Mid Valley Academy Charter District

C/O Myriam Rios, Finance Officer

707 Lindberg Avenue, McAllen, TX 78501

Phone: (956)-994-3861 Fax: (956)631-2595

RFP # 0226-02

E-Rate 2016-2017

Internal Connections

Scope of Work

Respondent Instructions:

1. Vendors must have a Service provider Identification Number (SPIN) to qualify
2. Vendors responding to RFP # 0226-02 via US mail must submit using 707 Lindberg Avenue.
3. Vendors responding to RFP # 0226-02 via overnight services must submit using 707 Lindberg Avenue.
4. Vendors must clearly include the RFP # 0226-02 when submitting their response on the envelope or box.
5. **Deadline is March 25, 2016 @ 12:00PM noon at the above address.**

Corresponding with district:

1. All vendors inquires during RFP period must be via email to Salvador Huerta – salvador.huerta@sapicsc.org and myriam.rios@sapicsc.org

Part 1:

E-Rate Infrastructure:

MVA Charter District is requesting that respondents must include in their proposal a minimum of one (1) Core Transport Facility and three (3) campuses.

Vendor must use format for cost sheets and all other pricing sheets.

Table 1

Summary and General Information for each Project
ERATE Round 19

Location	SAPI/Mid Valley Charter District Business Office
Grade Levels	N/A
Student Population	N/A
Comments	Firewall, Switch, Access Points and Cat6 drops

Location	Mid-Valley Charter High School – Mercedes
Grade Levels	9^{th}-12^{th}
Student Population	106
Comments	Switch, Access Points and Cat6 drops

Location	Mid-Valley Charter High School – McAllen
Grade Levels	9th-12th
Student Population	120
Comments	Switch, Access Points and Cat6 drops

Location	Mid-Valley Charter High School – San Benito
Grade Levels	9th-12th
Student Population	150
Comments	Switch, Access Points and Cat6 drops

MVA CHARTER DISTRICT reserves the right not to proceed with any project.

Vendor must provide 1 original and 1 copy of RFP. Original must state it is the original. Make sure original and copies of RFP have a table of contents, **page numbers and tabs.**

1. Vendor **MUST** provide an E-Rate SPIN No. and FCC Registration No. with RFP

2. Vendors will have to coordinate work schedule with Instructional Technologist. Work schedule will vary; during school hours, after school, weekends and district holidays.

3. Signing of contracts with vendor is non-binding until determination of award from the SLD and MVA CHARTER DISTRICT budget availability. Scope may change depending upon the amount of money granted by the SLD. MVA CHARTER DISTRICT has the right to downsize any or all projects.

4. Vendor must give at least 3 references for District of similar scope with dollar amount of project with in the last three E-Rates. Please provide contact person and phone number.

5. Vendor must provide a list of all districts that have been awarded E-Rate projects with vendor in the last 3 years. The list must include the district name, dollar amount, and E-Rate year.
6. Vendor must provide a list of staff with certifications that will be working with this project.

7. Vendor must provide distance and location of engineers what will be dispatched for maintenance work or to work on this project.

8. Vendor must provide a signed contract with RFP.

9. By vendor signing contract, vendor agrees to extent pricing of this RFP once district is funded by the SLD and agree to hold pricing and agree to extend the contract past the E-Rate funding year with approved extensions from the SLD.

10. Proposed Timeline (subject to revision):

11. Proposals received after the deadline will not be considered.
12. Unsigned proposals will not be considered. Person signing the offer must be authorized to bind their company to the contract.
13. All items are to be F.O.B., destination, Freight Prepaid (inside delivery) either to MVA Charter District.
14. Vendor is responsible obtaining all permits associated with the project.
15. If, through any cause, the Mid Valley Academy Charter District determines that the successful Vendor has failed to fulfill, in a timely and proper manner, the obligations agreed to, the Mid Valley Academy Charter District shall have the right to terminate the contract by specifying the date of termination in a written notice to the Vendor at least thirty (30) days before the termination date. Mid Valley Academy Charter District shall have the right to cancel for default all or any part of the undelivered portion of this order if vendor becomes insolvent or bankruptcy. Such right of cancellation is in addition to and not in lieu of any other remedies that the District may have in law or equity.

