

SECTION 28 2300

VIDEO SURVEILLANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Related Documents: Division 00 – Procuring and contract documents, General and Supplementary Conditions of the Contract, Division 01 General Requirements

1.2 SUMMARY OF WORK

- A. The Contractor shall provide all materials, equipment, labor and all other incidental materials and appliances necessary, as described herein and in the drawings, to provide a complete turnkey and functional system, regardless of any materials and/or equipment not listed or described in this specification and/or supplementary drawings.
- B. Provide and install an extension to the existing video management system manufactured by Video Insight
- C. Provide and install all cabling, switches, servers, and cameras.

1.3 FUNCTIONAL REQUIREMENTS OF THE SURVEILLANCE SYSTEM

- A. The system will be required to record images based on criteria established in the specifications for all interior and exterior camera locations.

1.4 SUMMARY

- A. The following is a summary of the Contractor's responsibilities and requirements. The following does not preclude other Contractor responsibilities and requirements listed in this specification.
- B. Review of contract documents and field conditions by Contractor prior to the work.
- C. The Owner makes no representations as to the accuracy or completeness of the site information furnished to the Contractor by the Owner and does not expressly or impliedly warrant same and is not responsible for any interpretations or conclusions reached by the Contractor with respect thereto. It is Contractor's sole responsibility to verify to its own satisfaction all site information.
- D. The Contractor is responsible for having visited the site and ascertained pertinent local conditions such as location, accessibility, and character of the site or building, the character and extent of existing work within and adjacent to the site, and any other work being

performed thereon at the time of the submission of his proposal. Any failure to do so will not relieve him from responsibility for successfully performing the work without additional expense to the Owner.

- E. The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Owner at once.
- F. If in the performance of the Contract, subsurface, latent, or concealed conditions at the site are found to be materially different from the information included in the specification and the resulting Contract Documents, or if unknown conditions of an unusual nature are disclosed differing materially from the conditions usually inherent in work of the character shown and specified, the Owner shall be notified in writing of such conditions before they are disturbed. A/E, with the approval of the Owner, will promptly make such changes the Specifications as deemed necessary to conform to the different conditions, and any increase or decrease in the work, or in the time within which the work is to be completed, resulting from such changes will be adjusted by Change Order subject to the prior approval of the Owner.
- G. Before submitting its proposal to the Owner, and continuously after execution of the Contract, the Contractor shall carefully study and compare this specification and shall at once report to the Owner any error, inconsistency or omission the Contractor may discover, including any requirements which may be contrary to any law, ordinance, rule, regulation or order of any public authority bearing on the performance of the work. By submitting its proposal for the Contract and the work, the Contractor agrees that the specification and resulting Contract Documents appear accurate, consistent, and complete insofar as can reasonably be determined. If the Contractor has reported in writing an error, inconsistency or omission, has promptly stopped the affected work until otherwise instructed, and has otherwise followed the instructions of the Owner, the Contractor shall not be liable to the Owner for any damage resulting from any such errors, inconsistencies or omissions in this specification and resulting Contract Documents. The Contractor shall perform no portion of the work at any time without the Contract Documents and, where required, approved Project Drawings, Product Data or Samples for such portion of the work.
- H. The Contractor shall perform the work in accordance with the Contract Documents and submittals.
- I. The Contractor shall arrange for the securing of all necessary permits and pay for same.

1.5 WARRANTY

- A. Contractor shall provide a one-year warranty from date of installation on all labor related work. This warranty shall cover labor, travel and all other expenses.
- B. The Contractor-supplied surveillance cameras shall carry the three-year Axis warranty.
- C. The Warranty binds the Contractor to correct any work that does not conform to such Contract Documents or any defects in workmanship or materials furnished under this Contract which may be discovered within the one-year period. The Contractor shall, at its own expense, correct such defect after receiving notice from the Owner by repairing same to the condition called for in the Contract Documents.
- D. All recall notices occurring during the manufacturer's warranty period will automatically be forwarded to the Owner.
- E. All replacement, installation, integration, maintenance and testing provided in conjunction with the warranty provisions of such contract will be provided at no additional cost to the Owner.

