



**Structured Cabling for New Annex Building for Pearl River County**

**Date Issued:** February 7, 2019

**Proposers Conference:** February 21, 2019 9:00am CST

**Return Date for proposals:** March 13, 2019 10:00am CST

**Return To:**

**Mailing**

Pearl River County  
P.O. Box 569  
Poplarville, MS 39470  
(601) 403-2302

**Physical**

Pearl River County  
207 West Pearl St  
Poplarville, MS 39470  
(601) 403-2302

**Method of Delivery by Proposer:** U.S. Mail, Private Mail Service Carriers, or Personal Delivery to Above Location Only

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# 1 General Requirements

## A. Objectives

- A. The objective of this Request for Proposal (RFP) is to contract with a single entity (Proposer) to provide network cabling installation for the new courthouse north annex building (NAB) being constructed by Pearl River County in Poplarville
- B. Contracts will be negotiated for the installation of the cabling system to support the phone system (Avaya VOIP), and network connectivity (switching/routing) for the occupants of the NAB.
- C. In order to ensure that the required services are provided with the highest possible quality and professional services, the Pearl River County government is interested in establishing a contract with a Proposer experienced and qualified in such work that will provide the quality of services, products and equipment requested in a professional and timely manner.

## B. Background

- A. Pearl River County is constructing the NAB to handle its current growth and to prepare for the future growth of the county by arranging our employees into the most functional configuration possible while providing the best available services to the residents of the county.

## C. Communication

- A. Submit questions in writing via email to [Carey.Meitzler@corp.datastar.net](mailto:Carey.Meitzler@corp.datastar.net)
- B. Answers will be posted by addendum before the RFP deadline to Pearl River County web site at [www.pearlrivercounty.net/NABcabling](http://www.pearlrivercounty.net/NABcabling)
- C. Please note: **Proposers are responsible for downloading and reviewing all addendums posted at this website. [www.pearlrivercounty.net/NABcabling](http://www.pearlrivercounty.net/NABcabling)**

## D. Submission

- A. Proposals must be received in the Purchasing Department no later than 10:00am CST on Wednesday, March 13, 2019
- B. Proposers must submit one signed original Proposal response set. A set consists of the technical response and the pricing response in separately sealed and clearly labeled. Original must be clearly marked as "Original".
- C. Three (3) copies must also be submitted, clearly marked "Copy Number X of 3", with technical and cost proposals separate and where "X" is the copy set sequence number and each is in its own binder.
- D. In addition to the original and 8 hard copy proposal sets; the Proposer must submit 1 electronic version in their entirety in PDF Format either on CD, DVD or USB Memory Stick.
- E. Although an electronic version of this document will be made available to each Proposer in preparing Proposals, the Proposal response **must be submitted in hard copy to:**

Pearl River County  
c/o: NAB Cabling  
County Administrator  
207 West Pearl St  
Poplarville, MS 39470

The package shall be marked:

**"SEALED NETWORK NAB CABLING RESPONSE-TO BE OPENED BY ADDRESSEE ONLY. – March 13, 2019".**

## Pearl River County NAB Cabling RFP

Please ensure your firm's name is included on the outside of the package. If you are using a commercial delivery company that requires you to use their shipping package or envelope, your Proposal should be placed within a second sealed package labeled as detailed above. This will ensure your Proposal is not prematurely opened.

Nothing herein is intended to exclude any responsible Proposer, his/her service or in any way restrain or restrict competition. On the contrary, all responsible Proposers are encouraged to submit a proposal and their proposals are solicited.

### E. Timetable

The following timeline is subject to change by Pearl River County for the NAB Cabling RFP

Event	Time and Date
RFP release	February 7, 2019 (Thursday)
Proposer's Conference	February 21, 2019 9:00am CST (Thursday)
Questions due	March 5, 2019 9:00am CST (Tuesday)
Proposals due	March 13, 2019 10:00am CST (Wednesday)
Evaluation complete	March 22, 2019 (Friday)
Anticipated Commencement of Work	TBD

### F. Site Walkthroughs and Vendor Conference

- A. There is a vendor conference scheduled on Thursday, February 21, 2019, at 9:00am CST . Vendors are not required to attend the vendor conference but are encouraged to attend. The vendor conference will start at 9:00am (CST) and complete by 11:30am (CST). The conference will be located at Board Room for the County located at 204 Julia Street, Poplarville, MS

### G. Conditions

- A. Pearl River County reserves the right to waive informalities in the proposals submitted and waive minor discrepancies in the proposal process.
- B. Pearl River County may make inquiries necessary to determine the qualifications and integrity of any Proposer. Evidence may be requested to verify financial stability, performance on projects of a similar nature, performance with Proposers and subcontractors, performance in a timely manner or to verify personnel, certifications, qualifications, capabilities, equipment and facilities.
- C. Those entities providing costs for material and service to the Proposers shall be qualified to do so as defined in this RFP. Pearl River County may reject proposed subcontractors when it cannot be demonstrated that they are qualified to accomplish the work.
- D. Proposers are encouraged to propose additions or enhancements to the services, features or other requirements of this RFP. These additions, improvements or enhancements may be proposed to save money, to improve performance or for any other purpose which presents a service advantage to Pearl River County. As part of the proposed changes, submit a complete proposal for evaluation. Those proposed service additions or enhancements that are acceptable will be processed as modifications to the contract or as new contracts as appropriate.
- E. Pearl River County will not be liable for proposal preparation costs or any delay in acting upon proposals. Proposers may withdraw, in whole or in part, any proposal not accepted within the period specified in the proposal.
- F. Except for existing equipment, brand names should be read as "or equivalent".

## H. Interpretation of RFP

- A. Carefully examine the Request for Proposal requirements, specifications and conditions and fully understand the goods, services or systems required.
- B. If any Proposer finds discrepancies or omissions in this RFP, or is in doubt as to the meaning of a particular requirement, submit notifications and questions in writing or via e-mail for interpretation, correction or clarification. C
- C. Any change required in the RFP will be posted by addendum before the RFP deadline to Pearl River County website located at [www.pearlrivercounty.net/NABcabling](http://www.pearlrivercounty.net/NABcabling). Proposers are responsible for downloading and reviewing all addendums posted at this website.
- D. The apparent silence of this RFP and any Addendum regarding any details or the omission from the specification of a detailed description concerning any point shall be regarded as meaning that only the best available units shall be provided and the best commercial practices are to prevail, and that only materials and workmanship of first quality are to be used. All interpretations of this specification shall be made upon the basis of this agreement.
- E. Pearl River County reserve the right to ask questions of a clarifying nature once proposals have been opened, interview any or all proposers that respond to the RFP, or make their recommendations based solely on the information contained in the proposals submitted.
- F. Before submitting their proposal, each Proposer is required to carefully examine the request for proposal specifications and requirements and to completely familiarize themselves with all of the terms and conditions that are contained within this request. Failure of the Proposer to familiarize themselves with the proposal will in no way relieve them of any of the obligations and responsibilities which are a part of the request for proposal.

## I. Proposal Effective Period

- A. Proposals remain in full effect for at least 120 days after the closing date for the RFP responses.

## J. Proposers' Questions

- A. Questions concerning any condition or requirement of this RFP must be received on or before the designated date and time. Questions must be submitted in writing. Questions will be answered in communication to all proposers as an Addendum. Any information given by any party of Pearl River County that is not written as an addendum is not binding. Only the information provided in this RFP or its Addenda shall be considered by Proposers in their proposal.

## K. Presentations

- A. Proposers who submit a proposal may be asked to make a presentation or demonstration of their proposal products or services to the Selection Committee. Presentations provide an opportunity for the Proposer to clarify their proposal and demonstrate the proposed products or services to ensure a thorough and mutual understanding of the work.

## L. Prime Proposer

- A. This response is for one Prime Proposer is responsible for administrating the overall project and coordinating and monitoring plans and schedules, maintaining the project budget and status information, administrating necessary changes, presiding over project meetings and overseeing the preparation of reports and presentations. If a Prime Proposer plans to use sub-contractors (sub-proposers), Pearl River County will not enter into separate negotiations or contracts. The Prime Proposer will be responsible for all as stated above.

