designated by MuniNet.

If necessary, and where applicable, MuniNet shall assist Commonwealth, at Commonwealth's sole expense, in obtaining from any third-party building owner or MuniNet lessor access to existing building entrance facilities, if available, to access and exit Transmission Sites. Otherwise, Commonwealth shall be solely responsible for obtaining all necessary rights for the Interconnect Facility, as described in the first sentence of this Subsection, and MuniNet does not make and hereby disclaims any warranties or representations that such rights are available at any particular location or regarding the cost or availability of such rights.

5. Maintenance of New Interconnect Facilities

A. Maintenance and Changes. Commonwealth shall provide all maintenance and repair of the Interconnect Facilities on Commonwealth's side of the maintenance demarcation point. Any improvement, modification, addition to, relocation, or removal of, the Interconnect Facilities by Commonwealth at Transmission Sites or other MuniNet premises shall be subject to MuniNet's prior review and written approval. Commonwealth shall pay the cost of such improvement, modification, addition to, relocation, or removal of, the Interconnect Facility and of the cost of repairing any damage due to Commonwealth's actions. MuniNet's maintenance responsibility shall be limited to the Interconnect Facilities on its side of the maintenance demarcation point and the associated cross connect or other connection at that point.

B. Unusual Costs. MuniNet may submit a request to Commonwealth to pay additional costs incurred in maintaining any connection that requires MuniNet to obtain additional Required Rights, and Commonwealth shall pay such costs.

C. Standards. Commonwealth shall (except to the extent MuniNet has installation or maintenance responsibility) ensure that any Interconnect Facilities are installed, operated, and maintained to meet or exceed any reasonable requirements of MuniNet, any requirements of MuniNet's building management or insurance underwriters, and any applicable local, state and federal codes and public health and safety laws and regulations (including fire regulations and the National Electric Code).

6. Additional Requirements for Connections at Splice Points

A. At any time there is cable activity (including initial installation of the splice, repair of cable cuts or other cable damage, and relocation of the cable) on the Span where the splice is located (the "**Spliced Span**"), Commonwealth or its contractors shall (a) at MuniNet's request (written, oral or electronic), promptly provide a trained and qualified technician with an optical time-domain reflectometer ("**OTDR**") at its fiber distribution panel ("**FDP**") to aid in the cable activity, or (b) if Commonwealth cannot provide the technician and an OTDR, then Commonwealth shall provide MuniNet access to Commonwealth's FDP for the duration of the cable activity.

B. MuniNet's NOC shall remain the central point of contact and shall control all cable activity. MuniNet's NOC will maintain an open line to Commonwealth's NOC during cable activity.

C. The restoral times and liquidated damages stated in **Exhibit H** of this Agreement, for the services MuniNet is providing, do not apply to the mid-span interconnection splice(s).

D. During a cable emergency situation, MuniNet shall proceed with “blind” fiber splicing of the Commonwealth Fibers along the Spliced Span (i.e. splicing without the ability to test the Spliced Span) in order to make initial temporary repairs. MuniNet may defer blind splicing until all other fibers in the damaged cable are spliced. Commonwealth shall make reasonable efforts to coordinate with a MuniNet technician in the performance of permanent repairs to the Commonwealth Fibers along the Spliced Span.

E. The operation and maintenance specifications set forth in the Maintenance Agreement do not provide for fiber rolls to dark fiber to restore Commonwealth’s service. However, if MuniNet does elect to provide fiber rolls, it may elect not to allow fiber rolls on the Spliced Span.

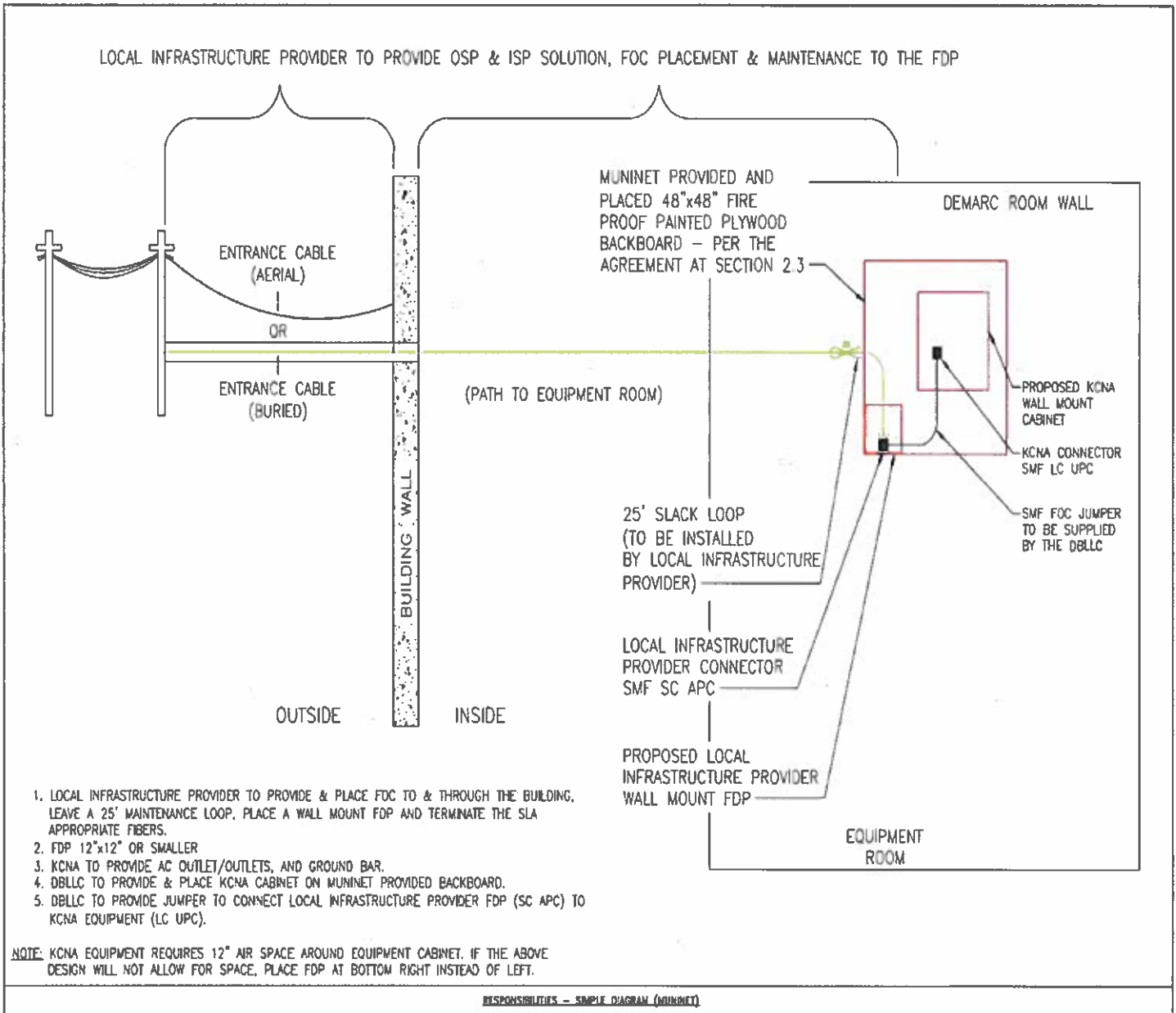
F. If Commonwealth reports a damaged fiber on the Spliced Span and MuniNet is not aware of any continuity problems on its System, Commonwealth shall have the burden of demonstrating that the problem is a result of damage to a Commonwealth Fiber. Commonwealth must use an OTDR to demonstrate that the problem is not a result of conditions off the System and beyond the Splice.

