SECTION 282315 - MODIFICATIONS TO PERIMETER SURVEILLANCE CCTV SYSTEM

1. GENERAL
	* + 1. RELATED WORK SPECIFIED ELSEWHERE
				1. Optical Fiber Cables: Section 271524.
				2. Fence Accessory Stations For Perimeter Security Systems: Section 281602.
				3. Modifications To Main Security Console: Section 281611.
				4. Modifications To Perimeter Security Multiplex System: Section 281613.

Do not use the description of existing system solely as written. It is only a guide. Modify to suit existing system. Refer to the original project manual and shop drawings for an accurate description of existing system.

* + - 1. DESCRIPTION OF EXISTING SYSTEM
				1. The perimeter surveillance CCTV system consists of camera stations located around the perimeter of the facility which are operated in conjunction with monitors, and a microprocessor based central processing unit (TVCPU) located in the main security console in the control room in Building No. 1.

Two subparagraphs below are examples of existing systems.

The existing TVCPU is an American Dynamics Model No. AD 1995 and was distributed by Burle Industries Inc. (formerly RCA) as RCA Model TC 1995.

The existing TVCPU is an American Dynamics Model No. AD 1601/7R and was distributed by Burle Industries Inc. (formerly RCA) as RCA Model TC 1601/7R.

In subparagraph below change 512 to 64, and 64 to 8 for model ad 1601/7r system.

* + - * 1. The system, when expanded to its full capacity has a maximum of 512 video input sources (cameras, VCR’s, etc.) and 64 video outputs (monitors and VCR’s which are connected to the output of the TVCPU).
				2. An attendant at the central monitoring console operates the system and observes the monitors to survey and evaluate the status of personnel in the areas within range of the camera stations.
				3. Scenes are viewed by camera stations:

Zoom-pan/tilt camera stations contain equipment required for completely adjustable viewing of scenes (remotely controlled from TVCPU keyboard control unit).

Fixed camera stations contain equipment required for viewing a fixed scene (not remotely adjustable).

Select one of two paragraphs below to suit existing system.

* + - * 1. The video signal from each camera station is transmitted to a dedicated monitor for that camera station.

The video signal is transmitted to the dedicated monitor from the camera via an optical fiber video transmission system.

The optical fiber video transmitters are located in the FAS cabinets.

The optical fiber video receivers are located in the main security console.

Each dedicated monitor continuously displays the scene viewed by the camera station to which it is dedicated.

Dedicated monitors are not controlled by TVCPU.

The scenes displayed by dedicated monitors are also displayed on selected monitors which are connected to the output of the TVCPU.

* + - * 1. Camera stations transmit video signals to dedicated monitors. Each monitor continuously displays the scene viewed by the camera station to which it is dedicated. Dedicated monitors are not controlled by the TVCPU.
				2. The video signals from the camera stations are also transmitted to the input of the TVCPU (via “looped-through” connections from the dedicated monitors) for control and distribution to monitors and VCR’s, which are connected to the output of the TVCPU.
				3. A keyboard control unit, connected to the TVCPU, allows the attendant to control the following:

Camera station functions including addressing, pan and tilt (joy stick control), zoom, and focus. (Iris is automatically controlled, not manually controlled through TVCPU).

Alarm closure arm and clear.

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 prepositioned scenes.

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.

Eight prepositioned scenes for each zoom-pan/tilt camera station.

* + - * 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.

Paragraph below is appropriate for model TC 1995 system. Verify section number below.

* + - * 1. Upon an alarm from the Perimeter Security Multiplex System (Section 281613):

The video from the camera station for the zone in alarm is automatically called up and displayed on a specific monitor connected to the output of the TVCPU.

The camera automatically pans, tilts, zooms, and focuses to the programmed preposition scene for the zone in alarm.

Alarm overrides camera sequence on the alarm (armed) monitor.

Multiple alarms cause sequencing at the rate of 2 seconds among alarmed camera stations.

