

Invitation for Bids
Forsyth County
Management Information Services



Kernersville Library
Structured Cabling / Audio Visual Systems

BIDS WILL BE RECEIVED UNTIL

12:00 Noon, Tuesday, April 24, 2018

by

City/County Purchasing Department, City Hall Suite 324
101 North Main Street, Winston-Salem, NC 27102

MANDATORY PRE-PROPOSAL CONFERENCE

WILL BE HELD

10:00 AM, Thursday, April 12, 2018

at

Room 16, City Hall Building, 101 North Main Street, Winston-Salem, NC 27101

Advertisement for Proposals

Kernersville Library – Structured Cabling / Audio Visual Systems

Sealed proposals endorsed “**Kernersville Library – Structured Cabling / Audio Visual Systems**” to be furnished to the Forsyth County will be received by the City/County Purchasing Department in Suite 324 of City Hall, 101 North Main Street, Winston-Salem, N.C. **until 12:00 Noon, Tuesday, April 24, 2018**. To obtain the complete proposal document or receive instructions for submitting proposals contact Jerry Bates via email jerryjb@cityofws.org, phone 336-747-6939, or visit the Purchasing Department at same location from 8:00 A.M. to 5:00 P.M. Monday through Friday. The County reserves the right to reject any and all proposals.

A **MANDATORY** pre-proposal Conference will be held 10:00 AM, Thursday, April 12, 2018, in Room 16 of City Hall Building, 101 North Main Street, Winston-Salem, NC 27101. The purpose of this conference is to explain the scope of work involved and to give prospective proposers the opportunity to discuss the existing conditions and work parameters. Staff will be present to answer questions. Forsyth County will not entertain Proposals from firms who do not have a representative attend this meeting. A sign-in sheet will serve as the attendance record. All bidders will be limited to two representatives.

Jerry Bates
City/County Purchasing Director

This document IS NOT the complete proposal. To obtain the completed proposal specifications contact Jerry Bates via email jerryjb@cityofws.org, by phone 336-747-6939, or visit the Purchasing Department, City Hall Building, Suite 324, 101 North Main Street, Winston-Salem, NC during regular office hours.

INSTRUCTIONS TO PROPOSERS

INTRODUCTION:

This entire set of documents constitutes the IFB. The proposer must return the IFB with all information necessary to properly analyze the proposer's response in full, in the same numerical order in which it was issued. Proposer's notes, exceptions, and comments may be rendered on an attachment, provided the same format of this IFB text is followed.

IFB Response Submission

All proposals shall be returned in a sealed container or envelope containing one original proposal (please mark document as original) showing original signatures and seals and two (2) copies of the complete proposal marked Kernersville Library– Structured Cabling / Audio Visual Systems. Proposals must be submitted to the City/County Purchasing Department in Suite 324, City Hall Building, 101 North Main Street, Winston-Salem, NC, no later than **12:00 Noon, Tuesday, April 24, 2018.** **Late proposals will not be considered.**

The County will not be obligated for the expenses of any provider arising out of preparation and/or submittal of responses to this IFB. Any and all proposals to this IFB are to be prepared at the cost and expense of the respondents, with the express understanding that there may be no claims whatsoever for the reimbursement of any costs, damages, or expenses relating to this procurement from the County or any other party for any reason (including the cancellation of this IFB).

Proposals must be made in the official name of the individual, firm, or corporation under which the business is conducted (showing official business address) and must be signed in ink by a person duly authorized to legally bind the business entity submitting the proposal.

All proposals should be complete and carefully worded and must convey all of the information requested by the County. If errors or exceptions are found in the proposal, or if the proposal fails to conform to the requirements of the IFB, the County will be the sole judge as to whether that variance is significant enough to reject the proposal.

Proposals should be prepared simply and economically. All data, materials, and documentation shall be available in a clear, concise form. The County reserves the right to reproduce proposals for internal use in the evaluation process.

Proposers are expressly forbidden from contacting any other County employee or Forsyth County elected official regarding this Request for Proposals. Any such outside contact may result in disqualification from the request for proposal process.

Proposer Questions and Inquiries

Proposer Questions and Inquiries relative to this IFB must be submitted **in writing only** by **12:00 Noon, Wednesday, April 18, 2018**, to Jerry Bates, City/County Purchasing Director, 101 North Main Street, Winston-Salem, NC 27101 or e-mail: jerryjb@cityofws.org (**Email is preferred**), Fax: (336) 727-2443. The County will provide written responses to all inquiries received by this date, and responses will be made available to all recipients of this IFB. Any oral responses made by any representative of the County may not be relied upon. Any supplements or amendments to this IFB will be in writing and furnished to potential bidders.

Specifications & Scope of Work

General Information

Introduction

Forsyth County Management Information Services (MIS), by way of this specification and scope of work, requires the contractor to furnish all materials, labor and services to install the structured cabling as specified or reasonably implied as necessary to complete this project. The contractor is responsible for assessing the conditions of the job site and facilities, storing, placing, handling and installing the materials and equipment. The contractor is responsible for any and all test equipment, tools, ladders, lifts and scaffolding required to perform the installation.

Pre-Bid Location and Project Location

City Hall Building, Room 16, 101 North Main Street, Winston-Salem, North Carolina 27101.

Project Overview

The requirement of this project is to furnish and install a complete structured cabling system including but not limited to all required components, cabling, data jacks, coax termination parts, face plates, hardware, wire management, raceway, J-Hooks, termination blocks, patch panels, equipment racks, ladder/racks, grounding blocks/wire, patch cords, line cords, cross connect wire and cable tray and any additional components necessary to ensure that Forsyth County Government is provided with a standards compliant cabling solution with guaranteed cabling performance. This is a brief overview of the project and should be used as such.

At the time of the issue date of this specification, information was accurate to the best of our ability. The cabling contractor shall be responsible to review the drawings and all sections in this IFB to determine all work required and related components needed to complete this project. The contractor shall be responsible, at the contractor's expense, for acquiring all drawings required for this project. The cabling contractor shall be responsible for documenting the location of each outlet and its total distance back to the telecommunications room. (Distance not to exceed 90 meters from outlet jack to patch panel).

1. Pre-Bid Meeting

- a. At the time of the pre-bid meeting it shall be the cabling contractor's responsibility to ask questions related to the work, review drawings, and determine cable pathways. Any wall structures that require sleeves are the responsibility of the cabling contractor. If the contractor needs to look above ceilings or see any other building structure related to the cable pathways this will be the only time allowed, please bring a ladder and measuring wheel if you think you will need them.
- b. The structured cabling contractor shall have in his employment as a full-time employee at least one RCDD (Registered Communications Distribution Designer). This person shall be assigned to this project and act as the point person.

2. Project Overview

- a. The requirement of this project is to furnish and install a complete structured cabling system including, but not limited to all required components, cabling, data jacks, coax termination parts, flush mounted wall face plates, cubicle and furniture faceplates, surface mounted boxes, hardware, wire management, raceway, J-Hooks, termination blocks, patch panels, equipment racks, ladder/racks, grounding blocks/wire, patch cords, line cords, cross connect wire and cable tray and any additional components necessary to ensure that Forsyth County Government is provided with a standards compliant cabling solution with guaranteed cabling performance. This is a brief overview of the project and should be used as such.
- b. At the time of the issue date of this specification, information was accurate to the best of our ability. The cabling contractor shall be responsible to review the drawings and all sections in this IFB to determine all work required and related components needed to complete this project. The contractor shall be responsible, at the contractor's expense, for acquiring all drawings required for this project. The cabling contractor shall be responsible for documenting the

location of each outlet and its total distance back to the telecommunications room. (Distance not to exceed 90 meters from outlet jack to patch panel).

3. Project Schedule

- a. PROJECT START DATE - TBD
- b. PROJECT COMPLETION DATE - TBD

The structured cabling contractor will complete the structured cabling project as defined in this specification and scope of work in its entirety and on schedule. The contractor is required to meet Forsyth County's and the General Contractors schedule for completion.

4. Change Orders

- a. All change orders, changes to the scope of work, or specifications, are to be approved in writing before they are made and can only be approved by the Forsyth County MIS department. All changes orders will be issued as an Addendum and shall be signed by the owner and the contractor before any changes are made.

5. Changes and Alternates

- a. Forsyth County MIS will consider any changes or deviations from the structured cabling specification or approved products and manufacturers defined in this document as non-responsive. Forsyth County MIS will consider any changes or deviations from the pricing formats as defined in this document as non-responsive. Forsyth County MIS will consider any changes or deviations from the Bid Schedule or Project Schedule as defined in this document as non-responsive.
- b. Any item of equipment or material not specifically addressed on the drawings or in this document and required to provide a complete and functional cabling installation shall be provided in a level of quality and cost consistent with other specified items.

6. Disclaimer

- a. Nothing contained herein (specifications) allows the contractor to perform in a manner deficient of providing Forsyth County with a complete and accurate job. Any errors or omissions contained herein do not preclude the contractor from installing a functional system. If such an omission is apparent to the contractor upon review of this specification and scope of work, the contractor bears responsibility to inform Forsyth County so adjustments can be made. Any clarifications or modifications affecting the specifications and scope of work of this project will be provided by the County and sent via email to the contractor in the form of an addendum. This process places the burden of such omissions and errors upon the contractor, and discharges Forsyth County of its responsibility for a complete and functionally correct system installation.

7. Structured Cabling Contractor's Responsibilities

- a. The cabling contractor is responsible for verifying that all materials fit the associated parts. Example: Jacks specified fit actually the floor boxes installed. The cabling contractor shall review all materials descriptions and part numbers the customer has specified in this document before bidding and inform the county if there are any issues with these materials or part numbers.
- b. All copper and fiber optic patch cords that are required to be provided for this project are to be delivered directly to Forsyth County no less than 60 days prior to the general contractors scheduled certificate of occupancy date.
- c. During the course of the project the cabling contractor shall provide Forsyth County with a work breakdown schedule for completion of the structured cabling project milestones.

8. System Description

- a. All network cabling is to be terminated 568B.
- b. **Cable ties shall not be used.** Velcro fasteners shall be used to secure all structured cables.

- c. Where J Hooks or on-continuous cable supports are used they shall be installed at intervals of (4 - 5 feet) apart to effectively support and distribute the cables weight based on manufacturer's specifications.
- d. J-hooks or other non-continuous cable supports are to be sized to allow for no more than 70% fill rate for the amount of cabling install.
- e. Install any conduit sleeves and EZ-Path sleeves where required for wall penetrations.
- f. Install firestop material where required.
- g. Pull string shall be installed in all structured cabling pathways including j-hooks, cable trays and conduit, etc.
- h. Structured Cabling System: Includes cables, jacks, patch panels, connecting blocks, patch cords, fiber connectors, fiber adapter plates, fiber enclosures, jumpers, and necessary support systems, such as cable managers, flush mounted wall face plates, cubicle and furniture plates and surface mounted boxes.
- i. Furnish and install all materials necessary for a complete and working structured horizontal cabling system. As part of the structured cabling bid/contract the contractor shall provide and install all of the required material whether specifically addressed in this specification or not to complete the structured cabling system.
- j. All components provided are to be new, unused, and free from any defects, there shall be no exceptions without the owner's written approval.
- k. The structured cabling system provided by the cabling contractor includes any and all category network cabling, including data, voice, etc., as shown on the attached list of cable locations.
- l. Patch cords, other than the ones listed on the additional parts list are not required for this project.

9. Approved Manufacturers:

- a. Leviton
- b. Berk-Tek
- c. Cooper B-Line
- d. EZ Path
- e. MaxCell Innerduct
 - i. Brands (manufacturer) of equipment listed are specific and are not to be substituted without prior permission from the County.
 - ii. Refer to the BOM included with this document for a list of approved parts.
 - iii. Cable Basket Tray Above Ceilings - Shall be provided and installed by the structured cabling contractor.
 - iv. Vertical and Horizontal Cable Ladder Tray in TR Room - Shall be provided and installed by the structured cabling contractor.
- f. 12" ladder rack shall be installed in (TR Room 118) as specified (see rack elevation drawing provided by the county) and approved by the owner and installed by the cabling contractor including all miscellaneous parts required for a complete ladder rack system surrounding the room for a complete ladder rack system. Tie in the ladder tray to the cable basket tray system. Install ladder tray 12 inches above equipment racks utilizing threaded rod to provide a waterfall for the cabling.

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- g. **Horizontal Cabling**
- h. All horizontal cables shall be Berk-Tek LANMARK-XTP Category-6A, plenum, with (BLUE) jacket.
- i. All data drops will be terminated on Leviton ATLAS-X1 Quick-Port Connectors with integrated shutters (ORANGE). Install the appropriate jack Icons on each jack. Jacks will be

installed on one (1) standard 4-position (Ivory) faceplate, or as required. Blanks on the faceplates will be covered by (Ivory) dust covers. Match any cubicle faceplates to cubicle brand, same for PT's and FB's.

- j. Each horizontal (TO) cable is to have a three-foot service loop above the ceiling.
- k. The structured cabling contractor will be responsible for replacing or adding pull string to any conduit runs, from beginning to end, that the contractor is pulling network data cabling in and in each leg of the cable basket tray for future use.
- l. Each standard (TO), as specified on the drawings, is defined with the number of data jacks required. Note: See drawing provided at the pre-bid meeting for cable drop quantities and their locations.
- m. Each wireless access point shall have two (2) data jacks mounted on a surface mounted box above the ceiling with a twenty (20') foot service loop.
- n. All patch panels shall be fully populated with Leviton Atlas-X1 modular connectors. Populate all forty-eight patch panel ports with connectors even if the ports are not cabled.

10. Copper Analog POT Lines

- a. **TR-118 Room:** Install wall mounted Category 5e pre-wired 66 blocks with Amphenol connectors. Cross connect these blocks using 25-pair Category 5e cables to a rack mounted 48-port 110 style patch panel on equipment rack to support incoming analog POT lines. The pinout for the 8P8C modular jack will be Tip1/pin5 and Ring1/pin4. No patch cords are required for these.

11. Equipment Racks Required

- a. TR Room 118 – (2) 2-post relay racks
- b. Horizontal Cable Managers
 - i. 2RU Horizontal cable managers with extended fingers shall be placed above and below each patch panel.
- c. Vertical Cable Managers
 - i. 10" Front and rear vertical cable managers shall be placed between each equipment rack and 6" front and rear vertical cable managers on each end of the equipment rack set. Install dividers in each vertical cable manager.

12. Additional Components Required

- a. To be delivered directly to a Forsyth County MIS department no less than 60-days prior to the general contractors scheduled certificate of occupancy date. Project will not be considered complete until all additional equipment is delivered.
- b. **Additional Equipment: Provided by the Structured Cabling Contractor:**
 - i. (100) – 3' Leviton (YELLOW) Cat 6A ATLAS-X1 Slimline Patch Cords Part# - 6AS10-03Y
 - ii. (20) - 5 Meter Leviton LC/LC 10Gb OM4 Duplex MM 50/125 Fiber Patch Cables Part # - 54DLC-M05
 - iii. (20) - 3 Meter Leviton LC/LC 10Gb OM4 Duplex MM 50/125 Fiber Patch Cables Part # 54DLC-M03
 - iv. (10) - 10 Meter Leviton LC/LC 10Gb OM4 Duplex MM 50/125 Fiber Patch Cables Part # - 54DLC-M10
 - v. (5) - 3 Meter Leviton ST/LC Singlemode Fiber Patch Cables Part # - FPC-S2RD3AC-003MAB
 - vi. (5) - 7 Meter Leviton ST/LC Singlemode Fiber Patch Cables Part # - FPC-S2RD3AC-007MAB
 - vii. (10) - 3 Meter Leviton LC/LC Singlemode Fiber Patch Cables Part # - UPDLC-S03
 - viii. (10) - 7 Meter Leviton LC/LC Singlemode Fiber Patch Cables Part # - UPDLC-S07
 - ix. (10) - 1 Meter Leviton LC/LC 10Gb OM4 Duplex MM 50/125 Fiber Patch Cables Part # - 54DLC-M05

- x. 12 - 1RU blank rack panels (Black)
- c. *It is the contractor's responsibility to verify that all part numbers are correct and what the customer intended before ordering.

13. Submittal Requirements - Not required with the bid package

- a. To be delivered to Forsyth MIS before any work can proceed by the cabling contractor.
 - i. Provide list of all installers, project managers, foremen, etc., that will be working on this project including their names and a copy of their training documentation from the manufacturer. The contractor will update this information during course of the project if there are any personnel or training certification changes.
 - ii. Submit appropriate written specifications for components, if required by owner.
 - iii. Work will not proceed without the Owner's approval of the submitted items.
 - iv. The contractor must receive written approval from the Owner for any substitutions of materials.

14. Structured Cabling Contractor Qualifications

- a. Maintain a Leviton Certified Contractor and Berk-Tek Oasis Optimized Integrator before, during, and through completion of the system installation. Supporting documentation will be required as part of the bid package.
- b. Responsible for workmanship and installation practices in accordance with Leviton Optimized Installer Program and Berk-Tek Oasis Program.
- c. The contractor will have demonstrable design and installation training with certifications of competence. Certified training will be industry recognized and at least equal to:
 - Building Industry Consulting Service International, Inc. (BISCI) Registered Installer.
 - Registered Communications Distribution Designer (RCDD).
- d. Provide a full time on site foreman who has been certified as described.
- e. Structured cabling contractor shall provide a project manager who will act as a single point of contact between contractor and the owner. This project manager must attend construction meetings as required and have the authority to make decisions regarding project implementation. Additionally, the chosen project manager must have a proven track record of managing installations of similar size. Forsyth County reserves the right to have the assigned project manager removed and a new project manager assigned.
- f. Each foreman and Installer working on this project will be trained to the qualified level as specified by the manufacturer(s) for installation of the equipment being provided on this project. The training will consist of at least a minimum of proper installation techniques of their specific equipment in order to have a complete operating system meeting or exceeding the requirements as specified herein. Each foreman and installer working on this project will have documentation from the manufacturer indicating that they have been adequately trained prior to the start of the project. Only foreman and installers who have been properly trained and documented by the manufacturer whose equipment is being provided on this project will be allowed to install same.
- g. Installers will be specifically qualified for each system being installed under this section. Provide certification documentation for each installer to the customer before starting work on this project.

15. Structured Cabling Contractor Subcontractors

- a. The contractor will notify Forsyth County MIS of any cabling subcontractors that may be used for this project and will define the scope of work to be performed by the subcontractor. If the subcontractor fails to perform the specified scope of work, Forsyth County shall have the right to remove subcontractor from the project. In no way will this release the contractor from his obligations under the contract. Contractor shall hold harmless and indemnify Forsyth County against any claims, suits, liens or other actions made by subcontractor due to this agreement.

16. Low Voltage Wiring Permit

- a. The cabling contractor is responsible for acquiring the low voltage permit, arranging inspection and working with the inspector to ensure that the Forsyth County compliant relating to any permitting requirements.

17. Labeling

- a. All labeling shall be coordinated with the owner prior to labeling.
- b. The contractor shall be responsible for printed labels for all cables and cords, distribution frames, and outlet locations, according to Forsyth County Government specifications. All outlet locations and patch panels are to be labeled using the numbering sequence provided.
- c. All labeling is to be in accordance with ANSI/TIA-606-B and manufacturer's instructions.
- d. Label horizontal cables on both ends using machine-printed label at approximately 12 inches from termination point. Label the same as the patch panels.
- e. Handwritten labels are not acceptable.
- f. Label patch panel ports with architectural print room number and outlet port designation (Example A, B, C, etc.)
- g. Label faceplates as floor number, architectural print room number, outlet port designation number and patch panel number. Example: G-100E-A-PC (ground floor, architectural print room number, outlet port designation, patch panel number).
- h. The Owner will provide more specific labeling requirements as required.

18. Documentation

- a. The contractor shall supply Forsyth County with documentation including, but not limited to:
 - i. Unique station cable numbers.
 - ii. Patch panel locations, including pin/jack assignments, used to terminate each station cable, with such assignments to be machine labeled indelibly on each panel.
 - iii. Documentation of the certified Category 6A tests for each data drop.
 - iv. Electronic PDF format as-built drawings are required and shall be provided to the county.
 - v. In addition: Two (2) As-built drawing shall be provided to the owner on hard copy paper format (30" x 40" full size drawing).
 - vi. All documentation shall be provided to Forsyth County within 30-days of the project's completion. Forsyth County Kernersville Branch Library structured cabling project will not be considered complete and closed out until all required documentation is provided to Forsyth County MIS as specified and all cabling specifications are meet.

19. Delivery, Storage, Handling and Protection

- a. Contractor is responsible for the handling of all materials and all costs associated with material handling. It is the contractor's responsibility to coordinate delivery schedules with the project schedule.
- b. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- c. Store and handle materials in accordance with manufacturer's instructions.
- d. Keep materials in manufacturer's original, unopened containers and packaging until installation.
- e. Store materials in secure, clean, dry area indoors.
- f. Protect materials during storage, handling, and installation to prevent damage.
- g. Protect installed communications horizontal and vertical cabling from damage during construction.

20. Debris Removal

- a. It is the responsibility of the contractor to discard debris on a daily basis and to keep the work area clean.

21. Damages

- a. The contractor will be held responsible for any and all damages to portions of the building caused by it, its employees or subcontractors; including but not limited to:
 - i. Damage to any portion of the building caused by the movement of tools, materials or equipment.
 - ii. Damage to any component of the construction of spaces "turned over" to the contractor.
 - iii. Damage to the electrical distribution system and/or other space "turned over" to the contractor.
 - iv. Damage to the electrical, mechanical and/or life safety or other systems caused by inappropriate operation or connections made by the contractor or other actions of contractor.
 - v. Other damage to the materials, tools and/or equipment of Forsyth County, its consultants, general contractor, subcontractors, architect, other contractors, agents and leases.

22. Safety Regulations

- a. The cabling contractor, his employees, and any cabling contractor subcontractors will abide at all times by the general contractors and the owners safety protocols and procedures as well as all OSHA regulations. The cabling contractor, his employees, and any cabling contractor subcontractors will attend all required safety meetings.

23. Telecommunications Wiring Standards

- a. Except as otherwise explicitly waived within this document, all building cabling which is within the scope of this specification is to be configured and installed in full compliance with the current **ANSI/TIA/EIA Telecommunications Wiring Standards**.
- b. Installation of all materials and equipment must meet industry standards in all respects with specific attention given to methods employed for wiring, cabling, terminations, cable dressings, cable and wire labeling, pathways, cable trays, documentation, equipment room layout, general appearance, equipment operation and performance.
- c. The contractor shall provide and install all components, and associated hardware required to supply a complete structured cabling system, as defined in this specification.
- d. The work included under this specification consists of furnishing all labor, equipment, materials, supplies and performing all operations necessary to complete the installation. The contractor will provide and install all of the required material whether specifically addressed in the specification or not.

24. Testing, Electrical, Wiring, and OSHA Standards

- a. Permanent Link Test is required on all cables.
- b. Test cabling only after outlet jacks and faceplates are fully installed.
- c. The cabling contractor will insure that all work shall meet ANSI/TIA standards. All work shall conform to all current applicable codes and standards, including but not limited to: ANSI/TIA/EIA Telecommunications Wiring Standards.
- d. Install communications horizontal cabling in accordance with manufacturer's instructions, ANSI/TIA-568-C.0, ANSI/TIA-568-C.1, ANSI/TIA-569-C, BICSI TDMM, and NFPA 70.
- e. UL – Underwriters Laboratories.
- f. OSHA – Occupational Health and Safety Administration.
- g. FCC – Federal Communications Commission.
- h. NEC – National Electric Code, Article 800 Communications Circuits.
- i. ASTM – American Society for Testing Materials
- j. NFPA – National Fire Protection Association
- k. NEMA – National Electrical Manufacturers Association

25. Fire Stop Codes and Standards

- a. Sealing of openings between floors, through rated fire and smoke walls, existing or created by the contractor for cable pass through shall be the responsibility of the cabling contractor.
- b. Sealing material and application of this material shall be accomplished in such a manner that is acceptable to the local fire and building authorities having jurisdiction over this work.
- c. Creation of such openings as necessary for cable passage between locations shall be the responsibility of the cabling contractor's work. Any openings created by or for the contractor and left unused shall also be sealed as part of this work.

26. Warranty Required – Leviton/Berk-Tek – Lifetime Product and Performance

- a. Optimized Installer/Optimized Integrator shall provide labor, materials, and documentation in accordance with Berk-Tek and Leviton Network Solutions requirements necessary to ensure that the Owner will be furnished with a Limited Lifetime Warranty.
- b. It is the responsibility of the structured cabling contractor to insure that no structured cabling cable is painted (painted cabling voids the manufacturer's warranty).
- c. Horizontal channels shall be completed with Leviton Network Solutions factory-terminated copper and/or fiber optic patch cords in order to be eligible for the applicable Berk-Tek or Leviton Warranty with channel performance guarantees.
- d. Approved product shall be listed on the most recent version of the applicable Berk-Tek Leviton Technologies data sheets for each Berk-Tek Leviton Technologies solution.
- e. The installed structured cabling system shall provide a warranty guaranteeing installed channel performance above the ANSI/TIA 568-C requirements for Cat 5e, Cat 6, and/or Cat 6A cabling systems or ISO 11801 requirements for Class D, Class E, and/or Class Ea.
- f. Standards-compliant channel or permanent link performance tests shall be performed in the field with a Berk-Tek Leviton Technologies approved certification tester in the appropriate channel or permanent link test configuration.
- g. Necessary documentation for warranty registration shall be provided to the manufacturer by the installer (within 10 days) following 100 percent testing of cables.
 - i. Submit test results to Leviton Network Solutions or to Berk-Tek, in the certification tester's original software files.
 - ii. Installer shall ensure that the warranty registration is properly submitted, with all required documentation within 10 days of project completion.
 - iii. Optimized contractor/Optimized Integrator must adhere to the terms and conditions of the respective manufacturer's warranty programs.
- h. Installer shall ensure that the Owner receives the manufacturer issued project warranty certificate within 60 calendar days of warranty registration.

27. INSURANCE REQUIREMENTS

The contractor shall procure and maintain insurance against claims for injuries to persons or damages to property for the duration of the contract which may arise from or in connection with the performance of work hereunder by the contractor, his agents, representatives, or subcontractors.

A. Commercial General Liability Insurance. The contractor shall maintain occurrence version commercial general liability insurance or equivalent form with a limit of not less than \$1,000,000 each occurrence. If such insurance contains a general aggregate limit, it shall be no less than two times the occurrence limit. Such insurance shall:

1. **Include the County, its officials, officers, and employees as additional insureds** with respect to performance of the Services. The coverage shall contain no special limitation on the scope of protection afforded to the above listed insureds. Additional Insured should read Forsyth County Finance Department, 201 North Chestnut Street, Winston-Salem, NC 27101.

2. Be primary with respect to any insurance or self-insured retention programs covering the County, its officials, officers and employees.

B. Business Automobile Liability Insurance. The contractor shall maintain business automobile liability insurance or equivalent form with a limit of not less than \$1,000,000 each accident. Such insurance shall include coverage for owned, hired, and non-owned automobiles.

C. Workers' Compensation and Employer's Liability Insurance. The contractor shall maintain workers' compensation insurance with North Carolina statutory limits and employer's liability insurance with limits of not less than \$100,000 each accident.

Vendor's Certificate of Insurance must read as follows:

DESCRIPTION OF OPERATIONS – block should read:

Forsyth County its officials, officers, and employees is additional insured.

CERTIFICATE HOLDER – block should read:

Forsyth County Its Officials, Officers, and Employees
201 N. Chestnut Street
Winston-Salem, NC 27101

Other Insurance Requirements: The contractor shall: Prior to commencement of services, furnish the County with properly executed certificates of insurance which shall clearly evidence all insurance required in this section and provide that such insurance shall not be cancelled, allowed to expire, or be materially reduced in coverage except on 30 days prior written notice to the County.

1. Provide certified copies of endorsements and policies, if requested by the County, in lieu of or in addition to certificates of insurance.
2. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of the services.
3. Maintain such insurance from the time services commence until services are completed.
4. Place such insurance with insurers authorized to do business in North Carolina and having A.M. Best Company ratings of not less than A:VII. Any alternatives to this requirement shall require written approval of the County's Risk Manager.

The contractor understands and acknowledges that these insurance coverage requirements are minimums and that they do not restrict or limit the hold harmless provisions of this agreement.

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31. Product Selection

- a. Except as otherwise explicitly waived within this document, all building wiring which is within the scope of the Request for Quotation is to be configured and installed in full compliance with the current **ANSI/TIA/EIA Telecommunications Wiring Standards**.
- b. Installation of all materials and equipment must meet industry standards in all respects with specific attention given to methods employed for wiring, cabling, terminations, cable dressings, cable and wire labeling, pathways, cable trays, documentation, equipment room layout, general appearance, equipment operation and performance.

32. Patch Panels - Category 6A

- a. The Category 6A patch panel shall be compatible with 19" equipment racks, cabinets or wall mount brackets.

- b. The Category 6A patch panel shall be equipped with 8-position modular ports and shall allow for termination using T568B wiring schemes.
- c. The Category 6A patch panel shall be equipped with front labeling space to facilitate port identification.
- d. The connector module shall meet or exceed the Category 6A performance.
- e. Patch panels will be equipped with rear cable management bars.

33. Optical Fiber Panels/Enclosures

- a. The rack mount optical fiber panel/enclosure shall be equipped with either a swing out mechanism or a sliding drawer to access fibers.
- b. The rack mount optical fiber panel/enclosure shall be capable of terminating tight-buffered or loose tube optical fiber cable.
- c. The rack mount optical fiber panel/enclosure shall provide for bend radius control throughout the panel as well as storage space for slack cabling.
- d. The panel/enclosure shall meet or exceed the performance criteria per ANSI/TIA-568-C.3.
- e. The rack mount optical fiber panel/enclosure shall be equipped with optical fiber adapter panels.
- f. The optical fiber adapter panels shall accommodate either multimode or singlemode terminated optical fiber.
- g. The optical fiber adapter panels shall be compatible with ST, LC or SC connectors.
- h. Singlemode adaptors shall be blue or green in color and equipped with zirconia ceramic sleeves.

34. Termination Blocks

- a. The 110-type wiring blocks shall be available in 100- and/or 300-pair configurations.
- b. The 110-type wiring block shall be Category 5e, 6, or 6A.
- c. The cross-connect kits shall include all the components required to complete a wall-mounted 110 cross-connect installation and be available in both 100- and/or 300-pair configuration. (Includes 110-blocks, connecting blocks and designation strips).
- d. The termination block shall meet or exceed the performance criteria per ANSI/TIA-568-C.2.
- e. Backbone blocks shall use 5-pair connecting blocks on each 25-pair row.
- f. Horizontal blocks shall use 4-pair connecting blocks on each 25-pair row.

35. Category 6A Jacks

- a. The connector module shall meet or exceed the Category 6A performance.
- b. The eight-position connector module shall accommodate six-position modular plug modular cords without damage to either the cord or the module.
- c. The connector module shall be designed for use at the work area (WA), communication room (TR) and/or equipment room (ER) without modification.
- d. The connector module shall be available in T568B wiring configurations within the same module.
- e. The connector module shall have an insulation displacement connection featuring insulation slicing of 22 to 24 AWG plastic-insulated solid copper conductors forming a gas-tight connection.
- f. Icons shall be used if offered from the manufacturer.

36. Faceplates

- a. Faceplates shall be Four (4) positions except as noted.
- b. Blank inserts shall be installed where ports are not used.
- c. The same orientation and positioning of jacks and connectors shall be utilized throughout the installation.
- d. Faceplates shall be installed straight and level.
- e. Faceplates shall be installed at the same heights as electrical faceplates or as located on the architectural print.

37. Two Post Relay Racks

- a. Shall have the following features:
- b. Universal hole pattern on the front and rear flanges, and threaded mounting holes on both sides of rack assembly for management
- c. Brackets with an eight-inch mounting floor plate on the front and rear.
- d. Racks and rack accessories will be BLACK in color.
- e. Racks will have 12-24 threaded equipment mounting holes.
- f. Mounting holes that require supplemental threaded clips are specifically prohibited. Provide 12-24 screws for all equipment mounting holes in racks.
- g. Horizontal cable support bar on rear of each patch panel/cross connect block panel to support hook and loop (Velcro) strain reliefs. Cables shall not rely on terminations for cable support.
- h. Hook and loop (Velcro) cable strain relief system on rear of rack to support horizontal and backbone cables. Tie-wraps are specifically prohibited.
- i. Hook and loop (Velcro) horizontal and vertical cable management on front of rack for dressing patch cable and cross connect wiring.
- j. Hook and loop (Velcro) cable management system independent of cable management to properly dress the electronic equipment and power cords through the rack maintaining as much clearances between the two as possible.
- k. Bonding and grounding cables is required for all equipment not directly bolted to equipment rack (i.e. shelf mounted electronic equipment, etc.).
- l. All hardware, supplementary steel, channel and supports as required are to be properly assembled and fastened to the building structure.
- m. All equipment racks and their hardware will match in appearance and will be provided by a single manufacturer.
- n. Furnish and install vertical wire management channels on both sides of racks.
- o. Furnish and install horizontal wire management units, quantity and type as indicated in the specification.

38. Grounding

- a. The facility shall be equipped with a Communication Bonding Backbone (TBB). This backbone shall be used to ground all communications cable shields, equipment, racks, cabinets, raceways, and other associated hardware that has the potential to act as a current carrying conductor. The TBB shall be installed independent of the building's electrical and building ground and shall be designed in accordance with the recommendations contained in the ANSI/TIA-607-B Telecommunications Bonding and Ground Standard.
- b. The main entrance facility/equipment room in each building shall be equipped with a telecommunications main grounding busbar (TMGB). Each MDF and IDF shall be provided with a telecommunications ground busbar (TGB). The TMGB shall be connected to the building electrical entrance grounding facility.
- c. All racks, metallic backboards, cable sheaths, metallic strength members, splice cases, cable trays, ladders, etc. entering or residing in the MC/IC/TC shall be grounded to the respective TGB or TMGB using a minimum #6 AWG stranded copper bonding conductor and compression lugs.
- d. All wires used for communications grounding purposes shall be identified with a green insulation. Non-insulated wires shall be identified at each termination point with a wrap or green tape. All cables and busbars shall be identified and labeled in accordance with the ANSI/TIA-606-A.

39. Copper Parts

<u>Manufacture</u>	<u>Part Number</u>	<u>Description</u>
Berk-Tek	11082057	CAT 6A XTP Cable, Plenum (Blue)
Leviton	6A586-U48	CAT6A 48-Port Patch Panel (fully loaded)

Leviton	5G270-U48	CAT 5e – 48-Port Patch Panel (fully loaded)
Leviton	6AUJK-SO6	Atlas-X1 CAT6A Jacks (Orange) with shutters
Leviton	42080-4IS	Single Gang 4-Port Faceplate (Ivory)
Leviton	41089-2IP	2-Port Surface Mount Box (Ivory)

40. Equipment Rack and Cable Management Parts

<u>Manufacture</u>	<u>Part Number</u>	<u>Description</u>
BLINE	SB556084XUFB	2-Post Open Frame Relay Rack
BLIINE	SB87019SX2FB	2 RU Single Sided Horizontal Cable Manager
BLINE	SB86486DO84FB	RCM+ 6” Vertical Cable Manager
BLINE	SB864810DO84FB	RCM+10” Vertical Cable Manager
BLINE	SB862BRC6084FB	6” Divider for Vertical Cable Manager
BLINE	SB862BRC10084FB	10” Divider for Vertical Cable Manager
BILINE	SB17U12BFB	12” Ladder Rack

The contractor shall verify all part numbers with the owner and the manufacturer before ordering equipment. *This is not a complete list of every part required.

41. Supporting Documents Required with Bid Package

- a. It is the expectation of Forsyth County that the contractor will comply, and the contractor agrees to comply, with all applicable federal immigration laws in its hiring and contracting practices relating to the services covered by this contract involving County funds, as outlined in the Resolution adopted by the Forsyth County Board of Commissioners.
- b. All bidders must sign and date the Proposal Authorization form stating compliance to every article of this IFB and stating they have fully read and agree to comply with all sections. Exception to any article must be accompanied by a full explanation, exceptions may disqualify the bid.
- c. Submit copies of the contractor’s Leviton Authorized Installer and Berk-Tek Oasis Optimized Integrator certifications. Cabling contractor must be authorized before, during, and through completion of the system installation.
- d. Submit letter of proof from the manufacturer of the contractor’s good standing with the manufacturer’s certification program.
- e. The cabling contractor shall provide a Letter of MWBE Certification (If applicable).
- f. Bidders who have not completed cabling work for Forsyth County in the past (i.e. unknown to us) must provide 3 references for projects completed within the past two years of similar size and scope. References must include company name, address, phone number and contact person. Also include a brief summary of the actual projects performed for the customer.
- g. Forsyth County reserves the right to consider any bidder that does not provide the supporting documents listed above with their bid as non-responsive and disqualified.
- h. Forsyth County reserves the right to reject any and/or all proposals, bids, and waive informalities in the bids, and to choose the bid that is in the best interest of the County.

42. Pricing Format

- a. Pricing for this project is to include all labor and all materials to install, label, and test all components of this cabling system as defined in this IFB. Contractor shall submit complete bids with all required information.
- b. ***Bid must be signed and dated by an officer of the bidding company.**

This document IS NOT the complete proposal. To obtain the completed proposal specifications contact Jerry Bates via email jerryjb@cityofws.org, by phone 336-747-6939, or visit the Purchasing Department, City Hall Building, Suite 324, 101 North Main Street, Winston-Salem, NC during regular office hours.

Add Alternate:

Kernersville Branch Library – Audio Visual Systems

General Information

Introduction

Forsyth County Management Information Services (MIS), by way of this specification and scope of work, requires the contractor to furnish all materials, labor and services to install the audio/visual systems as specified or reasonably implied as necessary to complete this project. The contractor is responsible for assessing the conditions of the job site and facilities, storing, placing, handling and installing the materials and equipment. The contractor is responsible for any and all test equipment, tools, ladders, lifts and scaffolding required to perform the installation.

1. Pre-Bid Meeting

- a. At the time of the pre-bid meeting it shall be the AV (Audio/Visual) contractor's responsibility to ask questions related to the work, review drawings, and determine cable pathways.
- b. Any wall structures that require blocking or conduit sleeves are the responsibility of the AV contractor. If the AV contractor needs to look above ceilings or see any other building structure related to the cable pathways this will be the only time allowed, please bring a ladder and measuring wheel if you think you will need them.

2. Project Overview

- a. The requirement of this project is to furnish and install a complete AV system including but not limited to all required components, cabling, hardware, and any additional components necessary to ensure that Forsyth County Government is provided with a standards compliant AV solution with guaranteed performance. This is a brief overview of the project and should be used as such.
- b. At the time of the issue date of this specification, information was accurate to the best of our ability. The AV contractor shall be responsible to review the drawings and all sections in this IFB to determine all work required and related components needed to complete this project. The AV contractor shall be responsible, at the contractor's expense, for acquiring all drawings required for this project.

3. Project Schedule

- a. PROJECT START DATE - TBD
- b. PROJECT COMPLETION DATE - TBD
- c. The AV contractor will complete the AV systems project as defined in this specification and scope of work in its entirety and on schedule. The AV contractor is required to meet Forsyth County's and the General Contractors schedule for completion.

4. Change Orders

- a. All change orders, changes to the scope of work, or specifications, are to be approved in writing before they are made and can only be approved by the Forsyth County MIS department. All changes orders will be issued as an Addendum and shall be approved and signed by the owner and the contractor before any changes are made.
- b. Changes and Alternates
 - i. Forsyth County MIS will consider any changes or deviations from this specification or approved products and manufacturers defined in this document as non-responsive.

- ii. Forsyth County MIS will consider any changes or deviations from the pricing formats as defined in this document as non-responsive.
- iii. Forsyth County MIS will consider any changes or deviations from the Bid Schedule or Project Schedule as defined in this document as non-responsive.
- c. Any item of equipment or material not specifically addressed on the drawings or in this document and required to provide a complete and functional AV system shall be provided in a level of quality and cost consistent with other specified items.
- d. Disclaimer
 - i. Nothing contained herein (specifications) allows the AV contractor to perform in a manner deficient of providing Forsyth County with a complete and accurate job. Any errors or omissions contained herein do not preclude the contractor from installing a functional system. If such an omission is apparent to the contractor upon review of this specification and scope of work, the contractor bears responsibility to inform Forsyth County so adjustments can be made. This process places the burden of such omissions and errors upon the contractor, and discharges Forsyth County of its responsibility for a complete and functionally correct system installation.

5. AV Contractor's Responsibilities

- a. The AV contractor is responsible for verifying that all materials fit the needs address in this document.
- b. The AV contractor shall review all materials descriptions and part numbers the customer has specified in this document before bidding and inform the county if there are any issues with these materials or part numbers.
- c. During the course of the project the AV contractor shall provide Forsyth County with a schedule work breakdown for completion of the AV project milestones.

6. Scope of Work – Conference Room 104 – Video System

- a. Video system shall support all standard video sources, such as: laptop computers (PC or Mac), Blu Ray DVD player, iPad, Android devices, Google Chromecast, etc.
- b. All video devices shall be installed in equipment rack provided for in the sound system scope of work below, include any and all rack shelves, blank panels and AV cables required.
- c. Provide and install (2) two 75" flat screen TV's (with tuner), tilt wall mount, input plates and all cabling required.
- d. Provide video distribution device to send selected video source simultaneously to both TV's. Provide Blu Ray DVD player.
- e. Provide wall mounted HDMI input plate between the two TV's.
- f. Provide and install all equipment and materials necessary to send video from the various video sources to the TV's.
- g. Provide user friendly cheat sheet in layman's terms on the proper use of the system and provide one training session for library personnel on system use.
- h. AV Control System**
 - i. Audio video control system panel shall be wall mounted near the equipment rack.
 - ii. Control system shall control:
 - 1. Power on/off for audio and video systems
 - 2. Video source input
 - 3. Audio source input
 - 4. Sound system volume control

7. Video System Equipment List - Conference Room 104:

- a. 2 - 75" 4K UHD HDR Smart flat screen TV's
- b. (Acceptable TV Brands: LG, Panasonic, Samsung, Sony, Vizio and Sharp)
- c. 2 - Commercial grade tilt wall mounts
- d. (Acceptable TV mount brands: Chief, Sanus and Peerless)
- e. 1 - Samsung BD-H6500 Blu Ray DVD player (mount in rack)
- f. 1 - Video distribution device
- g. 1 - 15' HDMI Cable for customer use
- h. 1 - All miscellaneous equipment, cables, wall plates, parts and materials required for a complete operating system.

8. Scope of Work – Conference Room 104 – Sound System

- a. Sound system shall support all standard audio sources such as: laptop computers (PC or Mac), Blu Ray DVD player, iPad, Android devices, Google Chromecast, etc.
- b. Sound system shall provide for adequate sound to fill the room and provide intelligibility of speech.
- c. Provide and install all equipment necessary to provide audio from the various video sources, wireless microphone system, or other audio sources.
- d. Provide wall mounted audio input plate between the two TV's.
- e. All audio devices shall be installed in equipment rack provided for in the sound system scope of work below, include any and all rack shelves and audio cables required.
- f. Tune and test audio system for proper function. Provide user friendly cheat sheet in layman's terms on the proper use of the system and provide one training session for library personnel on system use.

9. Sound System Equipment List - Conference Room 104:

- a. 2 - JBL C29AV-WH- Loudspeakers (White) - wall mounted
- b. 2 - JBL MTC-29UB-WH U-brackets (White)
- c. 1 - Crown XLI800 Amplifier (rack mounted)
- d. 1 - Audio Mixer (rack mounted)
- e. 1 - Shure wireless microphone combo system that includes receiver, one hand held and one lavalier microphone (receiver rack mounted)
- f. 1 - Microphone stand for hand held microphone (mount on lectern)
- g. 1 - Middle Atlantic Model MFR-1627 equipment rack with locking plexiglass front door, rack shelves, blank panels, etc., as required.
- h. 1 - Middle Atlantic PD915R power distribution (rack mount).
- i. 1 - Exact Furniture PM-200 lectern
- j. 1 - All miscellaneous devices, cables, wall plates, parts and materials required for a complete operating system.

10. Scope of Work – Children's Program Room 119

- a. Install (1) one 65" flat screen TV (with tuner), tilt wall mount, sound bar (mounted below TV) and HDMI wall plate (HDMI wall plate shall be installed below TV).
- b. **Equipment List:**
 - i. 1 - 65" 4K UHD HDR Smart flat screen TV
 - ii. (Acceptable Brands are: LG, Panasonic, Samsung, Sony, Vizio and Sharp)
 - iii. 1 - Commercial grade tilt wall mount
 - iv. (Acceptable brands are: Chief, Sanus and Peerless)
 - v. 1 - Sound bar (mounted below TV)
 - vi. 1 - 15' HDMI Cable for customer use
 - vii. 1 - All miscellaneous equipment, cables, wall plates, parts and materials required for a complete operating system.

11. Scope of Work – Teen Collection Room 130

- a. Install (2) two 65” flat screen TV’s (with tuner), tilt wall mount and HDMI wall plate (HDMI wall plate shall be installed below each TV).
- b. **Equipment List:**
 - i. 2 - 65” 4K UHD HDR Smart flat screen TV
 - ii. (Acceptable Brands are: LG, Panasonic, Samsung, Sony, Vizio and Sharp)
 - iii. 2 - Commercial grade tilt wall mount
 - iv. (Acceptable brands are: Chief, Sanus and Peerless)
 - v. 2 - 10’ HDMI Cable for customer use
 - vi. 1 - All miscellaneous equipment, cables, wall plates, parts and materials required for a complete operating system.

12. Scope of Work – Maker Room 131

- a. Install (1) one 65” flat screen TV (with tuner), tilt wall mount, sound bar (mounted below TV) and HDMI wall plate (HDMI wall plate shall be installed below TV).
- b. **Equipment List:**
 - i. 1 - 65” 4K UHD HDR Smart flat screen TV
 - ii. (Acceptable Brands are: LG, Panasonic, Samsung, Sony, Vizio and Sharp)
 - iii. 1 - Commercial grade tilt wall mount
 - iv. (Acceptable brands are: Chief, Sanus and Peerless)
 - v. 1 - Sound bar (mounted below TV)
 - vi. 1 - 15’ HDMI Cable for customer use
 - vii. 1 - All miscellaneous equipment, cables, wall plates, parts and materials required for a complete operating system.

13. System Description

- a. **Forsyth County will provide an electrical outlet at all locations required for these systems.**
- b. Install any conduit sleeves and EZ-Peth sleeves where required for wall penetrations.
- c. Install firestop material where required.
- d. As part of the AV bid/contract the contractor shall provide and install all of the required material whether specifically addressed in this specification or not to complete the AV systems.
- e. All components provided are to be new, unused, and free from any defects, there shall be no exceptions without the owner’s written approval.
- f. * Brands (manufacturer) of equipment listed are specific and are not to be substituted without prior permission from the customer.

14. Submittal Requirements - Not required with the bid package

- a. To be delivered to Forsyth MIS before any work can proceed by the cabling contractor.
- b. Submit appropriate written specifications for components, if required by owner.
- c. Work will not proceed without the Owner's approval of the submitted items.
- d. The contractor must receive written approval from the Owner for any substitutions of materials.
- e. AV contractor shall provide a project manager who will act as a single point of contact between contractor and the county. This project manager must attend construction meetings as required and have the authority to make decisions regarding project implementation. Additionally, the chosen project manager must have a proven track record of managing installations of similar size. Forsyth County reserves the right to have the assigned project manager removed and a new project manager assigned.

15. Site and Workplace Meetings

- a. It is the responsibility of the AV contractor to attend all mandatory meetings regarding this project.

16. AV Contractor Subcontractors

- a. The AV contractor will notify Forsyth County MIS of any AV subcontractors that may be used for this project and will define the scope of work to be performed by the subcontractor.
- b. If the subcontractor fails to perform the specified scope of work, Forsyth County shall have the right to remove subcontractor from the project. In no way will this release the contractor from his obligations under the contract.
- c. Contractor shall hold harmless and indemnify Forsyth County against any claims, suits, liens or other actions made by subcontractor due to this agreement.

17. Low Voltage Wiring Permit

- a. The AV contractor is responsible for acquiring the low voltage permit, arranging inspection and working with the inspector to ensure that the Forsyth County passes the low voltage requirements.

18. Documentation

- a. The contractor shall supply Forsyth County with documentation including, but not limited to:
 - i. All product user manuals, product software passwords and an owner user manual for each room.
 - ii. All documentation shall be provided to Forsyth County within 30-days of the project's completion.
 - iii. Forsyth County Kernersville Branch Library AV project will not be considered complete and closed out until all required documentation is provided to Forsyth County MIS as specified and all cabling specifications are met.

19. Delivery, Storage, Handling and Protection

- a. Contractor is responsible for the handling of all materials and all costs associated with material handling. It is the contractor's responsibility to coordinate delivery schedules with the project schedule.
- b. Delivery and Acceptance Requirements:
 - i. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- c. Storage and Handling Requirements:
 - i. Store and handle materials in accordance with manufacturer's instructions.
 - ii. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - iii. Store materials in secure, clean, dry area indoors.
 - iv. Protect materials during storage, handling, and installation to prevent damage.
 - v. Protect installed communications horizontal and vertical cabling from damage during construction.
- d. Debris Removal
 - i. It is the responsibility of the contractor to discard debris on a daily basis and to keep the work area clean.

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20. Damages

- a. The contractor will be held responsible for any and all damages to portions of the building caused by it, its employees or subcontractors; including but not limited to:
- b. Damage to any portion of the building caused by the movement of tools, materials or equipment.
- c. Damage to any component of the construction of spaces "turned over" to the contractor.
- d. Damage to the electrical distribution system and/or other space "turned over" to the contractor.
- e. Damage to the electrical, mechanical and/or life safety or other systems caused by inappropriate operation or connections made by the contractor or other actions of contractor.
- f. Other damage to the materials, tools and/or equipment of Forsyth County, its consultants, general contractor, subcontractors, architect, other contractors, agents and leases.

21. Safety Regulations

- a. The cabling contractor, his employees, and any cabling contractor subcontractors will abide at all times by the general contractors and the owner's safety protocols and procedures and all OSHA regulations.
- b. The cabling contractor, his employees, and any cabling contractor subcontractors will attend all required safety meetings.

22. Electrical and OSHA Standards

- a. UL – Underwriters Laboratories.
- b. OSHA – Occupational Health and Safety Administration.
- c. FCC – Federal Communications Commission.
- d. NEC – National Electric Code, Article 800 Communications Circuits.
- e. ASTM – American Society for Testing Materials
- f. NFPA – National Fire Protection Association
- g. NEMA – National Electrical Manufacturers Association

23. Fire Stop Codes and Standards

- a. Sealing of openings between floors, through rated fire and smoke walls, existing or created by the contractor for cable pass through shall be the responsibility of the cabling contractor.
- b. Sealing material and application of this material shall be accomplished in such a manner that is acceptable to the local fire and building authorities having jurisdiction over this work. Creation of such openings as necessary for cable passage between locations shall be the responsibility of the cabling contractor's work.
- c. Any openings created by or for the contractor and left unused shall also be sealed as part of this work.

24. Warranty Required

- a. – One-year on-Site parts and Labor (From beneficial use of all AV systems)

25. INSURANCE REQUIREMENTS

The contractor shall procure and maintain insurance against claims for injuries to persons or damages to property for the duration of the contract which may arise from or in connection with the performance of work hereunder by the contractor, his agents, representatives, or subcontractors.

- A. Commercial General Liability Insurance.** The contractor shall maintain occurrence version commercial general liability insurance or equivalent form with a limit of not less

than \$1,000,000 each occurrence. If such insurance contains a general aggregate limit, it shall be no less than two times the occurrence limit. Such insurance shall:

1. **Include the County, its officials, officers, and employees as additional insureds** with respect to performance of the Services. The coverage shall contain no special limitation on the scope of protection afforded to the above listed insureds. Additional Insured should read Forsyth County Finance Department, 201 North Chestnut Street, Winston-Salem, NC 27101.
 2. Be primary with respect to any insurance or self-insured retention programs covering the County, its officials, officers and employees.
- B. Business Automobile Liability Insurance.** The contractor shall maintain business automobile liability insurance or equivalent form with a limit of not less than \$1,000,000 each accident. Such insurance shall include coverage for owned, hired, and non-owned automobiles.
- C. Workers' Compensation and Employer's' Liability Insurance.** The contractor shall maintain workers' compensation insurance with North Carolina statutory limits and employer's liability insurance with limits of not less than \$100,000 each accident.

Vendor's Certificate of Insurance must read as follows:

DESCRIPTION OF OPERATIONS – block should read:

Forsyth County its officials, officers, and employees are additional insured.

CERTIFICATE HOLDER – block should read:

Forsyth County Its Officials, Officers, and Employees
201 N. Chestnut Street
Winston-Salem, NC 27101

Other Insurance Requirements: The contractor shall: Prior to commencement of services, furnish the County with properly executed certificates of insurance which shall clearly evidence all insurance required in this section and provide that such insurance shall not be cancelled, allowed to expire, or be materially reduced in coverage except on 30 days prior written notice to the County.

1. Provide certified copies of endorsements and policies, if requested by the County, in lieu of or in addition to certificates of insurance.
2. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of the services.
3. Maintain such insurance from the time services commence until services are completed.
4. Place such insurance with insurers authorized to do business in North Carolina and having A.M. Best Company ratings of not less than A:VII. Any alternatives to this requirement shall require written approval of the County's Risk Manager.
5. The contractor understands and acknowledges that these insurance coverage requirements are minimums and that they do not restrict or limit the hold harmless provisions of this agreement.

27. Supporting Documents Required with Bid Package

- a. It is the expectation of Forsyth County that the contractor will comply, and the contractor agrees to comply, with all applicable federal immigration laws in its hiring and contracting practices relating to the services covered by this contract involving

County funds, as outlined in the Resolution adopted by the Forsyth County Board of Commissioners.

- b. All bidders must sign and date the Proposal Authorization form stating compliance to every article of this IFB and stating they have fully read and agree to comply with all sections. Exception to any article must be accompanied by a full explanation, exceptions may disqualify the bid.
- c. MWBE - If applicable the contractor shall provide a Letter of MWBE Certification.
- d. Bidders who have not completed cabling work for Forsyth County in the past (i.e. unknown to us) must provide 3 references for projects completed within the past two years of similar size and scope. References must include company name, address, phone number and contact person. Also include a brief summary of the actual projects performed for the customer.
- e. Bids will be accepted via email along with any additional documentation required.
- f. Forsyth County reserves the right to consider any bidder that does not provide the supporting documents listed above with their bid as non-responsive and disqualified.
- g. Forsyth County reserves the right to reject any and/or all proposals, bids, and waive informalities in the bids, and to choose the bid that is in the best interest of the County.

28. Pricing Format

- a. Pricing for this project is to include all labor and all materials to install, label and test all components of this cabling system as defined in this IFB. Contractor shall submit complete bids with all required information.
- b. ***Bid must be signed and dated by an officer of the bidding company.**
- c. **REQUIRED** Pricing format for the Add Alternate: Kernersville Branch Library – Audio Visual Systems project is as follows:

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