




Solicitation Solicitation Amendment

1. Amendment Number A03 to Solicitation Number 162840-08-A-0244		Date 09/12/2008		
2a. Facility Winnetka, IL - Carrier Annex		2b. Project J80967 New Construction Owned		
3a. Offeror Name and Address		3b. Issued By GREAT LAKES FSO62 STRATFORD DRBLOOMINGDALE, IL 6011		
		3c. Contact MICHAEL J SCHECH 630-295-6251		
4. The above numbered solicitation is amended as set forth in Block 5. Note: Offerors must acknowledge receipt of this amendment prior to the date and time specified in the solicitation by one of the following methods: a. By signing and returning one copy of the amendment; b. By acknowledging receipt of this amendment on each copy of the offer submitted; or c. By submitting a separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE SPECIFIED IN THE SOLICITATION PRIOR TO THE DATE AND TIME SPECIFIED FOR RECEIPT OF OFFERS MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment, you desire to change an offer already submitted, such change may be made by telegram or letter provided such telegram or letter makes reference to the solicitation and amendment numbers, and is received prior to the date and time specified. The date and time specified for receipt of offers is: 09/19/2008 03:00 PM				
5. Description of Amendment: 1 of 37 pgs Proposal Due Date: Sept. 19, 2008 @ 3:00 p.m. See attached: Amendment Summary (1pg) Revised Offer & Award Page (print out 2 copies, utilize to submit proposal) (1 pg) Section 13705 - Security, Criminal Investigative... (19 pgs) Drawings: C1.0, C2.0, C3.0, C4.0, C5.0, C6.0, C7.0, C8.0, C9.0, C10.0, C11.0, C12.0, C13.0, C14.0, & C15.0. (15pgs)				
6. Contractor Signature		Date Signed	U. S. Postal Service Signature	Date Signed
				9/12/08
Name of person authorized to sign		Contracting Officer JOHN A VLCEK		

AMENDMENT NO. 3

SEPTEMBER 11, 2008

**USPS FACILITY
WINNETKA CARRIER ANNEX
NORTHBROOK, ILLINOIS**

COMM. NO. 1597-104

WHEREAS THIS AMENDMENT CONFLICTS WITH THE INFORMATION CONTAINED IN THE DRAWINGS AND/OR SPECIFICATIONS, THIS ADDENDA SHALL GOVERN.

1. Change days of performance from 365 to 270. Revised Award and Offer page has been provided with this amendment.
2. Brick allowance is \$700.00 per thousand.
3. Refer to attached Specification Section 13705 "Security, Criminal Investigative, Burglary and Robbery Measures". Furnish and install a total of 9 (PTZ) – CCTV cameras. Four are to be ceiling mounted in the workroom on a 40' grid; two are outdoor at the far ends of the Carrier Loading Platform, wall mounted; one is to be ceiling mounted in the Dock area, far wall to observe truck interior; one is to be locted on the interior of the future trailer. Exact locations will be as directed in the field by the Contracting Officer.
4. Correcton to Addenda – Site lighting fixtures are Type SP-1 in lieu of SP-2.
5. Ground for secondary from transformer is AWG #3/0.
6. Drawing Pool – Delete designation P-7 at break area. Same is to be an electric water cooler bi-level as shown on Drawing A1.1.
7. Refer to attached revised Drawings C1.0 thru C15.0, identified as Revision 3 Plan Revisions dated 9/16/2008.
8. Drawing S-3 – Delete column footing 66.8 – AB.

**SECTION 13705 - SECURITY, CRIMINAL INVESTIGATIVE, BURGLARY
AND ROBBERY COUNTERMEASURES CCTV SYSTEM**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide and install a complete CCTV System including, but not limited to;
 - a. Video Surveillance Cameras, housings, power supplies, cabling, and related equipment.
 - b. Video control equipment.
 - c. Video monitoring and recording equipment.
 - d. Equipment enclosures.

B. Direct Vendor

1. All equipment used shall be supplied by VICON INDUSTRIES, INC, the sole approved USPS CCTV Direct Vendor. The Direct Vendor is to provide a Bill of Materials, pricing, and a list of certified and approved companies for installation. For assistance contact the Direct Vendor at:

VICON INDUSTRIES, INC.
Christine Stone, Manager USPS Administration
89 Arkay Drive
Hauppauge, NY 11788-3727
(800) 645-9116 or (631) 952-2288
Fax (631) 951-2288
Email: USPS@vicon-cctv.com

2. The USPS has mandated the services of an independent Ombudsman to oversee performance of the USPS CCTV Direct Vendor Agreement. For any issues that the Direct Vendor has not resolved to the satisfaction of USPS personnel or their representatives, the Ombudsman may be contacted at:

R. Grossman and Associates
4058 Spruce Avenue
Egg Harbor Township, NJ 08234-5807
(609) 383-3456
Fax (609) 383-9007
Email: www.tech-answers.com

- a. The Ombudsman maintains a web site (www.security-ombudsman.com) to support USPS CCTV installations. Which includes specifications, drawings, specific equipment information and related documents.

C. Related Documents: The Contract Documents, as defined in Section 01110 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents including:

1. System Installation Manuals (provided by the Direct Vendor)
2. The most recent version of this specification is available online at www.security-ombudsman.com and must be accessed and reviewed prior to start of work. Any revisions to the written specification must be identified by Contractor or designer and reviewed with, and approved by, Contracting Officer prior to implementation.