- F. All recall notices occurring after the expiration of the manufacturer's warranty will be forwarded to the Owner for a period of 2 years after the warranty expires.
- G. The Contractor warrants to the Owner that all materials and equipment furnished under this specification will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the specification. All work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- H. The Contractor warrants the materials, workmanship and work to be in conformance with the Contract Documents included in this Project, for one full year from the approved substantial completion date unless a longer warranty or special guarantee is specified. Contractor shall assign to Owner all warranties and guarantees from or rights against any manufacturer, supplier or distributor of equipment, fixtures and other material installed in or incorporated in the work at the time of acceptance by Owner.
- I. The Warranty binds the Contractor to correct any work that does not conform to such Contract Documents or any defects in workmanship or materials furnished under this Contract which may be discovered within the one-year period. The Contractor shall, at its own expense, correct such defect after receiving notice from the Owner by repairing same to the condition called for in the Contract Documents.
- J. All replacement, installation, integration, maintenance and testing provided in conjunction with the warranty provisions of such contract will be provided at no additional cost to the Owner.
- K. Warranty service shall be on a 365-day/year basis with a response time not to exceed four (4) hours. The respondent shall certify that its proposed service facility shall initiate, within 1 business day, on-site repair to any critical system product that fails while under Contractor warranty.
- L. Additional Warranty
 - 1. Contractor will state any additional Contractor supplied warranty.
- M. Contractor shall provide the Owner with a list of all contact information for warranty purposes to include phone numbers, email addresses and business and technical support hours.

1.6 SERVICE UNDER WARRANTY

- A. Upon receipt of written notice, Contractor shall remedy defects within two (2) calendar days or the Owner shall seek other means to correct the defects and the Contractor or its surety shall be liable for expenses.
- B. If it becomes necessary for the Owner to contract out for warranty repairs, due to an inability or failure of the Contractor to perform such repairs, the Contractor shall reimburse the Owner for all invoices for parts, labor, materials, travel, per-diem, and all other related expenses such as shipping/handling costs to perform such repairs, within 30 days from presentation of an invoice from the Owner. This shall only occur after the Contractor has been given two (2) calendar days to respond and correct the problem. The cost limitation for such repairs will not exceed the actual costs as listed above which are directly related to the repair.
- C. Escalation.
 - 1. The Contractor will provide a copy of the escalation procedure, including names, titles, responsibilities and 24-hour contact phone numbers. Contractor shall provide a toll-free telephone number for reporting of problems. Additionally, Contractor shall provide an escalation list to be used by the Owner to escalate problems within the Contractor's organization when it is deemed that the Contractor's responsiveness to a reported problem has not been adequate or in accordance with the terms and

conditions of this specification and the resulting Contract Documents. Escalation must be to the senior levels of management within the Contractor's organization.

1.7 MATERIAL AND WORKMANSHIP

- A. The Contractor shall provide and pay for all materials, supplies, machinery, equipment, tools, superintendence, labor, services, insurance, and all water, fuel, transportation, and other facilities necessary for the execution and completion of the work covered by the Contract Documents.
- B. Unless otherwise specifically provided in this Contract, all equipment, material, and articles incorporated in the work covered by this Contract are to be new and of the most suitable grade for the purpose intended.
- C. All work under this Contract shall be performed in a skillful and professional manner. The Contractor agrees to employ only orderly and competent employees, skillful in the performance of the type of work required under this contract; and agrees that whenever informed by the Owner in writing that any employee(s) on the work is (are), in its opinion, incompetent, unfaithful or disorderly, shall be discharged from the work and shall not again be employed on the work without the Owner's written consent.
- D. Materials or work described in words, which so applied, have a well-known technical or trade meaning shall be held to refer to such recognized standards. Neither custom nor usage of trade shall require the Owner to accept materials or workmanship not in strict and complete compliance with the Contract Documents.

1.8 REFERENCES

- A. TIA 569 C– Telecommunications Pathways and Spaces
- B. ANSI/TIA/ 606-B – Administration Standard for Commercial Telecommunications Infrastructures
- C. ANSI/TIA-862-A – Building Automation Systems Cabling, published 2011.
- D. International Standards Organization/International Electro Technical Commission (ISO/IEC) DIS 11801, second Addition, 2002 – 2009.
- E. International Standards Organization (ISO) 7816
- F. Underwriters Laboratories (UL®) Cable Certification and Follow up Program
- G. National Electrical Manufacturers Association (NEMA)
- H. American Society for Testing Materials (ASTM)
- I. National Electric Code (NEC®), Latest Issue
- J. Institute of Electrical and Electronic Engineers (IEEE)
- K. UL Testing Bulletin

1.9

QUALIFICATIONS

- A. Acceptable Manufacturer
 - 1. VMS Video Insight (Panasonic)
 - 2. Cameras
 - Advidia
 - Panasonic
 - Axis

B. Contractor

1. Bidders who do not currently possess the necessary qualifications, trained and experienced personnel, financial capacity, current state licenses (as required by the Texas Department of Public Safety Private Security Bureau), and meet the other requirements herein described will be disqualified.
2. The Contractor, as a business entity, shall be an authorized and designated representative/dealer of the equipment used in this specification, with full warranty privileges, and shall have been actively engaged in the business of selling, installing, and servicing similar systems for a period of at least three (3) years. The camera system Contractor as a company shall have successfully installed a minimum of three (3) similar-sized systems that are currently operating to the Owner's satisfaction.
 - a. Contractors must be certified by the camera (if applicable) and VMS system manufacturer to bid this work.
 - 1) Contractors who are in the process of becoming certified with the VMS manufacturer or the camera manufacturer specified in this document may not be selected.
3. All employees working on the project must have at least 12 months of continuous hands on experience in the installation of similar systems and have the technical skill to trouble shoot and identify and correct problems. At least one of the technicians or field managers shall be certified by the manufacturers.
4. The Contractor must have previously established offices located within two hundred (200) miles of the Owner Administration Building staffed with trained technicians who are qualified and licensed to supervise the installation, to be responsible that the system is installed as submitted, to conduct system start-up and perform a 100 percent operational audit of all installed devices, to instruct the Owner's representatives and the local authority having jurisdiction in the proper operation of the system, and to provide services throughout the warranty period.
 - a. The Contractor shall be capable of dispatching technicians to repair a system within one business day of a service request.
5. The Contractor will comply with all federal, state and local statutes regarding qualifications of firms.
6. The Contractor shall not have any grievances or complaints of record regarding workmanship, code compliance, or service response. A Contractor that has any prior finding(s) of a license violation or has any litigation in process is unacceptable.
7. The Contractor shall employ full-time local technicians and installers. The equipment manufacturer shall maintain a full-time factory employed service staff for product support and service.
8. The Owner reserves the right to reject the bid of any Contractor who has previously failed to perform properly, or complete on time, contracts of a similar nature.
9. The Contractor shall provide proof of licensing by the Texas Department of Public Safety Private Security Bureau. The Owner reserves the right to reject bid of any bidder who has previously failed to perform properly, or complete on time, contracts of a similar nature.

C. SubContractors

1. The use of unlicensed sub-Contractors to support the installation Contractor for this project is not approved. All sub-Contractors must be certified by Video Insight and Axis.

1.10 SUBMITTALS AND CLOSE OUT DOCUMENTS

- A. Provide electronic PDF submittals with the following information:
- B. Provide product data cut sheets for all listed products in section two of this specification per Section 01 3300 with the following provisions:

1. Shop drawings are required for the submittal package and will contain the following information:
 - a. Location of all camera devices.
 - b. Include camera naming of all camera locations. Coordinate with the Owner prior to naming any camera location.
 - c. Identify the type of camera by its Manufacturer and Model along with the camera name.
 - d. Title blocks used on all drawings will be that of the Contractor and shall include the following:
 - 1) Company name
 - 2) Company address and phone number for service
 2. Provide an Excel spreadsheet containing the following information:
 - a. Facility Name as provided by the owner
 - b. Camera Name as provided by the owner
 - c. Camera Manufacturer and Model
 - d. IP Address (obtained from the Owner)
 - e. MAC address of each camera (from the manufacturer)
 - 1) All IP addresses shall be assigned to the cameras by the Owner.
 - 2) The Owner requires all MAC addresses prior to installation. (Cameras, servers, etc. with MAC addresses need IP addresses assigned prior to installation.) Submit this information through the general Contractor to the attention of the Owner representative prior to the transmittal of the submittal documents.
 - f. Data outlet location (include Owner drop naming convention).
 3. Provide manufacturer cut sheets for each piece of equipment specified. Include the manufacturer name, model number and description of each listed component.
 - a. *If the data sheet includes multiple part numbers or models the bidding Contractor will indicate which model is being submitted by marking the appropriate model number with any of the following:*
 - 1) An "X"
 - 2) Clouding the line item
 - 3) Circling the line item
 - 4) Identifying the line item using an arrow
 4. Provide a copy of current camera or software manufacturer certifications.
 - a. Contractors with an approved alternative camera manufacturer will provide proof of training from that manufacturer.
 5. No portion of the work shall commence or equipment ordered until the architect has approved the submittals.
- C. Closeout Submittals will be submitted under provisions of Section 01 7700 and 01 7800 with the following provisions.
1. Maintenance Data: Include manufacturer's operating instructions, original copies of all software, recommended maintenance required and maintenance intervals.
 2. A complete parts list.
 3. Record drawings will provide all final camera locations and or viewing directions and their assigned nomenclature including the following information:
 - a. Identify the type of camera by its Manufacturer and Model
 - b. Identify the camera name determined through coordination with the Owner.
 4. Title blocks used on all drawings will be that of the Contractor and shall include the following:
 - a. Company name
 - b. Company address and phone number for service
 - c. Date on the drawings will match the date of acceptance for warranty purposes
 5. Contractor will provide an electronic copy of all drawings with the close out documentation. Drawings will be issued in both CAD (.DWG) and PDF formats.

- a. Electronic copies of the drawings can be in color.
 - 1) Exception: Do not use yellow.
 - b. The drawings shall accurately reflect all changes and additions to the surveillance system since the bid.
 - c. Upon approval by the Owner and the architect, the Contractor will then submit the hard copy drawings with any changes that may be required by the Owner.
6. In addition to the previously mentioned copies, the Contractor will also provide a laminated full size 30 x 42 drawing of the overall floor plan to the Owner for placement at the Owner's discretion.
7. *A completed record drawing will be required for use during the final acceptance process of the construction project. Failure to produce the record drawing during this process will result in a delay in the final acceptance to the Owner.*

1.11 PROJECT CONDITIONS

- A. Project Environmental Requirements
 - 1. Comply with requirements of referenced standards and recommendations of material manufacturers for environmental conditions before, during, and after installation.
 - 2. Do not begin installation until instructed to perform by the Owner construction manager.
 - 3. The Owner requires all MAC addresses prior to installation (Cameras, servers, etc. with MAC addresses need IP addresses assigned prior to installation.)
 - 4. While on campus or on any land owned by the Owner, all Contractors shall comply with Owner policies concerning alcohol, tobacco, electronic cigarettes and firearms as well as any other Owner policy governing dress, behavior etc.
 - 5. Owner approved badges will be displayed while on site. Personnel found without their badges on them or who refuse to display them properly will be removed from the job site immediately. Reference the project specifications for any additional information pertaining to Owner badging requirements.

1.12 DELIVERY, STORAGE AND HANDLING

- A. Comply with requirements of the delivery storage and handling specification sections in the project specification book.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Store materials protected from exposure to harmful environmental conditions and at temperature conditions recommended by manufacturer.
- D. Handle products and systems in accordance with manufacturer's instructions.
- E. Contractor is required to remove all empty containers and other trash associated with the system. This includes all packaging, excess cable and other materials that hold no value to the Owner.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Only equipment devices have been shown on the contract drawings. For the purposes of clarity, specific wiring between equipment has not been shown.
- B. All equipment and components shall be installed in strict compliance with each manufacturer's recommendations and the requirements of the components UL listing. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, electrical requirements, cable types, and physical equipment sizes, etc., before beginning

system installation. Refer to the manufacturer's riser / connection diagrams for all specific system installation / termination / wiring data.

- C. All equipment and components shall be new and the manufacturer's current model. All like devices shall be of the same manufacturer and model number.
- D. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place. Cameras shall not be supported solely by suspended ceiling tiles. Fasteners and supports shall be adequate to support the required load. Refer to these specifications for support types and approved methods.

2.2 MANUFACTURERS

- A. Descriptions and details, acceptable manufacturer names listed and specific manufacturer and model number items indicated in the plans and specifications shall establish a standard of quality, function and design.
- B. Manufacturers and model numbers shall not be substituted without specific notice in an addendum or other formal documentation process. Otherwise, where a specific manufacturer's product is indicated, products of other manufacturers listed as acceptable may be submitted for approval based on the substitute product being, in the opinion of the Owner, of equivalent or better quality than that of the product specified.
- C. Acceptable VMS and Camera manufacturer:
 - 1. Video Insight
800 Gessner Rd, Suite 700
Houston, TX 77024
713-621-9779
800-513-5417
- D. Acceptable Camera manufacturer:
 - 1. Axis Communications
 - 2. South Central Office and Axis Experience Center
433 E. Las Colinas Blvd
Suite 600
Irving, TX 75039
Tel: 800-444-2947

2.3 CONTROL AND NETWORK CABLES

- A. The communications cabling Contractor (Div. 27 0000) will provide the necessary data cable plant for connecting each camera to the network. This will include the horizontal cable, the faceplates, inserts and copper patch cables required for each location.
 - 1. The surveillance Contractor will provide any additional cabling that may be needed to provide additional power (above the 802.3af requirements) for exterior camera heaters, blowers etc.
 - a. Contractor shall be required to provide additional conduit pathways for any cabling that meets these criteria.
- B. Any cabling added by the surveillance Contractor shall meet the following requirements:
 - 1. Plastic tie wraps are not permitted at any time in the cable pathway on this project. Contractor is forbidden to bring any plastic tie wraps onto the project grounds at any time. Contractor will use Velcro based ties to secure the cable bundles.
 - 2. All above ceiling cabling installed for this system will be supported Contractor furnished conduit pathways secured to the building structural steel or walls. Contractor will not share pathways with any other low voltage structured cable plant.

3. Any cables showing signs of excessive bending or mishandling that result in damage to the cable jacket will be replaced at Contractor's expense.
4. Cables will be installed for a non-plenum environment.

2.4 CAMERAS

- A. Refer to the drawings for all camera locations or full coverage of all hallways, exterior doors, bus loop, and playgrounds.
- B. All final heights and viewing areas shall be coordinated with the Owner prior to final acceptance. The Contractor will notify the architect if the proposed location is obstructed by any objects and shall propose an alternate location for the camera as needed.
- C. Contractor is required to provide for all license seats that are required for a complete and functioning system.
- D. Reference the security schedules and camera type schedules in the drawings for more information.
- E. 3 Megapixel or better

2.5 CAMERAMOUNTS

- A. Ceiling mounted cameras shall not be supported directly on the ceiling tile.
 1. Camera mount acceptable manufacturer: Axis
- B. Interior wall mounted camera locations (if applicable) will be mounted directly on the provided back box.
 1. Protective cages are not required.
- C. All exterior building camera mounts will be colored white. Axis gooseneck mounts will be used for wall mount locations with direct exposure to the sun.
 1. Mount cameras to the exterior surface of the wall of the building at the locations shown.
 2. Cameras at the corners will be mounted 24" from the corners of the building and at least 24" from any light fixtures. Cameras will be mounted per the security schedules provided in the drawings unless noted otherwise. If a camera is designed to capture an area under an awning, the camera shall be mounted at the most appropriate height under the canopy.
 3. Back boxes and conduit sleeves on the exterior walls shall have been provided by the electrical Contractor See section three for more information regarding workmanship expectations.