IV. GENERAL REQUIREMENTS: (Applicable to Parts 1, 2, & 3 of this RFP as applicable and as required).

Payment Conditions

1.1. All payments will be made in accordance with Chapter 2251 of the Texas Government Code. The project(s) will be deemed acceptable when the vendor delivers to the Mid-Valley Academy Charter District that is fully functional to the District's specifications and satisfaction.

1.2. On Universal Service Fund projects, the Mid-Valley Academy Charter District is responsible only for the Mid-Valley Academy Charter District's portion of the total cost. The Mid Valley Academy Charter District will submit appropriate documentation to the Schools and Libraries Division (SLD) so that the vendor can be paid for the portion that the Mid-Valley Academy Charter District is not responsible for paying directly. The vendor is responsible for requesting their portion of payment from the SLD. In the case where subcontractors or shared billing is in place, the vendor is responsible for insuring that all parties are promptly paid (within 10 days of receiving SLD reimbursement).

1.3. Acceptance shall be further defined as beneficial use by the Mid-Valley Charter District.

WARRANTY

Material and workmanship hereinafter specified and furnished shall be fully guaranteed by the vendor for one (1) year, starting when Mid-Valley Charter District. Personnel accepts all work performed by vendor, except in the case of the cabling infrastructure which shall be fully warranted for a minimum of twenty (10) years from payment date against any defects. Defects which may occur as the result of faulty materials or workmanship within the one and fifteen years or more, respectively after installation and acceptance by District Personnel shall be corrected by the vendor at no additional cost to the Mid-Valley Charter District. The vendor shall within 15 days, at no cost to MVA CHARTER DISTRICT correct or report (including modifications or additions as necessary) any nonconforming or defective cabling work within ten (10) years after completion of the project of which the work is a part. In the case of the cabling infrastructure, in addition to physical component warranty, said warranty will cover functionality of the cable to support 100Mhz/155MBps or greater throughout the warranty period. The period of the vendor's warranty (ties) for any items herein are not exclusive remedies, and the school district has recourse to any warranties of additional scope given by the vendor to the school district and all other remedies available by law or equity. **The vendor's warranties or Manufacturer's shall commence with the acceptance of installation/or payment for the work in full**.

If the vendor procures equipment and material under the contract, the vendor shall obtain for the benefit of the District's equipment and material, warranties against defects in material and workmanship to the extent such warranties are reasonably obtainable.

The vendor shall pass along to the District any additional warranties offered by the manufacturers, at no additional cost to MVA CHARTER DISTRICT. This warranty shall in no manner cover equipment that has been damaged or rendered unserviceable due to negligence, misuse acts of vandalism or tampering by the district or anyone other than employees or agents of the vendor.

The vendor's obligation under its warranty is limited to the cost of repair of the warranted item or replacement thereof, at the vendor's option. Insurance covering said equipment from damage or loss is to be paid by the vendor until full acceptance of equipment and services:

- Vendor must install and configure new or current hardware, as required.
- Vendor must label all cable drops at all locations, as required.
- Vendor must provide electronic schematic drawings of CAT 6 drops per location. (PAYMENT WILL BE MADE ONCE DRAWINGS ARE TURNED IN TO IT STAFF)
- Vendor must provide electronic schematic drawings by location of all hardware with model number of hardware. (PAYMENT WILL BE MADE ONCE DRAWINGS ARE TURNED IN TO IT STAFF)
- Vendor must do all patch work at all locations and provide patch cables in all rooms, as required. Vendor must test all, hardware, fiber and **CAT 6** Cable for functionality.

Project will be considered complete upon:

- Completion of all "Punch List" items as noted during a "Walk Through" of campus upon the Contractor indicating Substantial Completion. **All punch list items must be completed within 15 days or payment will not be released.**
- Submission of Printed Test results for CAT-6 cable must be provided to I.T. Department.
- Submission of electronic schematic drawings of hardware of all locations to the I.T. Department.
- Warranty paperwork, test results and As-Builds have been turned in to MVA Charter District Office of the Finance Officer.