- D. Prompt Payments. In accordance with the Contractor Certification on Postal Service Form 4211B, "Project Contract Payment Authorization", the contractor certifies that prompt payment, (within 30 days) to the subcontractor (Direct Vendor) will be made.
- E. Related Sections:
 - 1. Section 13705 OTCB (One Time Capital Buy)

1.2 REFERENCES

- A. National Fire Protection Association (NFPA):
 - 1. NFPA 70 - National Electrical Code.

1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Closed circuit television (CCTV) video communication system between points of surveillance indicated on Drawings and central monitoring station consisting of video cameras, camera outlets, camera controls, monitors, video switcher, signal-processing equipment, control stations, distribution components, video recorders, and accessories.

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures:
 - 1. Product Data: Manufacturer's specification sheets for each component shall not be required for all products provided as part of this Direct Vendor agreement.
- B. Shop Drawings:
 - 1. The Direct Vendor will provide a Standard Drawing Package (Red Book) that shall be utilized for the installation of the CCTV system. This package shall include:
 - a. Block Diagram: System block diagrams noting major system components and interrelationships of each component.
 - b. Console and Equipment Racks: Rack elevation drawings showing console/equipment arrangement.
- C. Sequence and Scheduling Plan: Installer shall provide installation scheduling plan for review and approval. Coordinate scheduling of software and revisions with the USPS.
- D. Qualifications:
 - 1. Installer: Factory Certified Dealer specializing in CCTV systems installation. Installer shall be capable of performing the Work specified in this Section with minimum 3 years documented experience in the field and authorized and approved by the Direct Vendor to install Postal Service systems.
 - a. Certification shall be current and in accordance with the Vicon USPS Certified Dealer program.
- E. Section 01780 - Closeout Submittals:
 - 1. Operation and Maintenance Data: Include data for each type of product, including features and operating sequences, both automatic and manual.

2. Product Quick Reference cards for the operation of all key system components.
3. Project Record Documents: Installer shall provide field-accurate drawings that reflect actual locations of cameras and routing of signal cable, indicating cable identifiers, layout, location and numbering of system devices to reflect as-built conditions.
4. Provide a final materials list of equipment installed and spare parts on hand. Materials list shall include model number, serial number, and date installed.
5. Project Completion Certification: Document signed by the installing integrator and a Postal Service representative indicating that the project is fully complete with all punch-listed items resolved.
6. Operating Instruction
 - a. Provide on-site instruction to review the operation of the system and detail any common troubleshooting or maintenance that is required to ensure normal operation.
 - b. Provide one complete set of equipment operating, installation, and programming manuals that will remain at the installed location.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Section 01600 - Product Requirements: Transport, handle, store, and protect products.
- B. Keep devices and equipment in manufacturer's packaging in a secured location until system is ready for installation.
- C. Comply with manufacturer's requirements. Coordinate storage location with the Postal Service.
- D. The equipment delivered must be insured at the contractor's expense through acceptance.

1.6 DIRECT VENDOR WARRANTY/SERVICE/TECHNICAL SUPPORT PLAN

- A. Warranty:
 1. Provide Direct Vendor "Vicon Certified Service Plan" to include manufacturer warranty for three (3) years after facility acceptance and project completion certification for materials and labor.
 - a. Service plan shall include all parts and labor, and shall include return shipping. Failed equipment shall be repaired or replaced at no charge to the Postal Service during the Direct Vendor warranty period.
 - b. USPS shall not be required to process any paperwork in order to be entitled to service plan coverage. It is the Direct Vendor's sole responsibility to monitor and comply with warranty eligibility.
 - c. Where operational performance is substantially affected, all software and firmware shall be upgraded to the latest version supported by the purchased hardware platform throughout the service plan period and be provided at no cost to USPS. Such upgrades shall be covered under the warranty/service plan and are at the discretion of the Postal Inspector or Station Manager.

- (i) Any software bugs identified by the USPS and mutually agreed upon as 'level one' bugs (impacting operation with no work-around) shall be rectified within two (2) weeks of their being reported.
 - (ii) Any software bugs identified by the USPS and mutually agreed upon as 'level two' bugs (impacting operation but with a work-around) shall be rectified within 90 days of their being reported.
 - d. Turnaround time for all repairs (warranty and out-of-warranty) shall not exceed 72 hours.
 - (i) Direct Vendor shall make advance replacement units available in cases where USPS operational issues require immediate replacement of a unit while minimizing down time.
- B. Technical Support:
 - 1. Direct Vendor shall provide toll-free 24/7 technical support at no charge throughout the warranty period.
 - 2. Direct Vendor shall provide on-site installation support for systems with more than 40 total cameras. These visits shall include pre-construction site survey and project review, punch-list generation, and final inspection and system certification.
 - 3. Data Recovery - Direct Vendor shall provide a service to assist the USPS in recovering data from digital recording system hard drives and removable storage media in the event of a failure.
 - a. Turnaround time for data recovery shall be less than seven (7) days from receipt of hard drives at Direct Vendor's data recovery center.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Selected Direct Vendor: VICON INDUSTRIES, INC.
 - Christine Stone, Manager USPS Administration
 - 89 Arkay Drive
 - Hauppauge, NY 11788
 - (800) 645-9116 or (631) 952-2288
 - Fax (631) 951-2288
 - Email: USPS@vicon-cctv.com
- B. Section 01600 - Product Requirements:
 - 1. Product options and substitutions are not permitted without a written and USPS approved deviation.
 - 2. All equipment to be supplied under this specification shall be new and the current model of the Direct Vendor listed above.
 - 3. Systems and components shall have been thoroughly tested and proven in actual use.

