SECTION 282303 - CCTV SYSTEM - CORRIDOR AND STAIRS

This section was written to provide a system which monitors the corridor and stairs in the department of correctional services’ new maximum security facilities.

1. GENERAL
   * + 1. RELATED WORK SPECIFIED ELSEWHERE
          1. Video Training Programs: Section 017900.
          2. Main Security Console: Section 281601.
          3. Primary/Satellite Intercom System: Section 275113.
       2. SYSTEM DESCRIPTION - MAIN CONNECTING CORRIDOR MONITORING
          1. The CCTV system for monitoring the main connecting corridor consists of camera stations located throughout the corridor with monitors and video switching equipment, including a microprocessor based central processing unit (TVCPU) located in the main security console (Section 281601) in the control room (Building No. 1).

TVCPU shall have capacity for minimum of 64 video inputs and 8 video outputs.

* + - * 1. The video signals from all corridor camera stations are connected to the TVCPU. Video signals from specified cameras are “looped-through” an alarm video switcher.
        2. A keyboard control unit, connected to the TVCPU, allows the attendant to control the following:

Camera station automatic sequencing run and hold.

The programmed sequence may either be continuously repeated until the hold button is depressed or the sequence may be programmed to stop on a selected camera station until the run button is pushed.

Single “quick look” sequence.

Call up of any camera station to any monitor connected to the output of the TVCPU.

* + - * 1. The following can be programmed by the system manager via the keyboard control unit:

Automatic roll-free sequencing of camera stations in any order on monitors connected to the output of the TVCPU.

Dwell time (2 to 60 seconds) that each camera station scene is displayed in sequence on the monitor.

Time and date.

On screen camera station identification (2 or 3 digit numeric plus up to 8 alphanumerics for each individual camera). The positioning and brightness is independently adjustable for each monitor.

* + - * 1. Access to the system functions are controlled thru at least 2 levels of access security to prevent program modifications or use by unauthorized personnel.

At the lowest level of access the keyboard programming functions are disabled. The attendant has minimum access to the system functions (camera switching and remote control).

At the highest level of access, programs may be modified by the system manager.

* + - * 1. The TVCPU and alarm-switcher are connected to the primary intercom System (Section 275113) so that upon pressing an intercom zone selector switch (corridor system) by the attendant, the 2 cameras viewing the associated gate are automatically switched to monitors No. 1 and 2 in the intercom portion of the main security console.
        2. When camera station signals are displayed on monitors connected to the output of the TVCPU, camera station identification, date, and time are also displayed.
        3. Failure of the 120V ac primary (main) power supply:

Causes the system to be non-functional.

Automatically transfers TVCPU to its secondary (standby) power supply to maintain:

Time/date generator and title memory (camera station identification) for a minimum of 2 hours.

* + - 1. SYSTEM DESCRIPTION - STAIR MONITORING
         1. Cameras located in the stairwells in the housing buildings transmit video signals to dedicated monitors located in the satellite intercom system console in each control room.
      2. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.
         5. Submittals Package: Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.
         6. Shop Drawings:

Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be accepted), including interface equipment, video signal integrity equipment, etc. required for a complete system.

Scale drawings showing mounting of camera station components.

Scale drawings of security console showing location and mounting of components which are to be mounted in the main security console.

* + - * 1. Product Data:

Catalog sheets, specifications and installation instructions.

Detailed description of system operation (format similar to SYSTEM DESCRIPTIONS).

State number of video inputs and outputs used specifically for this project and number of video inputs and outputs available for future use if system is expanded to maximum capacity.

Name, address and telephone number of nearest fully equipped service organization.

* + - * 1. Quality Control Submittals:

Copy of license for installing Security Systems.

Also include copy of identification card issued by the Licensee for each person who will be performing the Work.

Installers’ Qualifications Data: Include the following for each person who will be performing the Work:

Name.

Employers name, business address and telephone number.

Name and addresses of the required number of similar projects worked on which meet the experience criteria.

Company Field Advisor Data: Include:

Name, business address and telephone number of Company Field Advisor secured for the required services.

Certified statement from the Company listing the qualifications of the Company Field Advisor.

Services and each product for which authorization is given by the Company, listed specifically for this project.

* + - * 1. Contract Closeout Submittals:

Video tape test recordings (scenes).

System acceptance test report.

Certificate: Affidavit, signed by the Company Field Advisor and notarized, certifying that the system meets the contract requirements and is operating properly.

