

SECTION 16726

CAMERA SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provisions of the Contract, including the General Conditions, Supplementary Conditions and Special Conditions, along with the General Requirements, apply to the work specified in this Section.

1.2 DESCRIPTION

- A. Work covered under this section consists of furnishing and installing a complete commercial UL-listed, camera system as indicated on the drawings and specified herein. System shall include all required head end equipment, monitors, control units, cameras, and interconnecting wiring.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated, including dimensions and data on features, performance, electrical characteristics, ratings, and finishes.
 - 1. Data, which describe more than one type of item, shall be clearly marked to indicate which type the Contractor intends to provide. Submit one original for each item and clear, legible, first-generation photocopies for the remainder of the specified copies. Incomplete or illegible photocopies will not be accepted. Partial submittals will not be accepted.
- B. Shop Drawings: Provide drawings that clearly and completely indicate the function of the equipment, components and cameras connected thereto. Complete sequence of operation of all functions. Indicate the interconnections required for proper operation of the system. Drawings shall indicate all wiring labels, physical location of all equipment, cameras and all externally operated equipment. Show wire color coding, and wire counts. Provide a zone location map comprised of plan views showing the mounting location for each camera. Drawings shall be the same size as the full size contract documents. In addition to paper copies submit one set of drawings on standard CD in AutoCAD Release 2004 format. Detail assemblies of standard components that are custom assembled for specific application on this Project.

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1. Functional Block Diagram: Show single-line interconnections between components for signal transmission and control. Show cable types and sizes.
 2. Dimensioned plan and elevations of equipment racks, control panels, and consoles. Show access and workspace requirements.
 3. UPS: Sizing calculations.
 4. Wiring Diagrams: Power, signal, and control wiring, and grounding.
- C. Equipment List: Include every piece of equipment by model number, manufacturer, serial number, location, and date of original installation.
- D. Qualifications of Installer: A minimum of one member of the contractor's personnel is required to have CCR accredited classes on Basic Camera Installation and Basic Camera Troubleshooting. Submit certificates verifying required classes. Submit data showing that the Contractor has successfully installed camera systems of the same type and design as specified herein. The data shall include the names and locations of at least two installations where the Contractor, has installed such systems. The Contractor shall indicate the type and design of each system and certify that each system has performed satisfactorily in the manner intended for a period of not less than 18 months. The camera system contractor shall have a factory trained service department on call 24 hours per day, 365 days per year that is located within a 75 mile radius of the project location.
- E. Calculations: Provide resistance and/or cable length calculations to substantiate that all installed cables will be within the parameters recommended by the equipment manufacturer.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NECA 1.
- C. Comply with NFPA 70.
- D. Electronic data exchange between video surveillance system and an access control system shall comply with SIA TVAC.
- E. Reference Standards: Materials and workmanship shall conform to the Standards of the National Electrical Code, 2002 Edition, the latest edition of the Florida Building Code, Americans with

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Disabilities Act (Public Law 101-336), and any applicable state and local codes. All equipment shall be U.L. listed.

1.5 PROJECT CONDITIONS

- A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:
1. Control Station: Rated for continuous operation in ambient temperatures of 60 to 85 deg F and a relative humidity of 20 to 80 percent, noncondensing.
 2. Interior, Controlled Environment: System components, except central-station control unit, installed in air-conditioned interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F dry bulb and 20 to 90 percent relative humidity, non-condensing. NEMA 250, Type 1 enclosures.
 3. Interior, Uncontrolled Environment: System components installed in non-air-conditioned interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F dry bulb and 20 to 90 percent relative humidity, non-condensing. NEMA 250, Type 3R enclosures.
 4. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 120 mph. NEMA 250, Type 3R enclosures.
 5. Hazardous Environment: System components located in areas where fire or explosion hazards may exist because of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers shall be rated, listed, and installed according to NFPA 70.
 6. Corrosive Environment: System components subjected to corrosive fumes, vapors, and wind-driven salt spray in coastal zones. NEMA 250, Type 4X enclosures.
 7. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

1.6 APPROVED MANUFACTURERS

- A. All equipment shall be new and, UL listed and of current production.
- B. All equipment shall be manufactured by PELCO, unless otherwise specified below.

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1.7 SUBSTITUTIONS

- A. Requirements: To maintain compatibility with existing DCPS camera equipment, no substitutions will be accepted unless approved in writing by DCPS Police Department.