## M. Terms

- A. Quotations of price and schedule in this RFP remain in effect for 120 days after opening of the proposal.
- B. Payment schedule will be a 4 draw schedule with 5% retainer to be paid upon completion of projection with customer approval/sign off.
- C. When a contract is awarded to a Proposer, it shall be signed within seven days by the proposer firm after approval for signing by Pearl River County.
- D. At contract signing, the proposing firm will furnish a Performance and Payment Bond with good and sufficient sureties, satisfactory to Pearl River County, in the amount of 100% of the accepted proposal, in force for the life of the project. The Proposer further agrees that in the event of the Proposer's default or breach of contract the bond shall be forfeited as liquidated damages.
- E. Pearl River County reserves the right to narrow the scope of the project from this document at any time prior to signing the contract.
- F. Pearl River County reserves the rights to supplement, amend or otherwise modify this RFP at any time prior to the selection of a proposer. Pearl River County also reserves the right to accept or reject at any time prior to execution of a contract in connection with this RFP, any or all proposals, or any part of any proposal submitted in response to this RFP, and to waive any defect or technicality and to advertise for new proposals where the acceptance, rejection, waiver or advertisement would be in the best interest of Pearl River County. A proposal that is incomplete, obscure, conditional, unbalanced or which contains irregularities, including alterations or erasures, may be rejected. Any proposal that fails to comply with any of the mandatory requirements of this RFP will be rejected.
- G. If it is in the best interest of Pearl River County, Pearl River County reserves the right to withdraw this RFP at any time prior to the time and date specified for the proposal opening.
- H. In order to protect the integrity of the Contracting process, proposals will not be disclosed until after award and signing of the Contract. To the extent the law allows, Pearl River County will not disclose bids to other Proposers before a Contract is signed. This will ensure fair competition without undue advantage to any Proposer leading to private gain and public loss. The bids shall be deemed public records, excepting those portions, which have been designated by law as proprietary.
- I. Response to a request to view or copy a bid shall be according to public disclosure procedure. If any information is marked as proprietary or confidential in the proposal, such information shall not be made available without giving the submitting Proposer an opportunity to seek a court order to prevent such disclosure.
- J. Proposers shall hold Pearl River County harmless pursuant to security and protection of information marked proprietary or confidential.

## N. Insurance

- A. Proof of the following insurance will be furnished by any awardee to Pearl River County by Certificate of Insurance within 15 days of notification of award. Such certificate must contain a provision for notification to Pearl River County 30 days in advance of any material change in coverage or cancellation. Pearl River County shall be named as an additional insured under the General Liability policy.
- B. The insurance information must be submitted on an insurance carrier's Certificate of Insurance.
  - General Liability Insurance with limits of not less than \$1,000,000 per occurrence combined single limit for bodily injury and property damage.
  - Professional Liability insurance with limits of not less than \$1,000,000 per occurrence.

- Auto Liability Insurance covering all owned, non-owned and hired vehicles used in connection with this RFP, with bodily injury limits of liability of not less than \$1,000,000 per person; and \$1,000,000 per occurrence and property damage limits of not less than \$1,000,000.
- Worker's Compensation in accordance with statutory limits and Employer's Liability Insurance. The insurance policies shall be issued by companies qualified to do business in the state

C. The insurance companies must be rated at least A-VI by AM Best or AA3 by Moody's Investor Service. All policies must remain in effect during the performance of the contract.

## O. Information

### A. RFP Revision:

If it is necessary to revise any part of this RFP, an addendum will be posted before the RFP deadline to Pearl River County Website located at [www.pearlrivercounty.net/NABcabling](http://www.pearlrivercounty.net/NABcabling)

### B. Evaluation:

Proposals will be evaluated by an evaluation team consisting of Pearl River County employees and preferred consultant. The evaluation team will present their independent evaluation results using a standard scoring rubric which will be compiled and presented to Pearl River County Selection committee. The Selection committee will review the independent scoring review results and recommend the final Proposer to the Pearl River County Board of Supervisors who will authorize Pearl River County to negotiate the final contract.

### C. Final Approval:

The final award of this proposal is contingent upon the approval of the Pearl River County Board of Supervisors.

### D. Proposer Notification:

Proposers responding to the original RFP will be notified of their selection following contract award by the Pearl River County Board of Supervisors. All proposers who are not awarded the contract will be notified by Pearl River County following the contract award for the Pearl River County NAB Cabling project.

### E. Reservation of Rights:

Pearl River County reserves the rights to supplement, amend or otherwise modify this RFP at any time prior to the selection of a proposer, and to enter into contract negotiations. Pearl River County also reserves the right to accept or reject at any time prior to the execution of a contract in connection with this RFP, any or all proposals, or any part of any proposal submitted in response to this RFP, and to waive any defect or technicality and to advertise for new proposals where the acceptance, rejection, waiver or advertisement would be in the best interest of Pearl River County. A proposal that is incomplete, obscure, conditional, unbalanced or which contains irregularities of any kind, including alterations or erasures, may be rejected. Any proposal that fails to comply with any of the mandatory requirements of this RFP may be rejected.

### F. Advertising:

News releases including, but not limited to, commercial advertising, pertaining to this project may not be made without prior written approval from Pearl River County.

## P. Evaluation

### A. Eligibility

To be considered for award and to be further evaluated, proposer must meet or exceed the minimum eligibility criteria. Failure to comply with Minimum Eligibility Requirements will disqualify the proposal and will suspend further consideration of the RFP Response.



**B. Process**

The RFP evaluation process will be conducted in sequential Steps.

1. **Step 1: Minimum Eligibility** Each proposal will be evaluated to determine if the proposal meets the specified requirements of the RFP. Proposals that fail to meet the minimum requirements will not be evaluated nor considered for contract award. Proposals that meet the minimum requirements of Step 1 will be evaluated in three additional steps.
2. **Step 2: Proposer Evaluation** This step evaluates the strengths of the proposers submitting the proposal. An evaluation team will score the proposals on the basis of Proposer Qualifications as specified and requested.
3. **Step 3: Solution Evaluation** This step evaluates the strengths of the solutions submitted in the proposal. An evaluation team will score the proposals on the basis of Solution Qualifications as specified and requested and the quality, functionality and added value propositions included in the solutions that are proposed.
4. **Step 4: Financial Evaluation** The evaluation team will assign point values to the cost and pricing strategy provided in the proposal. This step evaluates the prices submitted for required goods and services and the added value propositions for funding and pricing.
5. The scores earned by each proposer for each step will be combined. A selection committee will evaluate the compiled results and make a recommendation to the Board of Supervisors to award to a proposer on the basis of highest combined score.

**Q. Rubric**

- A. Proposals will be scored according to a rubric with qualities of the three primary proposal sections weighted as indicated in the following table.

<b>Response to Section:</b>	<b>Possible Points</b>	<b>Effective Weight</b>
Minimum Eligibility--Proposer must meet minimum requirements for further consideration	-	-
Proposer Qualifications	300	25%
Solution Qualifications	300	25%
Pricing Qualification	400	50%
<b>Totals</b>	<b>1000</b>	<b>100%</b>

**R. Award Process**

- A. Pearl River County intends to make awards only to Proposers that have complied with the terms, conditions and requirements of the overall RFP. The award will be based on the combined scores for proposals as outlined in Evaluation Process.
- B. Based upon the results of the evaluation, Pearl River County, at its sole discretion, may: recommend award to the top ranked proposer; may recommend award to more than one top ranked proposer; may short list the top ranked proposers for further consideration; or, may reject all proposals received.
- C. In the event that Pearl River County chooses to short list proposers, the list of short listed proposers may be further considered by Pearl River County. Pearl River County may interview the short-listed proposers in order to make a recommendation for award. During the interview process, no submissions made after the proposal due date, amending or supplementing the proposal shall be considered.

