Request for Proposals E-Rate Category 2 Project

DeSoto County School District

2027 Horn Lake Middle School Fiber Pulls to include switches, access points and installation

RFP #442-HLMS-DCS27

Notice to Bidders

Notice is hereby given to interested bidders that the DeSoto County School District will receive written, sealed proposals until the hour of 9:00 a.m., January 15th, 2027.

Procurement Schedule

Public Notice to Newspaper and State Agency Bid Bank	December 3, 2026
Release of RFP and Form 470 Posting	December 3, 2026
Newspaper Run Dates	December 3 and December 10, 2026
Letter of Intent to Bid Due Date	December 17, 2026, at 10:45 am, CST
Pre-Bid Conference (Mandatory for Cabling Respondents)	December 17, 2026, at 10:45 am, CST Horn Lake Middle School 6125 Hurt Road Horn Lake, MS 38637
Deadline for Written Questions/Clarifications	January 4, 2027, at Noon, CST
DeSoto County Schools and Offices Closed for Christmas Break	**December 21, 2026, to January 1, 2027**
Sealed Response Submission Deadline	January 15, 2027, at 9:00 am, CST
Contract Deadline	February 5, 2027
Anticipated Board Approval of Award	February 18, 2027

E-Rate Category 2 Project

Scope of Services and Contract Period

The DeSoto County School District wishes to upgrade its E-Rate eligible category 2 cabling at Horn Lake Middle School. Pricing must remain in effect and must be honored until the service delivery deadline for the 2027 funding year, which is normally September 30th, 2028. If the service delivery deadline is extended for any reason, prices must be honored until the final C2 service delivery deadline for Funding Year 2027. Award of contract is based on receiving eRate funding approval in the 2027 funding year.

Pre-bid Conference

In order to be eligible to bid, all prospective bidders must attend the pre-bid conference. The pre-bid conference will be at Horn Lake Middle School, 6125 Hurt Road, Horn Lake, MS 38637, at 10:45 AM on December 17, 2026. The purpose of this meeting is to allow potential bidders an opportunity to present questions and obtain clarification of the requirements of the bid documents and to tour the school that will require new structured cabling. Because the DeSoto County School District considers the meeting to be critical to understanding the bid requirements for cabling, attendance is mandatory in order to qualify as a bidder for the RFP. Proposals from cabling vendors who do not attend the pre-bid conference WILL BE DISQUALIFIED.

Nothing discussed or information provided during the pre-bid conference shall be construed as changing the scope of this procurement as set forth in this RFP. Anything discussed or any information provided during the pre-bid conference shall be interpreted in light of this RFP; if there is any conflict or perceived conflict between this RFP and information provided or statements made during the pre-bid conference, this RFP shall govern.

At the time of the pre-bid conference, all bidders will be expected to complete and turn in the "Site Visit Information Form" furnished in this document.

Background

The DeSoto County School District is a public school district located in DeSoto County, Mississippi. The district serves approximately 35,647 students. The district has approximately 4,635 employees, 2,462 in which are Certified Teaching Positions. The District is the state's largest school district and has forty-four (44) schools, including one (1) Alternative School, two (2) Career Tech Schools, two (2) Primary Schools, seventeen (17) Elementary Schools, five (5) Intermediate Schools, eight (8) Middle Schools, eight (8) High Schools and one (1) Transportation Department.

Intent to Bid

DeSoto County School Districts requests that all vendors interested in submitting a proposal complete the Letter of Intent to Bid that is provided at the end of this document. The Letter of Intent to Bid should be emailed to DeSoto County Schools Purchasing Department at **DCS.Purchasing@dcsms.org** or hand delivered prior to December 17, 2026, 10:45 am, CST. If an email reply is not received within 24 hours, it is the responsibility of the respondent to call Jenifer Hale at 662-449-7168 to confirm receipt of your Letter of Intent to Bid. An email will then be sent confirming receipt.

Submitting a Letter of Intent to Bid does not commit you to bidding. The Letter of Intent to Bid is not a requirement to submit a proposal, ***however the pre-bid conference is a requirement to bid on the RFP***. Submitting the Letter of Intent to Bid will ensure that you receive all vendor clarification questions and answers if applicable after the vendor meeting.

In the case of inclement weather or other unforeseen circumstances, all vendors who have submitted the Letter of Intent to Bid will be notified of a change to the pre-bid conference date or time.

General Terms and Conditions

The specifications herein are provided to convey the intent of the District and do not indicate every cable or component necessary for the complete system that the proposing vendor shall provide. Technical specifications of all equipment and necessary components proposed should be provided with the bid. Proposals that deviate from these specifications will be considered, provided the vendor indicates why its proposed alternative specifications will meet the needs and intent of the District.

Prices quoted shall be an all-inclusive solution including all applicable taxes, shipping costs, installation of cabling, any necessary cabling, training, technical support and trash removal, and represent complete installation and integration with the existing network where necessary. All equipment included in vendor's proposal must be new equipment purchased from an authorized reseller. No grey market, third party, or used equipment will be considered with limited exceptions for switch optics and stacking cables.

Omissions in the proposal of any provision described herein shall not be construed as to relieve the vendor of any responsibility or obligation to the complete and satisfactory delivery, operation, and support of any services. Bidders shall make all investigations necessary to thoroughly inform themselves regarding the delivery of services as required by the solicitation. No plea of ignorance by the Bidder of conditions that exist or that may hereafter exist as a result of failure to fulfill the requirements of the contract documents will be accepted as the basis for varying from the requirements of the District or the compensation to the Bidder

The terms and conditions of the Request for Proposal, the resulting contract(s) or activities based upon this Request for Proposal shall be construed in accordance with the laws of DeSoto County, Mississippi

Bidders are required to state exactly what they intend to furnish to the District via this solicitation and must indicate any variances to the terms, conditions or required services, of this Bid, no matter how slight. Bidders are advised that the District endorses the participation and utilization of local contractors in its purchasing efforts. Accordingly, bid proposals of equal price and quality will be awarded to Bidders residing within the geographic area when available. This policy does not prohibit Bidders who reside outside the area from participating in the purchasing process as long as these Bidders can offer services at competitive pricing.

Clarifications

Should the vendor have questions or find discrepancies in, or omissions from this RFP, or be in doubt to its meaning, the vendor shall at once notify DeSoto County School District. All questions should be addressed to DeSoto County Purchasing Department and sent via email to **DCS.Purchasing@dcsms.org** on or before January 4, 2027, 12:00 pm CST. The District shall not be responsible for verbal interpretations offered by employees of the District.

If a response is not received within 24 hours, it is the responsibility of the respondent to call Jenifer Hale at 662-449-7168 to confirm receipt of the questions. All questions and answers will be emailed to all vendors attending the vendor meeting and submitting a Letter of Intent to Bid.

Bid Preparation and Submission Instructions

This document is a Request for Proposal (RFP). It differs from a Request for Quote or Bid in that the District is seeking a solution as described herein, not a bid meeting firm specifications for the lowest price. Competitive Sealed Proposals will be evaluated based upon criteria formulated around the most important features of the service, of which quality, references, and availability or capability, may be overriding factors, and price may not be determinative in the issuance of a contract or award. The Proposal evaluation criteria should be viewed as standards, which measure how well a Bidder's approach meets the desired requirements and needs of the District.

Proposals will be received by the DeSoto County School Board of Education, 5 East South Street, Hernando, MS 38632 or electronically at www.centralbidding.com, at the date and time specified in the Procurement Schedule. All times specified in this RFP are Central Standard Time (CST). All proposals must be received at the Board of Education or electronically at www.centralbidding.com on or before the date and time specified in the Procurement Schedule. Neither dating of the proposal, nor placing it in the mail by this date and time will meet legal requirements. The DeSoto County School Board of Education reserves the right to reject any and/or all proposals received and to waive any and all informalities.

If Bidder is hand delivering or mailing Proposals, it must be submitted in a sealed 8"x10" or larger envelope. Please label the outside envelope or shipping box as follows or the bid may be rejected:

Attn: Jenifer Hale
"2027 E-Rate HLMS Fiber pulls to include switches, access points and installation"
RFP #442-HLMS-DCS27
Response Due: January 15, 2027, 9:00 a.m.
Name of Company submitting proposal

If Bidder will be submitting proposal electronically, please submit to www.centralbidding.com. For any questions relating to the electronic proposal submission process, please contact Central Bidding at 225-810-4814.

Any proposal received after the opening date or time shall be refused and marked "Late Proposal" and returned to the bidder unopened. For this purpose, the official time for the proposal opening shall be

based upon the time as indicated by the Purchasing Department. It is solely the responsibility of the Bidder to ensure Proposals are received prior to the opening date and time.

It is the sole responsibility of the respondents to ensure their responses arrive in a timely manner. Late arrivals will be rejected. The DeSoto County School District is not responsible for delays of any commercial carrier or delays incurred by the respondents. Oral, telephone, or emailed bids will not be considered. Signatures on the proposals must be in longhand and executed by a principal duly authorized by the vendor to make a contract.

PLEASE NOTE: Common Carriers, UPS, and FedEx, in the Hernando, Mississippi area generally do not deliver overnight packages on time. The DeSoto County School District will not be responsible for, nor will it accept bid responses delivered after the deadline.

The Proposal must be typed or legibly printed in ink, on the Proposal Form supplied; use of pencil or erasable ink is not permitted.

If the District's Superintendents Office is closed for any reason, including but not limited to inclement weather, an emergency situation or any other act of nature, for which closure prevents the opening of RFPs at the originally advertised date and time, all RFPs received shall be publicly opened and read aloud on the next business day that the District's Superintendents Office shall be open for business at the previously advertised time. The new date and time of bid opening, as determined in accordance with this paragraph, shall not be advertised.

Bid Proposals must contain the signature of an authorized agent of the Bidder. If the Bidder's authorized agent fails to sign the proposal, it shall be considered a non-responsive offer and shall not be considered.

Proposals should be as thorough and detailed as possible so that the District may properly evaluate the Bidder's capabilities to provide the required products and services.

The Bidder must include all information and supplemental documentation required in conjunction with this proposal. If the Bidder fails to supply any required information or documents, its proposal shall be considered non-responsive and shall not be considered.

Information packages should not contain promotional or display materials unless specifically required in the Scope of Services section. Informational packages must address the requirements as explained to aid evaluation. All questions posed by the RFP must be answered clearly and concisely.

This solicitation does not commit the District to pay any cost incurred by the Bidder or any other party in preparation and/or submission of proposals or in making necessary studies or designs for the preparation thereof, nor is the District obligated to procure or contract for such product or services.

The District reserves the right to wave any and all informalities in information packages if such waiver does not substantially change the offer or provide a competitive advantage to any Bidder.

All paper bids submitted for structured cabling where said bid is in excess of $75,000 shall contain on the outside of the envelope the contractors current Certificate of Responsibility Number.

If structured cabling costs in excess of $75,000 are submitted electronically, an attachment must be included with the electronic bid submittal indicating the Certificate of Responsibility.

Bidders must submit one (1) original and two (2) copies of their full response along with two (2) electronic copies in the form of USB drive or flash drive if submitting a Written Sealed Proposal.

The first page in the bid submission packet must be the Bid Worksheet. The worksheet will show the vendor's total cost for eligible products and services. In additional to the Bid Worksheet, Vendors should provide quotes submitted on the vendor's standard quote form showing line-item pricing. Failure to comply may result in bid disqualification.

The Bidder, by affixing its signature to the Bid Worksheet certifies that its Proposal is made without previous understanding, agreement, or connection either with any persons, forms, or corporations offering a bid proposal for the same services, or with the District. The Bidder also certifies their Proposal is in all respects fair, without inside control, collusion, fraud, or otherwise illegal action.

Bids must include the following:

The "Bid Worksheet" completed and signed by the bidder. Note, the "Bid Worksheet" is a total for all E-Rate eligible products and services.

(THE BID WORKSHEET MUST BE THE FIRST PAGE IN THE BID SUBMISSION DOCUMENTATION)

Required Documents as listed in this RFP.

Conflicts of Interest

It shall be understood and agreed that Bid Proposals submitted are offered independently of any other proposals.

In the event that an independent contractor or firm in conjunction with the District developed this RFP, neither the contractor, nor its principals or subsidiaries, shall be allowed to submit a proposal for this solicitation.

Modifications or Withdrawals of Bid Proposal

Proposals may only be modified in the form of a written notice on company letterhead and must be received prior to the time and date set for the bid opening. Each modification submitted to the District's Purchasing Department must have the Bidder's name and return address and the applicable proposal number and title of the bid clearly marked on the face of the envelope. If more than one modification is submitted, the modification bearing the latest date of receipt by the District's Purchasing Department will be considered the valid modification. All requests for bid modifications must be signed by a duly authorized agent of the submitting company. Telephone or email modifications or withdrawals will not be accepted. No changes shall be allowed after the Proposal are publicly opened. The DeSoto County School District shall not be responsible for any errors or omissions.

Bids may be withdrawn prior to the time and date set for the bid opening. Such requests must be made in writing on company letterhead and signed by a duly authorized agent of the submitting company. If a Bidder modifies or withdraws a Proposal, all documents shall remain the property of the District.

Evaluation Methodology

The DeSoto County School District Board will award a contract based on the vendor submission that best meets the needs of the DeSoto County School District with regard to the current Technology Plan, RFP specifications, and not necessarily the lowest price even though price will be the primary factor. The following factors may be considered when evaluating responses. The District shall be the sole judge of these factors.

- Price – 50%
- Technical Specifications – 10%
- Technical Certifications of Vendor Staff – 10%
- Number of Service Staff within close proximity to Hernando, Mississippi- 5%
- Vendor response time – 5%
- Experience with Vendor (includes Vendor-supplied customer references and recent (7 years) District experience with Vendor (if any); may also include any publicly available reports or testimonials regarding recent Vendor performance) – 20%

Vendor Qualifications

The DeSoto County School District may make such investigations as deemed necessary to determine the ability of the bidder or subcontractors or suppliers to perform the work, and the bidder shall furnish to the DeSoto County School District all such information and data for this purpose as the DeSoto County School District may request. The DeSoto County School District reserves the right to reject any bid if the evidence submitted by or investigation of such Bidder fails to satisfy the DeSoto County School District that such bidder is properly qualified to carry out the obligations of the contract and/or to complete the work contemplated therein within the time required.

The bidder is specifically advised that any person, firm or other party to whom it proposes to award a subcontract or purchase order under this contract must be acceptable to the DeSoto County School District.

The successful vendor (contractor) must have or be certified with the following:

- Be able to supply all products and services
- Be an authorized dealer in the State of Mississippi for all products
- Have current liability insurance and workers compensation insurance and submit certificates of insurance with proposal
- Provide documentation of the vendor's employee certifications for cabling
- Participate in the mandatory pre-bid conference. Any cabling bid submitted by a vendor who does not attend the mandatory pre-bid conference will not be considered. There will be no exceptions.

- Provide an E-Rate SPIN
- Provide at least 3 references for projects of the same scope and size

Disqualification of Bidder

The DeSoto County School District reserves the right to award to other than the lowest bidder when, in the judgment of the District administration, it is in the best interest of the District to do so. A Bidder may be disqualified for any substantial non-compliance with the terms of this RFP, including:

1. The bid has not been properly executed by signature of an authorized representative of the Bidder
2. Bidder's failure to attend and complete the mandatory pre-bid conference for cabling.
3. The bid proposal does not include documents including, but not limited to, certificates, licenses, information or specification sheets, bonds, and/or samples, which are required for submission with the bid proposal in conjunction with the General Terms and Conditions or Scope of Services
4. The Bidder misstates or conceals any material fact in their proposal
5. The Bidder's proposal does not strictly conform to the law or requirement of the RFP

A Bidder may also be disqualified for the following reasons:

1. A proposal may not be accepted from, nor any contract awarded to, any person or firm, which has pending litigation against the District on the date and time that the bid opens
2. Bidder having defaulted on a previous contract
3. A proposal may not be accepted from, nor any contract awarded to, any person or firm, which has failed to perform faithfully any previous contract with the District, local, state, or federal governmental agency for a minimum period of one (1) year after the previous contract, was terminated for cause
4. A proposal may not be accepted from, nor any contract be awarded to, any person or firm which is in arrears to the District upon any debt or contract or which is a defaulter as surety or otherwise upon any obligation to the District
5. A proposal may be rejected if the Bidder is currently under suspension or debarment by any local, state, or federal government, and if the Bidder cannot so certify, then it shall submit along with the proposal a written explanation of why it cannot make such a certification

The DeSoto County School District will strictly adhere to the rules and regulations of the E-Rate program and State of Mississippi Procurement Law when evaluating bid responses.

Other Considerations

The DeSoto County School District welcomes proposals that may not meet these specifications exactly. However, such proposals must explain in detail how the alternative proposal will meet the general specifications of this RFP and why the District should consider such an alternative. If the explanation and reasoning satisfies both the District Administration and members of the IT department of the DeSoto County School District, then the proposal will be considered as if it meets specifications.

Due to the fast pace of technology, equipment and new technology is constantly emerging. Since the earliest the DeSoto County School District expects to receive funding for their Category 2 project is August 1, 2027, and because many things can change with technology and within the School District, the DeSoto

County School District will require that the awarded cabling vendor or vendors complete a new walkthrough of all facilities after funding notification to reassess the technologies quoted and the schools' needs. If technology and needs have changed from the time of acceptance of the winning proposal, Service Provider agrees to work with the School District to submit a service substitution to USAC for updated equipment and services.