Attendant may enable or disable alarm call up, and may arm or disarm individual camera stations for alarm call up.

Alarm status (arm/off) of each camera and monitor is displayed on the monitors.

The video signal from the camera station in alarm is automatically connected to a VCR in the main security console.

The VCR is automatically activated.

If VCR is “stopped” it will automatically “start” and record video in “real-time” mode.

If VCR is currently operating in the “time-lapse” mode, it will automatically switch to the “real-time” mode.

Time, date, and camera station identification is recorded on tape in conjunction with the video from the camera station in alarm.

An indicating lamp over the monitor for the cued camera Illuminates.

Paragraph below is appropriate for model ad 1601/7r system.

* + - * 1. Upon an alarm from the perimeter security multiplex system, (Section 281613):

The video from the camera cued for the zone in alarm is automatically displayed on a specific monitor connected to the TVCPU.

The video signal from the camera cued is automatically connected to the video cassette recorder in the perimeter security console.

The video cassette recorder is automatically activated.

If recorder is “stopped” it will automatically “start” and record video in “real-time” mode.

If recorder is currently operating in the “time-lapse” mode, it will automatically switch to the “real-time” mode.

Time, date, and camera station identification will be recorded on tape in conjunction with the video from the cued camera will illuminate.

An indicating lamp over the monitor for the cued camera will illuminate as required.

* + - * 1. The video cassette recorder can also be manually controlled using a key operated switch. When the switch is in the manual position the key cannot be removed.
				2. When camera station signals are displayed on monitors connected to 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.

Preposition scene programming memory for minimum of 8 hours.

* + - * 1. List and explain modifications to existing system. Example:
			1. MODIFICATIONS TO EXISTING SYSTEM
				1. Add camera stations.
				2. Add monitors.
				3. Add video input modules and video output modules in the existing camera and monitor bays to facilitate additional camera station and monitors.
				4. Add additional Alarm Interface Unit(s) as required for automatic call-up of camera stations (installed under this project) upon alarm from perimeter multiplex system.
				5. Replace battery for time/date generator in TVCPU.
				6. Add optical fiber bi-directional transmission systems for camera stations installed under this project.
			2. DESCRIPTION OF COMPLETED SYSTEM

Describe completed system operation. Example: the completed system shall operate as outlined in description of existing system. Also: Omit “also” above and the two subparagraphs below if the existing system description includes an optical fiber bi-directional transmission system.

* + - * 1. Optical fiber bi-directional transmitters (OFBDT’s), located in the FAS enclosures:

Transmit the camera station’s video signal to its receiver.

Receive camera control signals for the camera station’s receiver driver unit.

* + - * 1. Optical fiber bi-directional receivers (OFBDR’s), located in the main security console:

Receive the camera station’s video signal.

Transmit camera control signals to the camera station’s receiver driver unit.

* + - 1. 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 modifications as proposed to be installed (standard diagrams will not be accepted).

Scale drawings showing mounting of camera station components.

Details of camera station poles and bases.

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

* + - * 1. Product Data:

Catalog sheets, specifications and installation instructions.

Bill of materials.

Detailed description of completed system operation.

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.

Design Data: Certified data from the manufacturer of the camera station poles proving that the deflection rate will not exceed the specified limits.

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.

Test Report: Existing system test report.

* + - * 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 the system modifications as installed. Number all conductors and show all terminations and splices. (Numbers shall correspond to numbered tags 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.

Adjust number of hours to suit.

* + - * 1. Company Field Advisor(s): Secure the services of Company Field Advisor(s) from the Companies producing the TVCPU and cameras for a combined minimum of 80 hours for the following:

Render advice and witness test of existing system.

Render advice regarding modifications to the system.

Engineering associated with interconnecting between the perimeter surveillance CCTV system (Section 282315) and the perimeter security multiplex system (Section 281613).

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

Assist in reprogramming 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.