TRAINING

Vendor must provide onsite training and manuals to MVA CHARTER DISTRICT at no cost to personnel selected by the District. This is to include Access Points, switches, and firewall. Include schedule and time length of training.

VARIATION IN QUANTITIES AND CONFIGURATIONS

Equipment and capacity requirements are the best estimates currently available. The district reserves the right to modify quantity and configuration requirements. The vendor agrees to sell the district the revised quantity of items at the unit price or lower as stated in the RFP.

PROJECT MANAGER

The vendor will provide a Project Manager who will act as a single point of contact for all activities regarding this project. The Project Manager will be required to make on-site decisions regarding the scope of the work and implement any changes required. The Project Manager will be totally responsible for all aspects of the work and shall have the authority to make immediate decisions regarding implementation on changes to the work with approval of the School District Project Manager. Project Manager must submit a mandatory written report on a weekly basis on the progress of the project and meet with I. T. Staff and the CFO.

VENDOR REFERENCES

Vendors must provide a minimum of five school district references. These references must be for projects that are similar in scope and design, and have been completed by the vendor within the last three (3) years. References must include company name, address, and phone number contact person. Also a brief summary of the actual projects performed for the customer should be included as well as the total cost of the last project.

The District may, with full cooperation of the vendors, visit client installations to observe equipment operations and consult with references. Specified visits and discussion shall be arranged through the vendors; however, the vendor personnel shall not be present during discussions with references.

LICENSING
The vendor must provide a list of all applicable licenses currently held by installation personnel or certifications.

WORKING HOURS
Vendor must be **prepared to work on weekends and after school hours** in order to complete job or meet deadlines as needed.

MANPOWER
Due to the implementation plan of this project, a large contingent of manpower may be required for limited durations. Provide a description of manpower availability and how this requirement will be met.

COMPLIANCE WITH LAWS AND REGULATIONS
The vendor's performance of work shall comply with applicable federal, state, and local laws, rules, and regulations. In the event of violation, the vendor shall pay all fines and penalties, including attorney's fees, other defense costs, and expenses in connection: including any expense in cabling or hardware. ***Vendor must also comply with all ERATE requirements and regulations.***

FEDERAL COMMUNICATIONS COMMISSION:
Equipment requiring FCC registration or approval shall have received such approval and shall be appropriately identified prior to installation in the District's property and/or final acceptance by the District.

CODES, STANDARDS AND ORDINANCES:
All work shall confirm to the 1995 edition of the National Electrical Code, the Building Code, and all Local Codes and Ordinances, as applicable. EIA/TIA documents 568, 569, 606, and 607 shall be adhered to during all installation activities. Methodologies outlined in the latest edition of the BICSI Telecommunications Distribution Methods Manual shall also be used during all installation activities. Should conflicts exist in the foregoing, the authority having any jurisdiction for enforcement will preside.

SAFETY
The vendor shall take the necessary precaution and bear the sole responsibility for the safety methods employed in performing the work. The vendor shall at all times comply with the regulations set forth by federal, state, and local laws, rules and regulations concerning "OSHA" and all applicable state labor laws, regulations and standards. The vendor shall identify and hold harmless the District from and against all liabilities, suits, damages, costs and expenses (including attorney's fees and court costs) which may be imposed on the district because of the vendor, subcontractor, or supplier's failure to comply with the regulations stated herein.

V. NETWORK CABLING SPECIFICATIONS

The intent of this RFP is to establish the general specifications for a premises structured cabling system, which will meet the voice, video and data communication needs of the MVA Charter District.

GENERAL INFORMATION

Category 6 *1.*

INTRODUCTION

The intent of this RFP is to establish the general specifications for a premises structured cabling system, which will meet the voice, video, and data communication needs of the Mid-Valley Charter District.

The Mid Valley Academy Charter District requests that prospective vendors provide pricing for labor and materials for Category 6 installation at all locations in this RFP. Installation is to include all pathway construction and copper cabling. The system is to be fully tested, documented, and supported by a 10-year warranty program.

The System offered and quoted, shall incorporate all features and facilities listed in this specification.

Please quote labor plus materials.

2. RESPONSIBILITIES

Customer Responsibilities:

Mid Valley Academy Charter District is responsible for the following:

- *Allowing the contractor's employees free access to the premises and facilities at all reasonable hours during the installation.*
- *Providing access to 120 volt, 20 AMP, 60 Hz commercial power necessary for the installation and for future telecommunications equipment, or comparable 240 volt power.*
- *Making alterations and repairs to the building, equipment or services if it is determined by the company to be desirable or necessary for safe operation.*
- *Making inspections when notified by the contractor that the equipment or any part thereof is ready for acceptance.*
- *Participation in a joint communications plan.*

Contractor Responsibilities:

- *Providing all supervision, labor, tools, equipment, materials, transportation, erection, construction, unloading, inspection and inventory housing. Must also return spare material as specified.*

- *Furnishing and installing materials for a complete structured cabling system unless specific provisioning or installation of materials is denoted in this RFP.*

- *Obtaining Mid-Valley School Districts permission before proceeding with any work necessitating cutting into or through any part of the building structure such as girders, beams, concrete, tile floors or partition ceilings.*

- *Promptly repairing all damage to the building due to carelessness of contractor employees and exercising reasonable care to avoid any damage to the building. Reporting to The Mid-Valley Academy Charter District any damage to the building that may exist or may occur during the contractor's occupancy of the building.*

- *Taking necessary steps to ensure that required firefighting apparatus is accessible at all times. Flammable materials shall be kept in suitable places outside the building.*

- *Installing the wire, cable and hardware in accordance with the specifications outlined herein.*

- *Conducting tests and inspections as specified post-installation.*

- *Promptly notifying Mid Valley Academy Charter District at least one week prior to completion of work on equipment wherein such portions are ready for inspection.*

- *Promptly correcting all defects for which contractor is responsible as determined by Mid-Valley Charter District*.

- *Coordinating all work with Mid Valley Academy Charter District representative that may be designated at a future date before the commencement of the installation.*

- *Maintaining insurance and appropriate warranty bonds on the proposed distribution system until such time as it is accepted by The Mid-Valley Charter District.*

- *Removing all tools, equipment, rubbish and debris from the premises and leaving the premises clean and neat upon completion of the work.*

- *Abiding by the safety and security rules in force on the work site per local and governmental regulation.*

- Following industry standard installation practices and as defined by Section 8.

3. SYSTEM REQUIREMENTS

Category 6 Cable –

Each Work Area Outlet shall consist of Category 6 Plenum cables from designated IDF to each area; number of cables described in accompanying documentation.

Category 6 Patch Panels

- Adequate patch panel ports and patch cables are to be supplied in the locations to accommodate the number of drops in this RFP.
- All Patch Panels must be of modular design.
- Panels are to be 12, 24 or 48 Ports only.
- Vendor is responsible for installing all pathway structures for this project.

Ground and Bonding

Definitions

Bonding – The permanent joining of metallic parts to form an electrically conductive path that will assure electrical continuity and the capacity to conduct safely any current likely to be imposed.

Common Bonding Network (CBN) – The principal means for affecting bonding and earthing inside a building.

Ground/Earth – A conducting connection, whether intentional or incidental, by which an electric circuit or equipment is connected to earth, or to some conducting body of relatively large extent that serves in place of the earth.

Retrofit Rack Grounding/Earthing – The application of grounding/earthing products and technology where equipment is already deployed and functioning.

Overview

The purpose of the grounding/earthing system is to create a low impedance path to earth ground for electrical surges and transient voltages. Lightning, fault currents, circuit switching (motors turning on and off), and electrostatic discharge are common causes of these surges and transient voltages. An effective grounding/earthing system minimizes the detrimental effects of these electrical surges, which include degraded network performance and reliability and increased safety risks.

The grounding/earthing system must be intentional, visually verifiable, adequately sized to handle expected currents safely, and directs these potentially damaging currents away from

sensitive network equipment. As such, grounding/earthing must be purposeful in its design and installation. Four issues require special consideration:

1. Although AC powered equipment typically has a power cord that contains a ground/earth wire, the integrity of this path cannot be easily verified. Thus, many equipment manufacturers require grounding/earthing above and beyond that which is specified by local electrical codes, such as the National Electrical Code, etcetera. Always follow the grounding/earthing recommendations of the manufacturer when installing equipment.

2. While the building steel and metallic water piping must be bonded to the grounding/earthing system for safety reasons, neither may be substituted for the telecommunications bonding backbone (TBB).

3. Electrical continuity throughout each rack or cabinet is required to minimize safety risks. Hardware typically supplied with bolt-together racks is not designed for grounding/earthing purposes. Additionally, most racks are painted. Paint is an insulator. Unless rack members are deliberately bonded, continuity between members is incidental, and in many cases, unlikely.

4. Any metallic component that is part of the data center, including equipment, racks, ladder racks, enclosures, cable trays, etc. must be bonded to the grounding system.

Workmanship

The ground/earth system must be designed for high reliability. Therefore, the grounding/earthing system shall meet following criteria:

1. Local electrical codes shall be adhered to.
2. The grounding/earthing system shall comply with J-STD-607-A and ANSI/TIA-942.
3. All grounding/earthing conductors shall be copper.
4. Lugs, HTAPs, grounding strips, and busbars shall be UL Listed and made of premium quality tin-plated electrolytic copper that provides low electrical resistance while inhibiting corrosion. Antioxidant shall be used when making bonding connections in the field.

5. Wherever possible, two-hole lugs shall be used because they resist loosening when twisted (bumped) or exposed to vibration. All lugs shall be irreversible compression and meet NEBS Level 3. Lugs with inspection windows shall be used in all non-corrosive environments so that connections may be inspected for full conductor insertion (battery rooms are an exception where windowless lugs may be used).
6. Die index numbers shall be embossed on all compression connections to allow crimp inspection.
7. Cable assemblies shall be UL Listed and CSA Certified. Cables shall be a distinctive green or green/yellow in color, and all jackets shall be UL, VW-1 flame rated.

Raceway System

If a raceway system is required to be installed, only where a cable cannot be placed in a wall, a raceway will be installed on the wall designated by the district. The raceway shall be sized to fit the application with future group to be anticipated and shall not be filled past the 40% ratio that TIA/EIA has set. All raceway shall be anchored and match the color used in the building or as instructed by the district. All fittings shall be installed and match the color of the raceway that included but not limited to drop ceiling clips, junction boxes, and coupler fittings.

Conduit System

If conduit needs to be installed whether required by code or by the district it shall be installed according to TIA/EIA, NEC and BISCI standards. The conduit shall be grounded and bonded at all times.

4. CHANNEL PERFORMANCE

Scope

This section further defines the complete end-to-end channel requirements for the combined channel solution. Channel compliance is only applicable following successful compliance to individual component specifications listed above. This section specifies the minimum requirements that cables, connecting hardware and assembled patch cords must meet when combined into a full cabling system.

Normative Reference

Reference Documents

The latest edition of referenced standards (from the latest available draft in the case of proposed standards) shall be the controlling document. Where the standards appear to conflict with one another, the one with the most stringent requirements shall be applicable.

ANSI/ICEA S-90-661
CSA
UL 444
ANSI/TIA/EIA-568-A
ISO/IEC 11801
CENELEC EN50173: 1995
NEC, NFPA70
NEMA WC-63/66

In addition to the requirements shown above, UTP cables shall previously meet the requirements of:
ANSI/TIA/EIA-568-A-5 Category 5e
ANSI/TIA/EIA-568-A Category 5
ISO/IEC 11801 Category 5 & 6

All connecting hardware and patch cords shall previously meet, as a minimum, all the requirements including the electrical and mechanical performance requirements of:

CSA
UL 1863
ANSI/TIA/EIA-568-A
ISO/IEC 11801
ISO/IEC 60603-7
CENELEC EN50173: 1995
NEC, NFPA70
ANSI/TIA-942

Applicable Testing Standards

Testing of individual components and channel shall be conducted in accordance with the following

standards:

ASTM D 4566-94, Standard Test Methods for Electrical Performance Properties of Insulation and Jackets for
Telecommunications Wire and Cable, 1994
ANSI/TIA/EIA-568-A, Commercial Building Telecommunications Standard, 1995

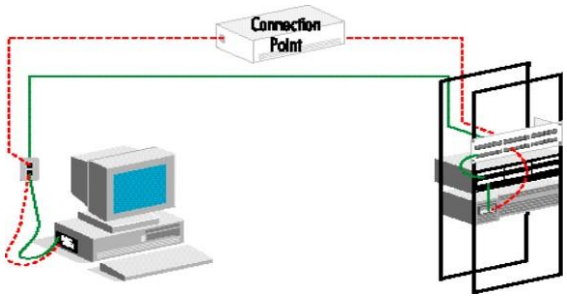
ANSI/TIA/EIA-568-A-1, Propagation Delay and Delay Skew Specifications for 100 Ω 4-pair cable, 1997
ANSI/TIA/EIA-568-A-2, Corrections and Additions to TIA/EIA-568-A, 1998
ANSI/TIA/EIA-568-A-4, Production Modular NEXT Loss Test Method and Requirements for Unshielded Twisted Pair Cabling, 1999

ANSI/TIA/EIA-568-A-5, Transmission Performance Specifications for 4-pair 100 Ω Category 5e Cabling, 1999
ANSI/TIA/EIA-TSB 67, Transmission Performance Specifications for Field Testing of Unshielded Twisted Pair Cabling Systems, 1999
ISO/IEC 11801

Requirements

Applicable Channels

Performance applies to 4-pair unshielded twisted pair cables, assembled patch cords and connecting hardware used with 100 ohm, 4-pair Unshielded UTP Cables. Channel will consists of an equipment patch cord, information outlet, horizontal cabling (90m) with a transition point near the information outlet (I/O), two telecom closet connection points and patch cords for a total of 4 connection points, as shown below.



5. Installation Requirements

In order for unshielded twisted-pair cabling infrastructure to deliver high-speed performance, it is manufactured to very tight specifications. Consequently, to maintain the unshielded twisted-pair cabling system performance proper installation practices must be followed. Listed below are some requirements that shall be followed:

- Do not exceed the minimum bend of 4 x Outside Diameter (OD) for 4 pair UTP, 10 x OD for multi pair (more than 4 pair) UTP, 1.18 in. for two fiber cable, and 10 x OD for multi-fiber cable.
- Per TIA/EIA 568-A never un-twist the pairs of cable beyond the absolute minimum required for termination.
- The cable jacket on UTP shall only be stripped back the minimum required to terminate to connecting hardware.
- Cable management panels shall be used when terminating cable.
- Maximum cable lengths shall not be exceeded.
- Properly rated patch cables will be provided and tested. Silver satin line cord is not acceptable.

- All horizontal runs, moves, additions and changes must be documented. Link and Channel test results must be provided.
- The use of different colored icons for jacks (e.g., one for data (BLUE), and one for voice (BLACK) and different colored jacketed cables (which aide in cable identification and administration) are required.
- Only one pin-out throughout the total installation (T568B) is allowed.
- Reinstalling cable that has been pulled out of modular furniture is not allowed.
- All penetrations through fire rated building structures (walls and floors) shall have a metal stuffing pipe that extends 12" beyond each side of the building structure and sealed with an appropriate fire stop system. This requirement applies to through penetrations (complete penetration) and membrane penetrations (through one side of a hollow fire rated structure). Any penetrating item i.e., riser slots and sleeves, cables, conduit, cable tray, and raceways, etc. shall be properly fire stopped.
- Any penetration that must be made will be a 4" conduit extending 1" on both sides unless otherwise specified and sealed.
- All Cable that the feel district deems not useable must be removed for the cabling infrastructure

6. Labeling and Documentation

- Each cable shall be labeled.
- Each identifier shall be unique and conform to the TIA/EIA-606 standard.
- Components shall be marked where they are administrated (label at all punch down points, panels, blocks, outlets, etc.).
- Moves, additions or changes: all labels, records, and reports shall be updated.
- All pathways labeled (conduit, trays etc.).
- All dedicated telecommunications grounding bus bars shall be labeled. • All WAO shall have labels on the plate and on the jack

Cross-connect fields shall be labeled according to ANSI/TIA/EIA 606.

Contractor shall supply final As-Built drawings to The Mid Valley Academy Charter District to cutover. These drawings shall show details of each location and cable routings. All drawings are to be saved electronically in AutoCAD format

Test documentation shall be provided in a three-ring binder(s) within three weeks after the completion of the project. The binder(s) shall be clearly marked on the outside front cover and spine with the words "Test Results", the project name, and the date of completion (month and year). The test equipment by name, manufacturer, model number and last calibration date will also be provided at the end of the document. The test document shall detail the test method used and the specific settings of the equipment during the test.

All test documents are to be saved in electronic format utilizing MS Excel, MS WORD, MS Access or AutoCAD .dwg.

Grounding

Grounding shall meet the requirements of the NEC and additionally grounding bonding shall conform with ANSI/TIA/EIA-607, ANSI/TIA-942 and the Emerald book and the above mentioned specifications.

7. Testing and Certification

Testing of all installed “Basic Links” shall be performed using a Level II hand held tester and performed to the latest revision of TIA/EIA TSB-67 and TSB95. All reports shall be recorded and presented to the end user before acceptance

Testing

Testing of cabling shall be performed prior to system cut-over, 100 percent of the UTP horizontal and riser pairs shall be tested for opens, shorts, polarity reversals, transposition and presence of AC voltage. UTP voice, data and building control device horizontal wiring pairs shall be tested to TIA/EIA 568A addendum 1, 2, 5 and TSB-67 and TSB-95 from the information outlet to the TC and from the TC to the information outlet. In addition, all assigned circuits shall be tested from the information outlet/building control device to the MDF.

High speed unshielded twisted pair (UTP) data cable shall be performance verified using an automated test set. This test set shall be capable of testing for the continuity and length parameters defined above, and provide results for the following tests:

Near End Cross-Talk (NEXT)
Power Sum Near End CrossTalk (PSNEXT)
Attenuation
Ambient Noise
Attenuation to CrossTalk Ratio (ACR)
Line Mapping
Cable Length
Return Loss
Equal Level Far-End CrossTalk (ELFEXT)
Power Sum Equal Level Far-End CrossTalk (PSELFEXT)
Propagation Delay
Delay Skew

Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the TIA/EIA Standard, and the result shown as pass/fail. Test results shall be printed directly from the test unit or from a download file using an application from the test

equipment manufacturer. The printed test results shall include all tests performed, the expected test result and the actual test result achieved.

Workmanship

Components of the premise distribution system shall be installed in a neat, orderly manner consistent with the best telephone and data installation practices. Wiring color codes shall be strictly observed and termination shall be uniform throughout. Identification marking and systems shall be uniform, permanent and readable and in accordance with TIA/EIA-606 standards. TIA/EIA 568A wiring codes as shown on the drawings shall standardize all twisted pair wiring.

Inspection

On-going inspections shall be performed during construction by the Mid Valley Academy Charter District Project Manager and Installation Project Managers. All work shall be performed in a high quality craftsman manner and the overall appearance shall be clean, neat and orderly. The following points will be examined:

- Is the design documentation complete? Are all cables properly labeled from end-to-end?
- Have all terminated cables been properly tested in accordance with the specifications for the required performance Level as well as tested for opens, shorts, polarity reversals, transposition and presence of AC and/or DC voltage?
- Is the cable type suitable for its pathway? Are the cables bundled in parallel?
- Have the pathway manufacturer's guidelines been followed? Are all cable penetrations installed properly and fire stopped according the code?
- Have the contractors avoided excessive cable bending?
- Have potential EMI and RFI sources been considered?
- Is Cable Fill correct?

- Are hanging supports within 1.5 meters (5 ft)?
- Does hanging cable exhibit some sag?
- Are telecommunications closet terminations compatible with applications equipment?
- Have Patch Panel instructions been followed?
    a) Jacket removal point
    b) Termination positions
    c) All pair terminations tight with minimal pair distortions
    d) Twists maintained up to the Index Strip
- Have Modular Panel instructions been followed?
    a) Cable dressing first
    b) Jackets remain up to the Connecting Block
    c) All pair terminations tight and undistorted
    d) Twists maintained up to the Connecting Block
- Are the correct outlet connectors used and turned right side up?
- Are identification markings uniform, permanent and readable?

Warranty

Product Warranty and System Assurance Warranty for this Structured Cabling System shall be provided. Upon successful completion of the installation and subsequent testing by the installer, The Mid Valley Academy Charter District shall be provided with a 10 Year Warranty certificate registering the installation by specified suppliers.

8. Final Acceptance

During the three-week period between final inspection and delivery of the test and as-built documentation, the Owner will activate the cabling system. The Owner will validate operation of the cabling system during this period. If the Owner is not able or willing to activate the cabling system at this time, it will not negate the contractor's responsibilities as outlined in this document. This validation may be done, as network equipment becomes available.

Completion of the installation, in-progress and final inspections, receipt of the test validation, as-built documentation, and successful system performance for a one-month period, will constitute

acceptance of the system. Also manufacture warranty paperwork must be filed and presented to the district.

IV. Evaluation Table:

Description	Points
Price	30
Understanding Needs	20
Local Engineers	15
Past relationship	15
Local Vendor	10
Financial Stability	10

Hardware Specifications

Specifications for Wireless Access Points	
Wi-Fi Standards	IEEE 802.11a , IEEE 802.11b , IEEE 802.11g , IEEE 802.11i , IEEE 802.11n
Wireless Security	WEP, WPA-PSK, WPA-TKIP, WPA2 AES, 802.11i
Mounting	Wall/Ceiling with kits including
802.3af or 802.3at Compliant	802.3af (PoE)
2.4 GHz Speed	450 Mbps
Range	122 m (400 feet)
Dual Band	2.4 GHz and 5 GHz

Minimum Specifications for Switches
1 GbE layer 3 switch
Policy Based Routing (PBR) on Layer 3 devices
24x 1GbE RJ45 auto-sensing (1Gb/100Mb/ 10Mb) PoE+ fixed ports
Power-over-Ethernet Plus (PoE+)

Minimum Specifications for Firewall
2 x 1 Gbe Interface and 2 x 10 Gbe Interface
Firewall inspection rated throughput 5 Gbps +
Encryption and Authentication - DES, 3DES, AES (128, 192, 256-bit)/MD5, SHA-1
Single Sign In throughput 40,000+

TOTAL NUMBERS OF ACCESS POINTS, SWITCHES,FIREWALLS, AND CAT6 DROPS REQUESTED BY LOCATION				
Mid-Valley Academy Charter District – 4 Locations	**Access Points**	**Switches**	**Firewall**	**Cat6 Drops**
Business Office - Transport	**2**	**1**	**1**	**0**
Mid-Valley Academy Charter High School-Mercedes	**7**	**1**	**0**	**36**
Mid-Valley Academy Charter High School-McAllen	**7**	**1**	**0**	**20**
Mid-Valley Academy Charter High School-San Benito	**7**	**1**	**0**	**20**
TOTAL	**23**	**4**	**1**	**76**

**** Number of Wireless Access Points and Cat6 drops quantity subject to change based on cost and available funding from the SLD****

PRICING SHEET REQUESTED BY LOCATION				
Equipment	**Cost**	**Labor**	**Quantity**	**Extended**
Access Points			**23**	
Switches			**4**	
Firewall			**1**	
Cat6 Drop with associated patch cables			**76**	
TOTAL			**1**	