

# **BARTOW COUNTY SCHOOL SYSTEM**

Purchasing Department 65 Gilreath Road N.W P.O. Box 200007 Cartersville, Georgia 30120-9001 770-606-5800 Extension 2024

# **Request for Proposal**

Invitation Number: RFP 10-2025-021

Description: Additional cabling at 23 sites for Bartow County Schools

Mandatory pre bid: January 7<sup>th</sup>, 2025 at 9:00 a.m. Located at 65 Gilreath Road, Cartersville, Ga 30120

Proposal Opening: February 5th, 2025, at 10:00 a.m.

# I. INTRODUCTION

- A. The Owner currently consists of twenty (20) schools and three (3) support/office facilities, of which all technology functions are processed through the IT department.
- B. The Owner is requesting proposals from qualified organizations to provide data communications cabling for additional wireless access points at all campus locations across the district. The estimated number of additional drops, drop moves and other needs are detailed below.

School	New Drops	Additional New Drops	Moves	Additional Notes
AES	29	5		
AMS	5	5	27	
AHS	41	10		
ALES	19	5		
вссса	11	5		Some rooms may have drops.
CCES	29	5		
CLES	1	10	47	
CMS	36	7		
CMS				1 fiber home run from room 611 to the MDF will be needed.
CHS	15	10	61	
EES	1	5	20	
EHES	26	10		
HCES	1	10	23	
KES	19	5		
MRES	1	0		
PLES	26	5		
RTMS	24	5		
TES	20	5		
WES	2	10	22	
WMS	30	10		
WHS	47	15		
Total	383	142	200	

The expected start date for this project is April 2025. The goal completion date for this project is July 2025.

A mandatory pre-bid meeting will be held January 7, 2025 at 9:00 a.m. at BCSS Central Office 65 Gilreath Road Cartersville, Ga 30120.

If bidders do not attend this mandatory meeting, their bids will be disqualified.

Maps, room number lists and more details as to the work needed will be provided at the mandatory pre-bid meeting.

Final bids will be due to Albert Zielke, Purchasing Specialist, at Bartow County School System 65 Gilreath Road Cartersville, GA 30120 by 10:00 a.m. on February 5, 2025. Three copies of the bids shall be provided. Bids must be submitted physically on paper, sealed in an envelope. Bids not received at the location, by the time, and as specified shall be disqualified.

- C. Please note that this project is classified as an E-Rate project and your organizations SPIN (Service Provider Identification Number) is required to be submitted with the proposal at the time of submittal in order for your proposal to be considered. If your SPIN number is not provided in the submited proposal, the bid will be disqualified.
- D. E-RATE COMPLIANCE AND FUNDING CONDITIONS: Vendor understands and agrees that this RFP is promulgated pursuant to the seeking of "E-Rate" funding. Accordingly, by participating in this process, vendor certifies that it is and will continue to be in compliance by following all the requirements of the "E-Rate" program. Further, vendor understands and acknowledges that the actual execution of any contract awarded as a result of this RFP process are contingent upon:
  - 1) Securing of the requested funding from USAC, and
  - 2) The Bartow County School System deciding to move forward when such funding has been granted.

Notwithstanding these contingencies, the Bartow County School System may also decide to move forward with any of these projects using other funding sources.

# II. SPECIFICATIONS

## PART 1 – GENERAL

# 1.1 DESCRIPTION OF WORK:

A. The requested cabling will be added to the buildings' current cabling system consisting of main and intermediate (satellite) distribution frames (MDF/IDF frames) connected together with fiber optic cable. Individual Unshielded Twisted Pair (UTP) cable drops emanating from patch panels at each frame routed to data outlets. Cabling being requested for this project will be indicated on the maps provided at the mandatory pre-bid meeting.

- B. New cabling shall support the transport of computer data with 10BaseT, 100BaseT, 1000BaseT, 1000BaseSX, and 10GBASE-SR, Ethernet IEEE 802.3 topology. The cable, patch panels, jacks and cable assemblies installed shall support data speeds up to 1000 Megabits per second on all horizontal channels and 10 gigabits per second on all backbone channels.
- C. The system design is based on an open architecture distributed star topology so that existing equipment and facilities as well as future equipment from multiple vendors can be supported by the system installed.
- D. The system shall allow for customer administration of the cabling system. The utilization of patch panels, with appropriate cable management systems as indicated are required.

#### 1.2 STANDARDS:

A. The system shall conform to the requirements set forth in the following standards.

# 1. ANSI/TIA/EIA

- a. 492 AAAA Fiber Optic Cable specifications
- b. 568-B Commercial Building Telecommunications Cabling Standard
- c. 568-B.1 General Requirements
- d. 568-B.2 Balanced Twisted Pair Cabling Components Standard
- e. 568-B.2.10 Specifications for Augmented Category 6 Cabling
- f. 568-C.3 Optical Fiber Cabling Components Standard
- g. 942 Telecommunications Infrastructure for Data Centers
- h. 569-A Commercial Building Standard for Telecom Pathways and Spaces
- i. 606-A Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
- j. J-STD-607-A Commercial Building Grounding/Bonding Requirements

# B. NFPA

1. NFPA 70 National Electric Code (NEC)

## C. ISO/IEC

1. ISO 11801 Generic Cabling for Customer Premises

# 1.3 QUALITY ASSURANCE:

- A. All equipment comprising the system shall be listed and labeled by Underwriter's Laboratories, Inc.
- B. The Contractor shall have a BICSI (Building Industry Consulting Service International Certified)RCDD as Project Manager.
- C. The Contractor shall provide evidence of a telecommunications low voltage licensee.
- D. The Contractor shall comply with all requirements for permits and tests, shall provide all certificates and shall pay all costs for same.
- E. The Contractor shall provide certification that all components have been installed and tested as required by their manufacturer.

#### 1.4 WARRANTY:

- A. General: The contractor shall provide a system warranty covering the installed cable system against defects in workmanship, components, and performance; and follow-on support after project completion.
- B. Installation Warranty: The contractor shall warrant the cabling system against defects in workmanship for a period of one year from the date of system acceptance. The warranty shall cover all labor and materials necessary to correct a failed portion of the system and to demonstrate performance within the original installation specifications after repairs are accomplished. This warranty shall be provided at no additional cost to the Owner.
- C. Cabling System Manufacturer Warranty: The contractor shall facilitate the 25-year performance warranty between structured cabling system manufacturer and the Owner. An extended component warranty shall be provided which warrants functionality of all components used in the system for at least 25 years from the date of acceptance. Copper and fiber links shall be warranted against the link performance minimum expected results as specified in the testing section of these specifications.

## 1.5 CONFIGURATION:

- A. Unless otherwise specified, a distributed star topology is the basis of the design of the Data
  - 1. Network Cabling System.
- B. The standard work area connector for all connections is an RJ45 jack. Each jack shall be connected using an individual 4-pair UTP cable. The cabling

sequence shall be EIA 568B.

#### 1.6 SUBMITTALS:

- A. Product Data: For each type of product indicated.
  - 1. UTP Cable
  - 2. Optical Fiber Cable
  - 3. Outlets, Connectors, & Patch Panels
  - 4. Equipment Racks and Cabinets

# B. Shop Drawings:

- 1. System Labeling Schedules: Electronic copy of labeling schedules that are part of the cabling and asset identification system.
- 2. Cabling administration drawings and printouts.
- 3. Wiring diagrams to show typical wiring schematics, including the following:
  - a. Patch panels.
  - b. Patch cords.
- 4. Distribution Frames, Cabinets and Patch panels. Detail mounting assemblies, and show elevations and physical relationship between the installed components.
- C. Qualification Data: For Installer, qualified layout technician, installation supervisor, and field inspector.
  - 1. Verification of BICSI, RCDD, and Tele-communication low voltage license.
  - 2. Certificate stating that Contractor is a manufacturer authorized installer.
- D. A list of any deviations from these specifications.
- E. Manufacturer's Product Warranties.
- F. Source quality-control reports.
- G. Field quality-control reports.
- H. As-Built Drawings:
  - 1. Provide laminated 24" x 36" as-built drawings in each data closet with a floor plan showing the area of the building served by that data frame. Drawing shall indicate the location and identification for each outlet served.