Because items quoted may no longer be available at the time of funding due to supply chain issues or discontinuation or end of life of equipment quoted, the DeSoto County School District will require that the awarded vendor or vendors provide a comparable or equivalent replacement at the same margin/markup quoted in this response. If equipment is unavailable or has changed from the time of acceptance of the winning proposal, Service Provider agrees to work with the School District to submit a service substitution to USAC for updated equipment and services.

Current Equipment

- All current equipment will remain the property of the DeSoto County School District regardless of its use or non-use in the successful proposal.

Current Network Bandwidth and WAN Configuration

The DeSoto County School District is currently using RFP5000 Circuits and RFP5000 Internet.

E-Rate

This proposal request is for services to be subsidized under the Universal Services E-Rate Program for Schools and Libraries. No purchase order will be issued, no installation will occur, and no services will be provided until approval of the form 471 application AND approval by DeSoto County School District for the District's non-E-Rate portion. If District funds are not available for the District portion, all contracts will become null and void and the project will not be implemented.

To be eligible for payment, all labor covered under successful Bidder's invoice must be completed and accepted by the District. The awarded bidder shall provide accurate, legible, and timely documentation, such as invoices, credits, and statements as requested by the District. The District will remit payment to successful Bidder upon completion of the project. The awarded bidder agrees to receiving payment within forty-five (45) days from date of receipt of a properly submitted invoice, or within forty-five (45) days after inspection and approval of the goods and/or services by DeSoto County Schools, whichever is later. In the event of a bona fide dispute, the awarded bidder agrees that DeSoto County Schools shall pay only the amount not in dispute, as per Miss. Code Ann. 31-7-305.

In no event shall any interest penalty or late fee accrue when payment is delayed because of disagreement between the District and successful Bidder regarding quantity, quality, time of delivery, or other noncompliance with the contract requirements for any product or service or the accuracy or correctness of any invoice.

This project will be subsidized by the E-Rate program and is therefore subject to funding availability and contingent upon E-Rate funding. Due to the extended period of time, it could take for the District to

receive a funding commitment from USAC for this project and possible unforeseen financial circumstances, any contract arising from this RFP will also be contingent upon the District's availability of funds at the time of funding for the non-E-Rate portion of the project. The District also reserves the right to increase or decrease quantities requested in this RFP to adhere to the District's needs at the time of funding.

The District reserves the right to purchase products and services from the winning bid response during the term of the subsequent contract using alternate funding sources if alternative funding becomes available during the contract term.

The DeSoto County School District requires that the winning bidder provide the USAC Service Provider Invoice (SPI) method for invoicing.

Termination or Cancellation

In order to protect the vested interests of the District, and to ensure the efficient utilization of funds, the successful Bidder shall comply with all obligations contained in the General Terms and Conditions and the Scope of Services. With respect to these obligations, the District will report any non-compliance issues to the successful Bidder for corrective action. Continued non-compliance by the successful Bidder shall be the District's justification for placing the Bidder's contract on probation status or termination.

If the District, in whole or in part, is not satisfied with the performance of services supplied and agreed to with this RFP, it may terminate the contract/agreement after giving specific reason(s) by written notice to successful Bidder and offering opportunity for successful Bidder to correct specific reason(s) for dissatisfaction within a thirty (30) day period, date to be specified by the District.

In the event that the successful Bidder defaults on its contract or the contract is terminated for cause due to performance, the District reserves the right to enter into contract for the services with the next lowest and best Bidder associated with this RFP for the remaining term of the terminated/defaulted contract.

The contract/agreement entered into on behalf of this RFP shall be governed by and construed in accordance with the laws of the State of Mississippi. The venue for resolution of any dispute shall be DeSoto County, Mississippi. The successful Bidder expressly agrees that under no circumstances shall the District be obligated to pay attorney fees, or the cost associated with any legal action initiated by the successful Bidder.

The District reserves the right to retract any part of these services without any obligation or penalty based upon availability of funds.

Right to Reject

The DeSoto County School District reserves the right to accept or reject all proposals or sections thereof when the rejection is in the best interest of the District. The DeSoto County School District reserves the right to award without further discussion. Therefore, responses should be submitted initially with the most favorable terms the vendor proposes. The DeSoto County School District reserves the right to reject the proposal of a vendor who has previously failed to perform properly or completed on time contracts and to reject the proposal of any vendor who in the opinion of the DeSoto County School District, is not in a position to adequately perform the contract. The DeSoto County School District reserves the right to

reject any and all proposals, any part or parts of a proposal, waive any technicalities/informalities, increase or reduce quantities, make modifications or specifications, and award any or the entire contract in a manner that is in the best interest of the DeSoto County School District. The District reserves the right to Re-advertise this solicitation, postpone or cancel the bid process for this solicitation and determine the criteria and process whereby proposals are evaluated and awarded. Contracts will be awarded for each part of the RFP to the vendor or vendors submitting the proposal determined to be in the best interests of the DeSoto County School District.

Selection Process

The following criteria may be used to assist in selecting the successful contractor:

1. Completeness: Each response will be reviewed prior to the selection process for completeness and adherence to format
2. Evaluation Process: The District will rely on its staff to formally evaluate each complete proposal. The evaluation process will objectively grade the proposal on their merit and responsiveness according to the evaluation matrix found in Exhibit A. The District reserves the right however, to modify or not utilize this matrix if it is not deemed in the District's best interest

Preliminary evaluations will be performed by District personnel to determine if all of the mandatory requirements have been addressed. Bidders must be able to demonstrate their ability to perform the required services by supplying all requested references, technical certifications and documentation requested in this RFP as well as by completing the Bidder Qualification Statement at the end of this RFP. Failure to satisfactorily comply with these requirements may result in the proposal being rejected.

Award of Contract

All RFPs and related documents submitted to the District by Bidders are governed under the laws of the State of Mississippi.

The General Terms and Conditions, the Scope of Services, the Bidder's proposal, written letters, addenda, and the Purchase Order are collectively an integral part of the contract between the District and the successful Bidder. The successful Bidder will be asked to enter into a contract with the District after the Board of Director's approval which would conclude this process.

The District shall select the Bidder which, in its opinion, has made the best proposal, (not necessarily the lowest cost provider) and shall award the contract to that Bidder, which is deemed in the best interest of the District. (sample contract is attached)

Indemnification

The successful Bidder shall assume the entire responsibility and liability to indemnify the DeSoto County School District, its elected and appointed officials, employees, volunteers, and others working on behalf of the District. To the fullest extent permitted by law, the successful Bidder agrees to defend, pay on behalf of, indemnify, and hold harmless the District against any and all claims, demands, suits, damages or losses, together with any and all outlay and expense connected therewith, including but not limited to attorney's fees and court costs, that may be asserted or claimed against, recovered from or suffered by

the District by reason of injury or loss, including but not limited to, personal injury, including bodily injury or death, property damage, including loss of use thereof, and economic damages arising out of or in any way connected or associated with any work and/or activities performed by the successful Bidder pursuant to the provisions of this Agreement. The successful Bidder obligation to indemnify the District contained in this Agreement is not limited by the amount or type of damages, compensation or benefits payable under any worker's compensation acts, disability benefit acts, or other employee benefit acts.

The District shall not be liable or in any way responsible for any injury, damage, liability, claim, loss, or expense incurred by the successful Bidder, its officers, employees, subcontractors, and other affiliated with the successful Bidder, arising out of or in any way connected or associated with any work and/or activities performed by the Bidder pursuant to the provisions of this Agreement, except for and only to the extent caused by the negligence of the District. The successful Bidder expressly assumes full responsibility for any and all damages to the District Property arising out of or in any way connected or associated with any work and/or activities performed by the successful Bidder pursuant to the provisions of this proposal including, but not limited to, the activities of the Bidder, its officers, employees, subcontractors, and others affiliated with the Bidder. The successful Bidder shall ensure that its activities on the District Premises will be performed and supervised by adequately trained and qualified personnel and the Bidder will observe, and cause its officers, employees, subcontractors, and other affiliated with the Bidder to observe all applicable safety rules.

Award Requirements

Successful Bidder shall be familiar and comply with all local, state, and federal directives, ordinances, rules, orders, and laws as applicable to, and affected by, this contract including but not limited to Equal Employment Opportunity Commission (EEOC), the Occupational Safety, Health Act (OSHA), and Title I and Title II of the Americans with Disabilities Act (ADA) regulations. No Bidder shall be excluded from consideration for award in conjunction with this solicitation on the basis of race, color, creed, national origination, handicap, or sex or be subjected to discrimination under any contractual award administered by the District.

The Bidder shall not assign, transfer, convey, sublet, or otherwise dispose of this contract, including any or all of its right, title or interest therein, or its power to execute such contract to any person, company, or corporation without prior written consent of the District.

All employees of the Bidder shall be considered to be, at all times, employees of the Bidder under its sole direction and not an employee or agent of the District. The successful Bidder shall supply competent and physically capable employees in a number that is consistent with the service requirements. Where required, employees shall be licensed and accredited. The District may require the successful Bidder to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on District property is not in the best interest of the District.