2.2 VIDEO MATRIX SWITCHERS

- A. System Capacities: Provide sufficient hardware and software to support initial installed system capacities as indicated by the Contract Documents. Provide switching systems with the following minimum capacities:
1. Product Requirements:
 - a. Video Inputs: System shall have a sufficient number of analog video inputs to ensure a dedicated input for each installed camera. An additional spare input shall be provided for each ten (10) cameras installed, with a minimum of five (5) spare inputs. Each input shall be individually selectable for terminating or looping.
 - b. Monitor Outputs: Eight (8) outputs shall be provided.
 - c. Keyboard/Controller: System shall support a minimum of five (5) keyboard/controllers. One Keyboard/Controller shall be provided for each system console/control station provided.
 - d. Camera Titling: Each camera title shall be individually programmable, with a minimum of 16 characters.
 - e. Programming: System programming shall be performed through one or more system keyboards, a dedicated programming interface, or through a Microsoft Windows© based configuration package.
 - (i) Cables shall be provided for computer interface if a PC based programming interface is required.
 - f. Operating Temperature: Range shall be equal to or greater than 0 to 40 degrees Celsius.
 - g. Humidity: Withstand a minimum of 10% to 80% humidity.
 - h. Input Power: Must support 110VAC to 120VAC.
 - i. Switch Time: Less than or equal to 16 milliseconds.
 - j. Switching Method: Must support vertical interval switching.
 - k. Signal-to-Noise Ratio: Must not exceed -50 dB peak to peak.
 - l. Adjacent Channel Crosstalk: Must not exceed -50 dB (typical, at 3.58MHz).
 - m. Controller: Keyboard/controller shall provide a 3-axis variable speed joystick to allow pan, tilt, and zoom control from the joystick without accessing additional discreet controls.
- B. Interface: Provide alarm interface capability with Security Intrusion Detection Systems for automatic call-up of video signals correlated with alarm points through both dry contact closures and an RS-232 interface. Sixteen (16) dry contact closures shall be provided.

2.3 VIDEO MONITORS

- A. Provide 17-inch LCD flat-panel color monitors with the following minimum capabilities.
1. Product Requirements:
 - a. Video Input Connections: VGA (DB15), and Composite (BNC).

- (i) Switching between inputs shall be performed using a front panel control.
- (ii) VGA resolution shall be equal to the native resolution of the installed Digital Video Recorder, if applicable.
- b. Input Power: 120VAC, 60Hz (a power adaptor may be used to provide this voltage).
- c. Mounting: Each monitor shall be desktop mounted. VESA mounting holes shall be provided and a series of optional VESA compliant mounts shall be made available at extra cost.
- d. Operating Temperature: Range shall be equal to or greater than 10 to 40 degrees Celsius.
- e. Humidity: Withstand a minimum of 10% to 80% humidity.
- f. Resolution: At least 420 TV lines of composite video.
- g. Adjustments: Must support on-screen display for setup and adjustment of monitor parameters.
- h. Colors: Must support a minimum of 16 million colors.

2.4 VIDEO CAMERAS

- A. Provide solid-state color cameras for video surveillance and monitoring of specific areas as shown on the drawings and confirmed with Postal Inspection Service through Contracting Officer with the following minimum capacities:
 - 1. FIXED POSITION VIDEO CAMERAS: Shall meet or exceed the following minimum requirements:
 - a. CCD Image Sensor: High resolution color with digital image processing.
 - b. Horizontal Resolution: 470 or greater TVL.
 - c. Auto Iris Control.
 - d. White Balance: Automatic.
 - e. Input Power: 24VAC, 60Hz with line locking.
 - f. Automatic Gain Control.
 - g. Backlight Compensation.
 - h. BNC or UTP (screw terminal) video connector, as required.
 - (i) If UTP connection is used, unit must be in full compliance with UTP specifications outlined in Section 2.8.
 - i. Lens: 3.5-8mm manual varifocal lens, application permitting.
 - (i) Lens substitution may be required to provide an acceptable image based on camera position, field of view, and distance to subject.
 - 2. REMOTELY POSITIONABLE (PTZ) VIDEO CAMERAS: Integrated camera/lens packages in a dome type housing, shall be remotely positionable (pan/tilt/zoom/focus/iris) shall meet or exceed the following minimum requirements:
 - a. Horizontal Resolution: 470 TVL or greater.
 - b. Optical Zoom: Minimum 22X.

- c. Automatic Focus / Iris Control with manual override.
 - d. Rotation Speed: Shall range from 0.1 degrees/second to 120 degrees/second with a minimum of 32 speeds in any direction.
 - e. Tilt Speed: 0.2 degrees per second to 90 degrees per second.
 - f. Proportional Pan-Tilt: Yes.
 - g. Presets: At least 32 Individual presets.
 - h. Alarm Inputs: At least one programmable high or low input.
 - i. Alarm Outputs: At least one auxiliary relay output or one open collector driver.
 - j. Operating Voltage: 24VAC nominal, with an operating range of 18 to 32VAC.
 - k. Programming Backup: Dome shall retain all programmed parameters for a minimum of thirty (30) days.
 - l. Lower Dome:
 - (i) Interior Domes – Gradient tint required to obscure the movement of camera.
 - (ii) Exterior Domes – Gradient tint required to obscure the movement of camera.
- B. Products shall utilize internal or external surge protection such that a normally occurring power surge shall not void any manufacturer's warranty.