- D. The selection committee reserves the right to negotiate further terms and conditions, including price with the highest ranked proposer.

## S. Award or Rejection of Proposer Proposals

- A. Final award will be made to the Proposer offering the solution deemed to be in the best advantage to Pearl River County. Pearl River County will be the sole judge in making such determination. Pearl River County reserves the right to reject any or all proposals. Incomplete or unresponsive statements in connection with a proposal may be sufficient cause for its rejection. Proposals may be excluded from consideration for failure to comply with the specifications of this RFP. Although cost is the primary evaluation factor, it will not be the sole factor considered. The decision as to the acceptance of any proposal under this contract is final.
- B. Proposals will be evaluated by an evaluation team. The results will be presented to the selection committee. The selection committee will review results and recommend the final Proposer to the Pearl River County Board of Supervisors who will engage the contract. Award of this proposal is contingent upon the approval of the Pearl River County Board of Supervisors.
- C. Selection of a successful proposal is not the end of the contractual process; further negotiation over the contract terms and conditions will be necessary, which, in and of itself, could change the Proposer of choice.
- D. Final award will be made to the Proposer or Proposers proposing solutions deemed to be to the greatest advantage of Pearl River County. Pearl River County and their representative will be the sole judge in this matter. Pearl River County reserves the right to reject any or all proposals. Cost is a major concern but not the sole factor for consideration. The decision to accept or reject any proposal is final.

## T. Funding Termination or Cancellation

- A. If the awardee: (1) refuses or fails to deliver goods or services within the time specified; (2) fails to comply with any provisions of this RFP or so fails to make progress as to performances, hereunder, or (3) becomes insolvent or subject to proceedings under any law relating to bankruptcy, insolvency, or relief of debtors. In the event of termination for default, the county's liability will be limited to the payment for goods and services delivered and accepted as of the date of termination.
- B. Pearl River County may terminate for its convenience at any time, in whole or in part any subsequent award. In which event of termination for convenience, the county's sole obligations will be to reimburse Proposer for: (1) those goods or services actually shipped/performed and accepted up to the date of termination; and (2) cost incurred by Proposer for unfinished goods, which are specifically manufactured for the county for the NAB and which are not standard products of the Proposer as of the date of termination. In no event will the school county be responsible for loss of neither anticipated profit nor will reimbursement exceed the RFP value.

## U. Requirements

- A. Minimum Eligibility It is necessary for each proposer to include a written statement that they understand and meet the minimum eligibility requirements as a part of the proposal, including specific information as necessary to demonstrate satisfaction of each requirement.
  - Proposer delivers a proposal organized according to the RFP and has addressed each requirement completely. Where requested has include descriptive information, technical literature and drawings that are sufficient in detail and organized to demonstrate compliance with request or technical specifications and has provided complete pricing as requested.
  - Proposer must include a non-collusive bidding certification with proposal.

- Proposer is a licensed contractor, is in good standing with federal, state and municipal jurisdictions to conduct business with Pearl River County.
- Proposer is able to provide proposed goods and services throughout Pearl River County.
- Proposer has presently, or will have at the time of implementation, the professionals, technicians, and supporting staff necessary to deliver the proposed goods, services and systems.
- The proposer is fully capable of delivering a solution inclusive of all required services described herein as a part of their proposed solution.
- Has been in business and provided this type of services for a minimum of three (3) years.
- Has a minimum of two (2) reference accounts with a minimum of 2 governmental sites in which vendor has completed Local Area Network Cabling within the past 2 years.

## V. Defense and Indemnification

- A. Proposer shall, without delay, make good any claim for damage, injury or loss caused by the Proposer's equipment or personnel in the performance of work of this contract.
- B. Proposer holds Pearl River County harmless and indemnifies Pearl River County from expenses, liability or payment arising from injury or death to person or persons or damage to property in which work is accomplished arising from an act of intent, negligence, or omission of the Proposer or other party directly or indirectly contracted or employed by the Proposer or who is acting under the Proposer's supervision in accomplishing the work of this contract.

## W. Compliance with Laws

- A. Services furnished in this contract must comply with applicable federal, state and local laws, codes and regulations. Proposer agrees that agreements resulting from this proposal will be governed by the laws of the State of Mississippi, and the venue of any legal action will be Pearl River County, Mississippi.

## 2 Response Requirements

- A. Present proposal in a single 3-ring binder divided into sections by tab index sheets. Attachments not included in the binder should be clearly labeled and tied to the proposal. The proposal should be as clear, complete and consistent. Present pricing in separately sealed package.
- B. Present factual assumptions used to develop the proposal. Offering to meet the requirements of the RFP or reference to the RFP will be considered incomplete. Each representation of fact or future performance will be incorporated into the contract as a warranty by the respondent. Selection of a successful proposal is not the end of the contractual process; further negotiation over the contract terms and conditions will be necessary, which, in and of itself, could change the Proposer of choice.
- C. The proposal should be separated by Tabs identifying each Section. Sections include, and are clarified within:

Tab 1	Executive Summary
Tab 2	Table of Contents
Tab 3	Proposer Qualifications
Tab 4	Solutions Qualifications
Tab 5	Exceptions and Conflicts of Interest
Tab 6	Required Forms – Non Disclosure Form, Minority Participation Form
Separate Sealed Envelope	Cost Proposal for Project (format included in this document in Section 3.2 Solution Requirements)

**A. Executive Summary**

- A. Include an overview in narrative form stating the proposer’s understanding of the nature and scope of the goods and services required and a brief demonstration of the capability to comply with all terms and conditions of this RFP.
- B. Include the company name and address and the name, address and telephone number of the person acting as the contact for matters concerning the proposal and the person who will be authorized to make legal representations.
- C. Indicate whether the proposer is an individual, partnership or corporation.
- D. The letter is to be signed by an officer or agent of the proposer who is authorized to legally bind the Proposer.

**B. Table of Contents**

- The Table of Contents and proposal will conform to the order, headings, and subheadings of this RFP as appropriate.

**C. Proposer Qualifications**

- A. Include the following proposer Information
  - Company name, parent company name
  - Address, city, state and zip of business offices
  - Accounts receivable contact name, title, phone, email, address, city, state and zip
  - Account executive name, title, phone, email, address, city, state and zip
  - Primary project contact name, title, phone, email, address, city, state and zip
  - Information on warehouse, stock inventory, or other relevant facilities owned/operated
- B. Include the following descriptive information
  - State the nature and scope of the business
  - Length of time the company been licensed to do business in the state
  - Size of the organization
  - A brief organizational chart showing the positions that will be involved with this project

- State the approach to knowledge acquisition and evaluation of new technologies. Indicate what procedures are in place to maintain the base of knowledge in the firm
- State whether the organization pursues business on a national, regional or local scale
- Provide three of the most similar contracts, preferably governmental agencies, or related engagements that proposer is currently engaged in or has completed within the past two years. Provide for each reference the customer name, contact name, title, telephone number, email address, contract value, contract dates.
- Describe other qualifications that may be used to assess proposer's capabilities. Please note that Pearl River County recognizes that the information requested may not apply in full to the goods, services or systems in this RFP, but the highest point levels will be awarded to those proposals where the respondent has clearly described additional reasons that Pearl River County may consider in establishing an enhanced and more productive business partnership.
- Methodology and effectiveness of project management experience, organization, capabilities and tools.
- Methodology and capacity to manage the NAB Cabling project
- Describe how you propose to plan, price, contract and deliver cabling solutions for the anticipated project makeup.
- Applicable product or industry certifications, including manufacture certifications for installation.
- Applicable ISO certification.

C. Include the following project information:

- Profile of regional and local account representative, sales system engineering staff, supervisors and maintenance and support staff highlighting experience in the regional market and certifications and designations.
- Abbreviated resumes of individuals that will have a direct role in the delivery and supervision of this project to demonstrate their experience and technical capabilities.