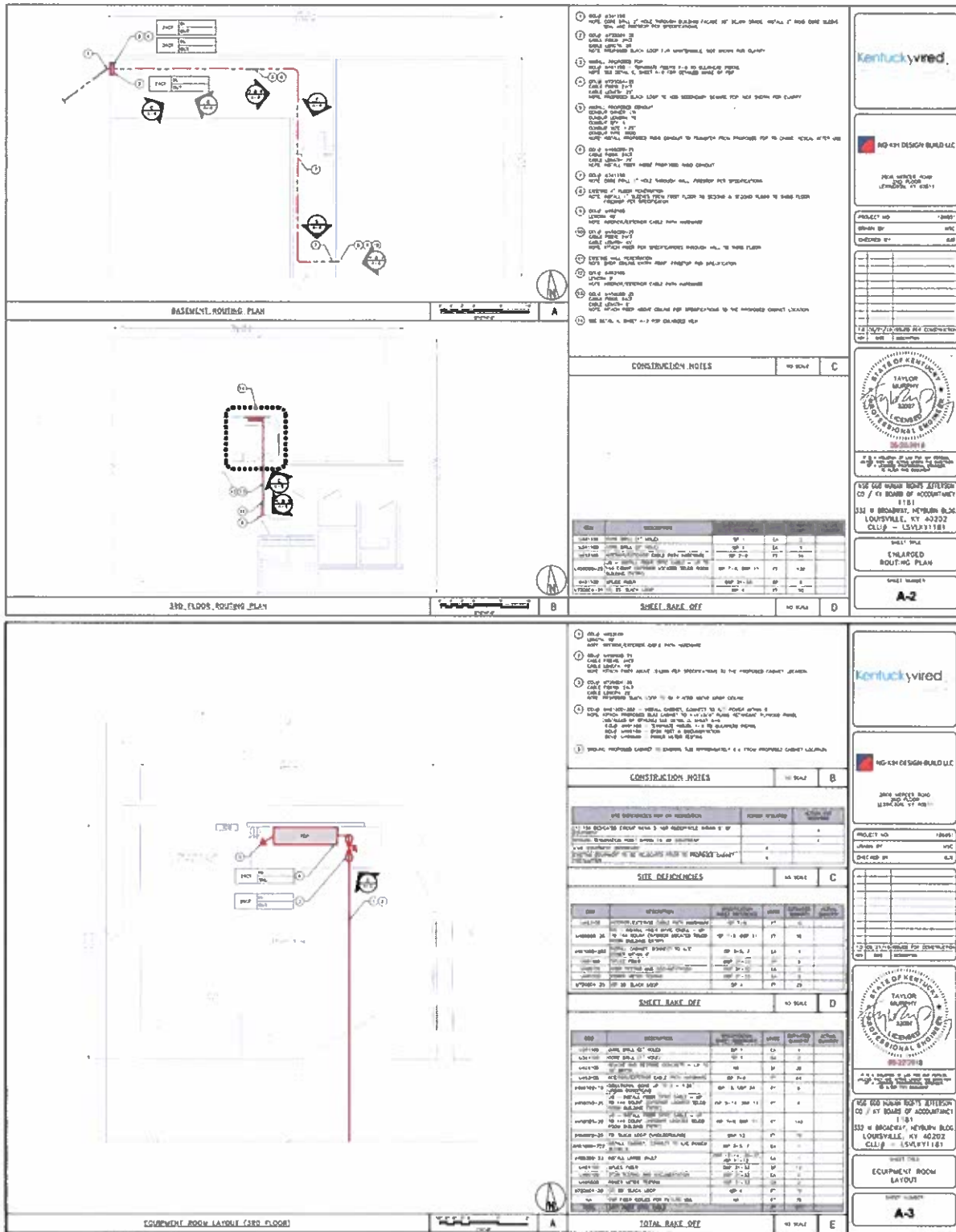
G. The provisions of **Paragraphs 7(C), 7(D), 7(E) and 7(F)** of this **Exhibit E** shall apply (a) only to the Commonwealth Fibers having a mid-span interconnection splice and (b) only to the extent such Commonwealth Fibers are on a Spliced Span.

H. Commonwealth may only have MuniNet perform a mid-span interconnection splice at existing MuniNet splice points and then only with MuniNet’s prior written consent.