* + - * 1. Service Availability: A fully equipped service organization capable of guaranteeing response time within 8 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed system.
			1. DELIVERY, STORAGE AND HANDLING
				1. Storing Cameras: Do not store cameras in total darkness for extended periods. Maintain camera tube integrity in accordance with manufacturer’s recommendations.
			2. MAINTENANCE

Edit spare parts to suit.

* + - * 1. Spare Parts:

One camera with zoom lens and control for outdoor camera station.

One outdoor camera housing with accessories.

One R/D control unit.

One pan/tilt unit (outdoor).

One video input module for TVCPU.

One video output module for TVCPU.

3 of each size fuse.

One optical fiber bi-directional transmitter.

One optical fiber bi-directional receiver.

One optical fiber bi-directional transmitter power supply.

Edit two subparagraphs below to suit.

Two 9 inch monitors.

Three 5 inch monitors.

1. PRODUCTS
	* + - 1. Specify required products. Verify that products specified are compatible with existing system.
			1. CONSOLE EQUIPMENT

Paragraph below is appropriate for model TC 1995 system.

* + - * 1. Modules for camera and monitor bays:

Video Input Module: American Dynamics’ Model No. AD1609CM.

Video Output Modules: American Dynamics’ Model No. AD1625MM.

Paragraph below is appropriate for model AD 1601/7r system.

* + - * 1. Modules for TVCPU:

Video Input Module: American Dynamics’ Model No. AD1611.

Video Output Modules: American Dynamics’ Model No. AD1622.

* + - * 1. Monitors:

5 Inch Monitor: Burle Industries Inc.’s TC1105 (rack mounted, triplet, for mounting in existing main security console).

9 Inch Monitor: Burle Industries Inc.’s TC1910A (rack mounted, twin, for mounting in existing main security console).

* + - * 1. Alarm Interface Unit (AIU): American Dynamics’ Model No. AD1696, or Burle Industries Inc.’s TC8540A.
				2. Optical Fiber Bi-directional Receivers: Fiber Options Inc.’s Model 242DR/M-R.

Receiver Rack: As required to mount the receivers into the console rack, including an adapter plate which allows the receivers to be plugged into the rack and connected to the receiver power supply.

Central Power Supply for Optical Fiber Video Receivers: 120 volt, 60 Hz input, output voltage as required to suit receivers.

* + - 1. CAMERA STATIONS (OUTDOOR)
				1. Type O-Z/P/T (Outdoor-Zoom/Pan/Tilt):

Camera: Burle Industries Inc.’s TC1005/U, having:

One inch camera tube, Burle Industries Inc.’s Ultricon III.

Factory installed 15-180 mm focal length, l inch format, f/l.9 aperture, motorized zoom lens and auto iris.

Power circuit suitable for operation on 120V ac.

Preposition option.

Pan/Tilt Unit: Environmental, all weather heavy duty pan/tilt drive unit; Vicon Industries Inc.’s V390APT, having:

Adjustable limit stops for both pan and tilt.

80 pound load capacity.

Seals and gaskets for outdoor use.

Power circuit suitable for operation on 120V ac.

Mounting accessories.

Cable guard. (V501G)

Limit stop assembly. (V502ST)

Preset position control.

Receiver/Driver Control Unit (R/D): Control unit for receiving and decoding signals from TVCPU and controlling camera station pan, tilt and lens functions; American Dynamics’ AD1686, having:

Internal address coding switches.

Built-in electric heater as required for operation to -40 degrees C.

NEMA 4 weatherproof housing.

Power circuit suitable for operation on 120V ac.

A minimum of 16 scene prepositions.

Mounting accessories.

Optical Fiber Bi-directional Transmitter: Fiber Options Inc.’s Model 242DT/M.

Power Supply for Optical Fiber Bi-directional Transmitter: Fiber Options Inc.’s Model 610-P.

Camera Housing: Outdoor environmental camera housing; Vicon Industries Inc.’s V8l0H, having:

Blanket type heater, thermostat and extreme low temperature system to maintain internal temperature above + 40 degrees F with outside temperature down to - 60 degrees F.

