

**State of Florida
Department of Transportation**



EXHIBIT "A"- SCOPE OF WORK

**DISTRICT SIX NORTH DADE YARD
CCTV SYSTEM INSTALLATION PROJECT**

**CONTRACT NUMBER: F6002-REBID
FINANCIAL PROJECT NUMBER: 446784-1-52-01**

EXHIBIT "A"
SCOPE OF WORK
THE FLORIDA DEPARTMENT OF TRANSPORTATION,
DISTRICT 6, NORTH DADE MAINTENANCE YARD
CCTV SYSTEM INSTALLATION PROJECT
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DISTRICT 6 NORTH DADE, MAINTENANCE YARD
CCTV SYSTEM INSTALLATION PROJECT

1. PURPOSE

1.1. The Florida Department of Transportation, District 6 (hereinafter referred to as "Department") seeks to obtain the services of a qualified, experienced, and licensed contractor to provide and perform the following:

1.1.1. The Vendor awarded this turnkey project through the Invitation to Bid process shall provide to the Department, a complete, operational, and properly functioning CCTV system that has been tested as required during and after installation, proven and documented to meet the manufacturers and the Department's specifications.

1.1.2. This project includes, but is not limited to: The preparation, provision and handling of all required permitting and permits, inspections, signed / sealed engineering drawings / wind load calculations / plans, as-built drawings / plans, supervision, labor, materials, ancillary components, all equipment included in the Attachment A-1, etc., while providing safe full operator / technician access to the equipment as needed for servicing and operations, all freight & freight expediting, supplies, equipment, mobilization, set up, all testing, construction site safety, maintenance, cleanup, site restoration including but not limited to patching / any repairs to damages resulting from this project, removal of old equipment and anything else required to complete the project to the Departments satisfaction at the District 6 North Dade Maintenance Yard located at 1773 Northeast 205 Street, North Miami Beach, Florida.

1.2. The Contractor retained by the Department shall perform all work and various related services in a proper and workmanlike manner, providing only new and unused / undamaged first quality materials.

1.3. The Contractor's proposal shall include everything as required to properly fulfill the complete and total scope of work, as per the contract documentation.

1.3.1. Proposals that do not include the complete and total package presented in the required proposal format as requested will be considered incomplete and shall be rejected.

2. OBJECTIVE

2.1. All services provided by the Contractor shall be in alignment with the Departments goals and objectives of substantially contributing towards preserving and maintaining

a safe, healthy, clean, sanitary, and aesthetically pleasant working environment for the FDOT District 6 North Dade Maintenance Yard Facility visitors and staff.

2.2. All information submitted by the Contractor shall be based upon their best pricing. Contractors are encouraged to use creativity and innovation when responding to this Invitation to Bid.

3. **DEFINITIONS / DESCRIPTION:** For the purposes of this Invitation to Bid process and potential awarding thereof, the following definitions shall apply.

3.1. **Contractor Staff:** Any one or more of the following, the Contractors direct and/or indirect employees, supervisor(s), management, including any person(s) / sub-contractor(s) / vendor(s) / agents or others assigned to this project and/or caused by the Contractor either directly and/or in-directly to be onsite.

3.2. **Contractor / Vendor:** The firm retained by the Department to provide all labor, training / supervision / services, materials / supplies, tools / equipment and services etc. As shown and defined herein and whom shall be ultimately held responsible for total Contract compliance of all terms and conditions of this Agreement.

3.3. **Contractor – Normal Working Hours:** Unless otherwise specifically authorized in advance by the Department in writing, all contractor services shall occur as indicated below:

3.3.1. The project work shall not interfere with the Department's normal operations. **Exceptions to this will require pre-approval by the Department Project Manager or designee.** Proposed Contractor work schedules (and any subsequent proposed schedule change requests) by the Contractor shall be submitted in advance for pre-approval by the Project Manager or designee.

3.3.2. While it is expected that the majority of this work will occur during regular day hours, night and/or weekend / Holiday work hours may be required to perform and/or complete certain portions of the project at no additional cost to the Department.

3.4. **Contractor Contract Manager:** The person(s) assigned to this project by the Contractor, with signature authority of/for the Contractor, responsible for the overall contract management for the Contractors work operations at this site, authorized to make decisions regarding this contract, and responsible for ensuring that all terms and conditions of this contract are met by:

3.4.1. Safely and properly completing the scope of work within the terms and conditions of this contract, while maintaining compliance with all state / federal / local and Department requirements.

3.4.2. Overseeing overall contract compliance by developing, delegating and monitoring the progress of assignments to the Project Manager(s), Site

Supervisor(s), Contractor Staff, and/or any Sub-contractor(s) as needed. This includes ensuring that adequate staffing is continually provided in a timely manner, and that the proper and timely completion of the services listed herein is continually achieved.

3.4.3. Responding to the Department's requests in a timely manner for meetings, inspections, special requests, problem notifications, etc., and serving as the Department's contact person for the Contractor in matters relating to the Contract, as well as handling any performance or other project related concerns, as identified by the Department, in a professional and responsive manner.

3.4.4. Maintaining and providing current and accurate twenty-four-hour contact information for the Contractor in a method suitable to the Department. Providing to the Department's Project Manager, a listing of beeper / mobile phone numbers / office voice / fax numbers for the vendor's key personnel associated with this site. Providing timely notification to the Department of any site personnel changes, including but not limited to staff substitutions, terminations, hiring of new and/or replacement site staff / sub-contractors assigned by the Contractor to service this site.

3.5. Contractor Project Manager(s):The person(s) assigned to this project by the Contractor responsible for (including, but not limited to) the direct overall project management / supervision of the Site Supervisor(s), Contractor Staff, Sub-contractor(s) at this site, coordinating the scheduling of work projects with the Department, and ensuring that all services in this agreement are properly completed in a manner acceptable to the Department, this includes ensuring that appropriate training has been given to all of the Contractor employees as needed.

3.5.1. Ensuring that all contracted services requirements and tasks are properly completed in a timely manner by providing replacement workers in a timely manner upon "worker no-shows, absences etc."

3.5.2. **NOTE:** The Department shall not be responsible for any added costs due to the Contractor's duty and/or, inability to provide additional staffing and/or overtime as required in order to perform the services required by this contract, and/or to accommodate any staffing and/or any other shortages incurred by the Contractor.

3.5.3. Acting as liaison between the Contractor and the Department on any issues that are either inappropriate or un-resolvable at the Site Supervisor level.

3.5.4. Providing a complete, currently maintained, / updated listing of Material Safety Data Sheets for all supplies / chemicals utilized at this site by the Contractor and/or any sub-contractor(s). A full and complete copy shall also be provided to the Project Manager or designee. This listing and supplemental copy shall be kept current by providing updated copies and/or revisions as they occur.

- 3.6. Department:** The Florida Department of Transportation, District Six
- 3.7. Department Project Manager:** The Department's authorized representative (or designee) responsible for the management of this contract and the enforcement of all terms and conditions of this Agreement.
- 3.8. Department - Normal Working Hours:** For this Scope of Work, the Department's current normal working hours are from 8:00 AM to 5:00 PM, Monday through Friday, except for nine State Holidays, declared state of emergency and days of state or national mourning etc.
- 3.9. "Exhibit "A" or Exh. "A" shall refer to:** This document, titled "EXHIBIT "A", SCOPE OF WORK, THE FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 6, NORTH DADE MAINTENANCE YARD CCTV SYSTEM INSTALLATION PROJECT" in its entirety, **AND to any attachments.**
- 3.10. "Exhibit "B" or Exh. "B" shall refer to:** "EXHIBIT "B", METHOD OF COMPENSATION, THE FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 6, NORTH DADE MAINTENANCE YARD CCTV SYSTEM INSTALLATION PROJECT" in its entirety.
- 3.11. "Exhibit "C" or Exh. "C" shall refer to:** "EXHIBIT "C", PRICE PROPOSAL, THE FLORIDA DEPARTMENT OF TRANSPORTATION, DISTRICT 6, MAINTENANCE YARD CCTV SYSTEM INSTALLATION PROJECT" in its entirety.
- 3.12. Facilities / Site:** Unless otherwise specifically identified in writing, this shall be construed to mean ALL of the buildings / grounds area utilized by the Department located at 1773 North East 205 Street, North Miami Beach, Florida.
- 3.13. "Herein"** shall be construed to include the entire group of documents that comprise this entire Invitation To Bid, as well as any and all other related contract documents in their respective entirety.
- 3.14. "I. T. B."** shall refer to: THE FLORIDA DEPARTMENT OF TRANSPORTATION DISTRICT 6 NORTH DADE MAINTENANCE YARD CCTV SYSTEM INSTALLATION PROJECT", "Invitation To Bid process" itself, and to the derived document package, including any modifications that occur as a result of the negotiation process, and shall include all other related contract documents, exhibits, attachments etc.
- 3.15. Site Supervisor(s):** The person(s) assigned to this site by the Contractor and responsible (including, but not limited to):
- 3.15.1. For being the onsite Contractor liaison with the Department for normal day-to-day and minor emergency operations and for providing continual onsite supervision of all Contractor Staff(s) and sub-contractors assigned to this site as well as being present at all times while any work is being performed by the Contractor, its staff, and/or subcontractors at this site.

3.15.2. For ensuring that work is being performed according to the approved schedule / established procedures, and for identifying any potential areas of safety and/or related concerns, and for bringing them to the attention of the Department Project Manager, or designee when necessary.

3.15.3. For maintaining an accurate inventory of supplies by ensuring that supplies are properly received, handled, and stored; also providing timely ordering information to the Project Manager.

3.16. State Holidays observed by the Department are: New Year's Day, Presidents Day / Martin Luther King's Birthday, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving, and the day after, and Christmas Day. If the holiday falls on a Saturday, the preceding Friday is observed as a holiday. If the holiday falls on Sunday, the following Monday is observed. **Contractors Note:** When preparing proposals for this submittal, and/or scheduling projects for this contract, be advised that some of these holidays are date specific, while others are day or week specific, and as such, will vary from year to year.

3.16.1. The vendor awarded this work shall provide for approval to the Department, the Contractors proposed work schedule, including the Contractors intent regarding working on holidays and/or after hours.

3.17. Sub-Contractor(s): Any sub-contractors that are, or may be utilized, by the Contractor during the course of this contract, which includes any modifications / changes, renewals and/or extensions thereto. Unless otherwise previously agreed to in writing by the Department, all Sub-Contractor(s) shall be required to meet the requirements of EXHIBIT "A", SCOPE OF WORK, MINIMUM QUALIFICATIONS, and any other contract documentation.

4. MINIMUM QUALIFICATIONS

The **CONTRACTOR** awarded this contract shall:

4.1. Have a minimum of five (5) years experience in successfully completing projects of equal scope and magnitude with products as herein specified. This evidence shall consist of a list of three (3) projects that have been completed and operational for a minimum of three (3) years.

4.2. Have been actively involved in providing Commercial High Definition, IP Based CCTV system installation and related services for a minimum of 5 continuous years.

4.3. Provide a minimum of three verifiable customer references in the Broward, Dade, and/or Palm Beach County. A list of facilities, including contact information, size of facility, facility use description, addresses & location of facilities where services are either currently provided, or have been provided, shall be included in the proposal.

- 4.4. Provide personnel that are qualified, certified and experienced installing technicians for the same type equipment, systems and installation as being requested for this project. Able to communicate effectively with the Department in the English language, both verbally and in written form.
- 4.5. Qualifications of Manufacturers: Throughout the specifications and drawings, types of materials may be approved and specified by the manufacturer’s name and catalog number as shown in Attachment ‘A-1’ in order to establish standards of quality and performance. If the bidder elects to substitute, he must request the Department’s approval.

5. PROJECT APPROACH

- 5.1. Department Responsibilities. Unless otherwise specifically presented in writing by the Department (FDOT) will provide the following:
 - 5.1.1. All Fiber Optic Cable needed for the System shown on the Drawings as follows:
 - 5.1.1.1. Terminated Fiber Between the Main Building Facility Security Office, and the following 4 locations:
 - 5.1.1.2. The Guard Shack Hoffman Outdoor Enclosure.
 - 5.1.1.3. The Back Yard Hoffman Outdoor Enclosure.
 - 5.1.1.4. The Construction Office Building Data/Telco Closet Room #103.
 - 5.1.1.5. The Warehouse/Auto Shop Building Uniform Storage Room #117.
 - 5.1.2. The Department (FDOT) has recently had the existing CCTV F/O Cable re-terminated, tested and certified. All fiber cables originate at the CCTV Head-End and are terminated at the respective Hub Location as follows:

<u>HUB</u>	<u>LOCATION</u>	<u>APPROX FT</u>	<u>FIBER LOSS (with LC Connectors @ ends)</u>
1	Guard Shack	386 feet	- 0.97 db (worst case)
2	Back Yard	412 feet	- 1.08 db (worst case)
3	Construction	483 feet	- 1.22 db (worst case)
4	Warehouse	317 feet	- 0.76 db (worst case)

- 5.2. Contractor’s Responsibilities. Unless otherwise specifically approved in writing by the Department, the awarded Contractor will be responsible for the following:
 - 5.2.1. The Contractor will Coordinate with the Department all needed Fiber Optic Cable Requirements. Including Quantity of Fibers, Connectors and Location of Demarcation Points.