2.5 CAMERA POWER SUPPLIES:

- A. Interior Cameras: Camera power supplies shall be located within 500' of the camera, either in the CIO (distance permitting) or in another suitable protected area. Provide multiple outlet (4,8,16) fused power supplies as required for interior fixed and PTZ cameras. See drawings G5-7-1a or G5-8-3b. Power supplies shall be rated to support 200% of the actual (nominal) power loading.
- 1. A minimum of two (2) power supplies shall be used on each project, regardless of camera count.
 - 2. Cameras must be on separate power supplies, such that the failure of a single power supply shall not impact two adjacent cameras.
- B. Exterior Cameras: Provide individual power supplies located at the camera.
- 1. Enclosures shall be weatherproof and sealed to prevent water and/or insect infiltration.
- C. Provide a means for disconnecting camera power supplies from mains power at the power supply enclosure, either through a detachable power cord, master fuse or circuit breaker, or other UL approved switching device.

2.6 VIDEO CAMERA HOUSINGS AND MOUNTS

- A. Provide indoor housings as required for all camera types with the following minimum capabilities:
- 1. Interior Cameras:

- a. All cameras shall be in a housing that is coordinated with adjacent finishes with the appropriate mounting hardware. Selection of housings and mounts, including incremental changes to paint colors, dome materials, and cosmetic finishes shall be approved by the USPS or their authorized agent.
 - b. All housings shall be sufficiently dust and moisture resistant to withstand normal environmental conditions in their chosen installation location.
 - c. Hardware shall be provided to ensure tamper-resistant mounting in a variety of locations without modification to the integrity of the housing.
 - d. Where used, pendant mounts shall be suitable for use as wall, ceiling and column mounts. Pendant mounts shall attach to the appropriate camera housing using installer provided standard threaded schedule 40 rigid iron pipes. Pipe lengths of 10 feet or less are to be a minimum of 1-inch diameter. Pipe lengths exceeding 10 feet are to be a minimum of 1-1/2 inch in diameter. Exterior pipe shall be galvanized.
 - e. All mounts shall incorporate installer provided safety chain or cable of sufficient endurance to support 2 times the weight of the equipment.
2. Exterior Cameras:
- a. Environmental: Thermostatically controlled heaters and blowers with defrosting capabilities.
 - b. Moisture: Rainproof seals and gaskets.
 - c. Wind Resistance: Rated for 80mph sustained winds.
 - d. Ambient Temperature Rating: -10 to 60 degrees Celsius.
 - (i) Areas with more demanding environmental conditions will be granted a deviation from this specification.

2.7 DIGITAL VIDEO RECORDERS

A. ROBBERY, BURGLARY AND COUNTERMEASURES, SECURITY (SITE AND ACCESS CONTROL) AND CRIMINAL INVESTIGATIVE CCTV SYSTEMS

1. Recording must be continuous in nature, with a series of "key frames" which periodically refresh the entire video image. The frequency of these key frames must be sufficient to allow the full range of motion to be visible.
2. Authentication for evidentiary purposes through Digital Signatures (for systems with more than 12 cameras).
 - a. The use of authentication that alters or degrades the video image for the purpose of verification is not acceptable. Any video authentication must be done in the background, by use of the MD5 checksum, or other methods that allow verification without image degradation.
 - b. The file format used to distribute video images must contain the authentication data as an intrinsic part of the file. All copies of this file must contain the identical authentication data which may not be altered in any manner.

- (i) The video recorder shall have the ability to export to an unauthenticated, commonly available file format such as MOV or AVI. While this copy may be altered or redistributed without authentication, it shall not be the default file format.
3. Video images shall be recorded with sufficient resolution, color depth, and quality of image compression as to make the recorded image indistinguishable from a DVD sourced original.
4. The DVR shall support event driven recording. Events may be internally generated (motion analysis, video loss or presence), or externally triggered (contact closure).
5. Image Exporting - The system shall have the ability to export video images as follows:
 - a. Video Printing - The system shall allow for easy printing of still images.
 - (i) Images may be printed to standard, Windows™ based printer that does not require proprietary drivers.
 - (ii) Printer may be directly connected to the DVR.
 - (iii) Printer may be connected to a workstation viewing the image via a USB or Parallel port.
 - b. Still Images - Still images may be saved using the JPEG file format, for printing at a later time or electronic distribution.
 - c. CD-R and DVD recordable formats - Image shall be archived to DVD and CD in each of the following formats.
 - (i) *Proprietary* - Image may be saved in a format that provides authentication to ensure that the image has not been altered in any way. Such authentication must not alter the quality of the video image. Software to allow viewing of this proprietary format that may be freely copied and distributed at no further cost to the USPS must be provided.
 - (ii) *Standard* - Image may be saved in an open source format which may be distributed and played using a commonly available media player, such as Apple™ QuickTime™ or Microsoft™ Media Player™.
 - (iii) *Analog Out* - An analog output shall be provided that may be connected to a video monitor, VCR, or other analog recording or display device. The use of an external device to perform this function is acceptable.
6. Re-importing images - A mechanism shall be provided to allow the user to play back video images that have been previously exported without the use of an external device.
7. The DVR shall auto restart on power failure.
 - a. The unit will automatically begin recording upon restoration of power.
 - b. The system must maintain all camera name and scheduling information and must return in the state it was programmed to be in at the time of the power failure.
 - c. The system must retain correct time and date information.