2.1 VMS, STORAGE AND PROGRAMMING REQUIREMENTS

- A. Acceptable VMS Manufacturer:
 1. Video Insight
- B. The surveillance Contractor will be responsible for providing all required licenses for each camera being added to the system
- D. Server with storage will be required for this project All camera and software licenses and accompanying software shall be transferred to the Owner.

- E. Contractor shall include all necessary licensing fees for one year of maintenance coverage for each camera in the project. The year will begin at the Owner's approved substantial completion date and not at the date of purchase by the Contractor.

- EXECUTION

3.1 INSTALLATION

- A. Components of the system will be installed in a neat, professional manner as deemed by the architect / security consultant and Owner.
- B. Wiring color codes will be strictly observed and terminations will be uniform throughout the system.
- C. Identification markings and systems will be uniform with machine generated labels.
- D. All ceiling mounted camera locations shall be supported from the structure at industry standard intervals for the size specified, utilizing proper anchoring devices and techniques for each type of camera mount used.
- E. All exterior security cameras will be properly secured to the sides of the exterior wall at the locations shown on the technology drawings. Plastic anchors will not be accepted at any exterior mount location.
- F. Conduit and sleeve penetrations through the outer wall for security cameras will be provided and installed by the electrical Contractor. The electrical Contractor shall be required to provide protective plastic bushings, colored, white, placed at the ends of the conduit sleeves prior to pulling in any cabling to the camera.
- G. Tour site with the representative from the Owner and verify field conditions at locations shown on the drawings. Do not place cameras in final locations where field of view objectives cannot be met. Confer with the architect on final placement of cameras where necessary.
- H. Position cameras to avoid direct light sources and extreme backlit situations shadowing as much as possible. Orient camera for best image and adjust as required.
- I. Seal all exterior cameras, including those under canopies or awnings, with RTV or silicon sealant at locations where mounting contacts the wall surface.
- J. Sealant shall be clear and will be rated for UV protection.
- K. Acrylic domes and windows shall be treated after installation with approved plastic cleaner and polish. All domes will be cleaned prior to final acceptance.

3.2 TESTING WARRANTY SERVICES

- A. A factory-trained representative of the manufacturer shall supervise the final connections and testing of the system and it shall be subject to the final acceptance of the Architect/Engineer and Owner.
- B. The Contractor shall make a thorough inspection of all camera locations to ensure the following:
 - 1. All devices are properly located and connected per the technology drawings and the construction specification documents for a complete and functional system.
 - 2. All devices are Installed in accordance to manufacturer's instructions.

3.3 MISCELLANEOUSEQUIPMENT

- A. The Contractor will provide any necessary support hardware necessary to facilitate the proper installation of the System.

3.4 LABELING

- A. System components and wiring shall be comprehensively labeled.
 - 1. All labels shall be machine generated.
 - 2. Handwritten labels are not acceptable.
 - 3. Do not place the IP addresses for the cameras on the outer domes or anywhere else they can be seen by the public.

3.5 TECHNICAL SUPPORT

- A. On site move day support:
 - 1. The personnel providing technical support will:
 - a. Have thorough and in-depth knowledge of the system and materials that were used as well as have direct project experience.
 - b. Be skilled in all use of equipment and materials used under the Contract.
 - c. Be competent to troubleshoot and fix problems associated with Contractor provided materials.
- B. Security Contractor will allow the Owner two calendar weeks of recording time and will then return to adjust camera views as directed by an authorized Owner representative. Contractor will coordinate this visit through the Owner.

3.6 FINAL ACCEPTANCE

- A. The Contractor will perform on-going reviews of all work for compliance with the contract documents with a representative from the Architect. All work will be performed in a high-quality manner and the overall appearance will be clean, neat and orderly.
- B. Final acceptance will not be given until all locations installed in the field are verified on the Contractors close out record drawings and the programming verified by the Owner and their consultant.

END OF SECTION