- 5.2.2. The Contractor shall Provide all Labor, Materials and Coordinate with the Department all needed Trenching, Conduit, Junction Boxes, Locations and Routing Details for:
- 5.2.2.1. Locating and Replacement or Repair of Existing Pull Box near Outdoor Yard Hub #2 which contains existing Camera Cables and F/O Cable.
- 5.2.3. ALL engineering, permitting and fees / fines etc., ordering / handling / storage / transportation / material and equipment freight expedition and delivery, receiving of materials etc., / demolition and debris removal handling, cleaning, proper transportation and disposal thereof / set up and layout, installation / cutting / setting / replacement of all materials / final project clean up to the satisfaction of the Department.
- 5.2.4. Contractor shall utilize, and maintain odor, noise, material storage, dust, and debris control methods in a manner acceptable to, and in compliance with the Department's safety and security procedures. Working harmoniously with the Department and any other contractors / vendors / that may be involved with this project.
- 5.2.5. The design, specifications, materials, and installation method should adhere to all applicable Codes, Standards and project documents.
- 5.2.6. General Contractor shall provide the required opening through the outside walls to permit the placing of the security electronics equipment in the areas of the building where it is to be installed. Provide free use of hoist and/or cranes on regular time for distribution.
- 5.2.7. General Contractor shall protect all materials during storage on the job and during and after installation. Any protection required to clean adjacent materials shall be the responsibility of the General Contractor.
- 5.2.8. Provide a secure, dry, locked storage area or room in each building and floor (if high rise) for all materials specified in this Section using the following procedures:
- 5.2.8.1. Store all materials in a dry area under cover.
- 5.2.8.2. Place all material on planking or blocking, at least 4" off ground, 2" off a paved area or floor slab.
- 5.2.8.3. Do not permit cardboard or paper containers or wrappings to become wet. If this should occur, remove them immediately.
- 5.2.8.4. Remove protective materials and clean all finished surfaces using clear water and a non-abrasive detergent. Any protection required to clean adjacent materials shall be the responsibility of the General Contractor.

CONTRACTOR NOTE: When preparing its response to the proposal and project approach documents as requested here and elsewhere in the I.T.B. package, the Proposer shall detail how it intends to address the concerns indicated.)

- 6. INSTALLATION TECHNICAL REQUIREMENTS:** The new High-Definition IP Closed Circuit Television System (HD IP CCTV) shall conform to the following:

Acceptable Manufacturers: Except as otherwise specified herein, or in the General Conditions, the equipment and materials of this Section shall be products of the following manufacturers, subject to compliance with specification requirements and provided each manufacturer meets all requirements of the Quality Assurance Section of the Specification.

Acceptable Manufacturers:

1. **Digital Watchdog CCTV.**
2. **Panasonic CCTV,**
3. **Pelco CCTV,**

The CCTV system and all of its components shall be U.L. listed and shall be the standard product of one of the listed acceptable manufacturers or approved equal complying with not less than the specifications contained herein.

All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturers system.

All systems and components shall have been thoroughly tested and proven in actual use.

All systems and components shall be provided with the availability of a manufacturer's toll free 24-hour, seven-day a week manufacturer's service or technical support phone number.

VIDEO MONITORING LOCATIONS:

1. **Guardshack** – Provide (2) Ceiling Mounted 32" LCD Monitors with Pan/Tilt/Telescopic Ceiling Mounts to continuously display all System Cameras.
2. **Main Lobby Desk** – Provide (2) Desktop 24" LCD Monitors to continuously display all System Cameras.
3. **Facilities Engineer Office** – Provide full monitoring and control capability of the CCTV System to include live viewing, search and playback of recorded video, recorded video backup and system administration tasks.

CAMERAS:

The Indoor Warehouse Camera shall be Digital Watchdog DWC-MBW8Wi2TW 8MP IP 2.3mm ultra-wide view single sensor, IR bullet type, IP67 dust-tight or pre-approved equal.

All other Cameras shall be Digital Watchdog DWC-MV85WiaATW 5MP IP Surface Mount Indoor/Outdoor IR Dome type or pre-approved equal.

Minimum Camera Requirements - The Cameras shall be provided, as a minimum, with the following characteristics:

1. image sensor: 1/2.8", CMOS
2. frame rate: 30fps at all resolutions
3. minimum scene illumination: 0.2 lux (color), 0.0 lux (B&W)
4. lens: auto focus, 2.7-13.5 mm f1.4 x4.2 motorized optical zoom

5. IR illumination: 100 ft range with intelligent camera sync
6. Day/Night: with mechanical IR cut filter
7. DNR: True wide dynamic range, 120db
8. Codecs: Triple H.264, H.265 and MJPEG for simultaneous streaming
9. Video Analytics: Intelligent IVA
10. Automatic Controls: AGC, AWB, DNR, Day/Night, focus & Lens Iris
11. Web Interface: internal web server for Windows, MAC & Linux
12. privacy zones: 16 programmable zones
13. programmable events: motion detection
14. memory card slot: class 10 Micro SD for event and continuous recording
15. Network: 802.3 10/100 LAN
16. ONVIF conformant
17. Power: POE Class 3 and 12VDC
18. IP66 Weather Resistant, IK-10 Impact Resistant
19. Construction: Aluminum Housing, Polycarbonate Dome
20. Mounts and Brackets: provide wall mounts, junction boxes, ceiling mounts and pole bracket adapters as required.
21. Camera warranty: 5-year manufacturer warranty

CCTV cameras and mounting accessories shall be U.L. listed and shall be the standard product of one manufacturer complying with not less than the specifications contained herein. Installation of each camera shall include mounting brackets and/or camera housings with pole mount adaptors where required to be fully compatible with the camera provided. All cameras shall utilize digital, charged coupled devices.

All camera installations shall be securely attached to the mounting surface. Installation shall use lead shields on solid masonry and Concrete, toggle bolts for hollow masonry, and use machine bolts for attachment to metal surfaces. All anchoring devices shall be rated to support not less than five times the total equipment weight. All fasteners utilized outdoors shall be corrosion resistant STAINLESS STEEL. All Camera components including Camera Enclosure, Wall Mounts, Junction Boxes, Ceiling Mounts and Pole Mount Adapters shall be constructed of painted corrosion resistant aluminum, die-cast or alloy metal.

All cameras shall have automatic iris control and shall be for interior or exterior use. All Cameras shall be provided with IR for low light conditions of illumination and shall be provided with weatherproof grade housing as specified. Camera shall be mounted in the locations designated and shall include electronic components for automatic adjustment of the iris to varying levels of illumination.

Refer to Attachment 'A-1' for specific Camera locations and requirements. Contractor to submit a detailed location specific camera installation spreadsheet including part numbers of where wall mounts, Junction boxes, ceiling mounts and pole mount adapters will be used.

CCTV VIDEO MONITORS: Samsung Commercial Grade CCTV LCD Flat Panel Monitors or approved equal.

CCTV monitors shall be the standard products of one manufacturer and compatible with the total system specified, herein, and complying with these specifications.

CCTV monitors shall be solid-state LCD Flat Panel type as indicated on the drawings and as specified herein. Monitor shall be rated for continuous duty and be U.L. listed.

CCTV monitors shall be sized and located where shown on the plans.

NETWORK VIDEO MEDIA SERVER (NVMS):

NVMS shall be Digital Watchdog Blackjack Cube DL or pre- approved equal.

Minimum System Requirements - The Network Video Media Server shall be provided, as a minimum, with the following characteristics:

22. throughput: 480Mbps video storage rate
23. video storage: internal enterprise class hard drives totaling 20TB
24. server memory: 16GB
25. processor: Intel i7 CPU
26. x4 display output ports
27. power supply: 300 watt
28. IP cameras supported: 96 cameras supported per server
29. video output: HDMI 1080p
30. connectivity: 2x gigabit Ethernet (9RJ45) ports
31. operating system: windows 10 professional, to reside on Solid State Drive
32. video management software: Digital Watchdog Spectrum IPVMS
33. mobile apps: iOS and Android
34. support of ONVIF conformant IP cameras
35. Ability to decode H.264, MPEG-4 and MJPEG compressed video from multiple manufacturers' cameras, encoders, digital video recorders, and network video recorder products
36. NVMS warranty: 5-year manufacturer warranty

VIDEO MANAGEMENT SYSTEM SOFTWARE

IVPMMS shall be Digital Watchdog Spectrum or pre- approved equal.

- B. The IP Video Management System (“IPVMS”) shall be a software package for comprehensive management of live and recorded video, and which supports multiple operating system platforms, mobile client applications, user customization, bandwidth control and scalability.
- C. General Functionality - The IPVMS shall possess, as a minimum, the following characteristics:
 - 1. up to 128 cameras supported per server
 - 2. ability to decode H.264, MPEG-4 and MJPEG compressed video from multiple manufacturers’ camera, encoder, digital video recorder, and network video recorder products
 - 3. server and camera configuration from a single window
 - 4. ability for a User to log in and view multiple sites-based user permissions and configuration
 - 5. seamless transition from live view to recording function
 - 6. customizable layout views
 - 7. on screen PTZ control with programmable presets and tours
 - 8. definition and display of regions of interest
 - 9. ability to search recorded video by frames involving motion, log entries, and thumbnail previews
 - 10. IPVMS server and network health monitoring
 - 11. updates: lifetime supplied by manufacturer at no charge
 - 12. e-mapping
 - 13. ability to export and review one day of video in one minute
- D. Detailed Functions
 - 1. Automatic discovery
 - a. Camera – The IPVMS shall provide a mechanism for automatic camera and server discovery.
 - 1) Upon discovery, the IPVMS shall have the ability, if selected, to
 - a) add the device to the system if not previously added
 - b) configure optimal image settings for the primary video stream from the device

- 2) The IPVMS shall provide for the manual addition of devices that cannot be automatically discovered.
 - b. Encoder– The IPVMS shall discover network-connected video encoders and display active channels on the encoder.
 - c. Digital video recorder – The IPVMS shall have the ability to discover digital video recorders connected to the network.
2. Device Management - The IPVMS shall provide for management of devices and system functionality, as follows:
- a. camera and encoder management
 - 1) full listing of all registered devices with associated properties
 - a) device name
 - b) manufacturer
 - c) model
 - d) firmware version
 - e) IP address
 - f) MAC address
 - g) media server hosting the device
 - 2) system configuration tools
 - a) sort and filter device data
 - b) select and open device
 - c) rename device
 - d) view device history
 - e) add device
 - f) add video stream from device
 - g) delete device
 - h) export device list to file in HTML or CSV file format
 - i) simultaneous multiple device configuration
 - 3) camera and encoder configuration
 - a) device authentication
 - b) image parameters: brightness, contrast, saturation & hue
 - c) audio recording for audio-equipped cameras
 - d) aspect ratio
 - e) PTZ, including home position, presets, and tours

- f) fish-eye camera properties, including dewarping
- g) recording schedule
- h) proprietary camera parameters
- i) secondary stream quality parameters
- 4) recording parameters
 - a) recording modes
 - i. constant
 - ii. record on motion
 - iii. constant low quality, switching to high quality on motion
 - iv. do not record
 - b) recording quality
 - c) frames per second
 - d) schedule
 - i. day of week
 - ii. hour
- 5) motion
 - a) support for both hardware (camera) and software motion detection
 - b) definition of detection regions and regions exclude from detection (masks)
 - c) sensitivity
- 3. Events and actions
 - a. The IPVMS shall support the following types of events and actions:
 - 1) Events
 - a) Motion on camera
 - b) Camera disconnection/malfunction
 - i. A camera shall be considered disconnected if no signal has been received for more than 10 seconds.
 - c) Storage failure – Media Server is unable to write data to storage
 - d) Network issue – no data transfer between camera and Media Server, resulting in packet loss and subsequent frame drop
 - e) Camera IP address conflict
 - f) Camera alarm input signal
 - g) Media Server failure

- h) Media Server conflict – Multiple Media Servers attempt to manage a common camera
 - i) Licenses not configured
 - j) E-mail not set for Users
 - k) E-mail server not configured
 - l) E-mail sending error
 - m) Storage not configured
 - n) Media Server started
- 2) Actions - The IPVMS shall support the creation of rules linking actions to events.
- a) Visual Notifications
 - i. Notifications shall be one of the following types: system messages indicating improper configuration, warnings of critical events, non-critical event notification.
 - ii. Additional information concerning a notification shall be available on the UI by hovering a mouse over the notification.
 - iii. Clicking on a notification shall initiate a corresponding action.
 - b) Visual Event Indication – The IPVMS shall allow the highlighting a specific object in a scene if too many cameras are opened, creating difficulty in locating a specific camera.
 - c) E-Mail Notifications – The IPVMS shall allow configuration of e-mail settings to support an e-mail notification function.
 - d) Start recording on camera upon camera motion or alarm input signal on camera.
 - e) Trigger camera output, configurable for duration of event or for a fixed time period.
 - i. There shall be a configurable auto-reset function for the output when a fixed time period has been selected for output duration.
 - f) Play sound
 - i. A library of sounds shall be available, which shall be capable of having sounds added, edited, or removed.
 - ii. Specific events may be configured to generate specific sounds.
 - g) Speak pre-configured text
 - h) Write to system log
 - i. The IPVMS shall be configurable to allow all events with rules to be written to the system log.