I. MuniNet is not obligated to perform any maintenance, repair, or restoration on the Commonwealth interconnection beyond the splice point.

EXHIBIT F Building Entrance Cable





- 1) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 2) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 3) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 4) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 5) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 6) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 7) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 8) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 9) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 10) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.

CONSTRUCTION NOTES

NO SCALE

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
101	1/2" RIGID CONDUIT	100	FT	1.50	150.00
102	1/2" RIGID CONDUIT	200	FT	1.50	300.00
103	1/2" RIGID CONDUIT	300	FT	1.50	450.00
104	1/2" RIGID CONDUIT	400	FT	1.50	600.00
105	1/2" RIGID CONDUIT	500	FT	1.50	750.00

SHEET TAKE OFF

NO SCALE

Kentuckyvired

NO-KEN DESIGN BUILD LLC

3000 WOODBINE BLVD
LOUISVILLE, KY 40240

PROJECT NO: 18007
SHEET NO: 102
DATE: 08/14/18

STATE OF KENTUCKY
TAYLOR MAURNEY
REGISTERED PROFESSIONAL ENGINEER
NO. 22778

FOR THE BOARD OF ARCHITECTS
1181
333 W. BROADWAY, KENTON BLDG.
LOUISVILLE, KY 40202
CLIP - LS1811181

SHEET TITLE
CHARGED ROUTING PLAN

SHEET NUMBER
A-2

- 1) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 2) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 3) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 4) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 5) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 6) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 7) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 8) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 9) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.
- 10) 1/2" RIGID CONDUIT SHALL BE USED FOR ALL NEW WIRING.

CONSTRUCTION NOTES

NO SCALE

NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
101	1/2" RIGID CONDUIT	100	FT	1.50	150.00
102	1/2" RIGID CONDUIT	200	FT	1.50	300.00
103	1/2" RIGID CONDUIT	300	FT	1.50	450.00
104	1/2" RIGID CONDUIT	400	FT	1.50	600.00
105	1/2" RIGID CONDUIT	500	FT	1.50	750.00

SHEET TAKE OFF

NO SCALE

Kentuckyvired

NO-KEN DESIGN BUILD LLC

3000 WOODBINE BLVD
LOUISVILLE, KY 40240

PROJECT NO: 18007
SHEET NO: 103
DATE: 08/14/18

STATE OF KENTUCKY
TAYLOR MAURNEY
REGISTERED PROFESSIONAL ENGINEER
NO. 22778

FOR THE BOARD OF ARCHITECTS
1181
333 W. BROADWAY, KENTON BLDG.
LOUISVILLE, KY 40202
CLIP - LS1811181

SHEET TITLE
EQUIPMENT ROOM LAYOUT

SHEET NUMBER
A-3

Exhibit F

			 3808 WENTZ ROAD JEFFERSON, KY 40311
PROPOSED TAKE ROOM/PROPOSED PENETRATION/PROPOSED FIBER ROUTE	PROPOSED FIBER ROUTE	PROPOSED FIBER ROUTE	
PROPOSED FIBER ROUTE	PROPOSED FIBER ROUTE	PROPOSED FIBER ROUTE/PROPOSED PENETRATION	
PROPOSED FIBER ROUTE/PROPOSED PENETRATION	PROPOSED FIBER ROUTE/PROPOSED PENETRATION	PROPOSED FIBER ROUTE/LIGHTING PENETRATION	

CABLE TAGS Labels shall be placed on all cables... 			 3808 WENTZ ROAD JEFFERSON, KY 40311
EXAMPLE TAG	TYPICAL FIBER OPTIC WARNING SIGNAGE	TYPICAL PROPERTY WARNING SIGNAGE	
JUNIPER CABINET DETAILS <ul style="list-style-type: none"> Assemblies shall be installed in accordance with the manufacturer's instructions. Assemblies shall be installed in accordance with the manufacturer's instructions. Assemblies shall be installed in accordance with the manufacturer's instructions. 	COMMON FDP CABINET AND ACCESSORIES DETAILS <ul style="list-style-type: none"> Assemblies shall be installed in accordance with the manufacturer's instructions. Assemblies shall be installed in accordance with the manufacturer's instructions. Assemblies shall be installed in accordance with the manufacturer's instructions. 		
SL43 PROPOSE WALL MOUNTED CABINET	WALL MOUNTED FDP CABINET	NOT USED	
NOT USED	NOT USED	NOT USED	

EXHIBIT G

Project Records

1. As-Built Drawings and Specifications

A. MuniNet shall provide updated route (OSP) drawings and specifications in an approved ESRI ArcGIS compatible format.

(1) The drawings shall include all geospatial details, including but not limited to, length of cable, fiber count, slack coils, vaults, splice closures, butt splices, riser transitions, poles or other details identified in the Data Dictionary.

(2) The drawings shall be in a known coordinate system, including but not limited to a Kentucky State Plane system, WG884, Web Mercator or UTM (which includes Kentucky).

B. MuniNet shall provide updated site (ISP) drawings and specifications in AutoCAD or with Customer's approval a different approved electronic format. These drawings shall include, but not be limited to, Fiber routes inside buildings, the location of Fiber Distribution Panels, slack coils, and fiber jumpers.

B. MuniNet shall submit all information required by this Exhibit through the KentuckyWired Document Management System (Aconex).

2. Reports and Test Results

MuniNet shall provide and maintain in Aconex official reports and certified test results of all inspections and tests which were undertaken as a part of construction or are otherwise required by this Agreement.