1.8 SPARE PARTS

- A. Provide one spare camera for each type of camera utilized on project.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Three years from date of Substantial Completion.
- B. One month prior to expiration of warranty, the contractor shall coordinate and schedule a final warranty inspection. Attendees shall include the DCPS Police Representative and the project engineer/designer of record. The School's Resource Officer (SRO) and the school's Principal shall also be notified so that they may attend the inspection if they wish to. The contractor shall clean all cameras with Windex and wipe down with Rainex prior to the final warranty inspection.

PART 2 – PRODUCTS

2.1 SYSTEM REQUIREMENTS

- A. Video signal format shall comply with the NTSC standard composite video, interlaced. Composite video signal termination shall be 75 ohms.
- B. Surge Protection: Protect components from voltage surges entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor entry connection to components.
 - 1. Minimum Protection for Power Connections 120 V and More: Auxiliary panel suppressors complying with requirements in Division 16 Section "Transient-Voltage Suppression."
 - 2. Minimum Protection for Communication, Signal, Control, and Low-Voltage Power Connections: Comply with

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manufacturer's recommendation for type of line being protected.

2.2 EQUIPMENT AND COMPONENTS

- A. Equipment and components shall conform to applicable requirements of NFPA 70. Units of the same type of the equipment shall be the product of single manufacturer. Equipment shall be installed in accordance with manufacturer specifications.
- B. Pan / Tilt / Zoom Camera: PELCO #SD435-HPE0-IWM24-GY-PA402 (provide one spare camera for this type of camera)
- C. Interior Fixed Camera (surface mounted on wall or ceiling): PELCO #IS110-DWV9 (provide one spare camera for this type of camera)
- D. Interior Fixed Camera (recess mounted in ceiling): PELCO #IS150-DWV9 with #ICS150-P (provide one spare camera for this type of camera)
- E. Exterior Fixed Camera (surface mounted on ceiling): PELCO #IS110-DWV9
- F. Exterior Fixed Camera (surface mounted on wall): PELCO #IS110-DWV9 with #ICS110-PG and #SWM-GY
- G. Control Station: PELCO #KBD4000 with #KBDKIT
- H. Viewing Station Monitor: (1) PELCO #PMCL523A (with swivel bracket)
- I. Control Station Monitors: (1) PELCO #PMCL523A & (1) PELCO #PMCL415 (each with swivel bracket)
- J. Head End Cabinet: Middle Atlantic #SR-40-22 with vented front door #VFD-40
- K. Passive UTP Transceiver: PELCO #TW3016P
- L. Head End Cabinet Monitors: (2) PELCO #PMC9A with #RMJ9UCA rack mount kit
- M. Video Distribution Amplifier: PELCO #DA104DT
- N. Multiplexer: PELCO #MX4016CD
- O. Coaxitron Translator: PELCO #CM9760-CXTA
- P. Digital Video Recorder: March Networks #4410.
 - 1. Provide software, plus four hard drives #14555. Hard drives capacity shall be minimum 1 terabit.
 - 2. Provide RS-485 dataport option kit #14421 – 2 ports, supporting pan/tilt/zoom camera controllers
- Q. Fiber Rack Mount Chassis: PELCO #RK5000PS-3U

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- R. Fiber Receiver: PELCO #FR85011AMSTR
- S. Fiber Transceiver: PELCO #FS85011MST
- T. Active UTP Receiver: PELCO #TW3001AR
- U. Surge Protectors:
 - 1. DITEK #DTK-4TPV-8 (video signal)
 - 2. EDCO #FAS-2-043HC (24Volt A/C)
- V. UPS: APC #SUA1500RM2U
- W. Power Supply: PELCO #MCS16-20
- X. Switcher: PELCO #VS5104 (with #R300 rack mount kit for head end location only)

PART 3 – INSTALLATION

3.1 GENERAL REQUIEMENTS

- A. Provide and install the system in accordance with the plans and specifications, all applicable codes and the manufacturer's recommendations. All wiring shall be installed in strict compliance with all the provisions of NEC. Any deviations from the plans and/or specifications must be approved in writing by DCPS Police Department.
- B. Prior to start of work, the contractor shall coordinate and schedule an onsite walk-through to verify exact locations of viewing stations, control stations and cameras (including mountings). Attendees shall include the DCPS Police Representative, the School's Resource Officer (SRO), a representative for the school (Principal, Assistance Principal or Dean) and the project engineer/designer of record. At this time, the contractor shall also coordinate with the School's Representative on the location of any trailers, storage containers, dumpsters, etc.
- C. The contractor shall have 120 days from the date of the onsite walk-through to complete the project.
- D. The contractor shall provide the school's Principal with weekly project schedule updates. Until the system is fully operation and has been inspected and approved, the contractor shall field all questions from Principal. If an issue arises between the contractor and the Principal, the contractor shall immediately contact DCPS Police Department to address the issue.
- E. Cameras: Shall be furnished as required for mounting as directed by the manufacturer.