In accordance with the District's policy regarding the use of tobacco and alcohol products and/or illegal substances, no employee of the successful Bidder shall be permitted to use these substances when performing on District property.

The successful Bidder shall certify that all employees employed in support of this contract who have direct contact with students, which is defined to mean being in the presence of student during regular school hours or during school-sponsored activities, have not been convicted of (i) a felony; (ii) any offense

involving the sexual molestation, physical or sexual abuse or rape of a child; or (iii) a crime of moral turpitude.

The Bidder will be responsible for the cost of all the equipment, accessories, labor, materials in order to work as detailed in the Scope of Services.

Insurance (If Applicable)

Providing the District, if awarded a contract, a Certificate of Liability Insurance naming the DeSoto County Schools as additional insured. The issuing insurer must provide 30 days written notice to the District of the expiration of the insurance. The specific minimum requirements are:

Workers Compensation Insurance: Statutory Workers Compensation statutory coverage as required by the laws of the jurisdiction in which the services are performed and includes alternate employer endorsement with a minimum of $500,000 per occurrence.

Commercial General Liability Insurance: Commercial General Liability Insurance with a $1,000,000 combined single limit per occurrence and includes contractual liability and personal injury coverage.

Additional Insured & Certificate Holder: DeSoto County Schools will need to be named as additional insured on General Liability Insurance and as the Certificate Holder.

Commercial Automobile Liability: Commercial Automobile Liability Insurance with a $2,000,000 combined single limit on vehicles owned, leased, or rented by Respondent performing under this agreement.

Umbrella Liability Insurance: Umbrella Liability Insurance to be used in excess of the liability policies with $15,000,000 combined single limit per occurrence.

Commercial Blanket Bond: A Commercial Blanket Bond with limits

$ 3,000,000 in the aggregate per occurrence and includes coverage of employee dishonesty to the extent Respondent fails in its responsibilities and customer protection.

****Such insurance or renewals or replacements thereof shall remain in force during the term of the contract and any extensions****

Excepting sole responsibility for compliance with all applicable laws relating to its employees, such as wage and hour laws, safety and health requirements, and collective bargaining laws

Maintaining strict confidentiality in accordance with all applicable laws, regulations, and procedures of all records which the Agency or substitute teacher/support staff personnel provided by the Agency may come in contact with or be privy to in the course of providing services

Including all labor, travel, and miscellaneous expenses necessary to complete substitute services in per Hourly/Daily rate (No additional fees may be charged)

Conduct

The successful Bidder and Bidder's employees working on DeSoto County School District premises shall adhere to proper conduct at all times. Proper conduct is meant to include, but not limited to the following:

1. There shall be no weapons, drugs, or alcohol on the premises
2. No smoking (including electronic cigarettes) on the premises
3. No exterior doors are left opened or unlocked at any time
4. The successful Bidder and substitute provided by the respondent must adhere to any and all security standards, requirements and/or regulations of each school and school district
5. The successful Bidder and substitute provided by the respondent shall be polite and courteous at all times

Confidentiality

The successful Bidder could possibly have access to confidential information. Confidential information includes all information of the District relating to the District's existing or potential non-public business strategies and existing or proposed bids. In addition, confidential information includes all personal identification and information of District management, employees, and students. At no time will any confidential information be disclosed to any one person including but not limited to legal or financial advisors and or immediate family. The successful Bidder agrees that all such information is confidential and that the agency will not use or disclose such information to any outside person or entity for any reason whatsoever, without the District's express written consent.

Scope of Work

All data designations are marked with wing letter, room number and sequential digit for the number of drops for that location, or similar distinguishable markings. The data circuit is provided via one Siemon Cat 6A UTP, or similar, to correspond to the numeric value at each outlet. Horizontal data cables shall be terminated on rack-mounted 24 port patch panels. Data cables will be punched into rack-mounted patch panel in numeric sequence according to room number and drop number. Horizontal data circuits shall be connected to LAN electronics within each Telecommunications Room (TR). See BOM for cable colors. All cabling located within walls and or ceilings will be CMP rated.

Where applicable an XGLO compliant 12 Strand single mode fiber optic backbone cable shall be employed between the data Main Cross-Connect (MC) and each TR for data connectivity. Within the data MC and the each TR, backbone fiber strands shall be terminated and housed in rack-mount fiber optic enclosures. See BOM for types of products.

Horizontal Cabling - Copper

In addition to meeting the 500 MHz category 6A specifications outlined in ANSI/TIA/EIA-568-B.2-10, the requirements in this section must also be met for all applicable balanced twisted-pair products as listed below.

Outlets

All 500 MHz category 6A information outlets designed for termination of 4-pair balanced twisted-pair category 6A copper cable must possess the following characteristics at the minimum:

- Exceed category 6A component compliance through the frequency range of 1 to 250MHz with usable bandwidth to 500MHz
- Universal design allows the same outlet to be mounted in flat or angled orientation.
- Have a lacing module that offers zero-cross termination, which eliminates pair crossing
- Be backwards compatible to allow lower performing categories of cables or connecting hardware to operate to their full capacity
- Support industry standards for T568A or T568B wiring options on each individual outlet
- Allow installation from the front or rear of the faceplate, and allow for the jack to pass through the faceplate without re-termination
- Provide color-coded, snap-in icons available for circuit identification
- Allow for a minimum of 5 terminations without signal degradation below standards compliance limits
- Be constructed of high impact, glass reinforced nylon.
- Have, as an option, an outlet, which can be mounted into an IEC 60603-7 compliant opening (keystone)
- Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards

Faceplates

All faceplates installed, as part of this specification shall have these minimum features listed below:

- Be applicable to both fiber and copper applications.
- Be available in 1-, 2-, 3-, 4- and 6-port single-gang configurations or 6-, 8- and 12-port double-gang configurations.
- Allow modules to be removed from the front of the faceplate.
- Allow UTP modules to pass through faceplates even after termination.
- Have write on designation labels for circuit identification together with a clear plastic cover.
- Feature easily removable designation label covers which can be removed without use of tools.
- Be available in single-gang and double-gang configurations.
- Have as a minimum the standard colors of black, white, gray, ivory and light ivory.
- Have stainless steel versions available with designation label option.
- Have surface mount boxes and standoff rings available for both single and double gang faceplates.
- Be manufactured using UV resistant, high impact thermoplastic to prevent color fading and provide additional durability.
- Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards.

Patch cords

All 10G 6A modular equipment cords shall conform to the following minimum performance standards:

- Be augmented category 6 component compliant out to 250MHz with operational bandwidth to 500MHz
- Be factory assembled and 100% transmission tested with laboratory grade network analyzers for proper performance up to 500MHz
- Be backwards compatible with lower performing categories
- Be equipped with identical modular 8-position plugs on both ends, wired straight through with standards compliant wiring
- Have a metal plug housing to provide durability and resistance to damage.
- Have a PCB based plug to enable high levels of performance.
- Have fixed position front contacts to ensure plug quality and consistent mating with outlets.
- Have internal rear contacts to maintain cable pair symmetry to the point of termination.
- Have a boot that features an ultra slim design for high density applications and snag free operation.
- Use modular plugs, which exceed FCC CFR 47 part 68 subpart F and IEC 60603-7 specifications, and have 50 micro-inches minimum of gold plating over nickel contacts
- Have a dual jack construction for excellent alien crosstalk performance.
- Be available in standard lengths of 3, 5, 7, 10, 15 and 20 ft.
- Have optional colored clips to allow field color coding even when cords are already installed. Available in Black, White, Red, Gray, Yellow, Blue, Green and Orange
- Be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards

Cable

All 10G 6A cable shall conform to the following minimum performance standards:

- Have a round lead free cable jacket and be of type CMP
- Have a construction comprised of 4-pairs of 23AWG solid bare copper conductors
- Be available in 1000’ reels
- Provide the following 4- connector guaranteed channel performance:

Frequency (MHz)	Insertion Loss (dB)	NEXT Loss (dB)	PS NEXT Loss (dB)	ACR (dB)	PSACR (dB)	ACRF (dB)	PS ACR-F (dB)	Return Loss (dB)	Propagation Delay (ns)
1.0	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	570
4.0	3.8	65.3	63.3	61.5	59.5	55.7	52.7	23.0	552
10.0	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	545
16.0	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	543
20.0	8.4	54.8	52.8	46.4	44.4	41.7	38.7	25.0	542
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	540
62.5	15.0	47.4	45.4	32.4	30.4	31.8	28.8	21.5	539
100.0	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	538
200.0	27.6	39.8	37.8	12.2	10.2	21.7	18.7	18.0	537
250.0	31.1	38.3	36.3	7.3	5.3	19.8	16.8	17.3	536
300.0	34.3	37.1	35.1	2.9	0.9	18.2	15.2	16.8	536
350.0	37.2	36.1	34.1	-1.1	-3.1	16.9	13.9	16.3	535
400.0	40.1	35.3	33.3	-4.8	-6.8	15.7	12.7	15.9	535
500.0	45.3	33.8	31.8	-11.4	-13.4	13.8	10.8	15.2	536
625.0*	51.2	32.4	30.4	-18.8	-20.8	11.8	8.8	14.5	535
750.0*	56.7	31.2	29.2	-25.5	-27.5	10.3	7.3	14.0	535

* Performance for frequencies beyond TIA and ISO requirements are for information only

Meet the following electrical specifications:

DC Resistance	**<9.38 Ω/100m**
DC Resistance Unbalanced	**3%**

Mutual Capacitance	**5.8 nF/100m**
Capacitance Unbalanced	**<330 pF/100m**
Characteristic Impedance (ohms)	**1 – 100MHz: 100 ± 15%** **100 - 750MHz: 100 ± 22%**
NVP	**CMP - 67% CMR - 67%**
TCL	**30-10Log(f/100)dB**
Delay Skew (ns)	**≤ 45/100m**

Backbone Cabling

Cables allowed for use in the backbone include: singlemode optical fiber cables. The cable shall support voice, data and imaging applications. The bending radius and pulling strength requirements of all backbone cables shall be observed during handling and installation.