Blower with thermostat.

Sunshield.

Power circuit suitable for operation on 120V ac.

Built-in duplex receptacle.

Weatherproof quick disconnect cable connectors to match connectors on incoming cables.

Mounting Accessories: As required for mounting and support of components.

* + - 1. CAMERA STATION POLES
				1. Tapered (continuous or step taper) galvanized steel poles, having:

26 foot nominal height.

15 inch minimum bolt circle.

11 inch minimum shaft diameter as base (minimum 3 gage).

Bracket Arm: 6 feet long, 6 inch diameter, 7 gage minimum galvanized steel with:

Mounting plate at end for mounting camera station.

x 5 inch minimum handhole with reinforcing frame and cover located at outer end of arm.

3 x 5 inch minimum handhole with reinforcing frame and cover near top of pole.

4 x 8 inch minimum handhole near pole base with reinforcing frame and cover. Secure cover with vandal resistant screws.

Mounting plate on top of pole suitable for mounting camera station.

Four 1-1/2 inch diameter anchor bolts, 60 inches long with 4 inch right angle legs. Threaded end hot dipped galvanized for minimum of 10 inches. Two galvanized nuts, with each bolt. Template for setting anchor bolts.

Pole construction suitable for a deflection rate of less than .26 inches per 100 lbs loading applied transversely 18 inches from top of pole.

* + - * 1. Acceptable Manufacturers:

Carlan Mfg. Co. Inc.,

601 Coates Ave.,

Holbrook, NY 11741

516-567-2050.

* + - 1. MOUNTING BRACKET
				1. Vicon Industries Inc.’s V36WM, having:

36 inch length.

Model V36S support strut.

Mounting hardware.

Galvanized span clamp for attaching support strut to pole.

* + - 1. SURGE SUPPRESSORS
				1. Equip system with surge suppressors to protect equipment from voltage transients and lightning surges, suitable for use with twisted pair wiring and coax wiring as required.
			2. WIRING
				1. Outdoor and Underground Cables:

Type VDO: RG-11U, flooded, coaxial type video cable with high density polyethylene jacket suitable for direct burial; Comm/Scope Inc.’s 0037, unless otherwise recommended by camera manufacturer.

For final connection to camera housing, provide RG-59U coaxial cable with stranded copper conductors suitable for continued flexing at all temperatures; Belden 9259, Comm/Scope Inc.’s 5550. (Make transition to type VDO underground cable within camera station pole.)

Type TVB: Shielded twisted pair of #18 AWG conductors, with high density polyethylene jacket suitable for direct burial; American Insulated Wire Corp.’s Specification 10061, Belden Corp.’s 8760 (modified), or Tappan Wire & Cable Inc.’s 1802ATDB.

Type CTRL (Control cables for camera lens and pan/tilt unit control); Belden Corp.’s 9886, Carol Cable Co. Inc.’s C6062, Quabbin Wire & Cable Co. Inc.’s 6175, or Tappan Wire & Cable Inc.’s 2050AT6DB:

Number, size, and type of conductors as recommended by the Company producing the equipment.

Conductors shall be enclosed in a cable with a jacket suitable for direct burial.

Optical Fiber Cables: Specified in Section 271524.

* + - 1. CONNECTORS
				1. Connectors: As produced by Amphenol Corp. (Weatherproof type where installed in exterior locations).
			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).

Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

* + - 1. CONCRETE BASES
				1. As detailed on the drawings. Bases may be precast or poured in place.
			2. ACCESSORIES
				1. Include accessories required to perform the functions summarized in DESCRIPTION OF COMPLETED SYSTEM and indicated on the drawings.
1. EXECUTION
	* + 1. VERIFICATION OF CONDITIONS
				1. Test of Existing System:

Prior to modifying the existing system, test the existing system to ascertain its operating condition:

Individually activate all functions of each existing camera station.