3. Data Dictionary

Fiber

Field Name	Description
CLLI	Standard Kentucky Telco CLLI code Ex. DAVLKY0185 To and From CLLI plus the fiber count Ex. LXTOKY0253-DAVLKY0185-288
CABLE_NAME	Aerial or underground
PLACEMENTTYPE	Start location of structure for Backbone Ex. Paintsville
FROM_STRUCTURE	Finish location of structure for Backbone E. Prestonsburg
TO_STRUCTURE	Cable Type- Loose Tube or Ribbon
CABLETYPE	Count of Buffer Tubes
BUFFERCOUNT	Number of fibers per buffer
FIBERSPERBUFFER	Count of fiber Ex. 288
FIBERCOUNT	Date the fiber is installed. If exact date is not known estimate by
INSTALLATIONDATE	

MANUFACTURER	decade
PARTNUMBER	Name of the manufacture for the fiber
BUILD_PRIORITY	The Fiber part number
SITE_ID	DBLLC Design Priority Ex. 1A, 1B, 2, 3, 4,5
Site_Categ	Segment ID corresponds to the building Site ID
SLA	Is the fiber serving a school, government bldg or other
ISP_OSP	Service Level Agreement
EASEMENT	Inside Plant or Outside Plant
ThirdParty	Location of easement to property such as front, rear, undeveloped land
	Entity other than DBLLC responsible for design feature

Slackloop

Field Name	Description
LENGTH	Length of slackloop Ex. 25ft, 75ft, 150ft
CLLI	Standard Kentucky Telco CLLI code Ex. DAVLKY0185
ISP_OSP	Inside plant or outside plant
OWNER	Who owns the slackloop
BUILD_PRIORITY	BV Design Priority Ex. 1A, 1B, 2, 3, 4,5
SITE_ID	Segment ID corresponds to the building site ID
ThirdParty	Entity other than DBLLC responsible for design feature

Structure

Field Name	Description
STRUCTURE_NAME	To and From CLLI plus the fiber count Ex. LXTOKY0253-DAVLKY0185-288
SUBTYPECODE	Type of structure Ex. handhole, cable marker, small vault, medium-light vault
STRUCTURE_SIZE	Size of the structure Ex. Large, small, extra large, medium light, medium heavy, large light, large heavy
BUILD_PRIORITY	BV Design Priority Ex. 1A, 1B, 2, 3, 4,5
SITE_ID	Segment ID corresponds to the building site ID
ISP_OSP	Inside plant or outside plant
ThirdParty	Entity other than DBLLC responsible for design feature

EXHIBIT H

Maintenance Agreement

Throughout the Term, MuniNet shall have the obligation to maintain and repair the System, at its costs, including the Commonwealth Fibers and the Commonwealth shall have the obligation to maintain and repair the System, at its costs, including the MuniNet Fibers. As used in this Exhibit H, the term "Responsible Party" shall mean MuniNet when used in reference to an Outage, maintenance or repair affecting the System, and shall mean Commonwealth when used in reference to an Outage, maintenance or repair affecting the Network. Maintenance and repair of the System and Network shall be provided in accordance with the following requirements and procedures:

I. Maintenance.

(a) Scheduled Maintenance. Routine maintenance and repair of the System or Network ("Scheduled Maintenance") shall be performed by or under the direction of the Responsible Party and shall include at a minimum the following activities:

(i) Patrol of the System and Network on a regularly scheduled basis, in accordance with the Responsible Party's then current procedures for maintenance;

(ii) The Parties will subscribe to each and all One-Call Agencies that affect the Commonwealth Fibers or MuniNet Fibers;

(iii) Assignment of fiber maintenance technicians to serve locations along the Network or Routes of the System.

(b) Unscheduled Maintenance. Non-routine maintenance and repair of the System or Network, which is not included as Scheduled Maintenance ("Unscheduled Maintenance"), shall be performed by or under the direction of the Responsible Party and shall consist of:

(i) "Emergency Unscheduled Maintenance" in response to (i) an identification of a failure, interruption or impairment in the operation of Commonwealth Fibers by the Responsible Party's Operations Center; (ii) notification of a Responsible Party's NOC by any third party of any failure, interruption or impairment in the operation of the Commonwealth Fibers or MuniNet Fibers; or (iii) any event imminently likely to cause the failure, interruption or impairment in the operation of Commonwealth Fibers or MuniNet Fibers.

(ii) "Non-Emergency Unscheduled Maintenance" in response to any potential service-affecting situation to prevent any failure, interruption or impairment in the operation of Commonwealth Fibers or MuniNet Fibers of which the Commonwealth's NOC or MuniNet's NOC had actual knowledge.

Each Party shall report the need for Emergency Unscheduled Maintenance to the other Party within 30 minutes of learning of same and shall report the need for Non-Emergency Unscheduled Maintenance to the other Party within 24 hours of learning of same. Each Party will log the time of the report to the other. The Responsible Party will verify the problem and dispatch personnel to assess and commence corrective action within four hours of notification to the other Party of the service-affecting situation or any potential service-affecting situation.

2. Network Operations Center.

Each Party shall operate and maintain an independent NOC which is staffed twenty-four (24) hours a day, seven (7) days a week by trained and qualified personnel whose responsibility it is to receive notification of and assess and respond to service-affecting or potential service-affecting situations. Each Party's designated maintenance employees, personnel, or contractors ("Maintenance Support") shall be available for dispatch twenty-four (24) hours a day, seven (7) days a week. The Responsible Party shall have its first Maintenance Support at the Site requiring Unscheduled Maintenance activity within four (4) hours after the time it becomes aware of an event requiring Unscheduled Maintenance, unless delayed by circumstances beyond the reasonable control of said Responsible Party. Each Party shall maintain a toll-free telephone number to contact personnel at the the Party's NOC. The NOC personnel of a Responsible Party shall dispatch maintenance and repair personnel along the System or Network to handle and repair problems detected in the System or Network (i) through the Responsible Party's remote surveillance equipment or (ii) upon notification by a third party.

3. Cooperation and Coordination.

(a) In performing its services hereunder, the Responsible Party shall take workmanlike care to ensure signal continuity and performance of the Commonwealth Fibers and MuniNet Fibers, at a minimum, in accordance with prevailing industry standards.