Singlemode Optical Fiber Cable

Singlemode optical fiber cable shall be used for 1st and 2nd Level Backbone applications only.

- Have a round lead free cable jacket available in both OFNR and OFNP constructions.
- Shall contain a Rip Cord applied under the cable jacket for easy cable jacket removal
- Shall contain a lightweight Central Strength member located in the middle of the fiber bundles.
- Shall contain both color-coded buffered fibers as well as color-coded buffer tubes.
- Cables shall have length markings in 2 ft. increments
- Fiber will be available in strand counts of 2, 4, 6, 8, 12, 16, 24, 36, 48, 72, 96 and 144.
- Shall meet these minimum performance parameters:

Minimum Performance Parameters for Qualified Cables							
Fiber	**Cable Type**	**Maximum Attenuation (dB/km)**		**Zero dispersion**		**Index of Refraction**	
		1310 nm	**1550 nm**	**Wavelength (nm)**	**Slope (nm-km)**	**1310 nm**	**1550 nm**
Singlemode	Indoor	0.50	0.50	1300-1324	<0.093	1.467	1.468

- Ethernet Applications Supported

Application	Distance (m)
10GBASE-L (1310 nm)	8,000
10GBASE-E (1550 nm)	30,000
10G Fibre Channel (Serial-1310 nm)	10,000
10G Fibre Channel (WDM-1310 nm)	10,000
1000BASE-LX (1300 nm)	5,000
Fibre Channel 266/1062 (1300 nm)	10,000
ATM 52/155/622 (1300 nm)	15,000

- Physical Characteristics:

Mode and Fiber Type	Core Size (Microns)	Cladding Size (Microns)	Coating Size (Microns)	Buffer Size (Microns)	Core Cladding Concentricity (Microns)
Singlemode	8.3 ± 1.0	125 ± 1.0	245 ± 10	900 ± 50	≤ 0.8

Interbuilding Cabling

When a distribution system encompasses more than one building, the components that provide the link between buildings constitute the Interbuilding Backbone Subsystem. This subsystem includes the backbone transmission media, associated connecting hardware terminating this media, and electrical protection devices to mitigate harmful voltages when the media is exposed to lightning and/or high voltage power surges that pass through the building cable. It is normally a first-level backbone cable beginning at the main cross-connect in the equipment room of the hub building and extending to the intermediate cross-connect in the equipment room of a satellite building.

Equipment Rooms

Patch panels

All 10G 6A-termination panels shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements.

- Be made of lightweight, high strength steel with durable black finish in 24 & 48 port 1U configurations
- Panel outlets feature a patented angled IDC contact pattern to exploit the widest outlet cross-section to minimize alien crosstalk.
- Have a quick release lever that allows individual outlets to be easily removed even in tight installations.
- Have port identification numbers on the front of the panel
- Accommodate both 24 & 48 ports for each rack mount space (1RMS = 44.5 mm [1.75 in.])
- Come equipped with integrated rear wire management system
- Be provided with high visibility snap-on magnifying label holders that contain paper labels or Z-MAX icons for port identification.

Fiber Enclosures

All interconnect centers, panels and trays (units) shall provide cross-connect, inter-connect, splicing capabilities and contain cable management for supporting and routing the fiber cables/jumpers.

- Be available in black and constructed of 0.08 thickness aluminum alloy with 18-gauge steel cover.
- Feature compact 4 RMS (178.0mm [7.00 in.]) design
- Use single-finger accessible fiber adapter plates incorporating FC, LC, MT-RJ, SC, SC/ST and ST fiber adapters with blank plates available for support of future growth.
- Support the following fiber capacities and interfaces using fiber adapter plates:

Adapter Types	Capacity
FC, SC, SC/ST, ST	72
FC, SC, SC/ST, ST	96
LC, MT-RJ, SC, ST	144
LC, MT-RJ	192
LC, MT-RJ	288

- Incorporate dual-level fiber managers to effectively store fiber cable slack in both the front and rear of the enclosure.
- Have integrated key-lockable front and rear transparent doors with single-finger latches and spring release hinges for removal.
- Accommodate up to six 24-port fusion or 12-port mechanical stackable splice trays.
- Have a sliding tray that can slide out the front and rear of the enclosure and be secured at multiple working positions as well as be fully removable for increased access.
- Have cable access points for fiber jumpers entering and exiting the unit with rotating grommets to facilitate cable loading and to minimize micro bending stress.
- Have anchor points for securing fiber cable(s) entering the unit.
- Have labeling that can be viewed with doors open or closed and meets or exceeds ANSI/TIA/EIA-606-A requirements and also be laser printable.
- Be able to mount both 19-inch and 23-inch rack/cabinets.
- Must be certified by Underwriters Laboratories to UL 1863 United States Standards and C22.2 Canadian Telecommunications Standards.

Racks

For rack-mounted installations in a telecommunications room the installer shall use a 19 or 23- inch equipment rack as outlined below:

- Have 116.8 mm (4.6 in) by 152 mm (6 in) vertical cable channels as side rails in 2.1 m (7 ft) height.
- Include vertical cable managers mounted on the front of the channels with hinged covers that can handle large quantities of cables and patch cords. Cable managers must retain cables even when covers are removed. Covers are modular in design, which eliminates the need to remove full-length covers for each patch cord change.
- Have available additional vertical cable manager segments for mounting to the back of the Rack to provide additional cable management.
- Have channels capable of utilizing and re-locating ten high capacity, reusable hook and loop cable managers available in bags of ten.
- Have cable access holes on side rails, which allow cables to be routed between adjacent racks.
- Have standard 19-inch CEA-310-E mounting holes having a full 45 RMS on front and back of rails.
- Have ladder channel, which acts as a top bracket to easily nest a standard 304.8 mm (12 in) ladder tray. The channel must have carriage bolt holes for attaching to the ladder system.
- Have available an optional rack top cable tray which manages cable bundles routed above the rack, and eliminates the need for installing a ladder rack for routing cables. The tray is mounted without the need of tools or hardware and includes up to three (3) separate cable paths featuring removable quarter-turn hook and loop cable managers.

- Be available in two versions, either aluminum or steel with a black finish and utilize black grommets for unused cable openings.
- Have the mounting option of two additional vertical cable management channels 152 mm (6 in) x 2.1 m (7 ft) and 76 mm (3 in) x 2.1 m (7 ft) which can be located between racks. The channel shall include cable retainers, which can be hinged left or right and be located in any position along the channel.
- Have floor mounting holes and a ground lug for 0-6 gauge ground cable provided.
- Have optional 10-outlet (4 ft) power strip for mounting onto the rack.

Cabinet

For cabinet enclosure installations in a telecommunications room or data center the installer shall have these minimum features listed below:

- Have overall dimensions of 1000mm (40”) deep by 760mm (30”) wide and 2130mm (84”) tall.
- Be available with fully perforated front and rear doors to maximize air flow efficiency.
- Both front and rear doors must have the ability to open from the left and right without the need for any field modifications or tools.
- Cabinet to be designed with structural corner posts recessed back from both front/rear and sides.
- Have standard CEA-310E mounting holes having a full 45 RMS.
- Both front and rear doors available in split door option with same left and right opening feature.
- When “bayed” together, the cabinets shall create a 7” space between cabinets that can be used for the installation of a variety of vertical cable management and vertical (Zero U) patch panels.
- Be constructed of steel with a total static load capacity of 1000kg (2200lbs).
- Have a top lid that offers multiple cable entry points as well as features for the installation of a ventilation fans, blank panels and cable entry brush guards.
- Have an open access floor enabling maximum airflow as well as cable routing.
- Offer a full variety of internal cable management accessories.
- Offer a full variety of integrated vertical patch panels that offer solutions for UTP, F/UTP, Fiber and Power distribution.

