

SECTION 28 23 00
VIDEO SURVEILLANCE SYSTEM

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including all General and Supplementary Conditions and Division 1 Specification sections shall apply to this section and shall be considered as forming an integral part of this Work. These documents are referred to as the Project General Conditions in the remainder of these Specifications.
- B. The General Security Requirements specification Section 28 05 00 shall apply to Work specified in this Section. Where similar requirements headings are listed herein, they are to augment the requirements indicated within the General Security Requirements Section. Nothing herein shall be construed as relieving Contractor from the requirements identified in the General Security Requirements specification Section.
- C. Consult other Divisions: determine the extent and character of related work and properly coordinate work specified herein with that specified elsewhere to produce a complete and operable system.
- D. Section 280500 Common Work Results for Electronic Safety and Security
- E. Section 280800 – Security System Commissioning
- F. Section 281300 – Access Control and Alarm Monitoring System
- G. Division 26 – Electrical

1.02 DEFINITIONS

- A. CCD: Charged coupled device
- B. HD: High definition
- C. IETF: Internet Engineering Task Force
- D. IP: Internet Protocol
- E. IPS: Images per second
- F. ITU: International Telecommunications Union
- G. MP: Megapixel
- H. MPEG: Moving Picture Experts Group
- I. NTSC: National Television System Committee
- J. ONVIF: Open Network Video Interface Forum
- K. PAL: Phase alternating line
- L. PTZ: Pan, tilt and zoom
- M. RWC: Regional Watch Center
- N. SCC: Security Control Center
- O. SD: Standard definition
- P. VMS: Video management system
- Q. VSS: Video surveillance system
- R. WAN: Wide Area Network

- S. In this and related documents the terms “video management system (VMS)” and “video surveillance system (VSS)” are used interchangeably.

1.03 REFERENCES

- A. Electronics Industry Association (EIA) RS-170a standard for analog video
- B. NTSC broadcast video standard
- C. ITU PAL-B broadcast video standard (Referred to herein as simply PAL)
- D. ONVIF standards for IP video interoperability
- E. MPEG standards for video encoding / decoding
- F. ITU-T standards for video encoding / decoding

1.04 SUMMARY

- A. Section Includes
 - 1. General: Furnish engineering, labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working Video Surveillance System installation as described in these specifications and shown in detail on the drawings.
 - 2. Complete system is defined as all labor and materials required to complete the Work described herein and on the Drawings.
 - 3. Products, equipment, materials, systems, assemblies, software and accessories as specified herein define the minimum standards whether provided new or upgraded. Locations, quantities and scope of work at individual device and equipment locations are shown in detail on the Drawings.
 - 4. Specifications and Drawings do not show or list every item, accessory, sub-assembly and appurtenance to be provided. When an item not shown or listed is necessary for proper installation, operation and functioning of the equipment and systems the Contractor shall provide, install, test and certify the item at no increase in Contract price.
 - 5. Materials, equipment fabrication, installation, and tests in conformity with applicable Codes and authorities having jurisdiction for the following:
 - a. Coordinate system requirements with the Owner's Rep.
 - b. Establish system communication with the Access Control System Server and panels via the Owner's LAN/WAN network.
- B. Scope of work
 - 1. The video recording and management platform will use Genetec's approved video solution.
 - 2. New fixed and Pan/Tilt/Zoom (PTZ) cameras shall be installed as indicated on the SE Drawings. New camera power supplies shall be installed as shown on the SE drawings.
 - 3. Terminate cabling provided under a separate section for all cameras and other equipment specified in this section at both ends of the cabling.

1.05 SUBMITTALS

- A. Contractor Qualifications: Submit certification letters for the manufacturer of the ACAMS.
- B. Product Data: Submit product information for components specified herein. Refer to Section 280500 for format and requirements.

- C. A time schedule and description of work flow will be presented in the submittal that outlines the contractor's approach to install the ACAMS.

PART 2 PRODUCTS

2.01 FUNCTIONAL REQUIREMENTS

- A. The video surveillance system will provide remote fixed (FTV) and Pan-Tilt-Zoom (PTZ) cameras for local and remote viewing and archiving solution. Cameras will provide for monitoring and recording of motion and / or alarm events. All cameras will interconnect into a centralized recording location.
- B. Interior Fixed (FTV) cameras will be strategically located to view interior card reader doors and other areas as indicated on the Drawings.
- C. Provide for interface with the ACAMS and CCTV system to allow for alarm event camera call-up and CCTV control from selected workstations.