- ii. The IPVMS shall allow configuration to allow only certain events to be written to the system log.
 - iii. Logged events shall include date and time of event, event source, action performed, recipient of the action, and optional descriptive text.
 - iv. Event logs shall be capable of being sorted, filtered, and searched.
4. Viewing Video
- a. The IPVMS shall allow the viewing of live and recorded video streams through the web browser, Manufacturer client software and Manufacturer mobile applications.
 - 1) Supported video streams shall include ONVIF Profile S, RTSP, and HTTP.
 - b. Resource management
 - 1) In the event of insufficient bandwidth between client and Media Server, the IPVMS shall automatically adjust the video stream to lower resolution to conserve bandwidth.
 - 2) In the event of insufficient processing power in the CPU of the client machine, the IPVMS shall automatically adjust the video stream to lower resolution reduce CPU load.
 - 3) The IPVMS shall auto-pause live video during periods of inactivity to conserve bandwidth.
 - c. Layout management – Cameras, local videos, and images shall not be restricted in terms of location, size, or orientation.
 - 1) The IPVMS shall support the construction of customized screen layouts.
 - 2) Layouts shall support interchangeable backgrounds, including schematic maps and building layouts.
 - 3) A layout's appearance shall be capable of being altered via the following functions:
 - a) zoom
 - b) moving and swapping items
 - c) resizing items
 - d) fit-in view
 - e) changing distance between items
 - f) changing cell aspect ratio

- 4) The IPVMS shall allow the creation of up to 64 zoom windows for each camera.
 - a) Camera dewarping shall be employed to correct distortions.
 - 5) Layouts shall be capable of being saved or locked to prevent accidental deletion.
 - 6) The IPVMS shall support layouts with multiple windows spanning multiple monitors.
 - 7) Layouts shall be capable of being assigned to specific users.
 - 8) The IPVMS shall support camera dewarping on 360° and 180° fisheye cameras and presentation of 90°, 180°, and 360° views on the fly.
- d. Video Recording
- 1) IPVMS shall allow for designation of the recorded video storage based on hard disk or network-based storage configuration.
 - 2) The IPVMS shall be capable of dual stream recording of video from an IP camera with multi-stream capability.
 - 3) The IPVMS shall provide capability for video recording in the following modes:
 - a) Instant
 - b) Constant
 - c) Upon motion or alarm event
 - d) Constant, low quality, switching to high quality on motion or alarm
 - e) Scheduled
 - 4) Quality and frames per second shall be configurable parameters for video recording.
 - 5) The IPVMS shall provide pre-alarm recording functionality.
 - 6) The IPVMS shall allow for recording of audio, when present
- e. Video Playback
- 1) Users shall be able to seamlessly switch between live and archived video on a camera.
 - 2) The following playback controls shall be available:
 - a) fast forward
 - b) fast forward up to 16x
 - c) rewind
 - d) fast rewind up to 16x
 - e) frame by frame advance

- f) frame by frame reverse
 - g) previous/next recorded fragment
 - h) panning through a time line using mouse or keyboard shortcuts
 - 3) Multiple cameras
 - a) The IPVMS shall allow users to navigate multiple cameras.
 - b) Multiple cameras displaying at the same time shall be capable of being synchronized.
 - 4) Available search methods
 - a) calendar
 - b) motion-highlighted fragments
 - c) thumbnail
 - d) time stamp
 - 5) The IPVMS shall allow playback of video files stored local to the Client machine.
 - a) Local media files shall be automatically indexed by the IPVMS.
 - f. Forensic Analysis
 - 1) The IPVMS shall have the following features to support forensic analysis:
 - a) full screen mode
 - b) screen zoom
 - c) image rotation
 - d) fish-eye camera video and image dewarping
 - e) image enhancement – gamma, black level, and white level
5. Export
- a. The IPVMS shall allow single camera export in AVI, MKV, and executable EXE formats with time stamps.
 - b. The IPVMS shall allow the exporting of multiple video in a format supported by the IPVMS viewer or in a Windows-executable bundle.
 - 1) All standard IPVMS features, including search, playback, and single camera video export shall be usable on a multiple video export.
 - c. The IPVMS shall provide watermarking for exported video.
 - d. Screenshot functionality shall be available for both cameras and local video files in PNG or JPG formats.
 - e. It shall be possible to create a screen recording from several displays with audio narration and various levels of video quality.
 - f. The IPVMS shall support export to the following sources:

- 1) on-board camera SD card
 - 2) USB flash drive
 - 3) USB HDD
6. User interface (UI) – The UI shall provide the following controls and features:
- a. Main video display view, showing video from cameras or local files
 - b. Navigator bar at top of screen to include
 - 1) Media Server status and means to connect or disconnect
 - 2) window control
 - 3) screen recording button
 - 4) main menu providing
 - a) server connection
 - b) local video file access
 - c) layout control
 - d) screen recording
 - e) system settings access
 - 5) tabs, representing different screen layouts
 - c. Playback panel for local stored videos and streams recorded from live video
 - d. Resource tree depicting all servers, cameras, local files, users, and available layouts
 - e. Notifications of system events
7. Failover
- a. Multi-server environment – In the event of a Media Server failure, when two or more Media Servers are configured in the system, the IPVMS shall provide for migration of camera support to an alternate Media Server and back to the original when restored.
 - b. Edge system – In the event of a storage failure in a camera's SD card, the IPVMS shall allow that camera's video to be temporarily recorded on another camera on the network.
8. System level features shall include
- a. firmware upgrade
 - b. remote system upgrade with no loss of existing files
 - c. back up and restoration of system settings
 - d. automatic system re-indexing upon interruption of storage connection
 - e. reset to factory default
 - f. set date, time, and NTP server synchronization

- g. user access control – the IPVMS shall provide for three types of user roles, as follows:
 - 1) Owner – unlimited control, not possible to delete
 - 2) Administrator – full system control, except for the ability to delete or change his own role
 - 3) Viewer – ability to implement configuration, search, view, and export functions as defined by Administrator
- h. view and export camera settings
- i. view system logs

IPVMS MINIMUM HARDWARE REQUIREMENTS

IPVMS Server and Client shall be Digital Watchdog or pre- approved equal.

E. Server

- 1. Up to 128 cameras:
 - a. Processor: Intel i7 or higher
 - b. System RAM: 16 GB
 - c. Hard drive (HDD) storage: 60 GB SSD, 7200 rpm HDD
 - d. Network Interface: Dual GigaBit (RJ-45)
 - e. Acceptable Operating Systems:
 - 1) Microsoft Windows 7/8/10
 - 2) Microsoft Windows Server 2012
 - 3) Linux Ubuntu 14.04 LTS
 - f. Network Interface: Dual GigaBit (RJ-45)

F. Client

- 1. Processor: Intel i3 4th Generation
- 2. Video
 - a. Graphics card: Intel HD graphics or comparable with 1GB memory
- 3. RAM: 4 GB
- 4. Storage: 500 GB HDD
- 5. Network Interface: 1Gbps (RJ-45)
- 6. Acceptable Operating Systems:
 - a. Microsoft Windows 7/8/10

- b. Microsoft Windows Server 2008/2012
 - c. Linux Ubuntu 14.04 LTS
 - d. Mac OS X
7. Mobile Client:
- a. Acceptable Operating Systems
 - 1) Google Android
 - 2) Apple IOS

F/O TRANSCEIVERS, CONVERTERS, POE SWITCHES AND EXTENDERS:

Acceptable Manufacturers: Equipment and materials of this Section shall be the standard products of the following manufacturers or pre-approved equal, subject to compliance with specification requirements and provided that the proposed products meets all requirements of the Quality Assurance Section of this specification. The proposed F/O Transceivers, Media Converters, POE Switches and Ethernet Extenders shall be the standard product of one manufacturer.

Acceptable Manufacturers:

- 1. Comnet Communications, Danbury, CT
- 2. Vigitron, San Diego, CA

Provide Comnet Communications or pre-approved equal Fiber Optic Network Equipment as follows:

1. Fiber Optic Environmentally Hardened Ethernet Managed POE Switches, Comnet CNGE11FX3TX8MSPOE with MSA Compliant, Industrial Rated, Field Interchangeable SFP-SX Small Form Factor (SFP) Cisco compatible F/O Transceivers of the quantities and locations shown on the Drawings. Equipment shall comply with the following requirements:
 - a. (3) 100/1000 Base-FX SFP Ports,
 - b. (8) 10/100/1000 Base-TX RJ45 UTP 30 W POE Ports,
 - c. Serial Console USB Type B Connector Port,
 - d. Fault Relay: 3 Pin Terminal Block,
 - e. Memory: 1GB DRAM & 128MB Flash,
 - f. Indicators: Power/Fault LED; Alarm LED; RJ45 Port LEDs; POE LED's; SFP Port LED's,
 - g. Support for IPV6 IP,
 - h. HTTPS/SSH security protocol support,
 - i. Support for SNMP v1/v2c/v3, RMON & 802.1Q VLAN Networks,
 - j. Environmental Characteristics:
 - i. Operating Temperature -40 to + 75 C,
 - ii. Operating Humidity: 5% to 95% Non-condensing,
 - iii. MTBF: > 100,000 hours,
 - k. DIN rail mounting,

- i. Product made in the USA,
 - m. Lifetime Manufacturer Warranty.

- 2. Managed POE Switch Power Supply, Comnet PS-DRA240-48A
 - a. Rated Input Voltage: 115/230 VAC,
 - b. Line Frequency: 47 to 63 Hz,
 - c. Power Output : 47 to 56 VDC, 10 A @ 48 VDC, 480 W, IP20 Protection,
 - d. Operating Efficiency: up to 90%,
 - e. Indicators: Green DC On LED: Red DC Low LED,
 - f. Environmental:
 - i. Operating Temperature -40 to + 71 C,
 - ii. Operating Humidity: 20% to 95% Non-condensing,
 - iii. MTBF: > 415,000 hours @ 40 C,
 - g. Cooling: Natural Convection, no fans,
 - h. DIN rail mounting,
 - i. 3 Year Warranty.

- 3. POE Ethernet over Copper Extender, Comnet CLFE1Eou
 - a. UTP distance: 2,000 ft (with POE Class3 (13W),
 - b. Full 10/100 Mbps Bandwidth.
 - c. Support for Multicast, Unicast and Jumbo Frame,
 - d. Compatible with UDP, TCP/IP and HTTPHTTTPs,
 - e. Rated Input Voltage: 115/230 VAC,
 - f. LED Status Indicators for: Power, Ethernet Link and Extended Link,
 - g. Environmental:
 - i. Operating Temperature -40 to + 75 C,
 - ii. Operating Humidity: 0% to 95% Non-condensing,
 - iii. MTBF: > 100,000 hours,
 - h. DIN rail mounting,
 - i. Product made in the USA,
 - j. Lifetime Manufacturer Warranty.

Submit power calculations for all Network Switches verifying spare port power capacity. Provide CCTV Camera POE Switches with spare unused ports for future expansion needs. All Camera POE Switches to contain 20% or 2 spare ports, whichever number is greater.

UNINTERRUPTABLE POWER SUPPLY (UPS):

Acceptable Manufacturers: Except as otherwise specified herein, or in the General Conditions, the equipment and materials of this Section shall be products of the following manufacturers or equal to, subject to compliance with specification requirements and provided each manufacturer meets all requirements of the Quality Assurance Section of this specification.

Acceptable Manufacturers:

3. Best Power; Necedah, WI
4. Exide; Raleigh, NC
5. American Power Conversion (APC)

General: All UPS Systems shall be self contained and include:

1. Battery Charger.
2. Rechargeable Batteries.
3. Inverter.
4. Transformers and associated equipment.
5. UPS Trouble and Alarm Contacts for remote Monitoring.

UPS System Ratings: Each UPS shall be sized based on the connected load being served. Each unit to provide 20 minutes battery back-up at full rated output, and 50-minutes runtime at half rated output.

Provide UPS Battery Backup Power for the complete CCTV System, including all Cameras, Power Supplies, Monitors, Network Components, NVR's and Computers. The UPS Backup Power shall maintain complete normal Operation of the CCTV System in the event of a power outage for the 20 minutes of time specified. Provide detailed UPS power calculations verifying battery backup times with submittals (ref. spec. section 8.2).

The contractor shall install new dedicated 120VAC circuits to power the CCTV system UPS's. Contractor shall verify that all circuits are fed from the facility Emergency Generator.

UPS System Monitoring: Configure and wire UPS's with trouble and alarm conditions monitored and Annunciated by the CCTV System at all Video Monitoring locations. Annunciation shall be specific to identify the particular UPS in trouble or alarm condition. Integral Power Supplies which contain Battery Backup are acceptable for powering Cameras as long as the operating times and remote monitoring is implemented as required by these specifications.

TRANSIENT VOLTAGE SURGE SUPPRESSORS (TVSS):

Acceptable Manufacturers: Except as otherwise specified herein, or in the General Conditions, the equipment and materials of this Section shall be products of the following manufacturers, subject to compliance with specification requirements and provided each manufacturer meets all requirements of the Quality Assurance Section of this specification.

Acceptable Manufacturers:

1. Northern Technologies, Liberty Lake, Washington
2. Transtector Systems
3. Ditek Largo, FL

Provide transient surge protection for all 120 VAC connections that power the CCTV System. Locate the surge suppression devices at the nearest practical point where wiring leaves the building.