NETWORK SWITCHES AND LICENSES AND SIMILAR EQUIPMENT OR EQUIVALENT

- 24 Fortinet FS-348G-FPOE
- 77 Fortinet FortiAP FAP-241K
- 48 FN-TRAN-SFP+-LRM
- 48 SMF Jumper 3 meters

- 5 FN-TRAN-SFP+GC 10 gig copper module
- 10 FN-TRAN-GC 1 gig copper module

All switches included in bids must be fully manageable by Fortinet 101F firewalls, and fully integrate with other Fortinet products.

System design requirements

Horizontal Cabling

The Horizontal Subsystem is the portion of the telecommunications cabling system that extends from the work area telecommunications outlet/connector to the horizontal cross-connect in the telecommunications room. It consists of the telecommunications outlet/connector, the horizontal cables, optional consolidation point, and that portion of the cross-connect in the telecommunications room serving the horizontal cable. Each floor of a building should be served by its own Horizontal Subsystem.

Telecommunications Room

The Telecommunications Room is generally considered to be a floor serving facility. The Horizontal Cross-connect links the Horizontal Subsystem and the Backbone Subsystem together.

The Horizontal Cross-connect shall consist of rack or wall mounted wiring blocks or panels for termination of copper cables or rack or wall mount interconnect centers or fiber management panels/trays for the termination of optical fibers.

Cross-connect spaces include the labeling of hardware for providing circuit identification and patch cords or cross-connect wire used for creating circuit connections at the cross-connect.

The telecommunications room shall be equipped to contain telecommunications equipment, cable terminations, and associated cross-connects.

Separation from sources of EMI shall be in accordance with ANSI/TIA/EIA-569-B and local codes.

Communication grounding / earthing and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC/TR3 61000-5-2 - Ed. 1.0, ANSI-J-STD-607-A, or both be observed throughout the entire cabling system.

The telecommunications room shall be dedicated to the telecommunications function. Access to telecommunications rooms shall be restricted to authorized service personnel and shall not be shared with building services that may interfere with the telecommunications systems or be used for building maintenance services.

Lighting in the telecommunications room should be a minimum of 500 lx (50 foot candles) at the lowest point of termination. Light switch should be easily accessible when entering the room.

A minimum of two dedicated duplex or two dedicated simplex electrical outlet, each on a separate circuit, should be provided for equipment power. Additional convenience duplex outlets should be placed at 1.8 m (6 ft) intervals around the perimeter walls.

Equipment Room

The Equipment Subsystem consists of shared (common) electronic communications equipment in the equipment room or telecommunications room and the transmission media required to terminate this equipment on distribution hardware.

The equipment room shall be equipped to contain telecommunications equipment, cable terminations, and associated cross-connects.

Separation from sources of EMI shall be as specified in the Telecommunication Room section of this specification.

Communication grounding / earthing and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC/TR3 61000-5-2 - Ed. 1.0, ANSI-J-STD-607-A, or both be observed throughout the entire cabling system.

The equipment room shall not be shared with building services that may interfere with the telecommunications.

Lighting in the equipment room should be a minimum of 500 lx (50 foot candles) at the lowest point of termination.

A minimum of two dedicated duplex or two dedicated simplex electrical outlet each on a separate circuit should be provided for equipment power. Additional convenience duplex outlets should be placed at 1.8 m (6 ft) intervals around the perimeter walls.

Entrance Facility

The entrance facility shall be equipped to contain telecommunications equipment, cable terminations, and associated cross-connects.

Separation from sources of EMI shall be as specified ANSI/TIA/EIA-569-B.

Communication grounding / earthing and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC/TR3 61000-5-2 - Ed. 1.0, ANSI-J-STD-607-A, or both be observed throughout the entire cabling system.

The entrance facility shall not be shared with building services that may interfere with the telecommunications systems or be used for custodial services.

The entrance facility shall be located in a dry area not subject to flooding and should be as close as possible to the electrical service room in order to reduce the length of the bonding conductor to electrical grounding system.

Lighting in the entrance facility should be a minimum of 500 lx (50 foot candles) at the lowest point of termination.

A minimum of two dedicated duplex or two dedicated simplex electrical outlet each on a separate circuit should be provided for equipment power. Additional convenience duplex outlets should be placed at 1.8 m (6 ft) intervals around the perimeter walls.

INSTALLATION

Site Survey

Prior to placing any cable pathways or cable, the contractor shall survey the site to determine job conditions will not impose any obstructions that would interfere with the safe and satisfactory

placement of the cables. The arrangements to remove any obstructions with the Project Manager need to be determined at that time.

Cable Pathways

Pathways shall be designed and installed to meet applicable local and national building and electrical codes or regulations.

Grounding / Earthing and bonding of pathways shall comply with applicable codes and regulations.

Pathways shall not have exposed sharp edges that may come into contact with telecommunications cables.

The number of cables placed in a pathway shall not exceed manufacture specifications, nor, will the geometric shape of a cable be affected.

Pathways shall not be located in elevator shafts.

Intrabuilding Cable Routing

The backbone subsystem shall include cable installed in a vertical manner between floor telecommunications rooms and the main or intermediate cross-connect in a multi-story building and cable installed horizontally between telecommunications rooms and the main or intermediate cross-connect in a long single story building like a school or factory.

Unless otherwise recommended by the manufacturer, all fiber cables will be run in innerduct.

Fibers will be terminated in the telecommunications rooms using SC connectors in rack mounted panels equipped with sufficient ports, slack storage space and splice trays if required to terminate and secure all fibers.

Adequate riser sleeve/slot space shall be available with the ability to ingress the area at a later date in all telecommunications rooms, such that no drilling of additional sleeves/slots is necessary.

The backbone cables shall be installed in a star topology, emanating from the main cross-connect to each telecommunications room. An intermediate cross-connect may be present between the main cross-connect and the horizontal cross-connect. This is known as a hierarchical star topology.

Optical fiber should be run for any backbone segment. Backbone pathways shall be installed or selected such that the minimum bend radius of backbone cables is kept within manufacturer specifications both during and after installation.

Horizontal Cable Routing

All horizontal cables, regardless of media type, shall not exceed 90 m (295 ft) from the telecommunications outlets in the work area to the horizontal cross connect.

The combined length of jumpers, or patch cords and equipment cables in the telecommunications room and the work area should not exceed 10 m (33 ft) unless used in conjunction with a multi-user telecommunications outlet.

Two horizontal cables shall be routed to each work area. At least one horizontal cable connected to an information outlet shall be 4-pair, 100 Ω balanced twisted-pair.

It is recommended that a minimum horizontal cable distance of 15 m (49 ft.) shall be maintained between the telecommunications room and the work area.

Horizontal pathways shall be installed or selected such that the minimum bend radius of horizontal cables is kept within manufacturer specifications both during and after installation.

In open ceiling cabling, cable supports shall be provided by means that is structurally independent of the suspended ceiling, its framework, or supports. These supports shall be spaced no more than 1.5 m (5 ft) apart. NOTE: *Cable tie-downs should maintain a minimum distance of 0.6 m (2 ft) apart when within 5 m (16 ft) of the termination point*.

UTP ONLY: Telecommunications pathways, spaces and metallic cables, which run parallel with electric power or lighting, which is less than 3kVA, shall be installed with a minimum clearance of 50 mm (2 in).

UTP ONLY: Telecommunications pathways, spaces and metallic cables, which run parallel with electric power or lighting, which is more than 3kVA but less than 6kVA, shall be installed with a minimum clearance of 1.5 m (5 ft).

UTP ONLY: Telecommunications pathways, spaces and metallic cables, which run parallel with electric power or lighting, which is more than 6kVA, shall be installed with a minimum clearance of 3 m (10 ft).

No telecommunications cross-connects shall be physically located within 6 m (20 ft) of electrical distribution panels, step down devices, or transformers, which carry voltages in excess of 480 Vrms.

For voice or data applications, 4-pair balanced twisted-pair or fiber optic cables shall be run using a star topology from the telecommunications room serving that floor to every individual information outlet. The customer prior to installation of the cabling shall approve all cable routes.

The Contractor shall observe the bending radius and pulling strength requirements of the 4-pair balanced twisted-pair and fiber optic cable during handling and installation.

Each run of balanced twisted-pair cable between horizontal portion of the cross-connect in the telecommunication closet and the information outlet shall not contain splices.

In a false ceiling environment, a minimum of 75 mm (3 in) shall be observed between the cable supports and the false ceiling.

Continuous conduit runs installed by the contractor should not exceed 30.5 m (100 ft) or contain more than two (2) 90 degree bends without utilizing appropriately sized pull boxes.

All horizontal pathways shall be designed, installed and grounded to meet applicable local and national building and electrical codes.

The number of horizontal cables placed in a cable support or pathway shall be limited to a number of cables that will not cause a geometric shape of the cables. Under no circumstances should cables in the horizontal pathway be bundled. This is to minimize “alien” cross talk.