D. Provide information concerning the following technical qualifications:

- Provide copies of current certificate(s) and BICSI registration number verifying that one or more RCDD are currently employed by proposer and will be assigned to Pearl River County.
- Licensed electricians availability if needed

## D. Solution Qualification

- A. Submit technical product literature for each system, solution, goods or service offered. Technical literature shall have sufficient detail to indicate whether there is compliance with the specifications for the respective systems, services and/or solutions offered. Failure to include descriptive technical literature in sufficient detail to verify compliance with requirements for Solution Qualifications may result in disqualification and suspension of further consideration of proposal.

## E. Exceptions to RFP

- A. Note any exceptions to the requirements and conditions where applicable. If exceptions are not noted, Pearl River County assumes that the Proposer's proposals meet stated requirement and any discovered deviation will result in disqualification of the proposal.

## F. Conflicts of Interest

- A. Address the potential, if any, for conflict of interest. Comply with federal, state and local laws, statutes and regulations, in particular, those addressing conflict of interest. Include the following:

G. Pricing Information (separately sealed document)

- A. Complete the Pricing Information Sheets.
- B. Complete tables and provide additional supporting information as required to clarify pricing.

H. Pricing Information

- A. All cost must be inclusive of all out of pocket expenses and will be at no additional cost.
- B. **Used, reconditioned, obsolete or discontinued products are not acceptable.**
- C. Change orders will be at the discretion of Pearl River County and must be submitted in proper documented form for approval.

### 3 Technical Requirements

A. Special Conditions

- A. **Design Requirements:** Awardee is required to submit a work plan (overview of how work will be performed and managed) and a cost proposal on the project as requested by Pearl River County. Services or installation by the Awardee shall not commence on any job until a Purchase Order has been issued by Pearl River County. Pearl River County will then schedule the installation with the awardee.
- B. **Design Criteria:** Awardee must provide a proposal complying with all applicable Federal and State laws, all fire and building codes, and all local jurisdiction requirements. Designs should be in accordance with industry-accepted practices, including those set forth by the EIA/TIA (Telecommunication Industry Association/ Electronic Industry Alliance) and BICSI standards. Pearl River County will review the designs submitted for operability and economy of implementation. Pearl River County reserves the right to request changes in designs without additional charge and prior to design acceptance based upon the requirements of the school county.
- C. **Communications Representative:** Awardee shall designate one individual as the main point of contact for communications with Pearl River County, henceforth referred to as the Awardee's representative. The Awardee's representative shall submit a résumé to Pearl River County prior to beginning work. Pearl River County expects that the Awardee's representative will, as a minimum, be currently RCDD certified and have a minimum of five years work experience on similar size projects. Pearl River County reserves the right to request replacement of an Awardee's representative for any reason, with or without cause. This individual shall consult with Pearl River County personnel to determine specific wiring and other design needs. The Awardee's representative shall implement incidental directives from Pearl River County or its designees within the scope of a project.
- D. **Proposal:** Awardee is required to provide a firm cost proposal based on the criteria provided by Pearl River County. This proposal must include the scope of work and a list of all job materials and other components required providing a fully functional communications infrastructure. Pearl River County requires the proposal to include the location, conduit sizes, cable sizes, cable termination locations, cable and fiber routes, and any additional A/C power requirements. Implementation plans for continuing service during phased construction jobs should be included when required.
- E. **Installation Requirements:** All work performed by installation personnel must be in accordance with industry accepted practices, such as those set forth by the EIA/TIA, BICSI, any specifications as set forth by Pearl River County. The installation must meet all applicable Federal and State laws, all fire and building codes, and all local jurisdiction requirements. The awardee shall be certified by the manufacturer for the systems being installed, and shall provide at least two installers per site, certified

by the manufacturer for the system being installed. Pearl River County or its designees reserve the right for final approval on all materials and workmanship in this project.

- F. **Project Meetings:** Awardee shall be required to attend all project installation meetings as requested by Pearl River County. h. **Progress Reports:** Awardee will be required to submit weekly progress reports to Pearl River County and/or its designees via email each Friday, at the end of the business day.
- As a minimum each report shall contain the following:
- work completed for the week
  - work scheduled for completion the following week
  - unforeseen construction obstacles, other comments, etc.
- G. **Walk Through Inspections:** A corporate officer or an approved representative of the awardee shall participate in a walk through with Pearl River County and/or its designees for the inspection of each installation upon its completion. Pearl River County reserves the right to reject substandard and/or incomplete installations and to withhold payment until walkthrough inspection exceptions are corrected.
- H. **Identification of workers:** All of the installation personnel of the awardee will be required to wear some type of identification while on-site. For example, it shall consist of shirt with the company's name prominently displayed or a company badge denoting the company's name.
- I. **Site Repair:** Awardee is responsible for the cost to repair any and all items, which become damaged by the awardee, or by the employees of the awardee. These items may include, but are not limited to, ceiling grids, ceiling tiles, patch/paint walls or doors, etc. I
- J. **Site Clean-Ups:** Awardee is responsible for removing all trash and debris to outside garbage containers on a daily basis by the end of each day or as needed, during the course of the day. At the completion of the installation of the wiring in the communications rooms, the awardee shall provide a complete clean up of the rooms. This procedure shall include vacuuming of floor surfaces, vacuuming under raised floors, cleaning of racks, panels, boards, etc. Workstation outlet location areas shall be cleaned on an on-going basis each time the awardee completes work in the area.
- K. **Communications:** Awardee shall designate one individual as the main point of contact on an installation site for communications with the county. This individual will be referred to as the Project Foreman. Pearl River County reserves the right to request replacement of a Foreman for any reason, with or without cause. The Project Foreman shall have a cellular phone at all times while onsite. The cellular phone number shall be given to Pearl River County and/or its designees for the purpose of gaining and distributing current information.
- L. **Storage:** Awardee is responsible for providing or arranging for storage on the grounds of each installation project in an arrangement acceptable to Pearl River County.
- M. **Conduct:** All employees of awardee are expected to conduct themselves in a professional manner at all times while implementing this project. All rules and guidelines of the project site shall be adhered to. No smoking shall be permitted on the project site. Awardee shall not interface with county government personnel or contractors, or make use of any county facilities without approval from the county's designated project manager when working on an Pearl River County construction site.
- N. **Materials Inspection:** Awardee shall inspect all materials prior to installation. If any materials are found to be defective, the awardee shall immediately replace said materials. The awardee shall inspect all materials after installation. If any materials are found to be defective, the awardee shall replace the materials (e.g. if a cable jacket is damaged along the length of the run, the cable shall be replaced). q. **Proper Tooling:** Awardee shall possess and have proper knowledge of the appropriate tooling and equipment required for installing the specified materials.