- F. All conduits shall be installed in accordance with Specification 16050.
- G. Pull all conductors splice free. Make all conductor connections under screw terminals. Provide insulated barrier type nylon terminal strips at junction points and as indicated to insure a neat and orderly termination of all cabling. Use of wire nuts, crimped connectors, or twisting of conductors is prohibited. Head end equipment and peripheral equipment shall be dressed out in a professional manner with all wires running in the vertical or horizontal plane, cut to exact length, making all turns at 90 degree angles, and tightly bundled and wire wrapped.
- H. The contractor shall clean all dirt and debris from the inside and the outside of equipment after completion of the installation. The contractor shall clean up all areas of the site where work was performed or trailers, dumpsters, etc. were located. Upon completion of the cleanup, the contractor shall obtain a written sign-off from the Principal stating they are satisfied with the condition of the site.

3.2 INSTALLATION

A. WIRING

1. Wiring Method: Install cables in raceways. Concealed raceways in accessible ceilings, walls, and floors where possible. The contractor shall install all wire, conduit, and equipment in accordance with Division 16 of Specifications, current National Electrical Code (NEC) and specifically article 110 section 12 will be interpreted and enforced by the DCPS Code Enforcement and DCPS Police Departments serving as authorities having jurisdiction (AHJ).
2. Wiring within Enclosures: Bundle, lace, and train conductors. Provide and use lacing bars and distribution spools.
3. Splices, Taps, and Terminations: For power and control wiring, use numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values.
4. Grounding: Provide independent-signal circuit grounding recommended in writing by manufacturer.
5. Camera power wiring shall be Belden cable #8471. Color-coding will be white=positive and black=negative. Current draws for power shall be measured and provided to DCPS Police with the completed system layout. All power to cameras shall be within allowable current drops for the

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camera to function properly with camera voltage no lower than 2 volts above the minimum operating voltage.

6. Wiring terminations are allowed only at the camera, interior boxes and video racks locations with all wiring terminations clearly identifying cameras specifically by location and camera number. Video signal and data wiring shall pass through interior boxes locations via 110 connections. 66 punch down blocks will not be used.
7. The head end equipment (video racks) shall be installed in a new dedicated cabinet, as specified on the drawings, and have dedicated power.
8. CCTV monitors shall be connected with RG-6 or RG-11 cable in conduit back to the DVR unit. Provide coaxial cable outlet at location of monitor. Use RG-11 cables for distances greater than 100 feet. All cables shall be prefabricated.
9. All terminated wiring must be installed in a neat and professional manner utilizing wire management procedures. Cable wiring in cabinets shall be routed in such a manner to allow for future rewiring in the cabinet. All head end wiring at the rack shall be secured with Velcro straps, tie wraps are not permitted.
10. All conduits and camera enclosures must be completely sealed. Provide silicone beads for inside camera enclosures to eliminate build-up of moisture.
11. An electronic labeling machine shall be used to identify all wiring. Any terminated wire must be identified at all points of connection or termination and at all pull boxes.

B. EQUIPMENT

1. Cameras shall be installed per the DCPS Police Representative's specific instruction. Any deviation of location or redesign of the installation must be requested in e-mail to the DCPS Police Representative for written authorization. Engineer/designer of record shall be copied on all correspondence.
2. Camera system head end equipment shall be housed in fully enclosed cabinet with fans.
3. Provide patch panels, amplifiers, mixers, signal distributors, interface modules, switchers, contactors, and all other needed equipments for proper operation of cameras.
4. Power for head end cabinet shall be fed from emergency power panel.

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5. System shall provide a minimum of 60 IRE at the head end cabinet.
 6. Install cameras with 84 inch minimum clear space below cameras and their mountings. Change type of mounting to achieve required clearance.
 7. No camera shall be mounted higher than 12 feet above grade of finished floor without the written approval of DCPS Police Representative.
 8. Fixed camera views shall not have any "dead space" such as ceilings in the recording frame.
 9. Cameras shall be set for day/night operation (dusk to dawn).
 10. Cameras located on poles shall use fiber connectivity. Locate power supply in Nema-3R, lockable enclosure, mounted at 48" above grade. Power supply shall have surge suppression. Pole and equipment shall be grounded.
 11. All pole and wall mounted installation shall be able to hold a minimum of 80 lbs. Use toggle bolts, etc. as necessary.
 12. All cameras shall have an accessible video connection point for camera adjustments and service to be made without moving the camera from its installed position to connect to the access point.
 13. All cameras shall be installed with smoke domes unless specifically indicated otherwise by the DCPS Police Representative.
 14. All cameras mounted in dropped ceiling shall be recessed.
 15. The March Networks controller card shall be tied in with the PELCO controller per manufacturer specifications.
 16. The contractor shall leave DVR viewer software CD inside head end cabinet.
 17. Upon completion of installation, contractor shall clean all camera domes with Windex and wipe down with Rainex. Refer to manufacturer instructions for proper application method.
- c. POWER AND SURGE PROTECTION
1. All suppression equipment shall be identified on as built designs submitted to DCPS and installed as per manufacturers' requirements.
 2. Exterior cameras shall have DITEK DTK-DP4P-TPV suppressor installed at the camera in a location acceptable by the DCPS Police Representative. This equipment shall be easily