Maximum conduit pathway capacity shall not exceed a 40% fill. However, perimeter and furniture fill is limited to 60% fill for move and changes.

Horizontal distribution cables shall not be exposed in the work area or other locations with public access.

Work Area Termination

All balanced twisted-pair cables wired to the telecommunications outlet/connector, shall have 4-pairs terminated in eight-position modular outlets in the work area. All pairs shall be terminated.

The telecommunications outlet/connector shall be securely mounted at planned locations.

The height of the telecommunications faceplates shall be to applicable codes and regulations.

Pulling Tension

The maximum cable pulling tensions shall not exceed 25lbf (max).

Bend Radius

The maximum cable bend radii shall not exceed manufacturer's specifications.

In spaces with balanced twisted-pair cable terminations, the maximum bend radius for the 4 pair cable shall not exceed four times the outside diameter of the cable. This shall be done unless this violates manufacturer specifications.

During the actual installation, bend radius on 4 pair cable shall not exceed eight times the outside diameter of the cable. This shall be done unless this violates manufacturer specifications.

Slack

In the work area, a minimum of 300 mm (12 in) should be left for balanced twisted-pair cables, while 1 m (3 ft) be left for fiber cables.

In telecommunications rooms a minimum of 3 m (10 ft) of slack should be left for all cable types. This slack must be neatly managed on trays or other support types.

Cable Tie Wraps

Hook and loop cable managers shall be used at appropriate intervals to secure cable and to provide strain relief at termination points. These wraps shall not be over tightened to the point of deforming or crimping the cable sheath. NOTE: Tie wraps shall not be used at all.

Hook and loop cable managers should be used in the closet where reconfiguration of cables and terminations may be frequent.

Grounding

All grounding / earthing and bonding shall be done to applicable codes and regulations.

Fire protection

Properly installed firestop systems shall be installed to prevent or retard the spread of fire, smoke, water, and gases through the building. This requirement applies to openings designed for telecommunications use that may or may not be penetrated by cables, wires, or raceways.

Fire stops shall be done to applicable code.

Workmanship

All work shall be done in a workman like fashion of the highest standards in the telecommunications industry.

All equipment and materials are to be installed in a neat and secure manner, while cables are to be properly dressed.

Workers must clean any debris and trash at the close of each workday.

TESTING

Testing of all newly installed cable channels shall be performed prior to system cutover.

Copper Testing

All 500 MHz category 6A field-testing shall be performed with an approved level 111e balanced twisted-pair field test device.

All installed 500 MHz category 6A channels shall perform equal to or better than the minimum requirements as specified by the table below:

Parameter	100 MHZ	250 MHz	500 MHz
Insertion Loss	20.0 dB	32.6 dB	54.1 dB
NEXT Loss	46.4 dB	39.6 dB	26.2 dB
PS NEXT	45.1 dB	38.2 dB	23.1 dB
ACR	26.4 dB	7.0 dB	-37.4 dB
PS ACR	22.6 dB	4.5 dB	-40.5 dB
ACR-F	30.3 dB	22.3 dB	7.3 dB
PS ACR-F	29.3 dB	21.3 dB	4.3 dB
Return Loss	16.0 dB	12.0 dB	8.0 dB
Prop Delay	528 ns	526 ns	526 ns
Delay Skew	40 ns	40 ns	40 ns

Warranty performance claims are based on worst case testing and channel configurations. Typical channel performance may be significantly higher. Independent test reports are now available.

Category 3, balanced twisted-pair horizontal and backbone cables, whose length does not exceed 90 m (295 ft) for the basic link, and 100 m (328 ft) for the channel shall be 100 percent tested according to ANSI/TIA/EIA-568-B.1. Test parameters include wire map plus F/UTP (ScTP) shield continuity (when present), insertion loss, length and NEXT loss (pair-to-pair). NEXT testing shall be done in both directions.

All balanced twisted-pair backbone cables exceeding 90 m (295 ft) or 100 m (328 ft) shall be 100% tested for continuity if applications assurance is not required.

500 MHz Category 6A balanced twisted-pair horizontal and backbone cables, whose length does not exceed 90 m (295 ft) for the basic link, and 100 m (328 ft) for the channel shall be 100 percent tested according to ANSI/TIA/EIA-568-B.1. Test parameters include wire map plus F/UTP (ScTP) shield continuity (when present), length, NEXT loss (pair-to-pair), NEXT loss (power sum), ELFEXT loss (pair-to-pair), ELFEXT loss (power sum), return loss, insertion loss, propagation delay, and delay skew.

TEST EQUIPMENT CRITERIA

All balanced twisted-pair field testers shall be factory calibrated each calendar year by the field test equipment manufacturer as stipulated by the manuals provided with the field test unit. The calibration certificate shall be provided for review prior to the start of testing.

Autotest settings provided in the field tester for testing the installed cabling shall be set to the default parameters

Test settings selected from options provided in the field testers shall be compatible with the installed cable under test.

Fiber Optic Testing

BACKBONE FIBER TESTING

Fiber horizontal cables shall be 100% tested for insertion loss and length.

Insertion loss shall be tested at 850 nm and 1300 nm for 50/125μm and 62.5/125μm multimodes cabling in at least one direction using the Method B (1-jumper) test procedure as specified in ANSI/TIA/EIA-526-14A.

Insertion loss shall be tested at 1310 and 1550 for singlemode cabling in at least one direction using the Method A.1 (1-jumper) test procedure as specified in ANSI/TIA/EIA-526-7.

Length shall be recorded using an OTDR, optical length test measurement device or sequential cable measurement markings.

The backbone link performance guarantees are as follows:

ADMINISTRATION & DOCUMENTATION

LABELING

Horizontal and backbone cables shall be labeled at each end. The cable or its label shall be marked with its identifier.

A unique identifier shall be marked on each faceplate to identify it as connecting hardware.

Each port in the faceplate shall be labeled with its identifier.

A unique identifier shall be marked on each piece of connecting hardware to identify it as connecting hardware.

Each port on the connecting hardware shall be labeled with its identifier.

Identifier shall be explained on separate sheet called “Additional bid specs for Horn Lake Middle School”.

DRAWINGS

As-built drawings shall be supplied by the contractor showing the locations of and identifiers for all:

Horizontal cable routing and terminations

Telecommunications outlets/connectors

Backbone cable routing and terminations

RECORDS AND REPORTS

All records shall be created by the installation contractor and turned over at the completion of work The format shall be computer based and both soft copies and hard copies shall be part of the As-built package. The minimum requirements include:

- Cable records must contain the identifier, cable type, termination positions at both ends, splice information as well as any damaged pairs/conductors.
- Connecting hardware and connecting hardware position records must contain the identifier, type, damaged position numbers, and references to the cable identifier attached to it.
- Test documentation on all cable types shall be included as part of the As-built package.

All reports shall be generated from the computer-based program used to create the records above. These reports should include but not limited to:

- Cable Reports
- Cross-connect Reports
- Connecting Hardware Reports

WARRANTY

Either a basic link or channel model configuration may be applied to the horizontal and/or backbone sub-systems of the structured cabling system. Applications assurance is only applied to a channel model configuration. All channels are to be qualified for linear transmission performance up to 500 MHz to ensure that high-frequency voltage phase and magnitude contributions do not prove cumulative or adversely affect channel performance.

SYSTEM WARRANTY

A twenty (20) year warranty available for the 500 MHz category 6A structured cabling system shall be provided for an end-to-end channel model installation which covers applications assurance, cable, connecting hardware and the labor cost for the repair or replacement thereof.

Additional features of the warranty shall include:

10G 6A channel specifications on <u>all</u> parameters across the <u>entire</u> frequency range of 1-500 MHz as noted below:

equency Hz)	Insertion Loss (dB)	Return Loss (dB)	NEXT (dB)	PS NEXT (dB)	ACR-N (dB)	PS ACR-N (dB)	ACR-F (dB)	PS ACR-F (dB)	PS ANEXT (dB)	PS AACR-F (dB)	Prop Delay (ns)	
	2.2	22.0	65.0	62.0	62.8	59.8	65.0	62.0	67.0	67.0	580	
	4.0	22.0	65.0	62.0	61.0	58.0	56.2	55.2	67.0	65.0	562	
	6.3	22.0	63.1	61.5	56.8	55.2	48.3	47.3	67.0	57.0	555	
	8.9	20.5	58.1	56.5	49.2	47.6	42.2	41.2	67.0	51.0	552	
5	15.9	17.0	49.9	48.1	34.0	32.2	32.3	31.3	62.0	41.1	549	
0	20.3	15.0	46.4	44.6	26.1	24.3	28.3	27.3	60.0	37.0	548	
0	29.3	12.0	38.3	39.4	9.0	10.1	22.2	21.2	55.5	31.0	547	
0	33.0	11.0	36.6	37.7	3.7	4.7	20.3	19.3	54.0	29.0	546	
0	36.3	11.0	31.7	28.8	-4.6	-7.6	18.7	17.7	52.8	27.5	546	
0	42.5	11.0	28.7	26.6	-13.7	-15.9	16.2	15.2	51.0	25.0	546	
0	48.0	11.0	26.1	24.8	-21.9	-23.1	14.3	13.3	49.5	23.0	546	
A rgin[1] 250 lz)	2.75 %	3.0	3.5	4.5	4.0	5.0	5.0	7.0	0	0	0	
D rgin[2] 250 lz)	2.75 %	3.0	3.5	4.5	4.0	5.0	3.0	5.0	0	0	0	
A rgin[1] 500 lz)	2.75 %	3.0	0	0	0	0	5.0	7.0	0	0	0	
D rgin[2] 500 lz)	2.75 %	3.0	0	0	0	0	3.0	5.0	0	0	0	

Performance claims based on worst case testing and channel configurations

PRODUCT WARRANTY

The manufacturer of passive telecommunications equipment used in a manner not associated with the Systems Warranty must have a minimum five (5) year Component Warranty on all its product. The Products Warranty covers the components against defects in material or workmanship under normal and proper use.