8. Input Connections
 - a. The system must support a minimum of 8 cameras.
 - b. All video inputs shall use a BNC connection.
 - c. Capability shall be provided to loop each video input signal to an additional device, through the use of an adaptor cable.
9. Output Connections
 - a. Composite video outputs (internal to the DVR or via an external device) shall be NTSC utilizing BNC connectors.
 - b. The system must utilize a VGA computer monitor for main screen user navigation and video viewing.
10. Record Duration – The DVR shall include online storage of 72 hours with less than 30 seconds required to retrieve a video clip.
 - a. In order to calculate storage capacity, the following assumption may be used: All cameras are in high activity areas. These cameras will experience a large number of frequent image changes such as busy areas with many people walking or movement of heavy equipment.
 - b. Manufacturer shall make units available with greater recording duration which may be substituted through the USPS deviation process.
11. Frame Rate
 - a. ROBBERY, BURGLARY, AND COUNTERMEASURES, SECURITY (SITE AND ACCESS CONTROL) –
 - (i) 4 to 12 total cameras shall utilize embedded DVR's (one per four cameras), each with a frame rate of 60ips).
 - (ii) Systems with more than 12 cameras will utilize either one (1) 120ips DVR per 8 cameras or one (1) 240ips DVR for up to 16 cameras.
12. Duplex Operation - The system shall be capable of simultaneously performing a minimum of any two of the following functions:
 - a. recording video
 - b. displaying live video
 - c. playing back recorded video
 - d. exporting stored video
13. Video Monitoring
 - a. Images being played back may be synchronized or stopped (frozen) individually.
 - b. Provide multiple views on the same screen during playback or live video view.
 - c. Display software shall provide for multi-camera viewing using a variety of multi-screen display modes.

- (i) These multiple images may be exported in such a manner as to allow later synchronized playback of the same series of images.
- d. Provide the ability to digitally enhance video images, to increase or decrease contrast and brightness, correct image color characteristics, and digitally zoom in on the image.
- e. Provide a full suite of search tools to allow the search and retrieval of images based on time, date, motion (within pre-defined screen areas), alarm, video loss, and video presence.
- f. Provide the ability to sequence a number of individual video segments such that a composite video clip can be made of a series of individual clips or incidents.
- g. Frame rate shall be adjustable on an individual camera basis in a range that extends from ~3 images per second (ips) to real-time which shall be indistinguishable from NTSC 30 ips video.

2.8 UNSHIELDED TWISTED PAIR (UTP) MODULES

- A. Unshielded twisted pair (UTP) modules will be used for cable runs where a signal must be transmitted further than 50 feet unless Fiber Optic transmission is a requirement (see Section 2.9).
 - 1. Passive Transceivers:
 - a. Signal Transmission: Units shall be used at the signal transmission end for all distances under 1,200 linear feet or less, unless the specific conditions outlined in Section 2.9 exist. Signal transmission end is defined as the end of the cable run where a signal is generated (camera or video output).
 - b. Signal Reception: Units shall be used at the signal reception end for all distances less than or equal to 500 feet. Signal reception end is defined as the end of the cable where a signal is received (monitor or video input).
 - c. Specifications:
 - (i) Passive UTP Transceivers shall be capable of transmitting and receiving baseband type monochrome or color video signals over unshielded twisted pair Category 5e or better (UTP) cable, up to a maximum cable distance of 500 feet with a transceiver device connected at each end of the cable.
 - (ii) The transceiver device shall be capable of driving a color video signal of NTSC standard 525 lines with an operating frequency range of DC to 10 MHz and common mode rejection to be greater than 60 dB.
 - (iii) The transceiver devices shall not require power to operate as specified.
 - (iv) The transceiver used as a transmitting device shall be designed to accept a baseband video signal from a 75 ohm impedance source and the transceiver used as a receiving device shall deliver a baseband video signal capable of driving a 75 ohm impedance load.
 - (v) The transceiver device shall support bi-directional signal transmission, i.e.; video from the video source to the receiving equipment and control from the receiving end to the video source equipment over a single unshielded twisted

pair (UTP) using equipment that provides such bi-directional operation during the vertical interval.

- (vi) Video connection to the transceiver device shall be by means of a BNC type female connector and connection to UTP cable shall be by means of two Phillips type head screw terminals. The screw terminals shall be plated with a rust preventive material to prevent corrosion.
 - (vii) The transceiver device shall be capable of driving an active (powered) companion UTP receiver, operating at a distance of up to 1,200 feet over cables specified for that unit.
 - (viii) The combination of the transceiver device and the active receiver shall provide a minimum of 500 lines of video resolution.
 - (ix) The transceiver devices shall operate within specifications without causing interference or interfering with any other base band video, communication, data and/or other low-voltage signals operating in multi-twisted pair UTP cables.
- d. Receivers (transceivers used at the receiving end) shall be four-channel units and shall be secured to a rack panel or other permanent surface. Individual, loose receivers are not acceptable.