serviceable, replaceable, and identified with an exterior tag "SURGE SUPPRESSION".

3. Video signal wiring shall have DITEK DTK-4TPV installed prior to signal entering the active transceiver at the head end. These shall be installed on the rack on a dedicated din rail identified as "VIDEO SURGE SUPPRESSION".
4. All suppression shall be properly grounded with adherence to NEC code requirements.

3.3 GROUNDING

- A. Main head end cabinets / racks, exterior camera equipment boxes, and transient protection devices shall be grounded in accordance with the manufacturer's recommendations.

3.4 IDENTIFICATION

- A. Conductors: All wiring shall be color coded throughout as directed by the Owner, maintaining a uniform code throughout the entire system. All conductors shall be labeled at the head end cabinet / rack, intermediate junction boxes, and terminal cabinets. Labels shall be self-stick adhesive backed vinyl cloth wire markers.
- B. The contractor shall program the March Networks DVR to include camera name and location. Start with "C1" for the first camera. Provide required spacing to allow proper identifications.

3.5 QUALITY ASSURANCE

- A. The electrical contractor shall install all conduit, enclosures, back boxes, and wiring required for the installation of the Camera System. However, the camera shall be installed and tested by a trained representative of the camera equipment contractor, see "Testing" below.
- B. One month prior to expiration of warranty, the contractor shall coordinate and schedule a final warranty inspection. Attendees shall include the DCPS Police Representative and the project engineer/designer of record. The School's Resource Officer (SRO) and the school's Principal shall also be notified so that they may attend the inspection if they wish to. The contractor shall clean all cameras with Windex and wipe down with Rainex prior to the final warranty inspection.

3.6 TESTING

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation and supervise pre-testing, testing, and adjusting of video surveillance equipment.

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2. Pre-testing: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Conduct tests at varying lighting levels, including day and night scenes as applicable. Prepare video surveillance equipment for acceptance and operational testing as follows:
 - a) Sync all cameras.
 - b) Verify operation of auto-iris lenses.
 - c) Adjust auto gain control as required.
 - d) Set auto white balance.
 - e) Set backlight-focus of fixed focal length lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Adjust until image is in focus with and without the filter.
 - f) Set backlight-focus of zoom lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Additionally, set zoom to full wide angle and aim camera at an object 50 to 75 feet (17 to 23 m) away. Adjust until image is in focus from full wide angle to full telephoto, with the filter in place.
 - g) Contractor shall not be responsible for presets.
 - h) Verify operation of control-station equipment.
3. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation.
4. Required tests include the following:
 - a) ITR reading (measured at cameras)
 - b) Voltage / amperage (measured at cameras)
 - c) Ground looping
 - d) Fiber cables
 - (1) Setup of all fiber optic testing shall require both a 100m launch and 100m receive cable to be used. Settings for Range, Resolution, and Pulse Width are to be approved in writing by DCPS Police Department prior to testing. These settings will be based on information provided by the contractor from true tape or jacket marking distances. All fiber strands

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shall be tested in both directions at both 850 and 1300nm. A-B points shall be set to roughly determine connector and fiber loss at the time of the test. Final A-B locations for connector and total loss shall be determined by DCPS Technology NOT the contractor. No mated par connector loss shall exceed 0.5 db. Total loss shall not exceed 0.75 db per fiber, unless approved in writing by DCPS Police Department.

- (2) Each trace test file shall be identified by the origin and destination of the test, bulkhead position, color of the fiber, and the wavelength tested. Each fiber trace shall be evaluated for length, continuity, insertion loss, connector loss, and smoothness of the trace. Any trace showing excessive connector or total loss must be corrected and retested. All header information shall be completed including but not limited to: Fiber ID, numerical location, job site, date, and operator.
 - (3) Fiber tests are to be submitted directly to DCPS Police Department electronically for review. Once all fiber tests have been approved, then each test shall be printed by the contractor using the established A-B points. Tests shall then be sorted in proper color code order and placed in each closeout binder.
 - (4) Questions about this procedure or requirements must be submitted in writing for written response from DCPS Police Department.
5. Utilize 'CAMERA MASTER #CM-1" for testing cameras.
 6. Record test results for each piece of equipment.
 7. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.