### **PART 2 – PRODUCTS**

#### 2.1 MANUFACTURERS:

- A. Cable system cable assemblies, fiber optic cable, horizontal backbone cable, jacks, outlets, patch panels and patch cords shall all be of the same manufacturer.
- B. The equipment specified herein are the products of Panduit. Equivalent equipment would also be acceptable.

# 2.2 UTP (HORIZONTAL) CABLE:

- A. Description: 100-ohra, 4-pair UTP, covered with owner specified colors thermoplastic jacket.
  - 1. Comply with ICEA S-90-661 for mechanical properties.
  - 2. Comply with TIA/EIA-568-B.1 for performance specifications.
  - 3. Comply with TIA/EIA-568-B.2, Category 6.
  - 4. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:
    - a. Communications, Plenum Rated: Type CMP or MPP, complying with NFPA 262, Panduit Part# PUP6004BU-U.
    - b. UTP cable routed below grade, or installed in wet locations shall be MIL-C-24640A compliant.
- B. UTP Cable shall be directly connected to the 110 insulation displacement hardware associated with each jack on the patch panel, and to the 110 insulation displacement hardware associated with the outlet on the other end.
- C. Provide horizontal cables in quantities as indicated on the drawings.

#### 2.3 UTP CABLE HARDWARE:

- A. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-B.2, IDC type, with modules designed for punch-down caps or tools.
- B. UTP Cable hardware Category rating shall be equal to the UTP cable Category rating as specified above.
- C. Patch Panel: Modular panels housing multiple-numbered jack units with IDC-type connectors at each jack for permanent termination of pair groups of installed cables. Patch panels shall provide for connection of 24 or 48 ports per panel.
  - 1. UTP Patch Panels shall be rack mounted.
  - 2. Number of Jacks per Field: One for each four-pair UTP cable installed, plus 10% spare capacity. Patch panel jacks Panduit part # CJ688TG\*\* (\*\* indicates color, coordinate with Owner) OR EQUIVALENT.

- 3. 24 port patch panels Panduit part # CPPL24WBLY OR EOUIVALENT.
- 4. 48 port patch panels Panduit part # CPPL48WBLY OR EQUIVALENT.
- D. Patch Cords: Factory-made, four-pair cables in standard lengths; terminated with eight-position modular plug at each end.
  - 1. Patch cords shall have bend-relief-compliant boots and color-coded icons to ensure Category 6 performance. Patch cords shall have latch guards to protect against snagging.
  - 2. Provide one patch cord for every horizontal cable installed. Coordinate patch cord lengths and colors with owner prior to purchase.
  - 3. Patch cords for "data" applications shall be Category 6 tested and certified to the 250MHz level Panduit Part# UTPSPXXBL where XX is the length of patch cord. Color to be coordinated with owner.
  - 4. Patch cords for user end should be black and 10 feet long.

# 2.4 OPTICAL FIBER (BACKBONE) CABLE

- A. Description: 12-strand 50micron OM4 multimode armored fiber home runs will be necessary. Fiber is to be terminated in LC.
  - 1. Comply with TIA/EIA-568-B.3 (OM4) for mechanical and performance specifications.
  - 2. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444, UL 1651, and NFPA 70 for the following types:
    - a. Plenum Rated, Nonconductive: Type OFNP, complying with NFPA 262; Panduit Part # FODPX06Y OR EQUIVALENT.
    - b. Outside Plant: All outside plant cable shall be Indoor/Outdoor type OFNP cable with dry water block cable core for protection. Panduit Part #FOGPX06Y
  - 3. Conductive cable shall be aluminum armored type OFCP.
  - 4. Maximum Attenuation: 3.50dB/km at 850 nm; 1.5dB/km at1300 nm. Attenuation shall be measured in accordance with ANSI/EIA/TIA-455-46, 53 or 61.
  - 5. Minimum Modal Bandwidth: 2000 MHz-km at 850 nm; 500 MHz-km at 1300 nm Optical fiber shall be type OM4.