2. Active Receivers:

- a. Signal Reception: Units shall be used at the signal reception end for all distances greater than 500 feet, or where environmental conditions dictate the use of signal equalization. Signal reception end is defined as the end of the cable where a signal is received (monitor or video input).
- b. Specifications:
 - (i) Active UTP receivers shall be capable of receiving baseband type monochrome or color video signals over Category 5e or better (UTP) cable, up to a maximum cable length of 1,200 feet, when connected to a passive video transceiver.
 - 1. With a symmetrical and balanced composite input from the transmitter unit and using cables as specified at a cable length of 1,200 feet, the output shall be a 1 Vpp composite video signal into 75 ohms.
 - (ii) The active receiver shall be capable of equalizing and delivering a baseband color video signal of NTSC standard 525 lines at the maximum specified distance with an operating frequency range of DC to 10 MHz and common mode rejection to be greater than 60 dB.
 - (iii) The active receiver shall be provided with a companion power supply, which shall have provisions to plug directly into an AC wall outlet and connect to the receiver power terminals.
 - (iv) The active receiver shall provide frequency equalization by means of eight dual in-line (DIP) switches which shall provide compensation for varying cable lengths. The effect of the frequency compensation shall be to both equalize and to amplify the video signal thereby providing loss compensation for video as cable length is increased.

- (v) The active receiver shall have built-in transient protection, with a screw connection for earth ground.
 - (vi) Video connection to the active receiver shall be by means of a BNC type female connector. A five screw terminal block shall provide connection to the UTP cable (2), 12 VDC power supply (2) and earth ground (1).
 - (vii) The active receiver shall operate within specifications without causing interference or interfering with any other base band video, communication, data and/or other low-voltage signals operating in multi-twisted pair UTP cables.
- c. If four (4) or more active receivers are used in close proximity to each other, rack-mounted receivers with identical performance characteristics shall be substituted in their place.

2.9 FIBER OPTIC MODULES

- A. Fiber Optic transmission equipment shall be used when one or more of the following conditions are met:
- 1. Camera cable runs exceed 1,200 linear feet.
 - 2. The camera is located outdoors and is exposed to the elements.
 - a. Cameras protected by canopies or other architectural elements that shield them from direct view of the overhead sky are excluded from this requirement.
 - 3. The cable path is within 20 feet of a TIME or MIMS aerial.
- B. Modules located at field devices shall be low profile "miniaturized" type, and shall be mounted in the camera housing for both fixed and PTZ cameras.
- 1. Fiber optic transmit modules shall derive power from the camera power supply, eliminating the need for an additional power supply.
- C. Modules located at head-end locations shall be standalone modular units unless four (4) or more modules are required, in which case they shall be enclosed in a fiber-optic sub rack.
- 1. If more than one fiber optic sub rack is used, modules shall be distributed as evenly as possible among the sub racks to reduce the load on the sub rack power supply and minimize the impact of a failed sub rack.
- D. Fiber optic modules shall conform to the following minimum specifications:
- 1. Fixed Position Camera Location:
 - a. Transmission Type: single channel video.
 - b. Video Format: Color, NTSC RS-170A.
 - c. Bandwidth: 10MHz.
 - d. Signal to Noise Ratio: 60dB.
 - e. Maximum Optical Attenuation (with 62.5-um cable): 12dB.
 - f. Mounting: BNC "balun" type.
 - 2. PTZ Camera Location:
 - a. Transmission Type: single channel video & bi-directional "up the coax" data.
 - b. Video Format: Color, NTSC RS-170A.

- c. Bandwidth: 8MHz.
- d. Maximum Optical Attenuation (with 62.5-um cable): 12dB.
- e. Mounting: Surface mount module or in-line connection as described in 2.9 B (above).

2.10 CABLING

- A. Video:
 - 1. Where UTP video modules are used, all video shall be run utilizing the brown/brown-white pair of a CAT-5e unshielded twisted pair (UTP) cable. The remaining conductors shall be left open as spares.
 - 2. Each cable shall be individually home run from the device to the control room.
- B. Power: Power cable shall be appropriately sized to ensure that any signal loss as a function of cable length does not prohibit the delivery of sufficient voltage and current from the power supply to the powered device.
- C. Control Data:
 - a. For cable runs of 500 feet or less, control data for remotely positionable cameras shall be combined with the video signal and shall not require the use of an additional cable or conductors. Such data signals must be fully compatible with the UTP modules specified in Section 2.8.
 - b. For cable runs greater than 500 feet but less than 1200 feet, control data shall utilize the orange/orange-white pair of the CAT-5e unshielded twisted pair (UTP) cable that is used for the video signal. The remaining conductors shall be left open as spares.
- D. Fiber Optic - When fiber optic modules are required, provide fiber optic cable appropriate for the application. Cable shall conform to the following specifications:
 - 1. 62.5 micron glass multimode fiber.
 - 2. "ST" type connectors shall be used on all cable terminations, including junction boxes and breakout trays.
 - 3. Performance characteristics (including optical attenuation) shall be such that the Fiber Optic modules specified in Section 2.9 function to deliver signals end-to-end with sufficient bandwidth and quality to meet the specified application.
 - 4. Physical characteristics such that the cable has sufficient strength and endurance to withstand installation and environmental conditions without adversely affecting optical performance.