(b) MuniNet and the Commonwealth shall notify the other at least ten (10) business days prior to the commencement date of any Scheduled Maintenance and, with respect to any Unscheduled Maintenance within 30 minutes after receiving notice of the need for Unscheduled Maintenance. Each Party shall have the right to be present during the performance of any Scheduled Maintenance so long as its presence does not interfere with the Responsible Party's ability to perform its obligations under this Agreement. In the event that Scheduled Maintenance is canceled or delayed for any reason, the Responsible Party shall notify the other Party within 24 hours of the delay or cancellation of such Scheduled Maintenance. The Parties will comply with the provisions of this subsection in rescheduling any delayed or cancelled Scheduled Maintenance.

4. Facilities.

(a) The Responsible Party shall maintain the System or Network in a manner which will permit the other's full use of the Commonwealth Fibers and MuniNet Fibers, as the case may be, and in accordance with the terms and conditions of the Agreement,

(b) Except to the extent otherwise expressly provided in the Agreement, each Party will be solely responsible for providing and paying for any and all maintenance of all electronic, optronic and other equipment, materials and facilities it owns and uses in connection with the operation of the Commonwealth Fibers and MuniNet Fibers, as the case may be, none of which is included in the maintenance services to be provided hereunder.

5. Cable/Fibers.

(a) The Responsible Party shall perform appropriate Scheduled Maintenance on its Cable in accordance with such Responsible Party's then current preventative maintenance procedures, which procedures shall meet or exceed standard industry practice.

(b) The Parties shall maintain sufficient capability to teleconference with the other during Emergency and Non-Emergency Unscheduled Maintenance during the repair process. When correcting or repairing discontinuity or damage to the Cable, including but not limited to in the event of Emergency and

Non-Emergency Unscheduled Maintenance, the Responsible Party shall repair traffic-affecting discontinuity within twelve (12) hours of notification to said Responsible Party of the service-affecting situation or the potential service-affecting situation. The repairs so affected may be temporary in nature. In such event, within twenty-four (24) hours after completion of any such Emergency and Non-Emergency Unscheduled Maintenance, the Responsible Party shall commence its permanent repair and shall notify the other Party of such plans. Notwithstanding the foregoing, restoration of open fibers on fiber strands not immediately required for service shall be completed on a mutually agreed-upon schedule.

(c) Each Party's Maintenance Support shall carry on their vehicles the typically appropriate equipment and testing devices that would enable a temporary splice to restore a cut Cable so that operating capability can reasonably be expected to be restored within four hours after arrival of its Maintenance Support at the problem site.

6. Planned Service Work Period.

Scheduled Maintenance which is reasonably expected to produce any signal discontinuity must be coordinated between the Parties. Generally, this work should be scheduled after midnight and before 6:00 a.m. local time. Major system work, such as fiber rolls and hot cuts, will be scheduled for weekends. A calendar showing approved Scheduled Maintenance will be agreed upon by the Parties in the last quarter of every year for the following year and shall be scheduled to avoid work on the first and last weekends of the month and high-traffic holidays.

7. Restoration.

When restoring a cut Cable in the System or Network, the Responsible Party, promptly upon arriving on the site of the cut, shall determine the course of action to be taken to restore the Cable and shall begin restoration efforts. The Responsible Party shall splice Fibers tube by tube or ribbon by ribbon or fiber bundle by fiber bundle, first splicing the Fibers of the other Party and then splicing the Fibers of other interest holders in the System or Network; provided that, lit Fibers in all buffer tubes or ribbons or fiber bundles shall have priority over any dark fibers in order to allow transmission systems to come back on line; and provided further that, the Responsible Party will continue such restoration efforts until all lit Fibers in all buffer tubes or ribbons are spliced and all traffic restored. Commonwealth and MuniNet shall be given priority among all interest holders affected by a cut.

8. Contracting.

The Parties may subcontract any of the maintenance services hereunder, provided that they shall require the subcontractor(s) to perform in accordance with the requirements, standards and procedures set forth herein.

9. Performance Reporting.

Except as otherwise permitted or excused by the terms and conditions of the Agreement, during the Term, the Commonwealth Fibers and MuniNet Fibers shall be fully operational and shall continue to meet the prevailing industry standards and the Acceptance Standards as described in Exhibit B. Each Party will, on or before the fifteenth of each month during the Term, provide the other Party with a written report of each Commonwealth Fiber Outage or MuniNet Fiber Outage or maintenance request by either Party for the previous calendar month, which report shall include at a minimum (a) the response and restoration times of the Responsible Party, rounded up to the nearest minute; (b) the location of the Commonwealth Fiber Outage or MuniNet Fiber Outage by Segment or Network Span; and (c) the response times and mean restoration times for the subject month.

The Parties acknowledge that the Responsible Party's failure to respond and restore Outages will cause the other Party damages and losses of a type and degree which is impossible to compute and ascertain with any certainty as a basis for recovery of actual damages, and that the following liquidated damages ("LDs") represent a fair, reasonable and appropriate estimate thereof:

Time to First Maintenance Responder on Segments or Network Spans

Up to 4 hours:	-\$0-
4 hours to 4 hours 30 minutes	\$500
4 hours 31 minutes to 5 hours:	\$750
Over 5 hours	\$1,000

For the avoidance of doubt, the LDs assessed against a Responsible Party for the Time to First Maintenance Responder on Segments or Network Spans standard will apply to each Outage during a calendar month. For example, if a unique Site is impacted by two separate Outages in a given month, and the respective response times to the affected Segment(s) or Network Span(s) for said Outages are 4 hours 20 minutes and 6 hours, the LDs for Time to First Maintenance Responder on Segments or Network Spans for the month would be \$500 + \$1,000 = \$1,500.