Provide transient surge protection for all exterior camera circuits as follows: (1) at the nearest practical point where wiring leaves the building or outdoor Hub; (2) at the Camera itself. Suppression devices shall provide protection on all exterior Camera UTP data and POE power connections. Exterior Camera Surge Suppressors shall be Ditek DTK-RJPOES installed with DIN rail DTK-DRK; or Ditek DTK-RJPOEX or approved equal. To assure proper grounding of surge suppressors, the contractor shall provide field measurement data for all installed suppressors confirming the maximum ground resistance is in compliance with the manufacturer's recommendations.

EQUIPMENT RACKS:

The Contractor shall provide and install a new Head-End equipment rack sized to hold all Head-End Equipment. The Head-End Rack shall be located in the Main Building Facilities Engineer Office, Security Closet.

Head-End Equipment Rack and all Components shall be powder coat painted. Furnish:

1. Standard 19" EIA Rack, 78" Tall - Pro Series II, Manufactured by Winstead.
2. Provide Head End Equipment Rack with:
 - a. Full height Vented Side Panels,
 - b. Full height Locking Vented Back Door,
 - c. Full height Plexiglass Locking Front Door,
 - d. Top Mounted Cooling Fans,
 - e. Pedestal and Coasters,
 - f. Rack mount kits for all Head-End Equipment, or Rack Shelves as required,
 - g. Rack mounted Power Strips with 15 Amp outlets. Provide 50% spare outlets,
 - h. Provide 16GA Steel Blank Panels for all unused rack space,
 - i. Provide all Rack mounting hardware.

It is desirable for the existing CCTV System to continue recording and allow real time viewing of the existing Cameras. Therefore the Contractor shall temporarily relocate the existing Head-End equipment rack out of the Facilities Engineer Security Closet to the Facilities Engineer Office. This will require temporary re-routing of Copper Camera Video/Power and F/O patch cables thru the drop ceiling space. Once the new system is fully operational, the old Head-End Rack and Equipment shall be de-commissioned and removed by the Contractor.

WIRING:

The Contractor shall install all wiring in compliance with the National Electrical Code (NEC), all applicable state and local codes.

All exposed wiring run below 8' AFF shall be encased in protective EMT or equal Metallic Conduit.

Exterior CCTV Camera Wiring shall not be exposed. All exterior Camera wiring to be encased in Flexible Non-Metallic Conduit or equal.

All Camera IP/POE Conductors shall be continuous between the Cameras and the Hubs or CCTV head-end, no splicing shall be permitted.

All CCTV System wiring shall be permanently tagged at both ends with unique identification markings to be shown on as-built drawings.

Contractor shall remove all existing CCTV Camera Coax and Power Cables and install/terminate new CAT6 shielded UTP cable as follows:

1. All underground cabling shall be run in New or Existing NMC (PVC SCH 40) Conduit and rated for direct burial.
2. All cabling run in drop ceiling spaces shall be plenum rated.
3. All cabling run in EMT conduit shall be rated accordingly.

EXECUTION:

Examine and inspect all surfaces, anchors and grounds that are to receive materials, fixtures, assemblies and equipment specified herein. Report all unsatisfactory conditions in writing to the Department.

Check location, "roughing in," and field dimensions prior to beginning work.

Do not begin installation until all unsatisfactory conditions have been corrected.

Coordination: The Contractor shall provide on-site Coordination of raceway locations, sizes and termination points to ensure a trouble free installation and minimal interference. The Contractor shall include the underground raceways on the CCTV System drawings and on all As-Builts.

INSTALLATION OF ALL CCTV PRODUCTS:

General: Install all fixtures, materials, assemblies and equipment as specified herein and as indicated on the drawings in strict accordance with manufacturer's recommendations and instructions. The Contractor is responsible for running new cabling and fiber from all CCTV Cameras, Monitors and other Field Devices to CCTV head-end as required to provide a new and complete fully functional system.

Installation, coordination and final adjustment of Cameras, Lenses, Monitors, Mounts and Head-end shall be by the Contractor.

The Contractor shall be responsible for furnishing and installing the conductors as described below:

Contractor shall remove all existing CCTV Camera Coax and Power Cables and install/terminate new CAT6 shielded UTP cable as follows:

1. All underground cabling shall be run in New or Existing NMC (PVC SCH 40) Conduit and rated for direct burial.
2. All cabling run in drop ceiling spaces shall be plenum rated.
3. All cabling run in EMT conduit shall be rated accordingly.

All Conductors to connect CCTV Cameras, POE Switches, Power Supplies, Monitors, CCTV Head-end and all other CCTV Field Devices.

Where permissible, install wiring above ceilings utilizing free wiring techniques. Plenum Cabling shall be utilized in all open ceiling spaces. Install wiring with approved hangers spaced so that cable sag does not exceed 6" between hangers.

The Contractor shall be responsible for furnishing and installing all electrical components as follows:

All electrical conduit, back boxes, power and hookup of power to factory installed terminal blocks and power outlets including cut off switches and all other electrical equipment incidental to supply power. Power shall be provided for the CCTV Cameras, CCTV Monitors, CCTV Power Supplies, CCTV Ethernet Equipment, Computers, Head-End and other items as specified and/or shown on drawings.

The Contractor shall be responsible to coordinate exact locations and requirements for electrical power to all of the CCTV Equipment.

7. STAFFING & SUPERVISION

- 7.1. Contractor shall provide only trained and qualified personnel capable of safely and properly accomplishing the work in this Scope Of Work in a timely manner and to ensure that all terms and conditions of this Contract are met.
- 7.2. The Contractor shall be responsible for all supervision and direction of the work performed by their employees, sub-contractors agents and/or any other persons that it causes to be onsite, and shall at all times provide a full time supervisor on the premises to carry out this responsibility when work is being performed.

8. SUBMITTALS AND OTHER PROJECT RELATED DOCUMENTATION

- 8.1. Submittals to be Included with Bid:

8.1.1. Contractor References: Contractor to Submit evidence that this firm has a minimum of five (5) years experience in successfully completing projects of equal scope and magnitude with products as herein specified. This evidence shall consist of a list of three (3) projects that have been completed and operational for

a minimum of three (3) years. For each facility above, list the name and location of installation; date of occupancy by Owner; Owner's representative to contact and telephone number; Construction Manager or General Contractor, and The Department's.

8.1.2. Contractor Licenses and Certifications: Contractor to Submit evidence of factory training and Certifications for all equipment being provided and installed. Provide current copies of all relevant Licenses and Certifications.

8.1.3. Failure to fully comply with the Bid Submittal requirements detailed above shall grounds for Bid disqualifications.

8.2. Submittals Prior to the Commencement of any Work. All of these Submittals to be Completed and turned over to FDOT within Forty-Five (45) Days of Contractor receipt of Notice to Proceed:

8.2.1. Shop Drawings: Shop drawings on all equipment shall be submitted to the FDOT for approval prior to the ordering of any material or the commencement of any installation. Shop drawings shall be large scale and shall indicate methods, location, installation details, and specific wire / cable types and quantities. Submit shop drawings with system wiring risers, schedules, pertinent calculations and manufacturers equipment cut sheets. Shop Drawings shall contain all documentation and details needed for a complete functional design.

8.2.2. All Permits and copies of Signed/Sealed Record Drawings and Documents to be submitted to the FDOT.

8.2.3. The Contractor shall submit a project schedule that clearly identifies targeted project milestones, specific work activities and related time durations for the project such as, but not limited to: site preparation, installation work phases, equipment lead times, delivery dates, inspection and testing time-frames, inspections etc. showing expected manpower requirements and project phase / total progress targets.

8.3. Close –Out Documentation Submittals:

8.3.1. Operating / Maintenance Manuals: The Contractor shall furnish two (2) copies of Parts, Operation and Maintenance Manuals for all equipment provided. Provide Manufacturer Contact Phone Numbers for Technical Support.

8.3.2. As-Built Drawings: Furnish two (2) copies of large scale as built drawings – provide hard copies and magnetic media. As-built drawings to include system interconnection, diagrams, all Panels, Junction Boxes, Devices and Equipment with major components identified. All wiring to be tagged and referenced on as-built. All wiring use, type and number of interconnecting conductors to be shown on as-built.

8.3.3. Field Measurement Data: To assure proper grounding of surge suppressors, the contractor shall submit field measurement data for all installed suppressors confirming the maximum ground resistance is in compliance with the manufacturer's recommendations.

8.3.4. Software and Source Code: Provide original copies of all installed Software including Programs, Applications, Operating System and Utilities on Optical or Magnetic Media. Provide the FDOT with all Project specific Source Code and

program software on magnetic or optical media.

- 8.3.5. Provide Detailed List of all Equipment Manufacturers for all Equipment Provided. Include Manufacturers Address, Web Site and Telephone Contacts for Technical Support. If applicable, provide information on Local Manufacturers Representative.
- 8.3.6. For all equipment provided by the contractor with a warranty which exceeds 12 months, the contractor shall submit all documentation related to such warranties to the Department.
- 8.3.7. Provide Complete full Administrative User Access including non-expiring Password Rights to All Software, Operating Systems, Cameras and Hardware provided.
- 8.3.8. Operation and Maintenance Training: Submit proposed training outline prior to substantial completion for approval by the FDOT. Provide a minimum of four (4) hours of on-site instruction and training by a qualified technician to the FDOT Staff in the proper operation and maintenance of the equipment including manuals and operating instructions.

8.4. Substitutions

- 8.4.1. Qualifications of Manufacturers: Throughout the specifications and drawings, types of materials may be approved and specified by the manufacturer's name and catalog number in order to establish standards of quality and performance. If the bidder elects to substitute, he must request the FDOT's approval. The following paragraphs outline the requirements that must be submitted for review of products requesting approval.
- 8.4.2. The Department requires any technical questions and/or substitution requests be submitted by the technical question deadline set forth in the procurement schedule.
- 8.4.3. Written requests for equality of equipment and/or product substitutions including product data sheets, performance data, full catalog ordering information, specific proposed locations with quantities referencing Attachment A-1 of the Scope of Work and a written list showing the names, locations, and reference contact information for a minimum of three (3) institutions for which similar materials have been installed for a period of five (5) years shall be submitted to the FDOT. Substitution requests made after the cutoff deadline will not be reviewed or accepted.
- 8.4.4. Substitutions will be approved by Addendum prior to bid date. Verbal approval will not satisfy this requirement. Any Contractor who fails to submit all information exactly as herein requested will not be approved. Grounds for disqualification shall exist if in the opinion of the FDOT, the information submitted is inaccurate or does not satisfy the minimum qualification requirements.

- 8.5. ***Proposers are advised that there are other supplementary documents and attachments that provide additional project specifications, information, and related component requirements regarding this project.*** Portions of this information will only be provided to those vendors that attend the mandatory site visit.

9. TRASH AND CLEANING

9.1. Trash and/or other construction / remodeling debris, materials / supplies / equipment etc. shall be maintained and moved in a safe manner without blocking fire exits, halls, aisles, walkways, parking areas, driveways etc., and unless otherwise approved in writing by the Department not be stockpiled during Department Normal Working Hours in any of the listed areas.

9.1.1. The Contractor awarded this project shall be ultimately responsible for the proper handling / transport / disposal of all trash and debris that result from this project. Trash and/or other project related debris of any sort is not placed into the Departments trash dumpster.

9.2. Unless otherwise approved, noted, and/or directed, in writing by the Department, all project work areas to be kept clean, this includes all building interior spaces and exterior grounds that are impacted by this project. Restricted access areas such as the electrical / mechanical rooms, computer / data equipment rooms and other areas sensitive to security or safety will require close scheduling coordination with the Department prior to the access / work occurring in and/or around those areas.

10. SUPPLIES / INVENTORY AND EQUIPMENT

10.1. The Contractor shall be responsible for providing all equipment or tools that are or may be needed during the course of this contract. All Contractor provided equipment brought on site and used by the Contractor shall be of an industrial quality, constantly maintained in a proper, safe, like new serviceable working condition, as appropriate for the intended type of use.

10.2. The Contractor shall inspect all equipment on a regular basis as required to ensure proper and safe operation. Any/all damaged equipment shall be properly repaired and/or replaced as needed before further use. Damaged equipment shall not be utilized on this project. All electrical cords must be properly maintained without cuts, splices, or exposed wires, etc.

10.3. It is the Contractors responsibility to ensure that sufficient spare tools, equipment, materials, supplies, and labor are readily available as required to properly fulfill the terms of this Contract and Scope of Work / Services in a safe and proper manner, at no additional cost to the Department. All supplies, inventory, equipment, and storage areas shall be subject to inspection by the Project Manager or designee.

10.4. The Contractor shall dispose of all aerosol containers, and any other material and/or chemical containers utilized in the course of this project in conformance with any and all local / state and federal requirements. Materials and supplies shall not store within the facility without written approval by the Department Project Manager or designee.

- 10.5.** All containers and dispensers of any type used at the facility shall clearly indicate the contents in English (with other being languages optional in addition to the English labeling). All chemicals, supplies, and equipment shall be safely and properly stored.
- 10.6.** Product information for all proposed supplies, products, chemicals, and equipment that the Contractor intends to utilize at this site shall be submitted for review and approval by the Department's Project Manager, prior to use at this site. Should the Department be dissatisfied with these items or the results of the use of these items, the Department shall have the right to require the discontinued use of said item(s) and request their replacement with acceptable item(s) at no added cost to the Department.
- 10.7.** Noise, odor, and dust control and clean up methods that the Contractor intends to utilize for this project shall be clearly identified and described in the Contractors proposal.