Cable Type	Signal	Use
RG-59/U (Belden # 8241B or Approved Equal)	Video	Video cable runs up to 50 feet
Micro-Coax (Belden # 9221 or Approved Equal)	Video	Internal console and rack connections
Fiber Optic (Multi-Mode)	Video / Data	See Section 2.9
CAT5e (Belden# 1583A or Approved Equal)	UTP Video	UTP video signals (see Section 2.8)
22AWG 2-Pair individually shielded stranded copper (Belden # 872306 or Approved)	Matrix Keypad/Controller	Connection of Keypad/Controller to Matrix Switch or PTZ Camera Data Distribution Unit

Equal)		
16AWG 2-conductor stranded twisted pair, tinned copper with overall jacket (Belden #8471 or Approved Equal). Plenum version may require shielding to meet specification (Belden 83702).	Camera Power	Low voltage power to cameras, 500' or less (see drawing G5-7-1a or G5-8-3b).

2.11 ACCESSORIES

- A. Lightning/Surge Protection: Products shall utilize internal or external surge protection such that a normally occurring power surge shall not void any manufacturer's warranty.
- B. All DVR's shall utilize a standalone UPS sized for a minimum of 15 minutes of battery run-time. The UPS shall be provided by the Direct Vendor.
- C. Upright Racks: Furnish and install upright equipment racks to provide sufficient mounting space for the required equipment. Upright racks and associated hardware shall be provided by the Direct Vendor.
 - 1. Racks shall be all metal construction conforming to EIA standards with 19" equipment mounting opening and 1-3/4" vertical spacing of equipment. Rack rails shall be punched with captive nuts, 10-32 screws and nylon washers.
- D. DVR Cabinet:
 - 1. Station Managers Office (Casework): In applications where equipment is located in the station manager's office and 4-channel DVRs (VDR204) are used (12 cameras or less), a cabinet shall be fabricated in accordance with USPS Standard Drawings G5-7-1B, G5-7-1B1, and G5-7-1B2. Fabrication of these cabinets in accordance with these drawings is the responsibility of the General Contractor.
 - 2. Station Manager Office (Rack) In applications where equipment is located in the station manager's office and one or more rack mount Kollector DVRs are used (more than 12 cameras), a DVR rack shall purchased in accordance with the document titled "Station Manager DVR Rack" that can be found at www.security-ombudsman.com.
 - 3. Mechanical Room: DVR Cabinet: In applications where equipment is located in the mechanical room, a lockable metal wall-mounted cabinet shall be purchased from the Direct Vendor. The specific cabinet shall be the model recommended by the Direct Vendor. Ordering, purchasing, and installing these cabinets is the responsibility of the General Contractor.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01700 - Execution Requirements: Verification of existing conditions before starting Work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates, and conditions are as required, and ready to receive Work.
 - 1. Verify that power and video outlets are in correct locations.
 - 2. Verify that building structure for attachment of equipment mounting devices is in place.

- C. Report in writing to Contracting Officer any prevailing conditions that will adversely affect satisfactory execution of Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Postal Service.
- E. Provide required power outlets, low voltage power supplies, interconnecting cables, hardware and equipment for a complete and operable system.
- F. Camera locations are to be reviewed and approved by a Postal Inspector, through the Contracting Officer, prior to installation.

3.2 INSTALLATION

- A. Install all equipment in accordance with Direct Vendor's published instructions. Installation must be done by a Direct Vendor's certified dealer to assure proper installation and accountability. This includes, but is not limited to the following:
 - 1. All hardware used to secure equipment to racking shall include a nylon or other non-metallic washer or grommet between the screw head and equipment panel to prevent any damage to the equipment.
 - a. Rack mount screws shall be self-centering Philips-head configuration unless specialized tamper-resistant hardware has been specified.
 - b. Screws shall be tightened in such a manner as to allow their removal with common hand tools.
 - 2. Any equipment placed on shelving mounted on an incline of greater than 2 degrees shall be secured to the rack or shelving in such a manner as to prevent movement of the equipment in the direction of the incline. Such fastening shall be done in a manner as to preserve the integrity of the equipment case and chassis, and shall in no way jeopardize warranty coverage of the device.
 - 3. All equipment cabling shall be dressed in such a manner as to ensure a neat and clean appearance.
 - 4. Cable break-outs shall be at 90-degree angles from the harness or chase, and all chases shall be parallel to or at 90-degree angles from the rack frame.
 - 5. Cables are to be secured to the rack frames at sufficient intervals to ensure that the weight of the cable will not contribute to fatigue or early failure of that cable or the device and connector to which it is attached.
 - 6. Sufficient excess cable shall be provided in "service loop locations" to ensure that the cable may be re-connected without requiring the addition of extension pieces.
 - 7. All permanent cabling shall be mechanically numbered in a manner consistent with written system documentation.
 - 8. Wiring for all equipment shall be tie-wrapped (except as indicated below) so that all connectors in a bundle can be removed and re-installed without the possibility of cross connecting.

