**Video** **surveillance** **system**

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| **Revision History** | |
| **Revision Date** | **Section / Nature of Revision** |
| **3/1/17** | Document Issued |
| **11/12/21** | 2.1 F: added section to specification  3.2 A.1: added additional documentation requirements  3.2 B: added additional requirements to integrator  3.2 D: camera servers shall be part of the project and purchase through the CM  3.2 H.1: added camera models, IP addresses, switch and port locations |
| **7/11/24** | 1.1 B: deleted camera and added video. Deleted CCTV and added Video Surveillance System (VSS).  1.1 D: added provide a quote within… Added if the quote is not received… Added unless Pinellas County Schools supplies parts…  1.2 A: added video and changed install to installation.  1.2 B: added video.  1.5 C: added Video Surveillance Systems (VSS) and Video Management Systems (VMS). Deleted CCTV/VMS.  1.5 E: spelled out RCDD and BICSI.  1.7 B: added Video Surveillance System (VSS). Deleted CCTV.  1.7 B 1 and 3: swapped order.  2.1 A: added Video Surveillance System (VSS). Deleted security camera.  2.1 B: added Pinellas County Schools… Deleted Intralogic Solutions.  2.1 D: spelled out Construction Manager. Added Pinellas County Schools and deleted Intralogic Solutions.  2.5 B: added Video Surveillance System (VSS). Deleted CCTV. |
| **11/4/24** | 1.7 B: added Pinellas County Schools shall approve the Video Surveillance System (VSS) submittals.  2.1 F: added if an additional server is needed, the Contractor will be responsible for the coordination to purchase and install the server as well as the cost shall be in the installation’s Contractor’s proposal.  3.2 1: added use 28 20 00 Appendix A IP Camera Sheet template.  3.2 B: added all cameras installed shall be registered to Pinellas County Schools prior to the installation of the server. |

**PART 1 GENERAL**

1.1 General conditions

1. The Bidding Requirements, Contractual Conditions and General Requirements of Division 01 shall apply to all work here under.

B. It is the purpose of this scope of work that Pinellas County Schools shall select up to three (3) Contractors to provide, install and repair Video Surveillance Systems (VSS) for a one-year period with two (2), one-year renewal options.

C. Work will be rotated amongst all the approved Contractors as equitably as possible based upon the Contractor’s workload and the ability to respond. However, there is no guaranteed volume of work any Contractor may receive.

D. The selected Contractor shall provide a quote within ten (10) business days of the request for the quote. If the quote is not received within the allotted time, then Pinellas County Schools reserves the right to select another Contractor from the rotating list. The selected Contractor shall provide services as requested to the Pinellas County Schools facilities, inside and outside, based on unit cost, hourly rates and percentage markup or discounted rates for equipment, parts and materials as entered on the bid proposal form. Under certain circumstances, parts and materials may be supplied to the Contractor by Pinellas County Schools. All vehicles and/or equipment required by the Contractor to complete a job shall be the responsibility of the Contractor. **The district will not pay for the rental or purchase of equipment needed by the Contractor, nor will it pay for mobilization fees of any kind unless Pinellas County Schools supply the parts and materials from its Maintenance Department located at the Walter Pownall Service Center (11111 S. Belcher Rd., Largo, FL 33773) or any other designated place.**

1.2 Scope

A. Provide a complete video surveillance system, as described herein. This specification is based on a complete integrated system installation.

B. Installer shall provide all necessary tools, equipment, material and labor required to install a complete video surveillance system and provide repair services as required. It shall be the responsibility of the Contractor to verify ALL aspects of the installation.

1.3 RELATED SECTIONS

A. Section 26 05 19 Building Wire and Cable

B. Section 26 05 33.13 Conduit and Raceways

C. Section 26 05 33.16 Boxes

D. Section 26 05 33.23 Surface Raceways

E. Section 26 43 13 Surge Protectors for Data and Electronic Equipment

F. Section 27 05 10……………….Basic Specialty Systems Requirements

G. Section 27 10 00……………….Structured Cabling

1.4 CODES AND STANDARDS

A. National Electrical Code (N.E.C.)

B. Florida Building Code (FBC)

C. Manufacturer Installation Instructions

D. Building Industry Consulting Services International (BICSI)

E. American Society for Industrial Security (ASIS)

1.5 CONTRACTOR QUALIFICATIONS

A. The Installing Contractor shall be able to submit proof that they meet the following qualifications upon request from the Owner/Engineer.