Mean Time to Restore each Segment or Network Span (Per Average Number of Sites Impacted)

Up to 12 hours:	-\$0-
12 hours 1 minute to 16 hours:	\$250
16 hours 1 minute to 20 hours	\$600
20 hours 1 minute to 24 hours	\$1,150
24 hours 1 minute to 36 hours	\$1,750
Over 36 hours	\$2,350

The LDs for Mean Time to Restore the Segments or Network Spans will be calculated on an average number of Sites impacted by a particular Outage. For example, if there are 10 Outages in a given month, 5 of which impact 5 Sites and 5 of which impact 3 Sites, and the Mean Time to Restore is 14 hours, the total LDs payable for the month as regards restoration of Segments will be \$250 x 4 = \$1000. For purposes of calculating LDs for Mean Time to Restore the Segments or Network Spans pursuant to this Exhibit H only, the term "Sites" shall refer not only to the Sites as defined in the Agreement, but also to any MuniNet customers receiving service by virtue of a radial fiber optic cable extending from a Network Span (as defined below). The Commonwealth's maximum total LDs shall be no more than \$2,181.45 per day.

For purposes of this Exhibit H, the following definitions shall apply:

- (i) "Average Number of Sites Impacted" for a given calendar month shall be the product of the number of unique Outages of a Segment or Network Span in the calendar month and the number of Sites impacted by such Outage *divided by* the total number of unique Outages of a Segment or Network Span for the month.
- (ii) "Mean Time to Restore" for a given calendar month shall be calculated separately for Outages on the System and Outages on the Network and shall be the sum of the duration of each Outage for the month, calculated in minutes, on the System or the Network, as the case may be, *divided by* the total number of unique Outages in such calendar month on the System or

Network, where the duration of an Outage will be calculated as the number of minutes from the point at which the Responsible Party's NOC is notified of Sites not being Available until all Sites impacted by such Outage are Available; *provided, however*, that in the event that the Responsible Party requires access to a Site that is under the control of the other or a third party in order to correct an outage, the duration of such Outage shall only include the period of time after the Responsible Party actually receives access to such Site and was able to begin corrective measures with respect to such Outage; *provided, further*, that in the event that correction of the Outage requires a joint effort between the Responsible Party and the other Party or between the Responsible Party and any third party, any period of time during which the other Party or a third party delayed such joint effort shall not be included in the duration of such Outage.

(iii) "Network Span" shall refer to each of the distinct Spans of the Network described in Subsections a-h of Section 2.6 of the Agreement.

The total liquidated damages that a given Responsible Party could be required to pay with respect to any given calendar month will equal the sum of the LDs payable with respect to (1) the Time to First Maintenance Responder on Segments or Network Spans (up to a maximum of \$1,000 per event); and (2) the Mean Time to Restore each Segment or Network Span. Notwithstanding anything to the contrary contained in this Exhibit H or the Agreement: (3) in no event may the total LDs assessed against the Responsible Party during any calendar month exceed \$7000.00.

For purposes of clarity, the maintenance and repair obligations of the Responsible Party set forth in this Maintenance Agreement and the foregoing liquidated damages provisions do not apply to damage to the Fiber, Cable, System, or Building Entrance Cable or to an Outage, interruption of service, or degradation of service caused by or attributable to damage to or interference with the portion of the Building Entrance Cable running from its penetration into the designated structure at a particular Site to said Building Entrance Cable's termination at the fiber termination panel at such Site by a third party (including the owner or occupant of the Site) or the Commonwealth.

10. Erroneous Callout. In the event that more than three (3) Erroneous Callouts occur during any rolling three-month calendar quarter during the Term, the Commonwealth or MuniNet shall promptly pay to the Party \$250.00 per Erroneous Callout occurring during such quarter. The term "Erroneous Callout" means those instances where Commonwealth or MuniNet or any other person or entity requests that the Party provide restoration or maintenance services and, upon MuniNet's or the Commonwealth's inspection with respect to such request, the Party determines in good faith that no Outage exists.

Exhibit I – Change Form

From: [Commonwealth of Kentucky] [MuniNet Fiber Agency]

To: [MuniNet Fiber Agency] [Commonwealth of Kentucky]

Date of Change Request: _____

CC: _____

Detailed Description of Proposed Change:

(attach additional pages as may be necessary)

Reason for Proposing the Change:

Proposed Change in Contract Price:

Proposed Change in Construction Completion Date(s):

Segment: _____

By: _____

(signature on behalf of requesting party)

(printed name)

Title: _____

Phone: _____

E-mail: _____

Amendment of Proposed Change (after meetings of parties and/or information exchange):

(attach additional pages as may be necessary)

Proposed Amended Change in Contract Price:

Proposed Amended Change in Construction Completion Date(s):

Segment: _____

By: _____
(signature on behalf of requesting party)

(printed name)

Title: _____

Phone: _____

E-mail: _____

Date Amended Change Proposal Submitted: _____

The foregoing Change Request dated _____, as amended by the foregoing Amendment of Proposed Change submitted _____ (if any) is hereby ACCEPTED.

By: _____
(signature on behalf of party accepting change)

(printed name)

Title: _____

Phone: _____

E-mail: _____

Date of Change Acceptance: _____

The foregoing Change Request dated _____, as amended by the foregoing Amendment of Proposed Change submitted _____ (if any) is hereby REJECTED for the reasons set forth below.

Detailed Description of Reasons for Rejection of Proposed Change:

(attach additional pages as may be necessary)

By: _____
(signature on behalf of party rejecting Change)