9. CAT-5e and Fiber Optic cables shall utilize Velcro fasteners in place of tie wraps to eliminate the risk of over-tightening cable bundles and affecting the strength or rated performance of the cable.
 10. Where wiring is routed through sheet metal or over frame members, the metal edges shall be covered with flexible grommeting or edge dressing (such as automobile door edge trim).
 11. Double-sided foam tape shall not be used to secure any equipment, terminal blocks, or accessory devices. All device mounting shall be of a permanent nature.
 12. All excess length AC cords are to be tie-wrapped out of the way. Where possible, they shall be routed in a separate bundle a minimum of 6 inches away from any signal or control cable.
 13. Exposed wires run to wall mounted cameras shall be fed through tubing or the body of the mount to present a professional appearance.
 - a. Any accessible cables that can be reached by an individual standing on the floor, a stool, or a small stepladder shall be encased in protective tubing or armored sheathing to prevent tampering or cutting with common hand tools.
 14. Care shall be exercised at all times to protect Postal Service property. For example, ladders shall not be placed against wallpapered or finished surfaces, equipment or furnishings; desks or countertops shall not be used in lieu of ladders.
 15. On pendant mounted cameras, label each camera on all four sides with three-inch numbers supplied by the Certified Dealer. Numbers shall be stenciled or laminated vinyl in a contrasting color to the camera housing. Camera number shall match and correspond to the camera input number, any on screen numeric identifier and/or printed map provided by the switches and/or multiplexer or DVR. Numbers shall not be placed on lower dome or any area that would obstruct camera viewing.
 16. Ensure that pendant mounted cameras are hung from stable, vibration free mounting platforms, using guy-wires or other support mechanisms to ensure stability where required. Mount cameras below any suspended lighting to avoid glare or reflection on camera dome and/or lens.
 17. Perform complete programming of the system, in coordination with the Contracting Officer and Postal Inspector, or designated representative. Programming shall include, but not be limited to, elimination of duplicate or redundant titling information, synchronization of system clocks, camera sequences, dome presets, salvos and tours. Programming of any system passwords or limiting of accessibility prior to commissioning and training is prohibited.
- B. Power requirements shall be determined by actual equipment used.
- C. Ensure that:
1. All applicable statutes, ordinances, regulations, license requirements and codes are fully complied with.
 2. All required permits are obtained.
 3. All required inspections are conducted.
 4. All necessary certificates are issued, obtained, and delivered to the Postal Service.

5. All equipment installations and mounting are in strict accordance with requirements for applicable seismic classification.
- D. Arrange all components to be mounted in the console(s)/rack(s) in accordance with Direct Vendor and/or Postal Service provided System Elevation drawings. Design shall provide a neat appearance and accessibility for servicing equipment.
- E. Provide required power outlets, interconnecting cables, hardware and equipment for a complete and operable system.
 1. Power, 120VAC: As required by codes and standards for the facility.
 2. Where conduit is used, a minimum of 40% excess capacity shall be provided for future use.
- F. Install cameras in the general vicinity of locations indicated on Drawings at final locations defined by camera location test.
 1. Provide 84-inch minimum headroom below cameras and their mountings. Where necessary modify mounting type to maintain clearance, except as noted on drawings (behind counter) and along slat wall.
- G. All coaxial video connections must be made with crimp-type BNC connectors. Twist-on connectors are not acceptable.
- H. When not installed in cable trays, cable (CAT-5e, fiber optic, and low voltage power) shall be supported with wide base cable hangers rated for proper support of CAT-5e, fiber optic, and innerduct cables (compliant with UL and NEC requirements for structured cabling).
 1. Cable hangers shall be installed every 3 to 6 feet and shall be rated to support the weight of the cable multiplied by a factor of three (3).
 2. All Fiber Optic cables shall be installed in appropriately sized innerduct cabling.

3.3 CONSTRUCTION

- A. Interface with Other Work: Interface installation of CCTV System with Intrusion Detection System specified in Section 13702.

3.4 FIELD QUALITY CONTROL

- A. Section 01450 - Quality Control: Inspection and testing procedures.
- B. Inspection:
 1. Inspect equipment installation, interconnection with system devices, mounting locations, and mounting methods.
 2. Verify that units and controls are properly installed, connected, and labeled and that interconnecting wires and terminals are identified.
- C. Testing:
 1. Perform tests and provide test equipment, tools, and personnel required to conduct system tests and inspections. These tests shall include video quality and PTZ operation (where applicable) for all cameras.
 2. Provide an actual demonstration of each system function.

3. Conduct system acceptance test upon completion of installation using pre-approved procedures. Test shall consist of system, subsystem, and device level acceptance tests, including software.
4. Prepare all test procedures and submit the procedures for review by the Postal Service facility manager. Obtain test procedure approval prior to actual system tests.
5. Ensure that test procedures confirm each specification statement and manufacturer requirement has been met or exceeded. An actual demonstration of each system function and a simulation of each system failure shall be provided.
6. An acceptance test period of thirty days shall begin at the start of the acceptance test. Any system failure during the acceptance test period will suspend the acceptance test. The thirty-day test period will restart when the required repairs have been made and certified.
7. Perform all tests in the presence of the Postal Service facility manager or authorized agent. The Postal Service reserves the right to accept any portion or activate any phase prior to acceptance of entire system.

3.5 OPERATING INSTRUCTION

- A. Provide on-site instruction to review the operation of the system and detail any common troubleshooting or maintenance steps that are required to ensure normal operation.
- B. Provide one complete set of equipment operating, installation, and programming manuals that will remain in the installed location.

3.6 CLEANING AND ADJUSTING

- A. Clean installed items using methods and materials recommended by equipment manufacturers just before conducting acceptance test.
- B. Adjust manual lens irises to meet lighting conditions.
- C. Adjust field of view for each camera per Inspection Service direction.

END OF SECTION

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