Operation and Maintenance Data:

Deliver 2 copies, covering the installed products, to the Director’s Representative. Include:

Operation and maintenance data for each product.

Complete point to point wiring diagrams of entire system as installed. Identify all conductors and show all terminations and splices. (Identification shall correspond to markers installed on each conductor.)

Name, address, and telephone number of nearest fully equipped service organization.

* + - 1. QUALITY ASSURANCE
         1. Equipment Qualifications For Products Other Than Those Specified:

At the time of submission provide written notice to the Director of the intent to propose an “or equal” for products other than those specified. Make the “or equal” submission in a timely manner to allow the Director sufficient time to review the proposed product, perform inspections and witness test demonstrations.

If products other than those specified are proposed for use furnish the name, address, and telephone numbers of at least 5 comparable installations that can prove the proposed products have performed satisfactorily for 3 years. Certify in writing that the owners of the 5 comparable installations will allow inspection of their installation by the Director's Representative and the Company Field Advisor.

Make arrangements with the owners of 2 installations (selected by the Director) for inspection of the installations by the Director's Representative. Also obtain the services of the Company Field Advisor for the proposed products to be present. Notify the Director a minimum of 3 weeks prior to the availability of the installations for the inspection, and provide at least one alternative date for each inspection.

Only references from the actual owner or owner’s representative (Security Supervisor, Maintenance Supervisor, etc.) will be accepted. References from dealers, system installers or others, who are not the actual owners of the proposed products, are not acceptable.

Verify the accuracy of all references submitted prior to submission and certify in writing that the accuracy of the information has been confirmed.

The product manufacturer shall have test facilities available that can demonstrate that the proposed products meet the contract requirements.

Make arrangements with the test facility for the Director's Representative to witness test demonstrations. Also obtain the services of the Company Field Advisor for the proposed product to be present at the test facility. Notify the Director a minimum of 3 weeks prior to the availability of the test facility, and provide at least one alternative date for the testing.

Provide written certification from the manufacturer that the proposed products are compatible for use with all other equipment proposed for use for this system and meet all contract requirements.

* + - * 1. Installers’ Qualifications: The persons installing the Work of this Section and their supervisor shall be personally experienced in closed circuit television systems and shall have been engaged in the installation of closed circuit television systems for a minimum of 3 years.

Furnish to the Director the names and addresses of 5 similar projects which the foregoing people have worked on during the past 3 years.

* + - * 1. Test Facility: The Company producing the system shall have test facilities available which can demonstrate that the proposed system meets contract requirements.
        2. Company Field Advisor: Secure the services of a Company Field Advisor from the Company producing the TVCPU and cameras for a minimum of 40 hours for the following:

Engineering associated with interconnections between the primary/satellite intercom system (Section 275113) and the CCTV system - corridor and stairs (Section 282303).

Render advice regarding installation and final adjustment of the system.

Render advice on the suitability of each camera, camera tube, and lens for its particular application.

Assist in initial programming of the system.

Witness final system test and certify with an affidavit that the system is installed in accordance with the contract documents and is operating properly.

Train facility maintenance personnel in operation, programming and routine maintenance of the system (minimum of 8 hours).

Train facility security personnel in operation and programming of the system (minimum four 2 hour sessions).

Explain available service programs to facility supervisory personnel.

* + - 1. MAINTENANCE
         1. Service Availability: A fully equipped service organization capable of guaranteeing reasonable time within 8 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed system.
         2. Spare Parts:

One camera with fixed focal length lens for each different lens used.

One video input module.

One video output module.

3 of each size fuse.

One camera housing.

1. PRODUCTS
   * + 1. CONSOLE EQUIPMENT
          1. Television Central Processing Unit (TVCPU): RCA Corp.’s Model TC1601, having:

Power circuits suitable for operation on 120V ac primary (main) power supply.

Battery powered secondary (standby) power supply to operate portions of TVCPU as specified in 1.02 SYSTEM DESCRIPTION.

Rack mounting capability.

Video Input Modules: RCA Corp.’s TC1611.

Video Output Modules: RCA Corp.’s TC1622.

* + - * 1. System Expansion Unit: To suit system capacity requirements; RCA Corp.’s 1602.
        2. Alarm Interface Unit: RCA Corp.’s TC1695.
        3. Keyboard Control Unit: RCA Corp.’s TC1678.
        4. Sequential Switcher: Alarm, looping, sequential switcher with 24 camera capacity, RCA Corp.’s Model V1524 ALSD.

Mount both the “control unit” and the “remote unit” in the main security console.