### B. Jacket:

- 1. Jacket Color: Aqua for 50/125-micrometer cable.
- 2. Cable cordage jacket, fiber, unit, and group color shall be according to TIA/EIA-598-B.

- 3. Imprinted with fiber count, fiber type, and aggregate length at regular intervals not to exceed 40 inches.
- C. Provide backbone cable from MDF to each IDF. Cable shall be terminated at both ends and connected through optical fiber patch panels. Secure structural member to fiber enclosure with appropriate strain relief.

#### 2.5 OPTICAL FIBER CABLE HARDWARE:

- A. Optical Fiber Patch Panels: Modular panels housing multiple-numbered, duplex cable connectors.
  - 1. Optical fiber patch panels shall be rack mounted.
  - 2. Number of Connectors per Patch Panel: One for each fiber strand terminated at a patch panel, plus 25% spare capacity, but not less than 48 ports at MDF location and not less than 12 ports at each IDF location.
  - 3. Provide optical fiber patch panels at each intermediate distribution frame (IDF) and at main distribution frame (MDF).
  - 4. Enclosures at each IDF shall be Panduit Part # FRME1U OR EOUIVALENT
  - 5. Enclosure at MDF. Panduit Part # FRME3 OR EQUIVALENT
  - 6. Fiber adapter panels. Panduit Part # FAP6WBLDLC OR EQUIVALENT
- B. Patch Cords: Factory-made, dual-fiber cables in 36-inch lengths.
  - 1. Provide one class OM4 optical fiber patch cord at each terminated end per fiber pair installed. Panduit Part# FZE10-10MX (X indicates length in meters) OR EQUIVALENT.

# C. Cable Connecting Hardware:

- 1. Comply with Optical Fiber Connector Interoperability Standards (FOCIS) specifications of TIA/EIA-604-2, TIA/EIA-604-3-A, and TIA/EIA-604-12. Comply with TIA/EIA-568-B.3.
- 2. Quick-connect, simplex and duplex, Type LC connectors. Insertion loss not more than 0.75 dB.

# 2.6 FACEPLATES, OUTLETS AND CONNECTORS:

- A. Data Jacks: 100-ohm, balanced, twisted-pair connector; four-pair, eight-position modular. Comply with TIA/EIA-568-B.1.
  - 1. Provide data jacks in quantities as indicated on the drawings to be provided at walk-thru.
  - 2. Data jacks. Panduit Part #

- a. Blue RJ45 jack CJ688TGBU OR EQUIVALENT.
- b. Violet RJ45 jack CJ688TGVL OR EQUIVALENT.
- c. Orange RJ45 jack CJ688TGOR OR EQUIVALENT.
- d. Green RJ45 jack CJ688TGGR OR EQUIVALENT
- e. Blank Module CMBIW-X OR EQUIVALENT.
- B. Workstation Outlets: Single gang modular faceplate to accommodate up to two (2) jacks. Panduit Part #UICFP2S OR EQUIVALENT.
  - 1. Faceplates should be stainless steel. Legend: Snap-in, clear-label covers mad machine-printed paper inserts.
  - 2. In the case ceiling drops, "biscuit boxes" shall be used with the coordinating color jacks.

# 2.7 EQUIPMENT RACKS & CABINETS:

# A. OPEN BAY RELAY RACK:

- 1. Unless otherwise noted, all data distribution frame (MDF/IDF) equipment shall be installed on open bay relay racks.
- 2. The top of each open bay relay rack shall be braced to the wall with a ladder rack.
- 3. Floor mounted equipment racks shall be aluminum relay racks with uprights to mount equipment 19 inches wide. Uprights shall be 3 inch deep channel, 1-1/4 inches wide, drilled and tapped 12-24 in a 1/2 inch pattern. Racks shall be provided with a standard top cross-member, and pre-drilled base plate to allow floor fastening. Open frame equipment racks shall be 7 feet in height and clear coated.
- 4. Open bay relay rack. Panduit Part # R2P6S OR EQUIVALENT
- 5. Provide one power strip per relay rack: 110 Volt UL approved surge protected power strip(s) mounted in the equipment rack with networking equipment with a total of 10 standard 110V, 20A, NEMA grounded receptacles, 6' power cord, end on/off switch. Panduit Part # CMRPSH20 OR EQUIVALENT