B. Performance History: the Contractor shall have successfully performed at least three (3) projects of similar scope and size within two years of the date of this bid. Proof of performance shall be in the form of reference sheets which shall include a brief description of the project, the beginning and ending contract price, the project foreman or superintendent's name and the name, address and telephone number of a project contact. The superintendent proposed for the project shall have been responsible for at least two of these projects under the employment of the Contractor.

C. Time in Business: the Contractor shall have been in business and in the business of installing Video Surveillance Systems (VSS), Video Management Systems (VMS) and integration systems, continuously, for a period of at least three (3) years, prior to the date of this bid.

D. Required License and Certification: the Contractor shall possess a State of Florida Low Voltage Specialty License EF, ES, EC, or ET. A low voltage integrator needs to be an Axis partner with a minimum qualification as a silver certified installer and show proof upon request.

E. Registered Communication Distribution Designer (RCDD) On Staff: the Contractor shall have Building Industry Consulting Services International (BICSI) RCDD on staff. Contracted BICSI RCDDs shall not be acceptable.

F. Office Location: the Contractor shall maintain a permanent office within 50 miles of the School Board’s Administration Building at 301 4th Street SW, Largo, Florida 33770.

1.6 QUALITY ASSURANCE

A. All equipment shall be UL listed for intended purposes.

B. The Contractors shall provide signed documents to the Owner/Engineer and Maintenance Department indicating that all cameras, wiring, junctions and all system functions have been individually checked and are in working order. The Contractor shall provide a completed system checklist including verification of system functionality, location of cameras, junction boxes and power supplies, routing of all cabling and labeling of each camera and associated wiring designated at each end.

1.7 SUBMITTALS

1. Submit under provisions of Division 1.
2. Pinellas County Schools shall approve Video Surveillance Systems (VSS) submittals and they must be submitted in PDF format with bookmarks to sections and products and shall include the following:
3. As-Built drawings to include camera locations, label designations, intended field of view from the AXIS site designer and equipment locations.
4. Parts lists.
5. Service manuals.

**PART 2 Products**

2.1 GENERAL DESIGN CRITERIA

A. This document provides a general description, functional requirements, characteristics and criteria for an integrated Internet Protocol (IP) network-based Video Surveillance System (VSS). The VSS shall display live digital video streams and playback recorded digital video streams from multiple IP cameras simultaneously on the monitoring station console and/or on another display and control platforms. This shall include all cameras, software, power supplies, mounting hardware and all other equipment as required for a complete system.

B. The Video Surveillance System (VSS) being used, shall be a Pinellas County Schools approved system.

C. The contracted Project Electrical Engineer shall work with Axis Communications, the camera manufacturer. Design tools and data sheets are available on their website [www.axis.com](http://www.axis.com). Additionally, the Project Electrical Engineer will be responsible for the proper camera design locations, the correct model cameras for that location and to get the correct design coverage throughout the facility. Intended field of view from the AXIS site designer shall be approved by Pinellas County Schools.

D. The contracted Project Electrical Engineer, Construction Manager and Installing Contractor shall work with Pinellas County Schools, approved Video Management System (VMS) vendor on server size (based on the camera design), total number of cameras, camera manufacturer and camera megapixel size.

F. When cameras are added to any project, the installation Contractor needs to be in contact with the Pinellas County Schools approved vendor to make sure the server is adequate in size to accept the additional cameras and/or camera model changes. If an additional server is needed, the Contractor will be responsible for the coordination to purchase and install the server as well as the cost shall be in the installation Contractor’s proposal. The Contractor shall cover all costs associated with a complete system covering items like cameras, wiring, servers, licenses and any other necessary components, with no exclusions.

2.2 SYSTEM DESCRIPTION

A. System shall be Internet Protocol (IP) Camera Server capable of accepting IP cameras or encoders. Cameras shall connect to the server without the need to share the Pinellas County Schools’ network.

B. Video archival shall be provided by video system network storage servers without the need to share or utilize Pinellas County Schools’ network servers.

C. Servers shall only be used for recording archived videos and shall be field replaceable.

D. All equipment shall have UPS backup.

E. All IP-based physical security products shall be compliant with either Open Network Video Interface Forum (ONVIF) or Physical Security Interoperability Alliance (PSIA) standards.