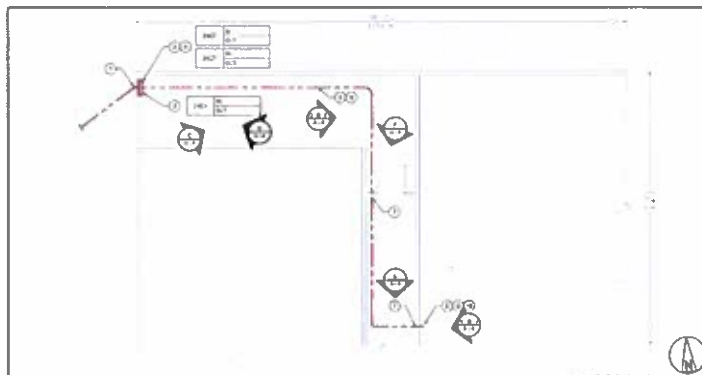
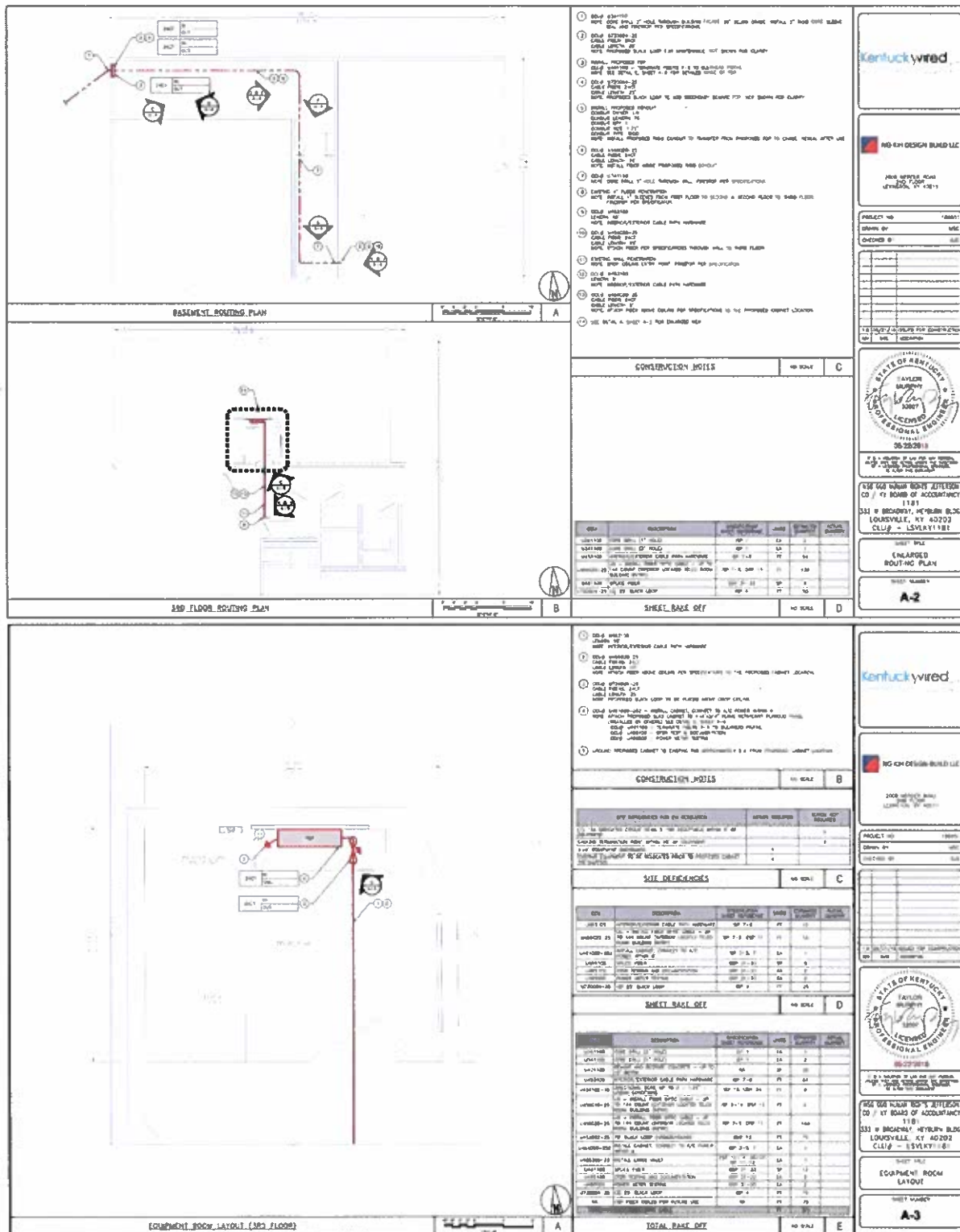
(printed name)

Title: _____

Phone: _____

E-mail: _____

Date of Change Rejection: _____



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Kentuckywired

ING ACH DESIGN BUILD LLC

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LOUISVILLE, KY 40202

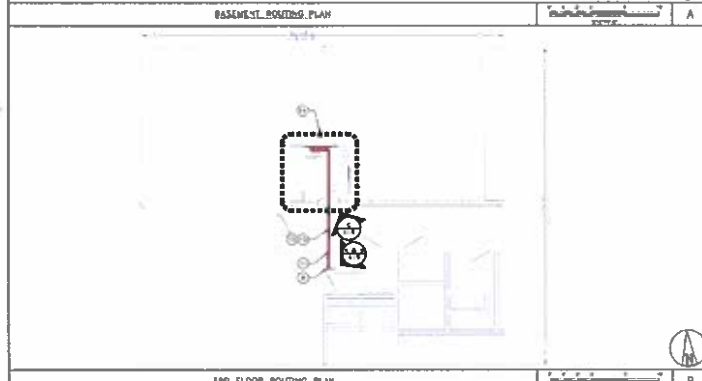
PROJECT NO: 18000
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STATE OF KENTUCKY
TAYLOR BRUNSON
REGISTERED PROFESSIONAL ENGINEER
NO. 20080118

USE FOR THESE NOTES ATTACHED TO IT BY BOARD OF ACCOUNTANCY
1181
331 W. BROADWAY, 4TH FLOOR BLDG.
LOUISVILLE, KY 40202
CLUB - 156741181

SHEET TITLE
CHANGED ROUTING PLAN

SHEET NUMBER
A-2



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Kentuckywired

ING ACH DESIGN BUILD LLC

2025 MARKET BLVD
LOUISVILLE, KY 40202

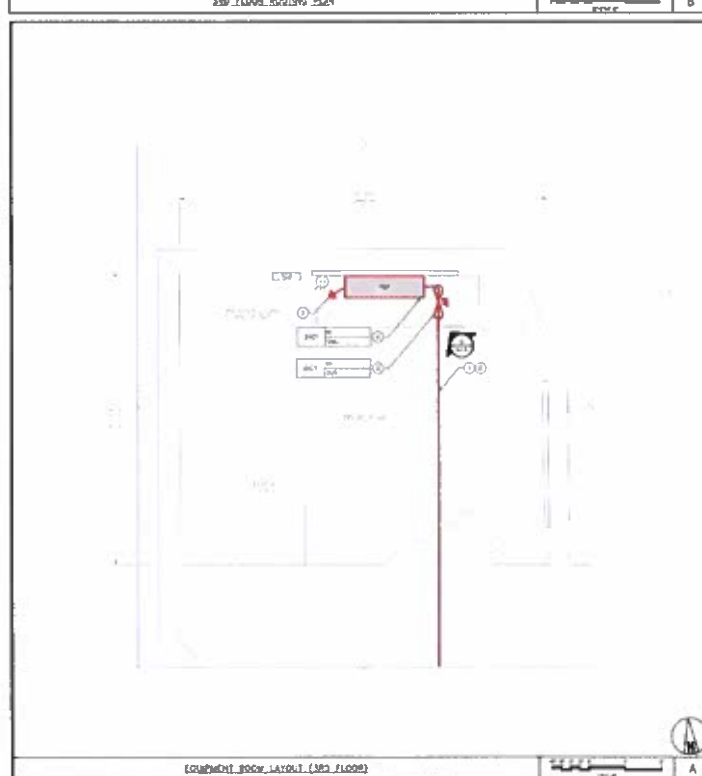
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STATE OF KENTUCKY
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SHEET TITLE
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SHEET NUMBER
A-2



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Kentuckywired

ING ACH DESIGN BUILD LLC

2025 MARKET BLVD
LOUISVILLE, KY 40202

PROJECT NO: 18000
SHEET NO: 100
CHECKED BY: JLS

STATE OF KENTUCKY
TAYLOR BRUNSON
REGISTERED PROFESSIONAL ENGINEER
NO. 20080118

USE FOR THESE NOTES ATTACHED TO IT BY BOARD OF ACCOUNTANCY
1181
331 W. BROADWAY, 4TH FLOOR BLDG.
LOUISVILLE, KY 40202
CLUB - 156741181

SHEET TITLE
EQUIPMENT ROOM LAYOUT

SHEET NUMBER
A-3

Exhibit J

EXHIBIT K
COGENT FACILITY RESPONSIBILITIES

- 1- MuniNet will be responsible to negotiate with Cogent and pay for the internal FOC termination and subsequent cross connects.
- 2- Commonwealth will construct and place a 1.25" HDPE Conduit with 24ct FOC and tracer wire into the Cogent location at 332 W. Broadway, Louisville, Kentucky.
- 3- Commonwealth will place a 24 count fiber distribution panel (FDP) and terminate fibers 13-24 for cross connection to the Cogent point of presence.
- 4- Commonwealth will splice the "New" MuniNet/Cogent Segment into KY Wired Segment 1181 at Site 1181 in accordance with Exhibit J of the Agreement.
- 5- Commonwealth will splice Segment 1181 into Backbone Segment 1707.
- 6- Backbone Segment 1707 to be routed to Node Site 1732 at The University of Louisville.
- 7- Commonwealth will Patch the dark fibers through at Node 1732 with (LC UPC – LC UPC jumpers) and direct fibers through Segment 1732 to Owensboro, KY Node Site 224.
- 8- Commonwealth will Patch the dark fibers through at Node Site 224 with (LC UPC – LC UPC jumpers) and direct fibers through Segment 224 to Henderson, KY Node Site 993.
- 9- Commonwealth will Patch the dark fibers through at Node 993 with (LC UPC – LC UPC jumpers) and direct the fibers through Segment 993 to Madisonville, KY Node Site 219.
- 10- Commonwealth will Patch the dark fibers through at Node Site 219 with (LC UPC – LC UPC jumpers) and direct the fibers through Segment 219 to the Proposed MN Backbone Tie Point RE-GEN Cabinet Patch Panel at 186 Mockingbird Dr. Nortonville, KY 42442.

EXHIBIT L

MUNINET CONSTRUCTION COSTS

<u>Arlington</u>		<u>Carlisle County Schools</u>		<u>Ballard County Schools</u>		<u>KY Dam Village</u>	
Map Distance Aerial	38937	Map Distance Aerial	61519	Map Distance Aerial	26150	Map Distance Aerial	10200
# of Poles	131	# of Poles	229	# of Poles	105	# of Poles	50
Map Distance URD	3742	Map Distance URD	690	Map Distance URD	25673	Map Distance URD	281
Vaults	5	Vaults	2	Vaults	40	Vaults	0
Storage Loops	26	Storage Loops	30	Storage Loops	64	Storage Loops	8
Sag	1169	Sag	1846	Sag	785	Sag	306
Fiber to be installed	47748	Fiber to be installed	68555	Fiber to be installed	62208	Fiber to be installed	11987
# of Permits	22	# of Permits	34	# of Permits	9	# of Permits	2
		<u>Material Cost</u>		<u>Labor Cost</u>			
Total fiber	190498		\$175,258.16		\$192,858.12		
Total URD	30386		\$24,308.80		\$238,743.25		
Total Vaults	47		\$21,150.00		\$11,750.00		
Total Splices	2314		\$9,641.67		\$71,734.00		
Dead-end/Tangent	515		\$18,179.50		N/A		
Permits	67		N/A		\$43,550.00		
Make Ready	TBD		TBD		TBD		
Reel Testing	12		N/A		\$5,616.00		
Misc			\$15,000.00		N/A		
MEWS Make Ready					\$16,298.00		
MES NOC Construction					\$3,000.00		
		Totals:	\$263,538.13		\$583,549.37		
		Grand Total:	\$847,087.50				