# B. FLOOR MOUNTED DATA CABINET:

- 1. Floor mounted data cabinet. Panduit Part # CN1 OR EQUIVALENT, with the following features:
  - a. Cabinet frame with top panel.
  - b. Dual hinge perforated front door opens to the left or right.
  - c. Split perforated rear doors open in the middle to minimize door swing footprint.
  - d. Solid side panels.
  - e. Two sets of #12-24 threaded equipment mounting rails.
  - f. 45 RU cable management on front and rear of front posts.
  - g. Dimensions: 84.0"H x 31.5"W x 41.1"D

- 2. At MDF, provide one floor mounted data cabinet, with the interior cable vertical management at front and rear rails.
- 3. Provide one power strip per equipment cabinet: 110 Volt UL approved surge protected power strip(s) mounted in the equipment rack with networking equipment with a total of 10 standard 110V, 20A, NEMA grounded receptacles, 6' power cord, and on/off switch. Panduit Part # CMRPSH20 OR EQUIVALENT.

## C. WALL MOUNTED DATA CABINET:

- 1. Wall mounted data cabinets shall be as described below. Model numbers are based on X-Mark/CDT.
- 2. Where indicated on the drawings, install distribution frame equipment in wall mounted cabinet in lieu of open bay relay rack.
- Cabinet shall be swing-out type with lock and latch, tinted lexan or glass front door.
  Cabinet shall have locking body, intake/exhaust grilles, and rear wall cable ports.
- 4. Cabinet finish shall be textured black vinyl paint.
- 5. Cabinet shall include 19 inch wide mounting rails EIA-19" compliant in front •and rear of the cabinet. Mounting channels shall be tapped 10-32, with all equipment mounting hardware provided. Provide 9511-1902 cable organizers with saddle rings at 12" on centers attached to rear rails.
- 6. Unless otherwise noted, cabinet shall be mounted with the top at the lay-in ceiling height
- 7. The wall mounted cabinet shall be 24 inches deep, roughly 22 inches wide.
- 8. Unless otherwise noted, wall mounted data cabinet. X-Mark/CDT catalog number XWM-24-24-GD-C/WXM-2419, which is 24 inches tall. Panduit Part #PZC12W OR EQUIVALENT.
- 9. Provide one 9413-0601 power strip per cabinet. Panduit Part #CMRPSH15 OR EQUIVALENT.

# 2.8 CABLE MANAGEMENT:

# A. Horizontal Cable Management Panels:

- 1. Construction: Black anodized aluminum and each provide five or more rings 1.65" X 4.2".
- 2. Provide each frame or cabinet with horizontal cable management panels as follows: Provide one cable management panel for each 24 port patch panel. Provide two cable management panels for each 48 port patch panel.
- 3. Horizontal cable management panels. Panduit Part # WMPFSE / WMPF1E OR EQUIVALENT.

# B. Vertical Cable Management Panels:

- 1. Construction: Double sided, 78" high. Front and rear compartments shall be 4" wide by 5" deep.
- 2. Provide each frame or cabinet with a 2 side mount vertical cable management panels.
- 3. Vertical cable management panels. Panduit Part# WMPV45E OR EQUIVALENT

# 2.9 LADDER RACK:

#### A. Material & Construction:

- 1. Aluminum or steel, suitable for indoor installation.
- 2. Black powder coated finish for protection against corrosion.
- 3. Ladder rack shall have tubular side rails 3/8" thick by 1-1/2" high with ½" x 1" welded rings spaced 9" on center. Unless otherwise noted, all ladder racks shall be 18" wide.

#### B. Accessories:

1. Furnish and install special accessories as required to protect, support, and install system. Accessories shall consist of but are not limited to; section splice plates, expansion plates, blind-end plates, specially designed ladder dropouts, barriers, etc.

# 2.10 GROUNDING:

- A. Comply with ANSI-J-STD-607-A.
- B. All telecommunications systems grounding and bonding conductors shall be connected with two bolt irreversible compression lugs.

# 2.11 NETWORK ELECTRONICS:

A. Network Electronics (switches) shall be furnished and installed by the owner. Contractor shall coordinate distribution rack layout prior to installation of patch panels.

## **PART 3 – EXECUTION**

### 3.1 ENTRANCE FACILITIES:

A. Coordinate backbone cabling with the protectors and demarcation point provided by communications service provider

# 3.2 INSTALLATION OF CABLES:

- A. Comply with NECA 1.
- B. General Requirements for Cabling:
  - 1. Comply with TIA/EIA-568-B.
  - 2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
  - 3. Install 110-style IDC termination hardware unless otherwise indicated.
  - 4. Terminate conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, cross-connects, and patch panels.
  - 5. Cables may not be spliced. Secure and support cables at intervals not exceeding 48 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
  - 6. Install lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.
  - 7. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM, "Cabling Termination Practices" Chapter. Install lacing bars and distribution spools.
  - 8. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
  - 9. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
  - 10. In the communications equipment room and above the ceiling at the outlet location, provide an additional 10-foot of cable slack. Cable slack shall be stored in a figure-eight configuration, not a bundled loop. If the additional slack cable would cause a horizontal run to exceed 295 ft in length, the amount of slack shall be reduced accordingly.
  - 11. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions.

# C. UTP Cable Installation:

- 1. Comply with TIA/EIA-568-B.2.
- 2. Do not untwist UTP cables more than 1/2 inch from the point of termination to maintain cable geometry.

# D. Optical Fiber Cable Installation:

- 1. Comply with TIA/EIA-568-B.3.
- 2. Fiber optic cable shall be installed in above ceiling locations using armored cable. Fiber optic cable indicated to be placed underground shall be installed in 2" non-metallic conduits where indicated or as noted. Equip all conduit terminations with bushings.

- 3. Contractor may elect to substitute an aluminum interlock armored plenum rated cable for soft jacketed optical fiber cable specified above. Where interlock armored optical fiber cable is installed, innerduct is not required. Interlock armor shall be bonded to telecommunications grounding box at each end.
- 4. Cable shall be terminated on connecting hardware that is rack or cabinet mounted.

# E. Open-Cable Installation:

- 1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
- 2. Provide J-Hooks, cable wrap supports, twist clips or ty-raps as required by cable bundle size at 4 foot maximum spacing to support cables from wall, structure or ceiling grid members between MDF/IDF and individual cable drops to outlets. Cable sag between supports shall not exceed 8".
- 3. Suspend UTP cable not in a wireway or pathway a minimum of 8 inches above ceilings by cable supports not more than 48 inches apart.
- 4. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.

#### F. Connector Installation:

- 1. Station jacks and patch panels shall be the last items installed to protect from dust and debris. They shall be "bagged" and installed after HVAC test and balance to prevent contamination.
- G. Group connecting hardware for cables into separate logical fields.
- H. Separation from EMI Sources:
  - 1. Comply with BICSI TDMM and TIA/EIA-569-A for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.
  - 2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment shall be a minimum of 5 inches.
  - 3. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inches.

#### 3.3 LABELS:

A. Labels shall be placed on the front of every face plate installed and on the 110 clips of every jack. Labels shall be attached so that they will adhere to the face plates, unless intentionally removed, for a period of at least 5-years. A description and sample of the labeling method to be provided during walkthrough.

#### 3.4 FIRESTOPPING:

- A. Comply with requirements in Division 07 Section "Penetration Firestopping."
- B. Comply with TIA/EIA-569-A, Annex A, "Firestopping."
- C. Comply with BICSI TDMM, "Firestopping Systems" Article.