11. PERFORMANCE COMPLIANCE

- 11.1.** The apparent silence of specifications set forth in this Scope Of Work as to any details or omissions concerning any point shall be regarded as meaning that only the highest industry standard(s) for commercial project services are to prevail, and that only materials and workmanship of superior quality shall be used. All interpretations of this Scope Of Work shall be made upon the basis of this statement.
- 11.2.** To ensure contract compliance, the Contractor's invoice(s) is/are subject to cost reduction adjustment(s), and/or the assessment of penalties by the Department if services are not performed as specified within this Contract or Scope Of Work and/or as modified and agreed to in writing by the Department).
- 11.3.** Performance compliance / non-compliance and/or penalties may also be augmented by legal means as provided for in the I.T.B. contract documents. Unless otherwise specifically directed in writing by the Department, the Contractor shall have twenty-four hours to correct any deficiency as cited by the Department.
- 11.4.** If any deficiency may cause harm to life, property or violate any rules or regulations such as, but not limited to, Americans With Disabilities Act (A.D.A.), Occupational Safety and Health Administration (O.S.H.A.) or Departmental POLICIES, PROCEDURES AND SCHEDULING, the Department may take immediate corrective action(s) as required, and the Contractor shall be responsible for the burden of these direct and any associated and/or indirect costs.
- 11.5.** The Department reserves the right to, at its option, on a case-by-case basis, pay for only the completed portions of any services and/or the received amount of any materials / supplies that are required by this contract (including any potential future renewals / extensions and/or changes thereto). This compensation amount shall be determined by the Department's Project Manager and shall be based upon the percentage of contract item completion as compared to the percentage remaining unfulfilled by the Contractor.

11.6. The Department shall have sole discretion in selecting the remedy(ies) it shall employ in order to obtain the contractually required services, terms, and schedules as agreed between the Department and the Contractor.

11.7. The Department reserves the right to prohibit the completion of services not performed, or not completed according to pre-established schedules or standards.

12. DELAYS, UNFORESEEN EVENTS, ADDED WORK, EMERGENCIES, CHANGES ETC.

12.1. The Contractor shall be proactive in all its efforts in to perform all services within the established scheduled time frames as required in this Scope.

12.2. Service / Scheduling and/or Performance delays (either forecast or actually incurred) by the Contractor shall be brought to the attention of the Department's Project Manager or designee, for review upon such delays being identified by the Contractor.

12.3. Upon the Contractor's failure to provide notification to the Department of such scheduling delays in a timely manner, the Department may, at its option proceed with initiating a remedy for services to be performed.

12.4. Contractor shall provide a written plan and document its ability to provide additional staffing personnel in a timely manner, when required for emergencies, as well as to cover for contractor personnel vacations / illness / absences / staff terminations, at no additional cost to the Department, in order to perform all services in this agreement.

12.5. In the event of weather-related events, i.e. windstorms / hurricanes / flooding / rainstorms etc. the Contractor shall properly secure and protect the project worksite / materials from damage as well as to preclude their damaging anything else.

13. DAMAGES & NOTIFICATION OF DAMAGE(S)

13.1. It shall be the ultimate and sole responsibility of the Contractor to repair and/or pay for the repair of and damage(s) caused to the facility, its contents / equipment / systems or grounds / staff and/or visitors' injury/ies and/or property damage, by any direct and/or indirect action(s) of the Contractor, its employees or sub-contractors in a manner acceptable to the Department. The Contractor shall bear the burden of all cost(s) including legal and court fees, for any repairs necessary to correct any damage(s) caused by the Contractor's operations, employees, equipment, with said costs being deducted from the Contractors invoice(s) and/or addressed via legal means.

13.2. Unless otherwise agreed to in writing by the Department, repair of any such damage to the facility, its contents / equipment / systems or grounds shall be completed within fifteen days of the appropriate notification to the Department.

- 13.3.** The Department reserves the right to complete or contract out for the completion of any repairs that are not completed properly and/or expeditiously addressed by the Contractor, and to complete any repairs in which the quality of repairs provided by the Contractor is deemed to be of an unacceptable quality by the Department's Project Manager.
- 13.4.** The costs of all repairs performed by the Department as a result of the Contractor's performance of duties or employees, shall be deducted from the Contractor's payment(s) and/or billed to the Contractor, until paid in full. This includes all legal costs / fees / court costs incurred by the Department. In the event that the balance due the Contractor is not sufficient to pay the amounts due the Department, the Contractor shall provide such funds to the Department upon demand.
- 13.5.** The Contractor shall provide and deliver written notification to the Department's Project Manager or designee, narrating any and all damages to the facility during its operations. All notifications shall be completed immediately after an occurrence or, if damages are incurred during nightly operations, during the next business day. Notification shall be complete in detail including, at a minimum, identification regarding the type of damage, location, date, time and nature of the occurrence, explanation of any injuries to any personnel due to this occurrence and how the Contractor proposes to solve / address the matter.
- 13.6.** Repair estimates shall be submitted to the Department's Project Manager within five working days of each incident / accidents occurrence. Department review and approval of proposed repairs shall be made within five days of the Departments receipt of said estimates unless damages have a potential to cause a safety hazard or a breach in security at which time the Contractor shall make all necessary repairs immediately after first seeking the Project Managers approval. All repairs completed by the Contractor are subject to the Project Manager's review for approval.

14. SECURITY, UNIFORMS & CONFIDENTIALITY

- 14.1.** Strict security shall be maintained at all times. Certain doors are required to be kept locked except when in use. The Department will identify these when the Contractor commences services. Any fines / fees / penalty(ies) levied against the Department for false alarms caused by the Contractor's employees shall be deducted from the payment to the Contractor.
- 14.2.** All Contractor personnel shall receive training related to work site confidentiality. All information whether written, spoken, electronically stored, or other, within the building any workspace is considered property, must be considered confidential at all times and not shared with anyone. The Contractor and its staff and/or any other agents will not share any information related to buildings, workspaces, processes, or any general information about The Department of Transportation, either before, during or after completion of this proposal process and resulting contract. Violation of this

policy is grounds for breach of contract, which may initiate performance and contract compliance action/s and possible termination of this contract.

15. POLICIES, PROCEDURES AND SCHEDULING

- 15.1.** The Contractor that is awarded this Contract shall furnish an identification tag or badge to each employee that is utilized at this site. This identification tag or badge shall incorporate a clear photograph of the employee; legibly state the employee's name and the Contractor's company name. The Contractor's employees shall have this tag or badge visibly displayed at all times while on Department property.
- 15.2.** The Contractor shall provide documentation giving the description and/or a clear photograph of the uniforms (uniform shirts are have the Contractor's company name prominently displayed) to the Department. This information shall be forwarded to the site security staff. Any Contractor employee not appropriately attired may be directed to leave the facility.
- 15.3.** Prior to beginning any work at this site, Contractor shall provide to the Department's Project Manager a complete list of all existing Contractor employees that will be assigned to this site, including valid identification (copy of driver's license or State Identification Card, and/or other document(s) acceptable to the Department, verifying the employee may legally work in the State of Florida/United States).
- 15.4.** Contractor employees whose names are not contained on the Department's approved Project Manager's list will not be permitted to access the building and may be required to leave the project site. The Contractor SHALL notify immediately notify the Department of any staffing termination(s) of employment for staff that are assigned to this site. The Department shall have three business days in which to approve or reject any staff that the Contractor proposes to utilize at this site.
- 15.5.** Employees of the Contractor shall be required to conform to all of the Department's building security policies / procedures / systems, (current and/or future) as directed by the Department.
- 15.6.** The Contractor, its employees and/or Sub Contractors shall interact with the front desk in order to meet the Department's objective to ensure a safe facility. Such interaction shall include but is not limited to the following: identify any suspicious acts or person(s) within or around the facility; inform the guard of any actual or potential safety hazard; and to report any other breach(es) of security.
- 15.7.** These procedures may change during the course of this contract. When changes occur, the Department will provide written notification of same to the Contractor. Contractor's employees, staff, and sub-contractors shall clearly and legibly sign in and out at the front desk when arriving and leaving each day.

- 15.8.** All Employees / staff / agents / sub-contractors and any other “downline” personnel assigned to this project site must first be approved by the Departments Project Manager. Employees assigned to this project shall be a minimum of eighteen years of age or older. Only the approved Contractor, employees, and/or pre-approved sub-contractor(s) shall be permitted on-site. Any unauthorized personnel, including but not limited to, visitors, family members, friends, acquaintances, etc., of the Contractor and/or its employee(s) / sub-contractor(s) found within or on the facility's grounds may be directed to leave.
- 15.9.** Violation of any departmental rules / policies / procedures may initiate Performance Compliance Penalties by the Department to be charged to the Contractor as provided by the contract and/or Exhibit “A”, PERFORMANCE COMPLIANCE.

16. SITE CONDITIONS, CONTRACTORS LOSS OR DAMAGE(S)

- 16.1.** It shall be the responsibilities of the Contractor to field verify the complete and total efforts necessary to provide everything required for this project. This includes the determination of an accurate site layout, all actual site conditions, the full extent of all work to be performed, and the conditions surrounding the performance, thereof.
- 16.2.** The failure and/or neglect of the Contractor to become fully familiarized with the entire scope of work, including any and all related contract documents, the site of the proposed work, the type / quantity / schedule and Scope Of Work etc. required shall in no way relieve the Contractor from any obligation(s) with respect to his / her proposal or work performance.
- 16.3.** The Contractor shall be responsible for any loss (es) / theft(s), damage(s), replacement(s) for any of the Contractor's material and/or property items including, but not limited to, any tools, equipment, supplies and other items. The Contractor shall be responsible for any injury sustained by its employees while providing services at the Department's office facility.
- 16.4.** The Department shall not bear any risk for any loss(es) by the Contractor.

17. GENERAL NOTES

- 17.1.** The Department will not pay for, and/or be otherwise held responsible for any cost(s) incurred in the preparation, research, submission, and/or delivery of response(s), replies, changes etc. of the I.T.B. associated with this Scope Of Work.
- 17.2.** This Exhibit “A” identifies the current known needs of the Department, and it is to be considered as a minimum starting point for the desired CCTV system installation Project at this site.

- 17.3.** The Department reserves the right to at any time, reject any and/or all I.T.B. responses that do not meet the requirements specified by this I.T.B., and to modify, and/or remove work items from the Scope Of Work without cost or penalty to the Department.
- 17.4.** Proposer's, and/or the selected Contractor awarded the contract, shall bring to the Department's immediate attention any and all noted discrepancies / inconsistencies in the project and/or project documents, upon their discovery of same, along with any suggested and/or possible solutions / corrective actions.
- 17.4.1. The Department will review the alleged discrepancies and/or inconsistencies and determine the corrective action(s) to be taken. Any such correction(s) shall become part of this scope of work.
- 17.4.1.1. The Department shall, as provided for in the I.T.B. process, advise Contractors in writing of any change(s) in requirements.
- 17.5.** It is the Department's intent to only have safe, well trained, competent, and professional employees assigned to this project in order to meet the Department's objectives. The Contractor shall review the Scope Of Work with each employee and ensure that each employee understands their work assignments, how to complete the assignments safely in accordance with applicable regulations (O.S.H.A., etc.) and how to comply with the Department's safety, security and acceptable job performance, site requirements.
- 17.6.** The Contractor shall be responsible for any and all training (including all safety training) of it's staff, this includes, but is not limited to, ensuring that the staff is properly trained for the tasks they are (or may be assigned), any cross training that might be required, the provision of any and all safety equipment that is (or may be needed), including but not limited to Personal Protective Equipment, any knowledge or skills testing, all physical / medical exams including any subsequent and/or re-current exams.
- 17.7.** All established rules and regulations set forth by the Department shall be observed by all workers and sub-contractors assigned to this project by the Contractor.
- 17.8.** Unless previously authorized by the Department, the Contractor, staff and Sub-Contractor(s) shall not use, or unplug any office (or other types of) equipment such as but not limited to computers, printers fax machines, phones, copiers etc.
- 17.9.** Formal Progress and other meetings may be scheduled by the Department as needed to ensure a smooth-running project, timely and proper project completion. The Contractor shall:
- 17.9.1. Identify the methods that will be used to provide all project and related services including sub-contractors that may be used on this project.

17.9.2. Provide to the Department a copy of the documentation showing that the Contractor has in place a method used to ensure that all O. S. H. A. standards and guidelines are followed and practiced by employees and sub contractors.

18. WARRANTY / GUARANTEE Unless otherwise agreed to in writing by the Department:

18.1. The awarded Contractor shall warranty / guarantee all of the work and materials utilized in this project for a period of twelve (12) months. The Warranty Period shall commence on the date of acceptance of final invoice. The contractor shall comply with providing close out submittal documentation as specified in Section 8 pertaining to equipment warranties that exceed 12 months.

18.2. The Contractor shall upon written notice from the Department, make any needed repairs to the installation at no cost to the Department. Unless otherwise agreed to in writing by the Department, all repairs shall be made and completed by the Contractor within thirty (30) days of the date of the written notice by the Department. This warranty / guarantee shall include all labor, materials and any other costs involved.

19. TERMS OF AGREEMENT

19.1. There shall not be any extra charges for any services, work, materials, labor, tools, equipment, equipment rentals / leasing, transportation, freight and/or expedited freight or delivery, permits, fees, fines, overtime, holiday charges, sub-contracting, or anything else above the specified (and agreed to by the Department in writing) payment amount for anything provided by the Contractor to as required to properly fulfill its obligations and satisfy the Scope Of Work in the I.T.B.