2.02 TECHNICAL REQUIREMENTS

- A. Approved substitutions: No substitutions will be considered.
- B. Video software
 - 1. The video recording solution shall be Omnicast Enterprise as manufactured by Genetec, 22850 Alfred-Nobel Blvd. Suite 400, Montreal, Quebec, Canada H4S 2A4. DLR Account Manager: John Joyce – (561) 319-6686 – jjoyce@genetec.com [NO EXCEPTIONS]
 - 2. Provide video integration software licensing
 - a. Include sufficient additional camera licensing to support an additional thirty-two (32) cameras.
 - b. Acceptable manufacturer: Genetec Omnicast Enterprise – Single Camera License – GSC-OM-E-1C [NO EXCEPTIONS]
 - c. Include sufficient additional maintenance licensing to support and additional thirty-two (32) cameras.
 - d. Acceptable manufacturer: Genetec Advantage – ADV-CAM-E-1Y [NO EXCEPTIONS]
 - e. Include AMAG integration licenses to support thirty-two (32) cameras. Match current version for site specific installation.
- C. Fixed indoor IP camera
 - 1. Acceptable manufacturer: Hanwha QND-7080R [NO EXCEPTIONS]
- D. Fixed indoor IP camera pendant cup base
 - 1. Acceptable manufacturer: Hanwha SBP-122HM [NO EXCEPTIONS]
- E. Fixed indoor IP camera pendant ceiling bracket
 - 1. For pendant ceiling-mount cameras, provide custom-cut pipe, conduit body, and other hardware as shown in the Drawings.
 - 2. Acceptable manufacturer: Hanwha SBP-122HM [NO EXCEPTIONS]
- F. Fixed indoor IP camera wall arm mount
 - 1. Acceptable manufacturer: Pelco SWM-SR [NO EXCEPTIONS]
- G. IP camera mid-span power supply:

- 1. Acceptable manufacturer: Microsemi PD-6524G/AC/M/F 24 port PoE midspan
[NO EXCEPTIONS]
- H. Video surge protection
 - 1. Acceptable manufacturer: Ditek DTK-MRJPOE or equal

PART 3 EXECUTION

3.01 COORDINATION

- A. Coordinate all electrical power and conduit requirements with the Division 26 electrical contractor and the Owner. All security systems shall be on a dedicated security designated branch circuit.
- B. Coordinate network connectivity and telephone and data cable requirements with Division 27 contractor scope of work and the owner.
- C. Connect the video surveillance cameras to the Owners local area network utilizing the LAN/WAN. Coordinate all network connections and IP addressing with the Owner's Rep.
- D. Coordinate all LAN/WAN connections required for digital video transmission and viewing with the Owner's Rep.

3.02 INSTALLATION

- A. Contractor shall furnish and install all equipment and accessories as well as miscellaneous wire, cabling and conductors for all building CCTV Systems.
- B. All security equipment such as enclosures, junction boxes and terminal cans installed in public accessible areas shall be installed utilizing tamper proof mounting hardware.
- C. Provide proper and adequate seismic restraint for all CCTV equipment.
- D. Provide 24 VAC from one single phase of incoming power for all non- POE CCTV cameras. This 24VAC shall be conditioned and protected from surges, and line spikes.
- E. Install all CCTV head-end equipment in equipment cabinets as shown on the Drawings.
- F. Provide installation, testing, adjustment and initial programming for all equipment and systems.
- G. Contractor is responsible for fully implementing the functions described in the Specifications and shown on the Drawings.
- H. Where analog cameras are used with coaxial cable, only crimp style connectors shall be used.
- I. Where IP cameras are used with CAT6 cable, only field terminable modular plugs shall be used.
- J. Adjust all vari-focal lenses to provide the field of vision indicated on the Drawings. Anticipate returning to adjust each camera at least once to verify requirements for focus and field of view with the Owner's Representative.
- K. Adjust AGC to provide the best image resolution at each camera location.
- L. Adjust vertical phase calibration on analog cameras to ensure stabilization of video image.
- M. Back focus to optimize the focal range of each camera's viewing area.
- N. Field-verify the exact location and positioning of all cameras with the Owner's Representative prior to installation.
- O. Provide ground isolation transformers as required to eliminate humbars and ground loops in analog video.

3.03 TESTS AND REPORTS

- A. Perform systems tests using personnel who have attended a manufacturer's training school for installation and testing of the systems as described above. Perform testing with the test instruments as required by the manufacturer; testing by means other than the manufacturer's procedures will not be acceptable unless agreed to by the Owner.
- B. Contractor shall perform the following tests on the system and document these tests for the Owner.
 - 1. Video Management Servers (VMS)
 - a. The VMS records and shows all of the cameras connected to it.
 - b. The VMS shows clear and bright pictures from all associated cameras.
 - 2. Cameras
 - a. The camera produces a clear and focused picture.
 - b. The camera adjusts properly between day and night lighting conditions.
 - c. The camera produces a stable picture with no roll, flutter or ghosting.
 - d. The camera produces a clear picture when supply power is returned from a power failure.
- C. Upon completion of the installation of the CCTV systems the Contractor shall submit written reports including but not limited to the following information:
 - 1. A complete list of all equipment installed including serial numbers of major components.
 - 2. Certification that all equipment is properly installed programmed functional, 100 percent operational and conforms to Specifications and Drawings.
 - 3. Test reports of all devices and equipment.
- D. Following review of the test report by the Owner, Contractor shall perform a functional test of all CCTV system equipment in the presence of the Owner. Test shall include performance tests of each camera, all network video server functions, and all other equipment and material required by the Specifications and Drawings. Contractor shall be responsible for all additional costs to the Owner, if retesting is required. At a minimum, perform tests to demonstrate that:
 - 1. All systems are free from shorts, ground faults, ground loops, RF interference, voltage fluctuations, foreign voltages and open circuits.
 - 2. Each camera shall be positioned by Contractor to provide the video coverage of the protected area in accordance with the capabilities of the device.
 - 3. Systems operate properly on battery backup.
 - 4. All software functions properly as specified and all equipment is fully programmed.
 - 5. Test all functions and interfaces of system.

END OF SECTION 28 23 00