* + - * 1. Monitors:

9 inch monitor: RCA Corp.’s TC1910, rack mounted (single or twin as indicated).

* + - * 1. Console Rack: Mount equipment in main security console (Section 281601) and satellite intercom consoles (Section 275113) as indicated on drawings.
      1. CAMERA STATIONS (INDOOR)
         1. Type I-FFLL (Indoor-Fixed Focal Length Lens):

Camera: RCA Corp.’s TC 2600/U series, having:

2/3 inch camera tube, RCA Corp.’s Ultricon III.

Factory installed fixed focal length, auto iris lens, 2/3 inch format (focal length and aperture as indicated on drawings).

Power circuit suitable for operation on 120V ac.

On screen camera identification.

Image reversal where used in wall mounted housing.

Camera Housing: Vicon Industries Inc., Model V89-MSH series, maximum security housing with:

Vandal resistant lock and 2 keys.

Wall or ceiling mount as indicated on drawings.

Mounting accessories as required.

* + - 1. CABLES
         1. Video: Coaxial type camera video cables with all copper center conductor and copper braid shield as follows (unless otherwise recommended by camera manufacturer):

RG-59/U for distances between cameras and console of less than 500 feet; Belden 9259.

RG-6/U for distances between cameras and console of greater than 500 feet; Belden 9290.

* + - 1. CONNECTORS
         1. Connectors: As produced by Amphenol Corp.
      2. VIDEO SIGNAL INTEGRITY EQUIPMENT
         1. Video amplifiers, differential amplifiers, ground loop eliminators, etc., as required for proper signal transmission to produce sharp, clear, distortion free pictures on monitors.
      3. MARKERS AND NAMEPLATES
         1. Markers: Premarked self-adhesive; W.H. Brady Co.’s B940, Thomas and Betts Co.’s E-Z Code WSL self-laminating, Ideal Industries’ Mylar/Cloth wire markers, or Markwick Corp.’s permanent wire markers.
         2. Nameplates: Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inch high.

Phenolic: Two color laminated engraver’s stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).

Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.

* + - 1. ACCESSORIES
         1. Include accessories required to perform the functions summarized in SYSTEM DESCRIPTIONS and indicated on the drawings.

1. EXECUTION
   * + 1. INSTALLATION
          1. Install closed circuit television system in accordance with the Company’s printed instructions and interconnect with primary/satellite intercom system (Section 275113) for a completely integrated system.
          2. Connections: Make connections and splices at camera stations, and console only. Connections or splices will not be allowed at any other location in the system.

Use markers to identify conductors at terminal strips, cabinet and pullboxes (designations shall correspond with point to point wiring diagrams).

* + - * 1. Nameplates:

Install nameplate with camera station designation on each housing.

* + - 1. FIELD QUALITY CONTROL
         1. Cable Test: Electronically test coaxial cables under supervision of Company Field Advisor.
         2. Preliminary System Test:

Preparation: Have the Company Field Advisor adjust the completed system and then operate it long enough to assure that it is performing properly:

Make adjustments for clear, sharp, distortion free pictures and roll-free vertical interval switching to the satisfaction of the Director’s Representative.

Aim fixed lens cameras as directed by Director’s Representative.

If lens installed on camera does not adequately cover the area to be viewed by that camera, replace with camera and lens with a more suitable focal length at no additional cost.

Run a preliminary test for the purpose of:

Determining whether the system is in suitable condition to conduct the acceptance test.

Checking and adjusting equipment.

Training facility personnel.

* + - * 1. Video Tape Test Recordings (Scenes):

After completion of the preliminary system test and prior to system acceptance test, make video tape recordings of the following scenes recorded from the cameras installed under this project:

30 seconds of the scene from each camera.

Include written description to accompany tape to identify each recorded scene.

Video tape recordings shall be suitable for playback on an RCA TC 3800 time lapse video cassette recording system.

Supply equipment necessary to make the video tape recordings.

* + - * 1. System Acceptance Test:

Preparation: Notify the Director’s Representative at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.

Make the following tests as an integral test required for Section 275113:

Test each system function step by step as summarized under SYSTEM DESCRIPTIONS.

Demonstrate that:

Each camera operates through a full range of lighting conditions including low lighting levels. A portion of this test must be performed at night.

Supply equipment necessary for system adjustment and testing.

Submit written report of test results signed by Company Field Advisor and Director’s Representative. Mount a copy of the final report in a plexiglass enclosed frame assembly adjacent to the security console.

END OF SECTION 282303