19.2. In the event the Department elects to incorporate part(s) of the Contractor's work proposal as part of the contractual agreement, the Department's Project Manager, or designee, shall identify in writing to the Contractor, which portion(s) of the proposal shall be incorporated as part of the Scope of Service.

20. INVOICE SUBMITTAL

20.1. Unless otherwise agreed to in writing by the Department, the Contractor shall submit invoice(s) in a manner acceptable to the Department and in accordance with the finalized I.T.B. process results.

20.2. Rejected invoice(s) will be returned to the Contractor, who shall resolve the discrepancies in a timely manner. A corrected invoice must be submitted when there are changes in prices and amounts, or a credit memo may be issued for the difference. Pending satisfactory vendor explanation of any disputed / adjusted

charges and/or payments, the cost difference(s) for any reduced payment of invoice(s) may be re-evaluated / adjusted and/or paid by the Department.

- 20.3.** As specifically provided for in the Department's "Guidelines for Using Purchasing Card", the Department may utilize a Purchasing Card for the payment of certain services and goods. Such services and methods of payments will be coordinated and agreed to with the selected vendor prior to the procurement of such services or goods being rendered. The Department's Project Manager shall provide in writing approval of all completed services.

**>> END OF EXHIBIT "A" SCOPE OF WORK <<
THE FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6, NORTH DADE MAINTENANCE YARD
CCTV SYSTEM INSTALLATION PROJECT**

**State of Florida
Department of Transportation**



ATTACHMENT "A-1" TO EXHIBIT "A"

(SITE PLAN, SITE CONNECTIVITY AND RISER)

**DISTRICT SIX NORTH DADE YARD
CCTV SYSTEM INSTALLATION PROJECT**

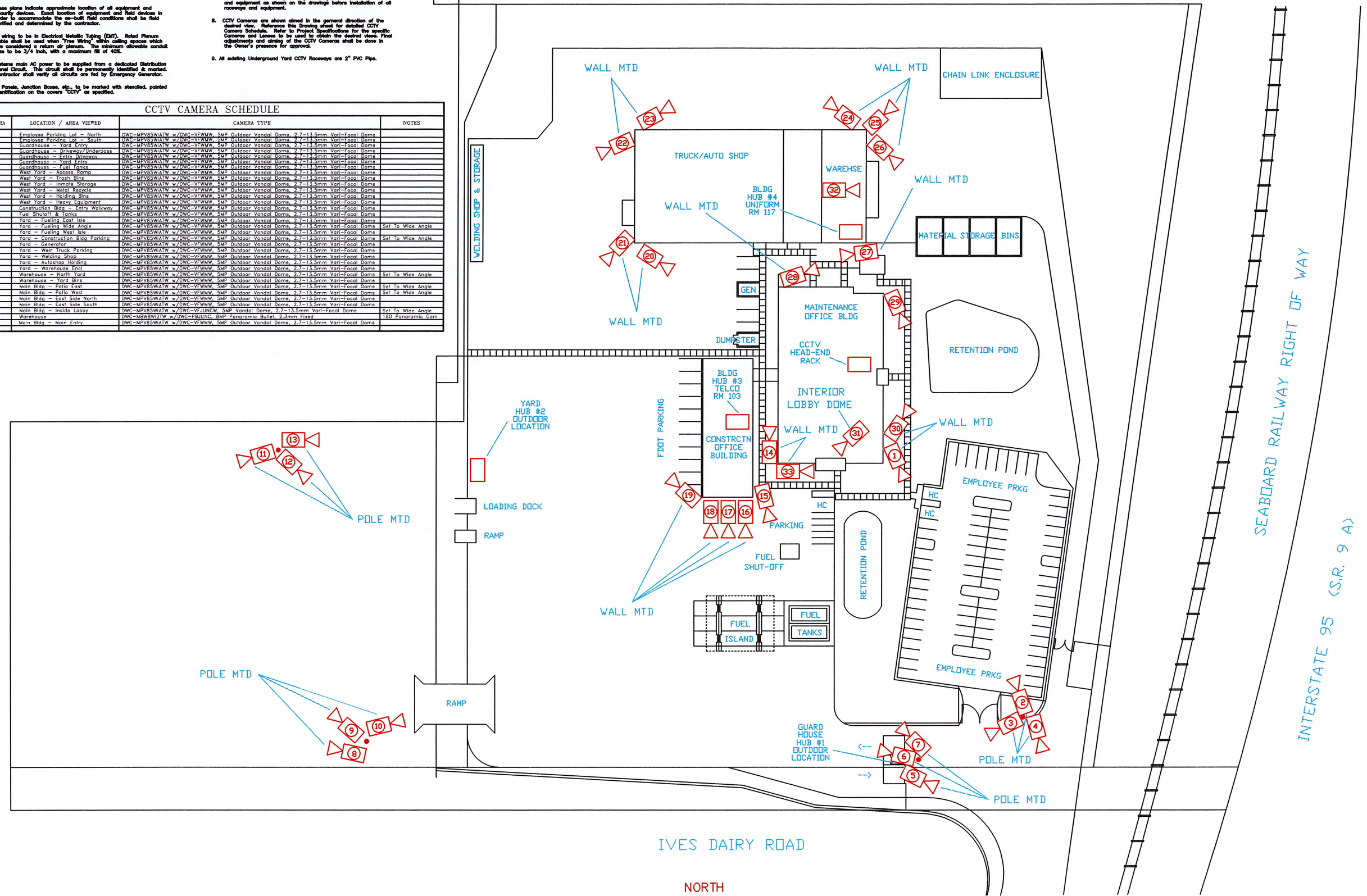
CONTRACT NUMBER:	F6002-REBID
FINANCIAL PROJECT NUMBER:	446784-1-52-01

GENERAL NOTES:
(apply to all drawings)

- All equipment and associated wiring raceways and interlocks must be installed in strict accordance with all applicable national, state and local building codes. The contractor must install in strict accordance with all national fire codes, but not limited to NFPA 70 (National Electrical Code with emphasis on articles 310, 725 & 800).
- These plans indicate approximate location of all equipment and security devices. Exact location of equipment and field devices in order to accommodate the as-built field conditions shall be field verified and determined by the contractor.
- All wiring to be in EMT (Electrical Metallic Tubing) (EMT). Related Plans: Cable shall be used when "True Wiring" when ceiling spaces which are considered a return air plenum. The minimum allowable conduit size to be 3/4" inch, with a maximum fill of 40%.
- Systems main AC power to be supplied from a dedicated Distribution Panel Circuit. This circuit shall be permanently identified & marked. Contractor shall verify all circuits are fed by Emergency Generator.
- All Panels, Junction Boxes, etc., to be marked with stenciled, painted identification on the covers "CCTV" as specified.
- Non-Power Limited and High Voltage wire must be separated and must not be combined in the same raceways under any circumstances with Low Voltage & Power Limited wiring as per the National Electric Code.
- It is the Contractor's responsibility to verify all wire counts, devices and equipment as shown on the drawings before installation of all raceways and equipment.
- CCTV Cameras are shown aimed in the general direction of the desired view. Reference this Drawing sheet for detailed CCTV Camera Schedule. Refer to Project Specifications for the specific Camera and Lenses to be used to obtain the desired views. Field adjustments and aiming of the CCTV Camera shall be done in the Owner's presence for approval.
- All existing Underground Yard CCTV Raceways are 2" PVC Pipe.

CCTV CAMERA SCHEDULE

CAMERA	LOCATION / AREA VIEWED	CAMERA TYPE	NOTES
1	Employee Parking Lot - North	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
2	Employee Parking Lot - South	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
3	Guardhouse - Yard Entry	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
4	Guardhouse - Midway/Underpass	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
5	Guardhouse - Entry Driveaway	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
6	Guardhouse - Yard Entry	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
7	Guardhouse - Fuel Tanks	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
8	West Yard - Access Ramp	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
9	West Yard - Train Bins	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
10	West Yard - Inmate Storage	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
11	West Yard - Metal Recycle	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
12	West Yard - Holding Bins	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
13	West Yard - Heavy Equipment	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
14	Construction Bids - Entry Walkway	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
15	Fuel Shutoff & Tanks	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	
16	Yard - Fueling East Side	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
17	Yard - Fueling West Side	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
18	Yard - Fueling West Side	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
19	Yard - Construction Bids Parking	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
20	Yard - Generator	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
21	Yard - West Truck Parking	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
22	Yard - Welding Shop	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
23	Yard - Autoshop Holding	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
24	Yard - Warehouse End	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
25	Warehouse - North Yard	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
26	Warehouse - Yard Bins	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
27	Main Bldg - Police East	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
28	Main Bldg - Police West	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
29	Main Bldg - East Side North	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
30	Main Bldg - East Side South	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
31	Main Bldg - Inside Lobby	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	Set To Wide Angle
32	Warehouse	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	180° Panoramic Cam
33	Main Bldg - Main Entry	DWC-MPV8SWIATW w/DWC-VFWMW SMP Outdoor Vandal Dome 2.7-13.5mm Vari-Focal Dome	



SITE PLAN
SCALE: 1" = 40' - 0"



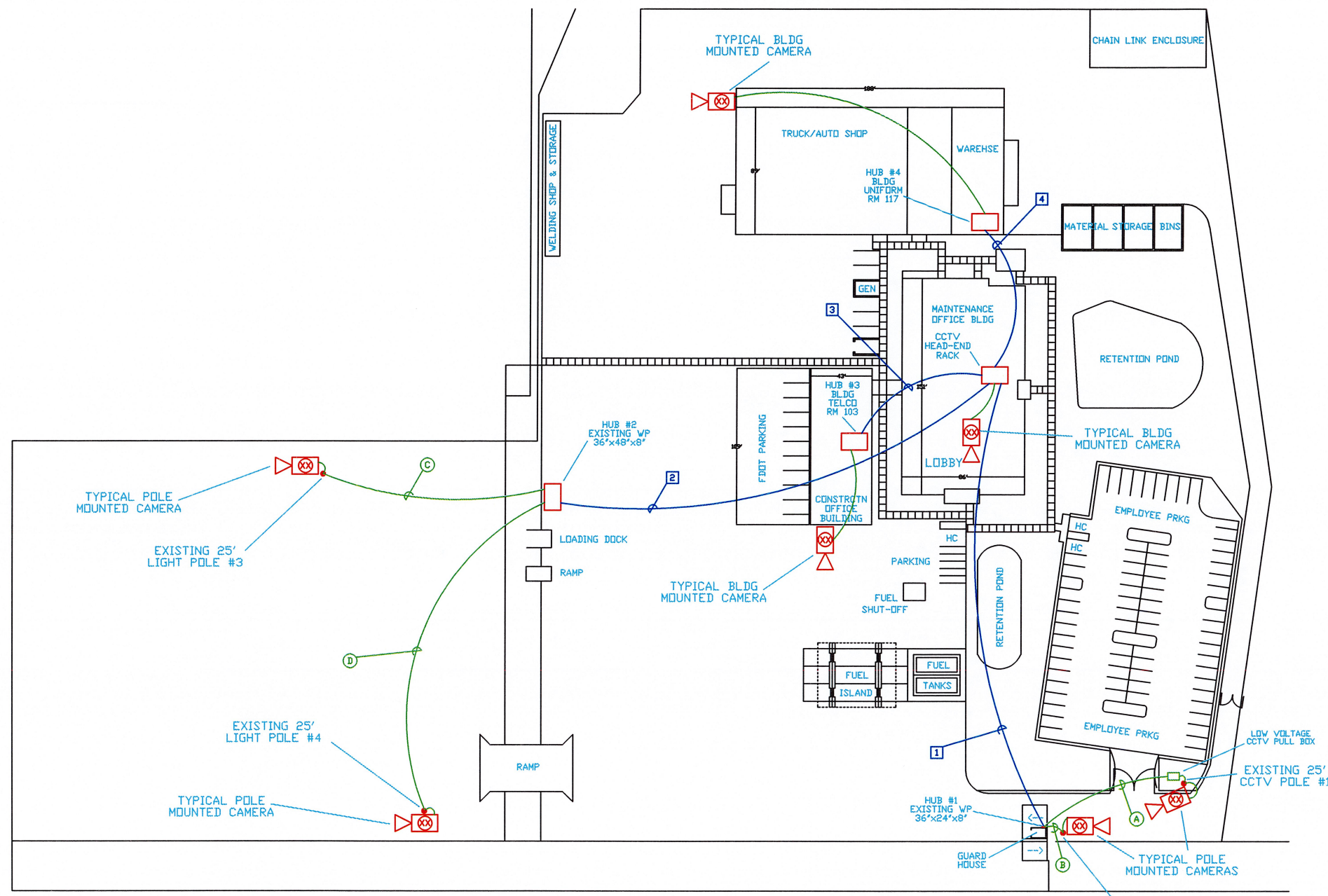
REVISIONS	DATE
1	8/15/21

BID DOCUMENTS

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
NORTH DADE MAINTENANCE FACILITY
1773 NORTHEAST 205TH STREET
PROPOSED CCTV CAMERA SYSTEM
SITE PLAN