Test each system function step by step as summarized in DESCRIPTION OF EXISTING SYSTEM.

All tests shall be witnessed by the Company Field Advisor(s) and Director’s Representative.

Prepare a written report for the Director’s Representative indicating the repairs required, if any, to make the existing system function properly.

Repairs to the existing system are not included in the Work unless requested by Order on Contract.

* + - 1. INTERRUPTIONS TO EXISTING PERIMETER SURVEILLANCE CCTV SYSTEM
				1. Maintain the existing system in its present condition to the extent possible while installing new Work.
				2. Prior to making changes or removals relative to the existing system, notify the Director’s Representative and have procedures approved.
			2. INSTALLATION
				1. Install the Work in accordance with the Company’s printed instructions. Interconnect with perimeter security multiplex system (Section 281613) for a completely integrated system.
				2. Camera Station Poles:

Install each camera station pole on a concrete base.

Prepare a level surface on compacted earth, undisturbed earth or concrete footing. Set bases on the prepared surface. Have all bases checked and approved by the Director’s Representative for level and elevation prior to making any conduit connections.

Install camera station poles vertical:

Use 2 nuts on each anchor bolt. Run first nut down on the thread to the top of the foundation.

Install pole, run second nut down.

Adjust pole if necessary, then tighten nuts in accordance with pole manufacturer’s recommendations.

Grout voids between metal base of camera station pole and concrete base. Create a drain through the grout by slipping a short length of conduit under the base in the wet grout, projecting it into the large drain hole in the base of the camera station pole. Rotate the conduit to finish the drain, then remove conduit.

* + - * 1. Connections:

Make connections and splices at camera stations, fence accessory 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).

Use coaxial cable connectors for splicing and terminating coaxial cables. Use terminal strips for splicing and terminating other types of cable.

* + - * 1. Surge Suppressors: Install surge suppressors on each conductor entering and leaving console and at each fence accessory station.
				2. Nameplates:

Install nameplate at each camera station, indicating camera station number:

For wall mounted camera stations, install nameplate on camera station.

For pole mounted camera stations, install nameplate on pole.

For dedicated monitors, install nameplate over each monitor, indicating camera station that monitor is dedicated to.

Install nameplate stating monitor function over each monitor that is connected to the output of the TVCPU.

* + - 1. FIELD QUALITY CONTROL
				1. 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 scenes 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 a camera and lens with a more suitable focal length at no addition cost.

Program system, including preposition programming of each camera, as follows:

Preposition No. 1: Camera lens at full wide angle with camera aimed to view perimeter zone(s) for which camera is automatically cued in preposition Nos. 2 and 3. With all cameras in preposition No. 1, the entire perimeter shall be covered and automatic sequencing of cameras simulates a tour of the perimeter fence.

Preposition Nos. 2 and 3: Camera aimed and adjusted to view the specific zone in alarm corresponding to the cueing schedule on the drawings. (Existing cameras shall be adjusted to view existing zones as directed.)

Preposition No. 4: Camera lens at full wide angle aimed at area below camera.

Preposition No. 5: Camera lens at full zoom aimed at far end of zone covered in preposition No. 1.

Prepositions Nos. 6 thru 8: As directed.

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 Recordings:

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:

Consecutive sequencing of all cameras for a period of 15 minutes during daylight and 15 minutes at night (cameras in preposition scene No. 1.

30 seconds of each prepositioned scene from each camera during daylight.

Record all preposition scenes from one camera before recording next camera.

Include written description to accompany tape that identifies each recorded scene.

Video tape recordings shall be suitable for playback on a standard VHS 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:

Test each system function step by step as summarized under DESCRIPTION OF EXISTING SYSTEM.

Demonstrate that:

Each camera station provides sharp, clear, distortion free scenes for the lighting conditions on the associated monitors.

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

Each camera operates through the full range of zoom lens.

Each camera housing operates through the full range of its pan and tilt capabilities.

Outdoor camera station mountings are stable in wind conditions at the site.

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 282315