- O. **Project Timeline:** Pearl River County reserves the right to negotiate the time frame with awardee to determine the schedule to be adhered to for each project.
- P. **Materials Requirements:** Awardee shall have a controlled stocking facility located in the area (within 90 miles). All materials for the project shall be at the local stocking facility at least ten working days prior to installation requirements. The Awardee shall have an established system for delivering the materials from the local stocking facility to an installation site as required. Deliveries may be required daily, weekly, or as needed. The Awardee shall have an established system for tracking the materials from date of order through on-site delivery.
- Q. **Material Coordination:** Awardee shall be responsible for the coordination of the materials. The awardee shall arrange for the delivery and acceptance of the materials on site and is responsible to maintain an orderly flow of materials so as to not impede the progress of installation. The Awardee shall be required to keep a comprehensive log of material requisitions and receipts.
- R. **Material Responsibility:** Awardee will be responsible for all materials until Pearl River County and/or its designees accept the completed installation. This responsibility includes, but is not limited to: theft, vandalism, fire, acts of nature, demolition, etc. All costs for this responsibility shall be part of the materials cost (e.g. insurance rider). All acts of theft, vandalism, or other illegal activity shall be reported by the awardee to Pearl River County, and the local law enforcement agency.
- S. **Material Specification:** The communications components selected for this project will be stated in the cost sheets contained in the Proposer's Response. once selected, no substitutions will be allowed without written authorization from Pearl River County or its designees. Items will be procured from the awardee as needed during the projects. These items may include the following: conduit, cable suspension rings, penetration materials, fire stopping, cable ties, nuts and bolts, innerduct, surface raceway, fiber consumable, ground wire or velcro wraps. All items will be included in each quote issued, prior to purchase order issuance.
- T. **Scheduling:** Individual job schedules for new construction and renovations must be adhered to so as not to slow up the project. The schedule(s) will be based upon the best available information at the time of development. The awardee shall be responsible for reviewing the schedule(s) and determining the necessary manpower to assure timely task completion.
- U. **Documentation:** An outlet location overview for the NAB cabling will be noted to the awardee by Pearl River County in the form of a diagram from the general contractor. Pearl River County will provide the awardee with plans to be used as floor plans upon which to base the proposed project work. These plans shall be reviewed for an acceptable numbering scheme and any non-standard workstation outlet locations shall be added.
- V. **Documentation Package:** Awardee shall be responsible for providing to Pearl River County within 15 business days of job completion a detailed documentation package at no additional cost to Pearl River County. This package shall be submitted both on paper and in disk format. The software required to view the electronic package shall be provided to Pearl River County as part of the documentation package if requested. Pearl River County shall retain all rights concerning the documentation package..The package should also include all communications wiring category 6e plenum communication outlet (CO) and fiber test results.
- W. **Inspection and Acceptance Period:** Pearl River County or its designees shall periodically inspect the work of the awardee. When requested, the awardee shall, at no additional charge, supply an installation technician to accompany the individual(s) performing inspection tasks. The awardee shall be responsible for uncovering concealed areas in order for the work to be inspected. The awardee shall be required to make any repairs or modifications deemed necessary by Pearl River County and/or designees immediately to comply with the project specifications. Pearl River County requires a 30-day



acceptance period after the completion of the project. Project completion is the conclusion of all specified work, including all: labeling, testing, documentation and site clean up. Pearl River County and/or its designees shall utilize this period to perform workmanship evaluations and random testing. Once installation is accepted, Pearl River County will notify awardee in writing. Invoice shall not be issued by awardee until after the 30-day acceptance period has concluded.

- X. **Delivery:** Awardee will be ready to deliver service (begin project work for NAB) within 30 days after receipt of purchase order. Awardee must have financial capability to process individual purchase orders as received and not wait until a batch of orders has accumulated. Pearl River County reserves the right to request awardee to delay delivery. Due to construction accelerations and delays, Pearl River County and/or its designees may find it necessary to advance or shorten the delivery schedule. Pearl River County shall not incur any additional cost should the schedule change. Other changes to the schedule shall be handled individually, with the concurrence of all parties.
- Y. **Area Representative:** Awardee shall provide a local representative who will make periodic scheduled walk throughs and visits to the schools, departments and centers, and who will be available upon request, to offer county wide coordination in assessment, planning, network design, budgeting, procurement and invoicing, shipment and inside delivery, installation, implementation, training, phone support and on-site warranty support for Pearl River County local area networks.
- Z. **Installation Warranty:** The installed communications cable systems shall have a product/workmanship warranty of at least 5 years. The awardee shall replace, free of charge for this period, any cable, connector, or other component installed by the awardee, which malfunctions. This warranty shall in no manner cover components that have been damaged or rendered unserviceable due to negligence, misuse, acts of vandalism, or tampering by personnel other than the awardee's employees or agents. dd. Assurance/Performance Warranty: The installed communications cable system shall have an assurance/performance warranty of at least 15 years. This warranty shall be from the manufacturer/authorized Dealer of the connecting hardware components in accordance with the specifications for design and installation for this project. The manufacturer/authorized Dealer shall warrant that the communications cable system shall support all applications developed and sanctioned for the use of an EIA/TIA 568 B compliant Category 6e plenum cable system. If the system fails to meet these requirements during this warranty period, the manufacturer/authorized Dealer shall, solely at their cost, repair or replace the cable system.
- AA. **Restoration Responses:** If the failure or malfunction of a component causes a single workstation outlet location to become inoperable, the awardee shall correct and make serviceable the station within 16 business hours (two days) of being notified of the problem. The repairs may be made during normal business hours. If the failure or malfunction of a component causes more than a single workstation outlet location (such as a network segment or backbone cable) to become inoperable, the awardee shall correct and make serviceable the stations within 24 hours, excluding weekends and holidays, of being notified of the problem. The repairs shall be made regardless of time of day. If the failure or malfunction is considered to be a major system failure, the awardee shall correct and make serviceable the stations within four business hours of being notified of the problem.
- The awardee shall be available during business hours to respond to repair calls.
  - The awardee shall maintain contact with Pearl River County until the failure or malfunction is corrected.
  - The awardee shall stock a sufficient amount of replacement materials for the expressed purpose of restoring service.
  - The awardee shall follow the manufacturer's procedures to replace any materials used from their stock for these repairs.

- All costs for the entire warranty period (15 years) shall be included as part of the project price.

## B. Solution Requirements

### A. Methods

1. Using the drawings and instructions provided as an attachment, submit a descriptive cabling proposal and comprehensive materials list including software, hardware and services for a representative design. The network proposal must be a complete and totally functioning cable design solution based on Category 6e. Include 12-strands of single-mode fiber from each IDF to the MDF.
2. Develop and include in the proposal an implementation plan that provides a seamless transition for the services and systems to those proposed should the proposal be accepted. A successful implementation plan minimizes or eliminates disruption to staff, systems and existing business processes. Since this is a new construction area, the existing services are connectivity from the existing courthouse and the NAB.
3. Include a Service Level Agreement for review as part of the proposal warranting that services will be delivered as requested and outlining a process for escalation and remediation of problem conditions.
4. The cost proposal should be included in the format included below. If other components are required for the complete solution in the cost proposal which are not listed as items in the cost proposal matrix, include these items as indicated as Other Goods and Services.

The format to be used for submitting the Cost Proposal is as follows:

## Cost Proposal Format

<u>Product or Service</u>	<u>Total Cost \$</u>
<b>Materials</b> needed for the NAB building (cables, patch cords and panels, racks, faceplates, blocks, hooks, etc.)	\$
<b>Labor</b> needed for the NAB building	\$
<b>Materials</b> needed to interconnect NAB and existing courthouse (fiber and any other materials)	\$
<b>Labor</b> needed to interconnect NAB and existing courthouse	\$
<b>Other Goods and Services</b> (see below).	\$
<b>Total Cost for NAB cabling and connection to existing courthouse</b>	\$

Printed name and Signature of representative of the proposer

Name \_\_\_\_\_

Signature \_\_\_\_\_

**Other Goods and Services** (if items entered, they should equal total amount entered above)

<b>Other Goods and Services (by name / identification)</b>	<b>Description of why needed</b>	<b>Total Cost</b>