DATE: 5/17/21	PLLOT SIZE: 36" x 24"
DRAWN BY: -	PROJECT ENGINEER: -
PROJECT NUMBER: 446784-1-52-01	



CCTV SYSTEM - SITE CONNECTIVITY PLAN



CCTV HUB CONNECTIVITY SCHEDULE

HUB # : 1	HUB LOCATION : OUTDOOR WP, MOUNTED ON GUARDBOUSE	FIBER DESTINATION : HEAD-END		
EXISTING FIBER : EXISTING MULTIMODE, (1) CABLE WITH 6 STRANDS		EXISTING FIBER RUN SYMBOL : 1		
NEW FIELD DEVICES TO BE CONNECTED (ALL USING NEW CAT 6 RUNS)				
DEVICE	LOCATION	APPROX DISTANCE	POE REQUIREMENT	CABLE REQUIRED
IP Cam #2	Existing Light Pole #1	100'-25'+10' = 135'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #1	Existing Light Pole #1	100'-25'+10' = 135'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #5	Existing Light Pole #2	50'-25'+10' = 85'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #6	Existing Light Pole #2	50'-25'+10' = 85'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #7	Existing Light Pole #3	50'-25'+10' = 85'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
Workstation	Inside Guardhouse	50'	No	CAT 6, Shielded Cable

CCTV HUB CONNECTIVITY SCHEDULE

HUB # : 2	HUB LOCATION : OUTDOOR WP, FREE STANDING IN YARD	FIBER DESTINATION : HEAD-END		
EXISTING FIBER : EXISTING MULTIMODE, (1) CABLE WITH 4 STRANDS		EXISTING FIBER RUN SYMBOL : 2		
NEW FIELD DEVICES TO BE CONNECTED (ALL USING NEW CAT 6 RUNS)				
DEVICE	LOCATION	APPROX DISTANCE	POE REQUIREMENT	CABLE REQUIRED
IP Cam #13	Existing Light Pole #3	100'-25'+15' = 240'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #14	Existing Light Pole #3	100'-25'+15' = 240'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #15	Existing Light Pole #4	50'-25'+15' = 90'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #16	Existing Light Pole #4	50'-25'+15' = 90'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #17	Existing Light Pole #4	50'-25'+15' = 90'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable
IP Cam #18	Existing Light Pole #4	50'-25'+15' = 90'	YES - 8.7W max	Direct Burial CAT 6, Shielded Cable

CCTV HUB CONNECTIVITY SCHEDULE

HUB # : 3	HUB LOCATION : CONSTR OFFICE BLDG, TELCO RM 103	FIBER DESTINATION : HEAD-END		
EXISTING FIBER : EXISTING MULTIMODE, (1) CABLE WITH 4 STRANDS		EXISTING FIBER RUN SYMBOL : 3		
NEW FIELD DEVICES TO BE CONNECTED (ALL USING NEW CAT 6 RUNS)				
DEVICE	LOCATION	APPROX DISTANCE	POE REQUIREMENT	CABLE REQUIRED
IP Cam #19	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #20	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #21	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #22	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #23	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #24	Mounted Outside on Bldg	175'-20'+15' = 210'	YES - 8.7W max	CAT 6, Shielded Plenum Cable

CCTV HUB CONNECTIVITY SCHEDULE

HUB # : 4	HUB LOCATION : WAREHOUSE BLDG UNIFORM RM 117	FIBER DESTINATION : HEAD-END		
EXISTING FIBER : EXISTING MULTIMODE, (2) CABLES WITH 4 STRANDS EA.		EXISTING FIBER RUN SYMBOL : 4		
NEW FIELD DEVICES TO BE CONNECTED (ALL USING NEW CAT 6 RUNS)				
DEVICE	LOCATION	APPROX DISTANCE	POE REQUIREMENT	CABLE REQUIRED
IP Cam #20	Mounted Outside on Bldg	210'-25' = 235'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #21	Mounted Outside on Bldg	210'-25' = 235'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #22	Mounted Outside on Bldg	300'-25' = 325'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #23	Mounted Outside on Bldg	300'-25' = 325'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #24	Mounted Outside on Bldg	140'-25' = 165'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #25	Mounted Outside on Bldg	140'-25' = 165'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #26	Mounted Outside on Bldg	140'-25' = 165'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #27	Mounted Outside on Bldg	60'-25' = 85'	YES - 8.7W max	CAT 6, Shielded Cbl in EMT Conduit
IP Cam #28	Mounted in Warehouse	170'-25' = 145'	YES - 12.3W max	CAT 6, Shielded Cbl in EMT Conduit

EXISTING CAMERA POLES - NEW CCTV COPPER UTP RUNS

RUN	FROM ==> TO & APPROX DISTANCE	DEVICES INSTALLED AT POLES	CABLE REQUIRED
(A)	Light Pole #1 ==> HUB #1 160'	IP Cam #2 & PoE Surge Prot IP Cam #3 & PoE Surge Prot IP Cam #4 & PoE Surge Prot	Direct Burial CAT 6, Shielded Cable - -
(B)	Light Pole #2 ==> HUB #1 90'	IP Cam #5 & PoE Surge Prot IP Cam #6 & PoE Surge Prot IP Cam #7 & PoE Surge Prot	Direct Burial CAT 6, Shielded Cable - -
(C)	Light Pole #3 ==> HUB #2 235'	IP Cam #13 & PoE Surge Prot IP Cam #14 & PoE Surge Prot IP Cam #15 & PoE Surge Prot IP Cam #16 & PoE Surge Prot	Direct Burial CAT 6, Shielded Cable - - -
(D)	Light Pole #4 ==> HUB #2 390'	IP Cam #17 & PoE Surge Prot IP Cam #18 & PoE Surge Prot IP Cam #19 & PoE Surge Prot IP Cam #20 & PoE Surge Prot	Direct Burial CAT 6, Shielded Cable - - -

CCTV HEAD-END CONNECTIVITY SCHEDULE

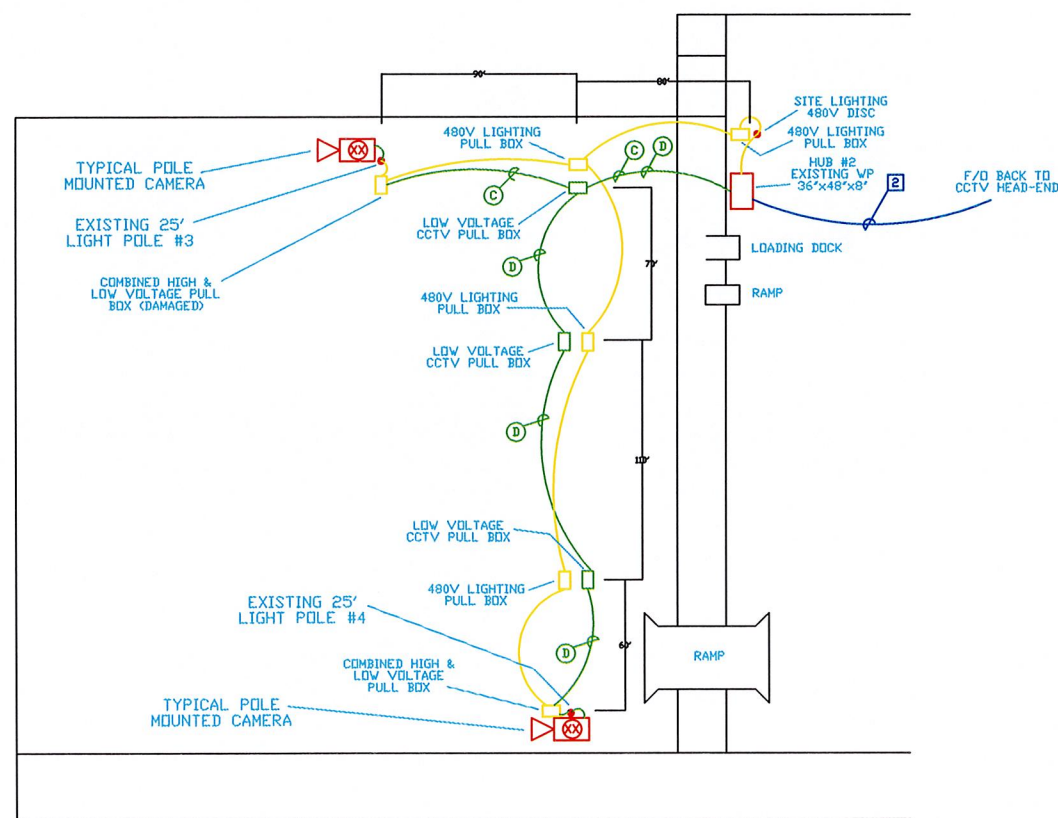
HEAD-END	HUB LOCATION : MAIN BLDG, ENGINEER'S OFFICE, HEAD-END	FIBER DESTINATION : TO (4) HUBS			
EXISTING FIBER : EXISTING MULTIMODE CABLES FROM (4) HUBS					
NEW FIELD DEVICES TO BE CONNECTED (ALL CAMERAS USING NEW CAT 6 RUNS)					
DEVICE	LOCATION	F/O CABLE DISTANCE	APPROX POE DISTANCE	POE REQUIREMENT	CABLE REQUIRED
IP Cam #33	Mounted Outside on Bldg	N/A	210'+15' = 225'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #34	Mounted Outside on Bldg	N/A	210'+15' = 225'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #35	Mounted Outside on Bldg	N/A	110'+15' = 125'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #36	Mounted Outside on Bldg	N/A	110'+15' = 125'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #37	Mounted in Bldg Lobby	N/A	90'+15' = 105'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #38	Mounted Outside on Bldg	N/A	175'+15' = 190'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
IP Cam #39	Mounted Outside on Bldg	N/A	110'+15' = 125'	YES - 8.7W max	CAT 6, Shielded Plenum Cable
Workstation	Lobby Receptionist Desk	N/A	105'+15' = 120'	No	CAT 6, Shielded Plenum Cable
NTR	Head-End Rack	N/A	N/A	No	CAT 6 Patch Cable
HUB #1 F/O 1st	Head-End Rack	Approx 385 ft	N/A	No	CAT 6 Patch Cable
HUB #2 F/O 1st	Head-End Rack	Approx 415 ft	N/A	No	CAT 6 Patch Cable
HUB #3 F/O 1st	Head-End Rack	Approx 485 ft	N/A	No	CAT 6 Patch Cable
HUB #4 F/O 1st	Head-End Rack	Approx 360 ft	N/A	No	CAT 6 Patch Cable

DATE	6/15/21
REVISIONS	
BID DOCUMENTS	

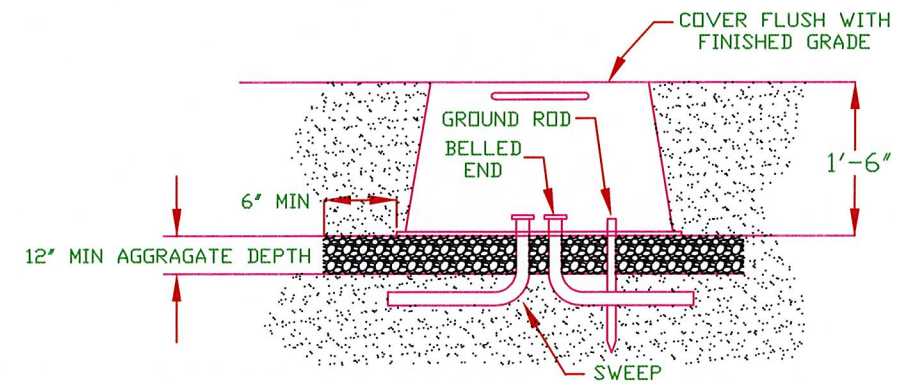
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
NORTH DADE MAINTENANCE FACILITY
1775 NORTHEAST 205TH STREET
PROPOSED CCTV CAMERA SYSTEM
CCTV SYSTEM - CONNECTIVITY PLAN

DATE:	5/17/21	PLOT SIZE:	36" x 24"
DRAWN BY:	-	PROJECT ENGINEER:	-
PROJECT NUMBER: 446784-1-52-01			



CCTV SYSTEM - PARTIAL YARD UNDERGROUND PLAN



JUNCTION BOX SECTION VIEW

NOTES:

It is the Department responsibilities to separate High Voltage from the low voltage for both Poles.

1. IN ORDER TO SEPARATE HIGH AND LOW VOLTAGE WIRING AT EXISTING LIGHT POLES #3 & #4, RE-ROUTE 2\"/>
2. ALL NEW UNDERGROUND CONDUITS SHALL BE 2\"/>
3. NEW BOXES SHALL HAVE A MIN CLEARANCE OF 4\"/>
4. BOX LIDS SHALL HAVE:
 SKID RESISTANT SURFACE
 CCTV OR LIGHTING LOGO
 (2) PULL/LIFT SLOTS
 STAINLESS SCREWS & WASHERS
5. PROVIDE AND INSTALL A GROUND ROD IN EACH OF THE LOW VOLTAGE CCTV PULL BOX'S ADJACENT TO THE (4) CCTV LIGHT POLES FOR GROUNDING OF THE NEW IP CAMERA SURGE SUPPRESSORS.

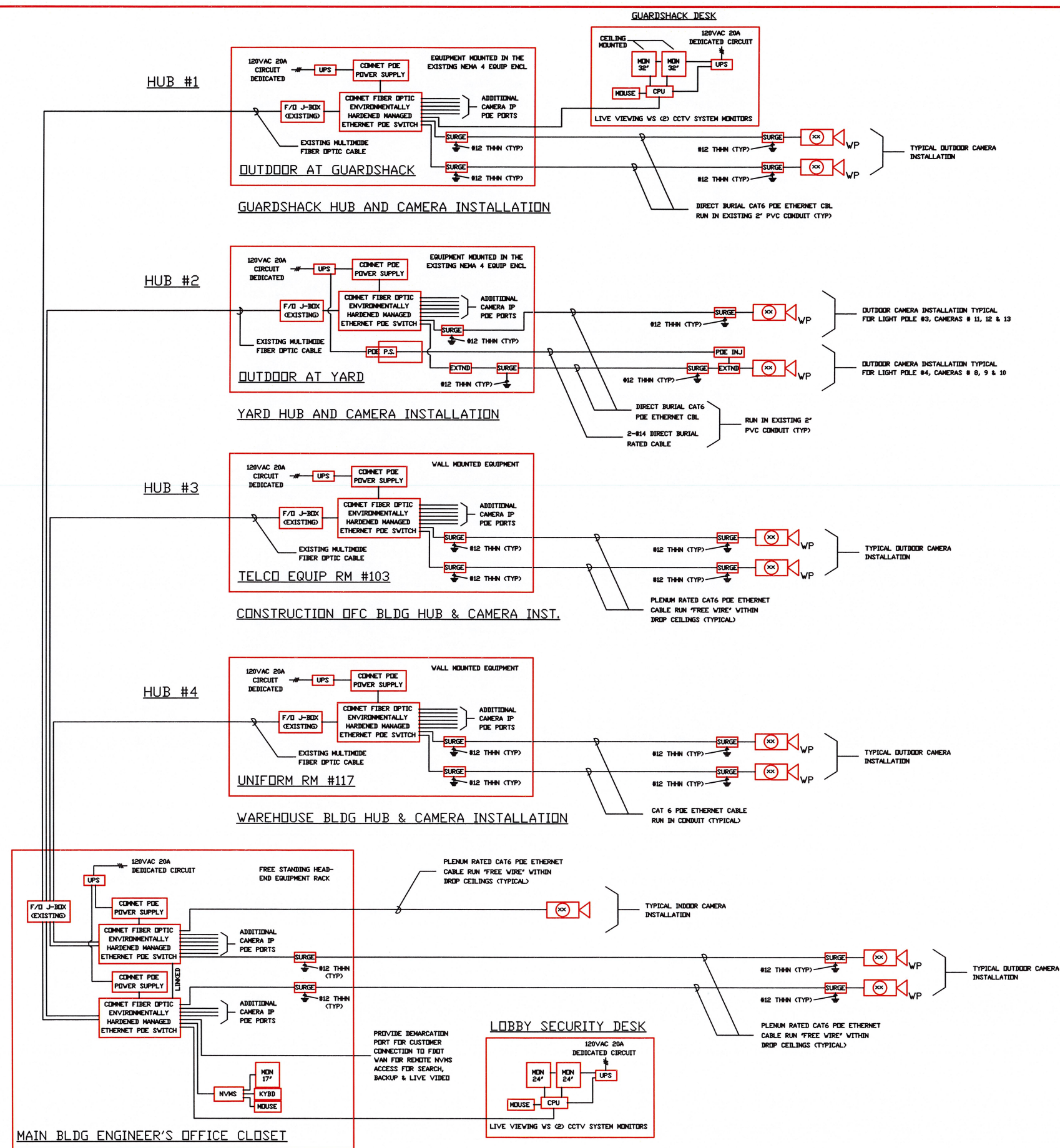
JUNCTION BOX INSTALLATION DETAIL
(AT EXISTING LIGHT POLES #3 & #4)

REVISIONS	DATE
1	6/15/21

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STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION
 NORTH DADE MAINTENANCE FACILITY
 1773 NORTHEAST 205TH STREET
 PROPOSED CCTV CAMERA SYSTEM
 CCTV SYSTEM - SITE DETAILS PLAN

DATE: 5/17/21	PLOT SIZE: 36" x 24"
DRAWN BY: -	PROJECT ENGINEER: -
PROJECT NUMBER: 446784-1-52-01	



SYMBOL LEGEND			
CCTV SYSTEM COMPONENTS			
SYMBOL	MFG / MODEL	DESCRIPTION	NOTES
	REFER TO SPECS	CCTV HEAD-END EQUIPMENT RACK NVMS, GIG E/F/O SWITCHES W/P/S, UPS, MONITOR, KEYBOARD & MOUSE	FIELD LOCATE WHERE SHOWN ON PLANS DEDICATED CIRCUIT 120VAC POWER AND UPS
	DIGITAL WATCHDOG CLIENT V/S CPU	CCTV SYSTEM WORKSTATION W/ MONITORS, KB, MOUSE & UPS	FIELD LOCATE WHERE SHOWN ON PLANS DEDICATED 120VAC POWER CIRCUIT AND UPS
	DIGITAL WATCHDOG NETWORK VIDEO SERVER	1U NVMS - BLACKJACK CUBE DL PROVIDE NVMS WITH A MINIMUM OF 20 TB OF INTERNAL VIDEO STORAGE	FIELD LOCATE WHERE SHOWN ON PLANS DEDICATED 120VAC POWER CIRCUIT AND UPS
	COMNET 11 PORT (3) FX PORTS, (8) POE PORTS	GIGABIT FIBER OPTIC HARDENED MANAGED ETHERNET POE SWITCH COMNET P/N: CAGE11F3T3HMSPE WITH (2) SFP-SX AND PS-DR240-48A	FIELD LOCATE WHERE SHOWN ON PLANS DEDICATED 120VAC POWER CIRCUIT AND UPS
	DIGITAL WATCHDOG OUTDOOR CAMERA	IP CCTV CAMERA, 5MP, OUTDOOR, 2.7-13.5mm VARIF, DVC-MPVS05WTV	FIELD LOCATE WHERE SHOWN ON PLANS POWER FROM LOCAL F/O CCTV POE SWITCH
	DIGITAL WATCHDOG INDOOR CAMERA	IP CCTV CAMERA, 5 MP, INDOOR, DVC-MPVS05WTV OR DVC-MPVS05VETV	FIELD LOCATE WHERE SHOWN ON PLANS POWER FROM LOCAL F/O CCTV POE SWITCH
	COMNET CLF1E0U	ACTIVE POE ETHERNET REPTR/EXTNDR	REQUIRED ON ALL ETHERNET RUNS WHICH EXCEED 100m GROUND PER NEC & MANUFACTURER'S RECOMMENDATIONS
	REFER TO SPECS	POE POWER INJECTOR	REQUIRED ON ALL ETHERNET RUNS WHICH EXCEED 100m TO INJECT POWER TO EXTENDER AND CAMERA
	REFER TO SPECS	POE REMOTE POWER SUPPLY	REQUIRED ON ALL ETHERNET RUNS WHICH EXCEED 100m TO SUPPLY POWER TO EXTENDER AND CAMERA
	BITEX BTK-NR_PDS/X	LDV VOLTAGE SURGE SUPPRESSOR	LOCATE AT CAMERAS, HUBS & POINT OF BLDG CABLE ENTRY. GROUND PER NEC & MANUF RECOMMENDATIONS
	REFER TO SPECS	UNINTERRUPTIBLE POWER SUPPLY	NEW DEDICATED 120 VAC EMERGENCY POWER CIRCUIT SIZE PER SPECIFICATION REQUIREMENTS
	REFER TO DRVS	EXISTING LIGHT/CCTV CAMERA POLE	

REVISIONS	DATE
6/15/21	
BID DOCUMENTS	

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STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION
 NORTH DADE MAINTENANCE FACILITY
 1773 NORTHEAST 205TH STREET
 PROPOSED CCTV CAMERA SYSTEM
 CCTV SYSTEM - RISER DIAGRAM

DATE:	5/17/21	PLOT SIZE:	36" x 24"
DRAWN BY:		PROJECT ENGINEER:	
PROJECT NUMBER:	446784-1-52-01		
DRAWING NO.:	4 OF 4		

CCTV SYSTEM - RISER DIAGRAM

**State of Florida
Department of Transportation**



EXHIBIT “B”- METHOD OF COMPENSATION

**DISTRICT SIX NORTH DADE YARD
CCTV SYSTEM INSTALLATION PROJECT**

CONTRACT NUMBER:	F6002-REBID
FINANCIAL PROJECT NUMBER:	446784-1-52-01

1.0 PURPOSE:

This Exhibit defines the limits and method of compensation to be made to the Contractor for services set forth in Exhibit "A" Scope of Services and the method by which payments shall be made.

2.0 COMPENSATION:

For the satisfactory performance of the services detailed in Exhibit "A" Scope of Services, the Department will, at intervals make progress payments to the Contractor.

3.0 DETAILS OF COSTS AND FEES:

Details of costs and fees for the performance of the Contractor's services are attached as Exhibit "B" Bid Price sheet attached hereto and made part hereof.

4.0 PROGRESS PAYMENTS**4.1 Payments to Contractor:**

Thirty (30) calendar days shall be allowed for the Department's inspection and approval of the goods and services for which any application for payment is made. Based upon application for payment submitted to the **Department's Project Manager or Designee by the Contractor** and certificates of payment issued by the Department's Project Manager or designee and accepted by the Department, the Department shall make progress payments to the Contractor against the account of the contract sum in accordance with the following:

4.1.1 Within thirty (30) calendar days from the Department's receipt and acceptance of a certificate of payment, the Department shall pay, or cause to be paid to the **Contractor**, ninety percent (90%) of the portion of the contract sum properly allocable to labor, materials, and equipment incorporated into the work, and ninety percent (90%) of that portion of the contract sum properly allocable to materials and equipment suitably stored at the site or at some other location agreed upon in writing by the parties, less the aggregate of previous payments.

NOTE: For projects with contract sums exceeding, \$25,000 (see section A-1 of Fixed Capital Outlay Non-technical Specifications for Building Construction Contracts for definition of "Contract Level", at the time work is fifty percent (50%) complete or thereafter, if the manner of completion of the work and its progress are and remain satisfactory to the Department's Project Manager or designee and the Department, the Department may authorize a five percent (5%) retainage on future progress payments. The full ten percent (10%) retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Department's

Project Manager or designee and the Department or for other good and sufficient reasons.

- 4.1.2 The **Contractor** shall promptly pay each Sub-Contractor in accordance with Section 287.0585, Florida Statutes, upon receipt of payment from the Department out of the amount paid to the **Contractor** on account of such **Sub-Contractor's** work, the amount to which said **Sub-Contractor** is entitled, reflecting the percentage actually retained, if any, from payments to the **Contractor** on account of such **Sub-Contractor's** work.
- 4.1.3 The Department's Project Manager or designee may, on request, at its discretion, furnish to a Sub-Contractor, if practical, information regarding the percentages of completion of the amount applied for by the Contractor and the action taken thereon by the Department's Project Manager or designee on account of work done by such Sub-Contractor.
- 4.1.4 Neither the Department nor the Department's Project Manager or designee shall have any obligation to pay or to see to the payment of any monies to any Sub-Contractor except as may otherwise be required by law.
- 4.1.5 No certificate for a progress payment, nor any progress payment, nor any partial or entire use of occupancy of the project by the Department, shall constitute an acceptance of any work not in accordance with the Contract Documents.
- 4.1.6 The Contractor shall request such compensation by submitting:
 - 4.1.6.1 A detailed invoice in a format pre-approved by the Department Project Manager.

5.0 FINAL PAYMENT

- 5.1 Within thirty (30) calendar days from the date of **Contract Completion**, the Department shall pay or cause to be paid to the Contractor the entire unpaid balance of the then Contract Sum, less the amount of any sums which continue to be retained to satisfy the cost of performing any change in the work which is the subject of any claim or dispute and which has not been satisfactorily performed by the Contractor, provided that the parties have not otherwise stipulated in the certificate of Substantial Completion and provided further that the work has been satisfactorily completed, the Contractor's obligations under the contract have been fully performed, and a final Certificate for Payment has been issued by the Department's Project Manager or designee.

- 5.2 The Contractor shall submit all required documents along with final invoice to the Department no later than one hundred and twenty (120) days after the project is completed and final acceptance of work is issued by the Department. Invoices submitted after the one hundred and twenty (120) day –time period will not be paid.
- 5.3 The Contractor’s application for FINAL PAYMENT shall be accompanied with the following:
 - 5.3.1 Department’s Certificate of Partial Payment marked as “FINAL PAYMENT” – (4 copies with original signatures and original seals).
 - 5.3.2 Final schedule of Contracts Values.
 - 5.3.3 For Contracts exceeding \$100,000, the consent of Surety to make Final Payment-Signed and Sealed.
 - 5.3.4 Notice of release of Lien from each sub-Contractor, worker, or supplier, who has filed Notices to Department.
 - 5.3.5 Contractor’s Guarantee of Construction for two (2) years from the date of Substantial Completion. Reference to exhibit “A” scope of work 18.0 warranty/Guarantee
 - 5.3.6 Copy of the Approval by the Department’s Project Manager or designee and the Transmittal to the Owner of Manuals and other related close-out documents as per 8.3 of exhibit “A” scope of work.
 - 5.3.7 Other special warranties as required by specifications, in the name of the Department and list of Sub-contractors with contact person’s telephone number and addresses.
 - 5.3.8 Fully executed Contractor’s Certificate of No Asbestos-Containing Materials.

**>> END OF EXHIBIT “B” METHOD OF COMPENSATION <<
THE FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 6, NORTH DADE MAINTENANCE YARD
CCTV SYSTEM INSTALLATION PROJECT**