F. All equipment shall be listed by UL specifically for the intended use and shall have FCC certification where appropriate. Evidence of compliance shall be supplied upon request.

2.3 Internet Protocol (ip) CAMERAS AND ENCODERS

A. Internet Protocol (IP) cameras shall be Axis cameras (no substitution). IP Camera Server shall support both standard and megapixel resolution cameras in MPEG-4 / H.264 / H.265 compression.

B. All IP-based physical security products must be compliant with either Open Network Video Interface Forum (ONVIF) or Physical Security Interoperability Alliance (PSIA) standards.

C. The Manufacturer shall have a minimum of five years’ experience in the manufacture and design of video surveillance cameras.

D. Cameras shall be of the manufacturer’s official product line and be designed for continuous 24/7 use in commercial/industrial applications.

E. Camera Manufacturer shall provide a 24 hour a day, seven days a week, 365 days a year technical support line.

F. Cameras shall be IP addressable and configurable and provide HDTV or megapixel video signals over IP networks.

G. Cameras shall be able to configure frame rates, resolution, quality and retention periods by camera (where applicable for on camera storage) over the network remotely.

H. Cameras shall be capable of receiving software upgrades and patches via the network without the requirement for site visits.

I. Cameras shall include motion detection features which shall generate an alarm whenever specified movement occurs in the image. Motion detection features shall be configurable over the network.

J. Cameras shall be IEEE 802.3af Power-over-Ethernet (PoE) compliant and also capable of accepting 12V DC.

K. Cameras shall be capable of satisfactory operation in the following environment:

1. Operating Temperature: 14°F ~ 122°F (-10°C ~ 50°C)

2. Operating Humidity: 0~90% RH (non-condensing)

L. Cameras are to be provided with appropriate covers and mounting hardware for the intended use and location.

M. Cameras that are intended for outdoor use (including cameras mounted under outdoor ceilings) shall be provided with mounting hardware and covers specifically designed for outdoor applications.

N. All indoor cameras shall be provided with rugged, high impact and vandal-resistant dome type housing enclosures with tamper proof security screws and ingress protection rated at IP66 or higher.

O. Outdoor equipment shall meet or exceed IP66 and NEMA 4X specifications.

P. Cameras that include microphones shall be capable of having the microphone positively disabled by physical means without harming the equipment.

2.4 Internet Protocol (IP) CAMERAS

A. Most common cameras (data sheets available on axis.com):

1. AXIS M4317-PLVE 6-MP outdoor dome with 360° panoramic view and IR illumination.

2. AXIS M4318-PLV 12-MP outdoor dome with 360° panoramic view and IR illumination.

3. AXIS M3085-V Network Camera HDTV 1080P fixed mini dome with HDMI.

4. AXIS M3066-V Network Camera 4-MP fixed mini dome with HDMI.

5. AXIS M4327-P Network Camera 6-MP mini dome with 360° panoramic view.

6. AXIS M4328-P Network Camera 12-MP mini dome with 360° panoramic view.

7. AXIS M3215-LVE Network Camera Robust wide-angle surveillance in 1080p with IR.

8. AXIS M3216-LVE Network Camera Robust wide-angle surveillance in 4-MP with IR.

9. AXIS M4216-LV Network Camera 3-MP/1080P Varifocal mini dome with IR and HDMI.

10. AXIS P 3265-LV Network Camera Streamlined HDTV 1080p fixed dome for any light conditions.

11. AXIS P 3265-LVE Network Camera Streamlined Outdoor Ready HDTV 1080p fixed dome for any light conditions.

12. AXIS P 3735-PLE 8-MP multidirectional camera with IR for 360° coverage.

13. AXIS P 3737-PLE 15-MP multidirectional camera with IR for 360° coverage.

14. AXIS P 3827-PVE Panoramic camera for seamless, 180° coverage.

15. AXIS Q 1700-LE License Plate Camera Dedicated camera for sharp images at high speeds.

16. AXIS Q 1785-LE Network Camera Robust, first-class 2 MP video with 32x optical zoom.

17. AXIS Q 1806-LE Network Camera Robust, first-class 4 MP video with 32x optical zoom.

18. AXIS Q 1798-LE Network Camera Robust, first-class 4K video with 32x optical zoom.

19. AXIS P 4705 – PLVE Dual Sensor Camera.

20. Any Axis Camera not mentioned, but needed, per engineering design.

2.5 SURGE PROTECTION

A. Provide silicon surge protection for all copper cabled exterior cameras. Ground wire shall be grounded directly to the metal chassis of equipment being protected. Equipment chassis shall be connected to the earth through a properly grounded, AC power receptacle.