**B. Specifications**

1. The Awardee shall comply with all requirements as listed below in developing the project workplan and execution of the installation of the associated equipment.
2. All patch panels and communications COs shall be 8-pin modular jack output, wired to the EIA/TIA 568 B wiring convention.
3. Infrastructure Backbone System installation shall include: Copper tie cables, plenum rated 6e cable, and 12 strand single mode 62.5/125 mm fiber optic cables, horizontal cable and COs, cabling racks, patch panels and 66 pin connecting blocks in the distribution frames, wire management panels, or with all necessary protection, backboards, ladder rack assemblies, fiber termination boxes, fire stopping and all grounding apparatus. The wiring system shall be fully tested with complete documentation supplied to Pearl River County. The installed communication transport system will fully comply with all EIA/TIA 568 B, 569, TSB 40-A guidelines, NFPA 70, 101, BISCI, and the State of Mississippi Building Code.
4. To avoid problems caused by electromagnetic emissions from power cables and other premises equipment, the requirements of NEC (National Electric Code) Article 800 requirements shall be met for all horizontal pathways and cabling.
5. The physical topology of the horizontal cabling shall be configured as a hierarchical star topology with each CO connected directly to a Horizontal Cross-connect (Patch Panel) in a communications closet.
6. Cross-connections shall be used for connections between horizontal and backbone cabling and for connections between horizontal cabling and premises equipment with multiple port outputs (such as 25-pair connectors). All connections between horizontal and backbone cables shall be made through a horizontal cross-connect.
7. All devices that are specifically intended to support a given application shall be installed external to the CO and the horizontal cross-connects.
8. Under carpet cabling shall not be used unless prior approval is given in writing by Pearl River County.
9. Connecting hardware shall not be installed in ceilings or spaces that are not specifically intended for communications use.
10. Bridged taps shall not be used in the horizontal cabling.
11. Splices shall not be used for horizontal plenum rated cabling.
12. Pearl River County requires that the length limitations for the combination of cross-connect jumpers and patch cords in the cross-connect facilities, including horizontal cross-connect, jumpers, and patch cords that connect horizontal cabling with equipment or backbone cabling, shall not exceed 5 m (16 feet) in length.
13. All twisted pair station cables shall be within 90 meters (295 ft.) of the terminating cross-connect (this length includes end to end routing with a service loop).
14. Cabling shall be run using appropriate J-hook and D-ring where applicable for all bundled cable and must be run in hallways to data rooms. The maximum span between supports shall be six (6) feet.
15. Cable trays and ladder racks are to be used in the communications room for wiring and will be separated by color for data, camera, and wireless access points.
16. All twisted pair station cables shall have a support hanger and 12 inches of supported service loop above the entrance to the CO locations.
17. All twisted pair station cables shall have a 6 foot service loop at the rack location.
18. The pulling tension of all twisted pair station cables shall not exceed manual hand pull tension.

19. When pulling cable through the ceiling space while standing below the grade of the cable, the cable shall not be bent around objects of less than two inches in diameter with a smooth surface (ex: temporarily install a perpendicular, short length of two inch EMT or cable pulley versus pulling around the sides of a cable tray, ceiling grid, other pipes, etc.).
20. All communication wiring shall follow all applicable codes as defined in the most current BICSI (Building Industry Consulting Service International) standards manual.
21. In partition walls, the station cables and outlet box shall be installed with a minimum separation of 18 inches from any power outlet.
22. In any communications equipment room, which is adjacent to an electrical room, mechanical room, elevator shaft, or other EMI/RFI source, the cables shall not be routed on the adjacent wall(s).
23. Jacketed twisted pair station cables shall have a minimum bend radius of eight times the diameter of the cable (+ 4.5 cm. or 1.75 in.).
24. The jacket of the twisted pair cable for 66 pin connecting block type connections shall be removed only as far as necessary to perform required terminations from the point where the conductors are laced into the retention slots of the terminating hardware. All patch panels shall have support bars.
25. The conductors of the twisted pair cable shall be untwisted a maximum of 1.25 cm (0.5 in.) from the point which the conductors are laced into the retention slots of the terminating hardware.
26. The manufacturer's installation instructions shall be followed in accordance with the requirements set forth in this section.
27. All twisted pair station cables being terminated in an outlet box at the workstation shall have the slack from the termination pulled loosely into the ceiling space. This can be accomplished by simultaneously raising the service loop in the ceiling space and carefully feeding the station cable into the conduit stub, or wall cavity.
28. All terminations, which require the use of an impact tool, shall have the impact tool set to its lowest level. Only single conductor tools shall be permitted.
29. The installation technician shall visually inspect all conductors prior to using an insertion tool to seat the conductors.
30. The pairs shall be visually inspected after the conductors are seated. If a connector needs to be re-terminated then all conductors in that cable shall also be re-terminated to keep consistent length and pair twists.
31. All cables shall be segregated prior to being routed in any communications equipment room housing the connecting hardware (ex: CER, CC, etc.). The cables shall be separated in the overhead horizontal pathway ceiling space outside of the terminating room according to their termination point.
32. Horizontal Cables: All Category 6e unshielded twisted-pair plenum rated cables and all 12-strand single mode 12-strand single mode 62.5/125 mm optical fiber cables used in the horizontal subsystem shall be certified by the manufacturer to meet the appropriate specifications of ANS/EIA/TIA 568 B when issued. Twisted-pair cables with an overall shield (braid, foil or both), or with individual pair shielding, shall not be used as part of the horizontal portion of the cabling system.
33. Horizontal Connecting Hardware: All connecting hardware used with Category 6e plenum rated cables and all 12-strand single mode 62.5/125 mm optical fiber cables in the horizontal subsystem shall be approved by Pearl River County. Only connectors that are specifically rated to meet the transmission requirements of ANSI/EIA/TIA 568 B and TIA/EIA TSB 40-A shall be used.
34. Horizontal Patch Cord Assemblies: All cable assemblies used to cross-connect Category 6e plenum rated cables and 12-strand single mode 62.5/125 mm optical fiber cabling are subject to the

- following requirements. All modular plug cords that cross-connect Category 6e plenum rated cabling shall be factory assembled and conformance tested to 100 MHz and meet the appropriate specifications of EIA/TIA 568 B, EIA/TIA TSB-36 and TIA/EIA TSB 40-A.
35. All optical fiber cable assemblies that cross-connect 12-strand single mode 62.5/125 mm optical fiber cabling shall be factory assembled and conformance tested to meet the appropriate specifications of the OEM (Original Equipment Manufacturer).
  36. Grounding and bonding requirements specified in the applicable codes and regulations shall be in compliance. Bonding and grounding of horizontal pathways shall comply with applicable codes and regulations. Properly installed fire stop systems shall be installed to prevent or retard the spread of fire through the building. This requirement applies to openings that may or may not be penetrated by cables, wires or raceways. Pathways shall not have exposed sharp edges that may come into contact with horizontal cables. Exposed sheet metal edges shall be provided with bushings or other means of protection such that cables will not be damaged during or after installation.
  37. Access floor distribution in spaces used for handling environmental air shall meet all applicable building and electrical codes.
  38. Cable trays or a defined communications cable pathway (i.e.: a pathway that is specifically dedicated for communications use), shall be used for cable management in areas covered by access floors.
  39. Since it is preferable that the pathways be capable of handling all cable types, the inside bend radius of conduits shall always be at least ten times its internal diameter.
  40. Ceiling distribution and the installation of communications cabling and pathways in spaces used for handling environmental air shall meet all applicable codes and regulations. Conduit preparation to remove sharp edges shall be performed to prevent damage to cable jackets during and subsequent to pulling.
  41. Since cable trays and wire ways are usually metallic, all sharp edges, burrs and screw tips that may come into contact with cabling shall be removed.
  42. Ceiling distribution systems shall provide a minimum of 150 mm (six inches) clearance between the cable support means and the structural ceiling per the current standards in the BISCIEIA/TIA manual.
  43. Cable support shall be provided by means that are structurally independent of the suspended ceiling, its framework, or supports.
  44. Cables that extend between communications closets and quad COs shall not be exposed in the work area or other locations with public access.
  45. The plenum rated station cables shall be routed per specifications stated elsewhere in this document to their termination points.
  46. Others will install conduits in accordance with the drawings provided.
  47. Cable suspension rings shall be utilized to suspend the plenum rated station cables in the interstitial ceiling space from the cable tray or the communication room or closet. These rings shall be installed every six (6) feet.
  48. Connecting hardware shall not be installed in spaces that are not specifically intended for communications use.
  49. All devices that are specifically intended to support a given application shall be installed external to the main or intermediate cross-connect.
  50. Bridged taps shall not be permitted. When used, splices shall be kept accessible and shall not be used for routine cabling system changes.

51. All backbone connecting hardware used with Category 6e plenum rated cables and all 12-strand single mode 62.5/125 mm optical fiber cables in the backbone cabling shall be approved by Pearl River County. Only connectors that are specifically rated to meet the transmission requirements of EIA/TIA 568 B and EIA/TIA TSB 40-A or any newer standards shall be used.
52. All jumpers and cables used for patch cords that cross-connect to the Category 6e plenum rated cables and all 12-strand single mode 62.5/125 mm optical fiber backbone cabling, shall be certified by the manufacturer to meet the appropriate specifications of EIA/TIA 568 B, EIA/TIA TSB-36 and EIA/TIA TSB 40-A or any newer standards. Twisted-pair patch cables or jumpers with an overall shield, (braid, foil, or both), or with individual pair shielding shall not be used as part of the backbone cross-connect portion.
53. For each intrabuilding backbone run, at least one 12 strand (6 pairs) optical fiber cable shall be provided between the NAB and existing courthouse.
54. Additional pairs may be required dependent upon the number of COs served by the CC. This pair count will be determined in design.
55. Bonding and grounding of backbone pathways shall comply with applicable codes and regulations.
56. All pathways shall be properly fire stopped. Pathways shall not have exposed sharp edges that may come into contact with horizontal cables. Exposed sheet metal edges shall be provided with bushings or other means of protection such that cables will not be damaged during or after installation. Backbone pathways shall be installed such that the minimum bend radius of backbone cables is kept within manufacturer specifications both during and after installation

### C. Installation Specifications

- A. Installation shall not be performed on weekends or during designated holidays unless pre-arranged with Pearl River County.
- B. Installers must be fully competent in the installation and operation of the product as delivered. If it is determined by Pearl River County that an installer is not fully competent, Pearl River County reserves the right to have the company provide another qualified installer. If the awardee cannot provide a fully competent installer for the awarded product within 5 working days, then the awardee will be in violation of the RFP.
- C. The cost of installation will be included in the equipment cost submitted on a cost

### D. Cable Installation Standards

- A. The plenum rated wiring system shall be installed in accordance with all industry, local code installation, and testing guidelines set forth in this document and the manufacturers' instructions.
- B. The Awardee shall be responsible for following the guidelines set forth in the most current version of the EIA/TIA BISC specifications.
- C. Per information from the EIA/TIA standards, a single point grounding system shall be utilized. All cables shall be properly grounded in the communications equipment room.
- D. The Awardee shall apply pre-printed label strips to all twisted pair station patch panels; each patch panel will be identified in a clear manner as to the associated CO ports. Pearl River County reserves the right to alter or change the labeling criteria as needed, but will work in conjunction with the awardee in doing so to avoid confusion of how an item is labeled.
- E. For the telephone service entrance facility cabling, all electrical, grounding and bonding requirements specified in applicable codes and regulations shall be met.

- F. The entrance room or space shall be located in a dry area not subject to flooding, and as close as practical to the vertical backbone pathways. g. Local Telephone Company Access shall be available to the main building grounding electrode for the termination of the entrance cable facility.
- G. All local telephone company entrance facility requirements are to be coordinated and complied with by awardee for telephone service access where applicable.
- H. The cable connecting hardware shall be installed in spaces whose temperatures do not exceed the range from -10° C (14°F) To 60° C (140°F) and shall be protected from physical damage, and from direct exposure to moisture and other corrosive substances. This protection may be accomplished by installation indoors or in an appropriate enclosure for the environment.
- I. The cable connecting hardware shall be securely mounted on walls, floors, racks or other stable and accessible surfaces.
- J. Connecting hardware and all other cabling system components shall be installed to provide minimal signal impairment by proper cable preparation, termination practices, orientation, and mounting that are all in full compliance with manufacturers' guidelines.
- K. Cable connecting hardware shall be installed to provide orderly, well-organized cable management with color-coding, labeling and documentation consistent with standard practices being utilized within Pearl River County government.
- L. Spaces used to execute on-going cabling system changes shall have a minimum of 540 Lx (50 foot candles) of light measured at the point of termination and rack clearances on the rear of the patch panels of 0.6 m (2 ft), and front 1 m (3 ft) for access and cable dressing space.
- M. Cables shall be installed in pathways and spaces that afford adequate protection from weather and other hazards that are typical to the environment.
- N. The amount of untwisting in a pair as a result of termination to connecting hardware shall be no greater than 13 mm (0.5 in) for Category 6e plenum rated cables.
- O. All plenum rated cabling runs shall be connected straight through with no transpositions of pairs or conductors. Some applications require a crossover of pairs between pieces of active equipment in order to properly configure transmit and receive connections.
- P. Camera cabling and wireless access point (WAP) in some cases not be run in conduit, but will be using the same routing procedures and specifications as noted herein for loops and termination.
- Q. In spaces with plenum rated terminations, cable bend radii shall not be less than four times the cable diameter for horizontal cable and shall not be less than ten times the cable diameter for multipair cable.
- R. Due to combined effects on link performance regarding multiple cross-connect blocks and patch panels in close proximity, Pearl River County requires that each plenum rated link shall pass through no more than two pieces of connecting hardware in a cross-connect.

## E. Optical Fiber Cable Installation Standards

- A. All internal building optical fiber cables shall be routed through distribution rings or within conduit.
- B. All optical fiber cables shall have a minimum bend radius of 18 times the outside diameter of the cable. All conduit runs shall contain "sweeps" versus 90-degree bends.
- C. The optical fiber cable shall have the proper strain relief when installed in enclosure in accordance with the manufacturers' instructions.
- D. Each connector shall be visually inspected with an optical fiber microscope. No visual deformations of the core or the cladding are acceptable (ex: scratches, chips, cracks, adhesive, etc.). Optical fiber cable connecting hardware shall be protected from physical damage and from direct exposure to moisture and other corrosive elements. This protection may be accomplished by installation indoors or in an appropriate enclosure for the environment.



- E. The optical fiber connecting hardware shall be installed to provide a neat, well organized installation with optical fiber management and sound, optical termination practices in accordance with manufacturer's guidelines;
- F. Color-coding, labeling and documentation consistent with Pearl River County guidelines.

## F. Grounding and Bonding

- A. All grounding and bonding shall meet all specifications and requirements per the NEC (National Electric Code) 250.

## G. System Testing Requirements

- B. All performance testing of cabling (plenum rated and fiber) shall be provided to Pearl River County in a documentation package.
- C. All transmission testing on plenum rated cabling shall be performed using an approved and properly calibrated Category 6e cable tester.
- D. Guidelines and requirements for connections, test configuration and measurement procedures and precautions that are specified in the manuals provided with the tester shall be followed.
- E. plenum rated adapters used to access connecting hardware at the cross-connect facilities and the Communications Outlet shall meet or exceed the performance category of the link to which it connects.
- F. All backbone plenum rated links with fixed cable lengths of no more than 90 m (290 ft) and all horizontal plenum rated links should be 100% tested for the following parameters:
  - Length
  - SNR
  - Loop resistance
  - Capacitance
  - Continuation
  - Near end crosstalk (NEXT)
  - Line MAP

G. All backbone plenum rated links shall be 100% tested for continuity.

H. All transmission testing on optical fiber shall be performed using approved optical fiber test equipment (power meter and light source required for attenuation, OTDR required for length measurements).

I. Guidelines and requirements for connections, test configuration and measurement procedures specified in the manuals provided with the optical fiber tester(s) shall be followed. I

J. Optical Fiber adapters used to access connecting hardware at the cross-connect facilities and Telecommunications Outlet shall be compatible with the cabling to which it connects.

K. All equipment and set-up requirements for testing of 12-strand single mode 62.5/125 mm optical fiber links.

L. All horizontal and backbone links shall be 100 percent tested for polarity and attenuation. Horizontal and backbone cable lengths shall also be 100 percent tested using an OTDR.

M. The measured length of the fixed cable portion of any optical fiber link shall not exceed the lengths specified for horizontal or backbone cabling in the Horizontal Distribution and the Backbone Distribution sections of this specification.