#### 3.5 TESTS & INSPECTIONS:

- A. Perform tests and inspections.
- B. Tests and Inspections:
  - 1. Visually inspect UTP and optical fiber cable jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments, and inspect cabling connections for compliance with TIA/EIA-568-B.
  - 2. Visually confirm Category 6 marking of outlets, cover plates, outlet/connectors, end patch panels.
  - 3. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
  - 4. Optical Fiber Cable Tests:
    - a. Test instruments shall meet or exceed applicable requirements in TIA/EIA-568-B.1. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
    - b. Link End-to-End Attenuation Tests:
      - 1.) Horizontal and multimode backbone link measurements: Test at 850 or 1300 um in 1 direction according to TIA/EIA-526-14-A, Method B, One Reference Jumper.
      - 2.) Attenuation test results for backbone links shall be less than 2.0 dB. Attenuation test results shall be less than that calculated according to equation in TIA/EIA-568-B.1.

# 5. UTP Performance Tests:

- a. Test for each outlet. Perform the following tests according to TIA/EIA-568-B.1 and TIA/EIA-568-B.2:
  - 1.) Wire map.
  - 2.) Length (physical vs. electrical, and length requirements).
  - 3.) Insertion loss.
  - 4.) Near-end crosstalk (NEXT) loss.

- 5.) Power sum near-end crosstalk (PSNEXT) loss.
- 6.) Equal-level far-and crosstalk (ELFEXT).
- 7.) Power sum equal-level far-end crosstalk (PSELFEXT).
- 8.) Return loss.
- 9.) Propagation delay.
- 10.) Delay skew.
- 6. Optical Fiber Cable Performance Tests: Perform optical fiber end-to-end link tests according to TIA/EIA-568-B.1 and TIA/EIA-568-B.3.
- C. Document data for each measurement. Data for submittals shall be printed in a summary report that is formatted similar to Table 10.1 in BICSI TDMM.
- D. End-to-end cabling will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

### 3.6 DOCUMENTATION:

- A. Upon satisfactory completion of the system test, the Vendor's representative shall present to the owner complete documentation to contain but not be limited to the following:
  - 1. Printed test results.
  - 2. As built plans of all stations, cable numbers and wiring closets.
  - 3. Complete documentation on the cable system.
- B. Upon completion of the installation, the vendor shall provide to the Owner a signed written statement attesting that all system components were installed in accordance with these specifications and in accordance with wiring diagrams.
- C. Instructions and directions provided to the vendor by the manufacturer.

#### III. ORGANIZATION INFORMATION

The firm submitting a proposal response should respond to the following questionnaire. The responses to this questionnaire should be attached to the submittal.

# **Requested Responses**

- 1. Provide your organizations background including financial stability, size and years in business.
- 2. Provide a plan of action with regard to the proposed project in meeting deadlines and integration of new cabling with existing infrastructure.
- 3. Provide a list of references for projects completed by your organization of similar scope and size.

NOTE: The winning vendor will be required to submit FRN LINE ITEM BULK UPLOAD FILES (formerly known as item 21 Attachments) in official USAC format within three (3) business days of final contract being signed by the selected vendor and Bartow County School System.

# IV. CRITERIA FOR SELECTION

The following selection criteria will be used as the basis for the evaluation of proposals.

- A. Project Cost 30%
- B. Proposed Project Solution 20%
- C. Quality of Service from References 20%
- D. Completion Timeline 20%
- E. Projects of Similar Scope/Size 10%

# **Proposal Selection Criteria**

The award criteria that will be used for this RFP is broken out as follows using the rating system below:

**Total Score Rating Scale: 1-100** 

		Max	RFP
	Weight	Rating	Score
Project Cost:	30%	30	
Technical Merit:			
1 Commean Wernt.			
1. Proposed Project Solution	20%	20	
2. Quality of Service from References	20%	20	
3. Completion Timeline	20%	20	
4. Projects of Similar Scope/Size	10%	10	
Total Score:	100%	100	

1-20	Does Not Meet Expectations
21-40	Partially Meets Expectations
41-60	Meets Expectations
61-80	Exceeds Expectations
81-100	Greatly Exceeds Expectations

These criteria will be used by the award committee to determine the best overall company for this contract. The total cost of this proposal accounts for 30% of the entire award. The remaining 70% is comprised from information provided by the participating organization and reference sources.