B. Exterior camera surge protectors shall have a response time of less than five nanoseconds with no more than a -0.5-insertion loss at 40 MHz (Transtector TCP Series for Video Surveillance System (VSS)).

C. The Contractor shall use the proper Ditek Surge for outside cameras

2.6 General/Cabling

A. Utilize cable specified in Section 27, Structured Cabling.

B. All cables shall be terminated and secured to patch panel.

C. All cables shall be identified at both ends (i.e., on the switch ports and on the camera itself) as to the origin and the destination points.

D. All structured wiring/cabling must be run in Cat 6.

E. All patch cables shall be green in color to identify Internet Protocol (IP) cameras.

E. Fiber Optic Cable and Category Cable: utilize cable specified in Section 27, Structured Cabling.

2.7 PUBLIC MONITORS

A. Provide 43” LED HD (minimum size) security-grade monitor, 1920 x 1080 at 60 Hz, in locations and quantities indicated on drawings with tilt mounts. Larger size monitors are acceptable as needed, per drawings.

B. A monitor shall be installed in the front office for viewing as people walk through the door into the office.

C. All monitor locations shall use a decoder for camera viewing, Axis Model D1110.

**PART 3 EXECUTION**

3.1 General

A. Installation of the Video Management System (VMS) shall include the appropriate engineering equipment, labor, materials, apparatus, tools, transportation, temporary construction and special services as required to for a complete working VMS, as described in these specifications. The installation shall be performed by an Axis certified and trained Contractor/Installer. The Contractor shall be responsible for all required hardware and software configurations.

B. All Video Surveillance System (VSS) installations will require software installations on site. If remote access is required, a written request for VPN access must be submitted to TIS and Pinellas County Schools for approval.

C. Upon project completion, the Vendor/Contractor shall provide an "As-Built" drawing showing junction box locations, cable routing, wall penetrations and camera IP addresses.

D. In-line splices shall not be used. All cable runs shall be continuous from termination to termination. If cables are damaged during construction, they shall be removed and new continuous cables installed. Splicing repair is not permitted.

E. Any debris resulting from the vendor’s installation of security camera system shall be promptly removed and disposed of by the vendor.

F. The Contractor shall provide all cabling, device installation, server configuration and camera licenses. The Contractor shall coordinate/consult with other Pinellas County Schools’ departments to integrate all components required for a complete operational system.

G. Location of equipment rack, switches, servers and all related equipment shall be in a Main Distribution Frame (MDF)/Intermediate Distribution Frames (IDF) location as depicted on drawings per Engineer.

H. Video Management System (VMS) servers for each facility shall be installed in the MDF Room.

I. Equipment rack shall be located and configured to provide easy access to the system operator/technician while operating/maintaining system.

J. Equipment rack shall have sufficient access, both front and rear, to allow for comfortable access for servicing and replacement of equipment, as needed.

K. All the wiring entering or leaving rack shall be routed using approved cable management solutions and be labeled as to function and origin or destination.

3.2 programming and equipment INSTALLATION

A. As part of the installation, the Contractor shall provide the following:

1. All documentation to include user guides, including warranty/guarantee information, contact information for maintenance and repairs, As-Built drawings shall include camera locations with IP addresses, replacement parts, spreadsheets with passwords, cameras Internet Protocol (IP) addresses, switch IP addresses, port location and switch locations, use 28 20 00 Appendix A IP Camera Sheet template to record all camera information listed above. Or any additional documentation needed to be passed along to Pinellas County Schools Facilities Department, Pinellas County Schools TIS Department and its approved vendor for a complete Video Surveillance System (VSS) install.

B. The Contractor shall be responsible for entire installation including programming the IP addresses into the Axis IP cameras, patch cables, all terminations, all labeling at the switch/camera, camera locations and final adjustments to the cameras viewing images. The Contractor shall communicate with Pinellas County Schools’ Information Technology (IT) Department to get Static IP addresses. The Low Voltage Installing Contractor shall have a “My Access Account from Axis” using the device manager tool. The programmed camera static IP addresses must be provided to Pinellas County Schools and its approved vendor for final programming of the software before the servers are installed. All cameras installed shall be registered to Pinellas County Schools prior to the installation of the server. The most current firmware updates shall be installed on all cameras.

C. Network switches will be provided by Pinellas County Schools and installed by Pinellas County Schools**.** The schedule shall be communicated to the IT Department, as soon as possible, to avoid any delays.

D. The Contractor shall be responsible to work with Pinellas County Schools approved vendor for the purchase, installation of servers, proper size of the servers and final software programming.Any camera servers needed for a project shall be purchased and included in the Contractor’s contract. The approved Contractor shall integrate all electronic equipment as requested per Pinellas County Schools.

E. Installing Contractor shall also be responsible for communicating with the Pinellas County Schools’ IT Department and its approved vendor for a complete operational system.

F. Manuals shall be either bound in a three-ring binder or another hard cover book.

G. System documentation:

1. Site preparation.

2. System screen layout and design formats.

H. Database design/configuration

1. Data input for initial system configuration**,** camera models, IP addresses, switch and port locations.

2. Clearly defined, project-specific system acceptance criteria.

I. Appropriate status reporting and attendance at all project meetings.

J. Formal transmittal of specific project documentation and As-Built drawings to the Owner.

K. Complete hardware set-up of all system stations, peripherals and installation of field hardware.

L. Set-up of specific network software configuration requirements.

M. Screen format installation and verification.

N. Complete system diagnostics verification.

O. Complete system operation verification.

P. Perform problem reporting and tracking.

Q. Prepare project specific installation log.

R. Participate in acceptance testing by the Engineer.

S. Submit project specific installation documentation to Pinellas County Schools.

T. These standards contain only partial installation guides for clarification. See the current Florida Building Code and the National Electric Code for any applicable design criteria and/or installation requirements. It shall be the Contractor’s responsibility to install a system that is Code compliant.

3.3 SYSTEM ACCEPTANCE TESTING

A. A phased acceptance test and performance demonstration program shall be developed and documented by the Contractor under the direction of the Project Coordinator/Engineer. These requirements shall apply to all system components and software, including, but not limited to, all system host computers and access control system/SCS interface capability.

B. The Contractor shall perform these tests and document the results under the supervision and witnessing of the Project Coordinator/Engineer. Operational scenarios shall be developed and used by the Contractor to simulate the actual use of the system in the normal environment of Pinellas County Schools’ facilities.

C. Discrepancies found during testing shall be documented by the Contractor and maintained in a file with copies provided to the Pinellas County Schools’ Project Coordinator/Engineer. The Contractor shall correct any deficiencies or problems found during these tests at no additional cost to Pinellas County Schools. The problems identified in each phase shall be corrected and the full test completed again without problems before any subsequent testing phase is performed.

D. Inspections and tests, or waiving of either, by the Pinellas County Schools’ Engineer, shall not relieve the Contractor of responsibility for providing hardware, software and documentation strictly in accordance with the specifications. Also, successful completion of testing shall not constitute final acceptance of the systems.

3.4 SYSTEM START UP

A. The Contractor shall accept full responsibility for the initial application of power to the equipment and the initiation of its operation. The Contractor shall, also, be responsible for running all initial VMS systems and component diagnostics and programs required to provide a complete working system.

3.5 WARRANTY

A. Equipment, parts and labor shall be warranted to be free from defects in material and workmanship for a period of one year from date of final substantial completion and acceptance of system by Owner.

B. Warranty shall include damage from lightning and transients for the complete warranty period.

C. Contractor shall arrive on site within two normal business days to repair the system under warranty. All repairs shall be completed within one week.

D. Equivalent loaner equipment with the same functions and features shall be acceptable if the system is completely inoperable.

E. Failure to respond in the time provided shall result in the Pinellas County Schools’ Maintenance Department making repairs and charging warrantor.

F. Warrantor shall be responsible for providing “loaner” equipment to maintain system operation in the event the equipment shall be removed for servicing during warranty period.

G. Contractor shall provide software revisions and updates throughout the warranty period at no additional cost to the Owner (i.e., labor and/or materials).

**\*\*\*END OF SECTION\*\*\***