N. All 12-strand single mode 62.5/125 mm optical fiber links shall meet the applicable requirements.

## H. Electromagnetic Interference (EMI)

- A. The proximity of Category 6e plenum rated cabling, cable pathways and spaces used to carry or house communications cabling to electrical facilities and equipment that generate high levels of

electromagnetic interference (EMI) should be taken into account for metallic cabling. Sources of EMI include: Power cables; photocopy equipment, electric motors, transformers, fluorescent lighting, arc welders, and induction heaters. Examples of capacitive coupled noise sources include photocopy machines and fluorescent lighting. Examples of inductively coupled noise sources include motors, transformers, heaters and air conditioners. To avoid EMI, communications pathways, spaces and metallic cables shall be installed with the following clearances:

- 1.2 m (4 ft) from large motors or transformers
- 0.3 m (1 ft) from conduit and cables used for electrical power distribution
- 12 cm (5 in) from fluorescent lighting

- B. Pathways and metallic cables shall cross perpendicular to fluorescent lighting and electrical power cables or conduits.
- C. Closed metal pathways (e.g., conduit) generally provide adequate protection from nearby capacitive coupled (rapid changes in large voltages) noise sources typically found in commercial buildings. Separate conduits shall be used to carry communications cabling and electrical power. Metallic conduits shall be grounded. In cases where inductively coupled (rapid changes in large currents) noise sources are a problem, the closed metal pathway section, in proximity to the source, shall be of ferrous induction suppression material.
- D. Separate raceway shall be used for communications wiring and electrical power to minimize EMI. These raceways shall be grounded and shall not be spaced closer than 300 mm (12 inches) apart.
- E. In multichannel metal raceways, dividers separating compartments shall be bonded to ground. Multichannel raceway systems shall have grounded metallic barriers to provide separate cells for communications wiring and electrical power.
- F. Feeders shall be provided as separate raceway for each type of service (e.g., power, communications wiring) or as a single trench duct equipped with a barrier for each type of service. Access units shall be spaced to fall directly above the selected cells. Jack feeder raceway shall be provided to maintain coverage of floor areas that would otherwise be isolated; e.g., by stairwells or columns.
- G. The interior of access units that serve both communications wiring and electrical power shall contain a grounded partition to allow complete separation of the systems. If electrical power is one of the services in a combined fitting, the fitting shall be fully partitioned.
- H. Communications wiring spaces, including work areas, communications closets, equipment rooms and entrance facilities shall be located away from sources of EMI at a distance that will reduce the interference to 3.0 V/m.

## I. Service Delivery Procedures

- A. When arriving on site the installer must make contact with the site administrator or designee.
- B. The installer is responsible for breaking down and removing all boxes and packing materials to an area designated by location administrator.
- C. Awardee will install and configure equipment as per county specifications.
- D. Document equipment installation on a network parameter setup sheet provided by Pearl River County, leave network documentation with location administrator, provide a copy of equipment installation parameters with the county and notify the project manager of the completion via email and voice.
- E. All equipment will be installed to county standards and specifications and or as directed by designated county program manager.
- F. Awardees must coordinate with Pearl River County when determining location and installation of network equipment, cabling, racks and other details.

- G. Pearl River County will coordinate the necessary wiring of data and power requirements with approved proposer based upon awardee's approved network design. Awardee is responsible for installing and configuring network equipment including constructing and mounting equipment within enclosures, grounding and connections.
- H. Awardee is required to include a dedicated project manager during the implementation of network cabling and upgrades. Project manager should coordinate efforts between other contracts such as wireless LAN's as well as take direction and report project status to Pearl River County.

## J. Cable Material Specifications

- A. Category 6e Plenum rated (Unshielded Twisted Pair) cable specifications shall meet or exceed the following standards or requirements:
  - Mohawk, Belden or equivalent as approved
  - Certified to EIA/TIA Category 6e
  - UL Rated CMP
  - Manufacturer to be ISO 9002 Certified
  - EIA/TIA 568 B, Horizontal Cable Section and TSB-36
  - IEEE 802.3 and IEEE 802.5
  - ANSI X3T9.5 100 Mbps
  - Plenum rated cable shall be composed of the following material:
    - 1) 24 AWG Solid Bare Copper
    - 2) Extruded Thermoplastic Color Marking for Pair Identification
    - 3) Flexible Jacket Material with Required Specific UL Cable Markings
    - 4) Footage Marking on Jacket.
- B. All patch panels and COs will be of the 568 B wiring configuration. All patch panels must meet the requirements of ANSI/EIA/TIA, for Category 6e plenum rated cable specifications.
- C. All Connectors (faceplates of COs) must meet the requirements of ANSI/EIA/TIA, for C Category 6e plenum rated cable specifications. All connectors will be 568 B configurations.
- D. All floor outlet Connectors must meet the requirements of ANSI/EIA/TIA, for Category 6e plenum rated cable specifications. All connectors will be 568 B configurations. Types of floor outlets are to be determined upon design, dependent upon area of installation.

## K. Data Room Specifications

- A. Awardee shall comply with requirements as listed below in developing the project design and execution of the installation.
- B. In the data rooms, all networking equipment placed into the communications equipment rack (including the rack) shall be supplied by the awardee. The equipment room shall be equipped to contain communications equipment, cable terminations and associated cross-connects.
- C. Access shall be made available to the main building-grounding electrode.
- D. All equipment racks shall have wire management to be approved by Pearl River County. Wire management will be installed to properly route data and voice patch cords for vertical or horizontal routing. All equipment racks shall be installed per the manufacturers' instructions (ex: leveled and bolted to the floor and to adjacent racks). All equipment racks shall have a power strip securely screwed to the backside of rack.

- E. All communications closets shall meet all specifications and standards stated in the most current BICSI manual.

## L. Cable and Rack Organization Specifications

- A. The Awardee shall comply with all Pearl River County requirements as listed below in developing the project workplan and execution of the installation.
- B. The twisted pair station cables shall be routed into the wire management racks through the ladder rack utilizing the built-in troughs on each side of the rack. The twisted pair station cables shall be divided (right or left) depending upon the side of the patch panel to which the twisted pair station cables are terminated.
- C. The twisted pair station cables shall be terminated on the back of the patch panels utilizing the four pair connecting blocks. plenum rated station cables shall be either terminated in consecutive order utilizing the station identification number or be terminated in four identical sized color-coded patch panels as determined by Pearl River County. In an area with a minimum of 24 COs of four port each, there will be a minimum of four 24 port patch panels, one patch panel for each port position. The method of termination in the patch panels shall be approved by Pearl River County based upon the site requirements.
- D. The Awardee shall install wire management system in accordance with the guidelines set by Pearl River County. A brief description of the information is contained herein.
  - Horizontal: The Awardee shall install wire management mounted on a rack panel. The racks and the single bay equipment racks shall utilize wire management to be specified by Pearl River County. One wire management shall be installed above and below each patch panel, optical fiber enclosure, and equipment space where applicable. The Awardee will work closely with county personnel to ensure all necessary “miscellaneous” patch panels are installed at each location.
  - Vertical: The Awardee shall install wire management on and between each rack installed.
- E. All partition wall workstation CO locations shall have the cables routed in the void space inside the wall. If conduit is provided at the location, the cables shall be routed therein to the outlet box. If a conduit is not provided at the specified location, the Awardee shall make access to the void space above the ceiling level and “fish” the wall. Solid walls, or areas, which are unable to be “fished”, will utilize surface raceway and surface mounted boxes, permanently affixed to the walls. Pearl River County or its designees must approve other methods prior to installation.
- F. The Awardee shall identify and permanently mark the workstation CO location with the communications equipment room identifier and the Information Outlet (IMO) number. Each CO (port) shall have a permanently affixed colored icon depicting the patch panel identifier as specified by Pearl River County.

## M. Cable Identification and Organization

- A. Camera and WAP cables will allow for same Cables should be designated by color to allow easy identification:
  1. Data shall be blue,
  2. Camera shall be red,
  3. Wireless access points shall be green
- B. All three sets of cabling (Data, Camera, WAP) shall have their own rack in the data room where terminated.