APPLICATIONS SUPPORTED

Existing and future applications supported for a channel model warranty include those approved by the Institute of Electronic and Electrical Engineers (IEEE), the Asynchronous Transfer Mode (ATM) Forum, the American National Standards Institute (ANSI) or the International Organization of Standards (ISO) that specify compatibility with the cabling referenced herein.

Bill of Material: This is a bill of material for the majority of DeSoto County Schools wiring jobs. Should new part numbers exist for same product of Manufacturer please notify Russ Kicker or Arron DeShazo prior to use. Not all items listed below will be needed for all installations. This list is a few years old so manufacturer part numbers may have changed.

Networking

Manufacturer	Product	Description	Quantity	Unit Cost	Total Cost
Siemon	Z6A-02	10G Module			
Siemon	10GMX-FPS02-02	10G Faceplate			
Siemon	10GMX-FPS04-02	10G Quad Faceplate			
Siemon	Z6AS-PNL-24K	24Port Patch Panel			
Siemon	BP6A-05-06	5" Patch Cords			
Siemon	BP6A-15-06	15' Patch Cords			
Siemon	BP6A-10-06	10' Patch Cords			
Siemon	BP6A-07-02	7' Patch Cords White			
Siemon	BP6A-20-07	20' Patch Cords Green			
Siemon	S110P1	1pair S110 patch plug			
Siemon	RIC3-72-01	RackMount Interconnect			

Siemon	FCP3-DWR	Fiber Connection Panel			
Siemon	RIC-F-SC6-01	3Duplex SC Adapters			
Siemon	FJ2-LCSC5L-03AQ	3m fiber jumper			
Siemon	FJ2-LCSC5L-02AQ	2m fiber jumper			
Siemon	FC1-SC-MM-J80	SC Fiber Tips			
Siemon	RS3-07	7' Relay Rack			
Siemon	RS3-RWM-2	Cable Manager			
Siemon	9C6P4-A5-06AR1A	Blue			
Siemon	9BB5P012G-T312A	12 Strand MM Fiber			
Siemon	9BB8P006D-E205A	6 Strand SM Fiber			
Chatsworth	15320-724	Wall Mount Rack			
APCC	AR2310	Rack Enclosure			
APCC	AR8128BLK	Sliding Shelf 200lbs/91kg Black			
APCC	AR8105BLK	Fixed Shelf 50lbs/22.7kg Black			
APCC	SU5000R5TBXFMR	5000 Watt UPS			
APCC	SUA1000RM1U	1000 Watt UPS			
APCC	SUA2200RM2U	2200 Watt UPS			
APCC	NET9RM	9 Outlet Surge			
Fortinet	Fortiswitch 348G-FPOE	Fortiswitch 348G-FPOE 48 port Switch			
Fortinet	Fortiswitch 324G-FPOE	Fortisitch 324G-FPOE 24 port Switch			
Fortinet	FN-TRAN-SFP+LRM	10G Optical Transceiver			
Fortinet	FAP-241K	Fortinet 241K access point			
Chatsworth	11312-712	Wall Triangle Support			
Chatsworth	10250-712	Cable Runway			
Chatsworth	11421-712	Wall Angle Bracket			

	RG11	Backbone			
MISC	Misc Materials and Tools				
Labor to Install					
Total					

Should any of the item numbers on the above chart have a more current replacement by the same manufacturer, it should be noted in the bid delivered to DeSoto County Schools.

Map of Horn Lake Middle School

The following page is an overview map of Horn Lake Middle School. This map is not to scale and for use only as an overall view of the project. The walk through of the school will give vendors the chance to see the size of the buildings and how connections between buildings will need to be dealt with. If the vendor chooses to take measurements from Internet overhead photos that will be considered acceptable. Should overhead photos fail to reveal any issues the vendor there will be no exceptions given in regards to the pricing and scale of the network installation.

Fortinet switches required for the network installation are listed below according to the locations of racks. Fortinet access points are to replace existing HPE/Aruba access points. All existing rack end patch cables are to be replaced with new, slim or ultra-slim Cat6a compatible patch cables. All switch replacement, repatching, and access point replacement is to be done by vendor. Device configuration will be done by DeSoto County Schools. New single mode fiber to be pulled from MDF to the Gym IDF and Band IDF. New single mode fiber to be pulled from Gym IDF to 2nd Gym IDF.

Red Lines Indicate Fiber
Pulls



Cat 6a patch cables are to be provided at all rack locations for all ports. Cat 6a cables are to be provided for all device drop locations. Rack end patch cables are to be 1 foot long and must be of a slim or ultra-slim type. Device drop cables are to be 10 feet long and must not be slim or ultra-slim.

DeSoto County School District

Site Visit Form

(Contact information for changes/updates/clarifications)

Date _____

Service Provider Name _____

Contact Name _____

Address _____

_____

Phone Number _____

Email Address _____

Check preferred method of contact: Email ☐ Phone ☐

Pricing Form

By signing below, the vendor acknowledges that the prices listed on this sheet are the prices being bid for this project and that the vendor understands that portions of this Project may be funded from E-Rate Funds. This project is subject to funding availability and contingent upon E-Rate funding. The District reserves the right to purchase products and services from the RFP response during the term of the contract using alternate funding sources if alternative funding becomes available.

COMPANY NAME: _____SPIN_____

REPRESENATIVE NAME: _____ TITLE: _____

SIGNED: _____ Phone: _____ DATE: _____

BID WORKSHEET

PRICING INFORMATION (Total Cost for ALL E-Rate Eligible Locations)

(THIS DOCUMENT MUST BE THE TOP PAGE OF YOUR SUBMISSION)

You must submit a standard quotation showing line-item pricing total in addition to this worksheet.

MUST FILL IN THE TOTAL PRICE FOR THE ENTIRE E-RATE ELIGIBLE PORTION OF THE PROJECT BELOW.

DeSoto County School District
2027 E-Rate Bid Worksheet

E-Rate Eligible PROJECT TOTAL PRICE for HLMS Cabling: _____

Copper pricing:_____

Fiber pricing:_____

Equipment:_____

Services:_____

Required Documents

Bid Worksheet and Service Provider Quotes

Bidder Qualification Statement

Specifications for the proposed hardware and software

References

Documentation of the vendor's certifications and qualifications

E-Rate SPIN number

Qualifications and training of vendor technical staff for Cabling

Trouble Ticketing Procedures and Escalation Process and warranty procedures

Any other documentation required previously in this document

If the proposal does not meet the stated specifications, the vendor must include a detailed proposal along with a detailed explanation as to why the vendor believes the proposal will meet the stated needs of the DeSoto County School District and why the District should consider their proposal.

LETTER OF INTENT TO BID

Jenifer Hale
DeSoto County Schools
DCS.Purchasing@dcsms.org
662-449-7168

Reference: DeSoto County School District 2027 E-Rate Horn Lake Middle School Fiber pull to include switches, access points and installation

This letter is to notify you that it is our present intent to submit a proposal in response to the above referenced RFP. The individual to whom information regarding this RFP should be transmitted is:

Name: _____
Company: _____
Address: _____
City, State & Zip: _____
Phone Number: _____
E-mail Address: _____

Sincerely,

_____
Signature

_____
Title

BIDDER QUALIFICATION STATEMENT

Executive Summary:

Please include an executive summary detailing your understanding of the requirements for this request, as well as a detailed outline on how your company will address the needs of the District.

Contact Information:

Please complete the sections below.

_____	_____
Company Name	RFP Contact (Print)
_____	_____
Address	Signature
_____	_____
Federal Tax I.D. Number	Title
_____	_____
Telephone	Date
_____	_____
Fax	Email

Years in business: _____ Former name(s) used by your organizations: _____

If applicable, please acknowledge acceptance of addenda/clarification(s) issued by checking below:

Addendum 1____ Addendum 2____ Addendum 3____ Addendum 4____