3.7 INSPECTIONS

- A. The contractor shall request onsite meetings as necessary to resolve any questions or issues that develop throughout the project.
- B. Upon completion of the work, the contractor shall coordinate and schedule a final inspection. Attendees shall include the DCPS Police Representative and the project engineer/designer of record. The School's Resource Officer (SRO) and the school's Principal

shall also be notified so that they may attend the inspection if they wish to.

- C. During the inspection with the DCPS Police Representative, the following items shall be inspected:
 - 1. Camera syncing
 - 2. Network cables

The contractor shall have all necessary equipment onsite and available to perform testing of the above items.

- D. The contractor shall coordinate with DCPS Office of Building Code Enforcement for all required inspections. Contractor shall obtain a copy of the most recent version of the Code Enforcement Standard Operation Procedures. The final inspection by Code Enforcement shall not be requested until the system has been inspected and approved by the DCPS Police Representative and the project engineer/designer of record.

3.8 CLOSEOUT DOCUMENTS

- A. The contractor shall provide a minimum of three complete sets of the following documentation at the end of the project. The documentation shall be neatly bound and indexed in three-ring binders.
 - 1. Camera Information Sheets: Provide completed sheets indicating all required camera information. Electronic copies of the sheets may be obtained from DCPS Police Department.
 - 2. Equipment List: Include every piece of equipment by model number, manufacturer, serial number, location, and date of original installation.
 - 3. Test reports for all equipment and cables.
 - 4. Warranty letter, identifying starting and ending dates of warranty.
 - 5. Operation and Maintenance Manuals: Provide copy of operation and maintenance manual with spare parts lists. Manual shall include data regarding maintenance, operation and troubleshooting of all provided equipment.
 - 6. Blank service log. The log shall indicate the date work is performed, what is done and the name of the person who performs the work.
 - 7. As Built Drawings: Provide a full set of drawings and a computer disk in AutoCAD format. Drawings shall show final routing of all conduits, location of pull boxes, cables,

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cameras, wiring diagrams, etc. Fold drawings and place in front inside pocket of three-ring binder.

- B. One copy is to be delivered to the DCPS Police Department for their records. One copy of documentation to be located onsite and placed inside the head end cabinet. One copy is to be located onsite at the location of the control station. When more than one control station is present, one complete set shall be located at each control station.

3.9 TRAINING

- A. Upon completion of the work and at a time designated by the Owner, personnel at the school shall receive a complete training session of a minimum of 4 hours. The contractor shall engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain video surveillance equipment. The contractor shall provide training for camera control with the controller and software video archive retrieval to all designated on-site users. The training shall take place at the site. Obtain a signed roster of all personnel that attend the training sessions and submit the roster to the DCPS security department.

3.10 WARRANTY

- A. The contractor's warranty shall provide for inspection of all trouble issues within 12 months of system acceptance. When contacted by DCPS, the contractor shall visit the site and determine cause of trouble at no cost to Owner. The contractor shall correct any problems related to product failure or system installation. If the trouble was the result of an event beyond the control of the contractor (vandalism, act of nature, etc.), the contractor shall notify DCPS of cause of trouble.

END OF SECTION

CAMERA INFORMATION SHEET

LOCATION:

School: _____
 Phone: _____

TECHNICAL INFORMATION:

DVR INFO:

Location: _____

Circuit Breaker

Type: Kalatel March Networks

Model: _____

MAC Address: _____

NETWORK INFO:

IP Address: _____

Subnet: _____

Gateway: _____

Connection Location: _____

CAMERA INFO:

Monitor/Controller Locations: _____

LOCATIONS:

Power Supply: _____
 Breaker: _____
 Power Supply: _____
 Breaker: _____
 Power Supply: _____
 Breaker: _____
 Power Supply: _____
 Breaker: _____

Camera Locations

Camera 1	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 2	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 3	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 4	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 5	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 6	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 7	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 8	Location: _____ Breaker: _____ Type: _____ Model: _____

Camera 9	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 10	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 11	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 12	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 13	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 14	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 15	Location: _____ Breaker: _____ Type: _____ Model: _____
Camera 16	Location: _____ Breaker: _____ Type: _____ Model: _____

NOTES: