280000 - ELECTRONIC SAFETY AND SECURITY

Note: This is a new section with information transferred from 080000 Doors and 110000 Equipment and updated per County's Department of Emergency Management and Security.

I. SCOPE
   A. Access Control (Card Readers/proxy)
   B. Camera Surveillance System
   C. Duress alarms
   D. Burglar alarms/Intrusion Detection Systems (IDS) (i.e., glass break sensors, door sensors, and motion sensors)
   E. Lock down buttons, if required. These allow a button to be pushed that automatically signals the electronic door strike to lock all the doors. There are also buttons that allow a door to be locked/opened from a reception desk.

II. DESIGN

   A. Physical Access Control System (PACS)

   1. The requirement for inclusion and scope of physical access control systems (PACS) in each facility shall be evaluated with County Security – Department of Emergency Management and Security (DEMS) during the design phase. The County's standard access control system for all facilities (except the Fairfax County Courthouse) is Honeywell Winpak PE Software. **(County Security – DEMS needs to be consulted on PACS for the Fairfax County Courthouse, Fairfax County Adult Detention Center, and Fairfax County Juvenile Detention Center & Shelter**).

   2̶.̶ A complete, ready for operation access control system, including but not limited to electronic locks, card readers, reader boards, power supplies, and any other equipment required for the access control system, shall be identified during the planning phase. The programming of the PACS to interface with the Fairfax County's central system shall be coordinated between the installation contractor and the Security Systems Project Manager.

   3. Legacy PACS – DEMS (County Security) shall be notified on projects that have existing legacy ProWatch hardware for access control projects. Installing vendors / contractors must verify compatibility with existing headend hardware.

   4. Proximity Access Card Readers:
       All access control proximity card readers shall be HID Corporation capable of reading the standard 26-bit proximity card (open format), 125 khz (HID®), with the exception of McConnel Public Safety Transportation Operations Center (MPSTOC) which currently uses a dual technology proximity card / smart card technology. **(County Security – DEMS needs to be consulted on new card reader installations at the MPSTOC).**

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Proprietary access control system equipment, components and software are not acceptable. Installer must identify all installed components and identify all component's terminations. The installer will be responsible for ensuring that testing and verification of all installed PACS equipment and systems are completed and in coordination with the Fairfax County Security Systems Project Manager (SSPM).

5. Proximity (Access) cards will be provided by County Security – DEMS .

B. Security Equipment
1. The A/E shall coordinate with the BDCD Project Manager and the Fairfax County Security Consultant - DEMS for security requirements applicable for each project. If additional on-site monitoring is required of the security video or PACS, the request will be evaluated by the Fairfax County Security Consultant who will make the determination as to what level of security monitoring is required or needed.

2. The design shall incorporate the principals of Crime Prevention Through Environmental Design (CPTED), wherever possible.

3. Locate duress alarms /panic buttons or switches at all client-facing receptionist desks, point-of-sale locations where monies are collected, client screening areas, and executive level reception areas. The A/E shall coordinate with the BDCD Project Manager and the Fairfax County Security Consultant - DEMS to confirm all duress alarm locations. Duress alarms that are connected to the Fairfax County's PACS (WinPak) or report to the Fairfax County Security Operations Center (SOC) located in the Fairfax Government Center at 12000 Government Center Parkway, Fairfax, Virginia. Duress alarms reporting to the SOC are monitored 24/7/365 by a county security officer.

    a. Duress alarms / panic buttons or switches need to be installed in a manner that is hidden / concealed underneath a desk or counter on the right-hand side.

        1. Wall mounted duress alarms need to be approved by Fairfax County Security Consultant – DEMS.

        2. Wall mounted duress alarms need to be installed at a height, to be determined by the Fairfax County Security Consultant – DEMS and enclosed in a protective cover to prevent accidental or inadvertent activations.

    b. Duress alarms / panic buttons or switches need to be connected to the Fairfax County's PACS (WinPak) or and programmed to communicate with the Fairfax County Security Operations Center.

    c. Duress alarms / panic buttons that cannot be connected to the Fairfax County's PACS (WinPak) can be installed on the IDS system and monitored by the

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County's approved Alarm Monitoring Central Station with a reoccurring monthly monitoring fee.

C. Site Security Camera Requirements

Site security camera monitoring will be accomplished using fixed, varifocal, multi-sensor and/or Pan Tilt Zoom PTZ Video Camera Systems. Video from the camera will be routed to Network Video Recorders (NVR). The Security Video Camera System should be designed to provide remote visual surveillance of the building and grounds from a local control post within the building and from offsite locations through the Fairfax County's communications infrastructure if connected to the Fairfax County Network or an authorized cable provider. NVRs need to be secured in a location away from public viewing and access in an IT/Electrical room, office, or closet, or for larger facilities, in dedicated security closets built to IT standards. The security video camera client workstation monitors need to be out of the view of the public.

a. Site Surveillance Cameras
Fixed, varifocal, multi-sensor and PTZ cameras will be dome type cameras with either smoked or clear high impact polycarbonate lower sections and aluminum casing with hard coated dome. The cameras should not be intentionally located to be covert. No false or fake cameras are allowed. The cameras should not resemble any fire devices (such as smoke detectors) by Fire Code.

b. Network Video Recording System (NVR)
The current standard for network video recording is the ExacqVision Technologies NVRs. The-ExacqVision Technologies NVRs will accommodate **up to** 30ips per camera. The ExacqVision Technologies NVR will have a LINUX operating system. NO substitutes are accepted for the operating system.

D. Rack Mounted ExacqVision NVRs
1. IP xxU recorder with 4 IP cameras licenses (64 max). ExacqVision Enterprise server, client, web/mobile software pre-installed with 3 years software upgrades and hardware warranty. Ubuntu Linux 20.04 on SSD. HDMI, DisplayPort, VGA (3 max simultaneous), Dual NICs. Keyboard and mouse included.

** All models specifications should have preferably a minimum 60-day video retention capacity and capture 15 IPS (image per second). Depending on the quantity of cameras that are used and if continuous recording is required, a higher TB storage NVR will be necessary to capture the desired IPS requirement. **Each unit should have a UPS backup power supply with sufficient power for all hardware connected. 30 minute backup minimum.**

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NVR Capacity Example

# Cameras	Resolution	IPS (Image Per Second)	Days Stored	Total Storage
10	1080P	15	60	16.14 TB
10	1080P	30	60	32.27 TB

E. Intrusion Detection System or Burglar Alarm Systems (IDS)
The IDS will be stand-alone, not connected to the PACS or camera system, and monitored by an outside alarm monitoring service. A land line (POTS) shall be provided for communication with third party supplier.

III.   PRODUCTS

A. <u>HONEYWELL HEADEND COMPONENTS</u>

<u>**New Install**</u>:

The controllers are to be Honeywell PRO4200 Professional Series Access Modules. All Panels should be mounted to fire rated backboard. Wire Trough should be used. Utilizing the large 2'' hole on left side of the Honeywell cabinet. **Each unit should have a UPS backup power supply with sufficient power for all hardware connected. 30 minute backup minimum.**

http://www.security.honeywell.com/product-repository/pro4200

Each facility must be specified with one of the following:

Pro22ENC1	Enclosure with 4amp 12VVD power supply
Pro42PSU120	Power supply
Pro42IC	Controller Board
Pro42R2	Reader Board
Pro42OUT	Output Board
Pro42IN	Input Board
Pro22BAT1	Battery Back up
Pro22DCC	Daisy Change Cable
Pro4200IC	Controller Installation Manual

Each 4200IC controller board can manage up to 32 doors. The quantity of kits must be adjusted based on the number of applicable doors in each project.

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B. Security Cameras

The County only uses Axis, American Dynamics, and Avigilon for their security cameras. No substitute cameras are authorized unless approved by Fairfax County Security Systems Administrator / DEMS.

Device Description	Manufacturer
1. Pan Tilt Zoom Camera	Axis, American Dynamics, Avigilon
2. Fixed Dome Camera	Axis, American Dynamics, Avigilon
3. Panoramic / Multidirectional Camera	Axis, American Dynamics, Avigilon
4. Network Video Recorder	ExacqVision Technologies Linux Based
5. Video Decoder	ExacqVision Technologies
6. Video Acquisition Unit	ExacqVision Technologies
7. POE Ethernet Switch	Netgear, Cisco,(minimal PoE+)
8. System Manager	ExacqVision Technologies
9. Client Workstation	ExacqVision Technologies
10. HD Video Monitor	Min 24" Monitor
11. UPS Power Backup	APC

C. Intercoms

Aiphone -JP Series or IX Series or approved equal.

– Non-Network Based, 24V DC (Supplied by PS-2420UL), Hands-free or Push-to-talk, 7″ TFT color touchscreen LCD, Surface wall mount or desk mount using MCW-S/B

D. Duress alarms /Door Release/Lock Down switches specifications
   1. GRI GR3045 Series (Duress)
   2. RCI 909SMOW (Door Release)
   3. Honeywell Home 269R (Lock Down)

E. IDS (Intrusion Detection System)
   DMP Panels
   1. XT50DNM-G : 58 Zones, Dialer/Network, Wireless Received, 349-G Medium Gray Enclosure
   2. XR150DNL-G: 142 Zones, Dialer/Network, 350 Gray Enclosure, 50 VA Transformer

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3. XR550DNL-G: 574 ZONES, Dialer/Network, 350 Gray Enclosure, 50 VA Transformer

DMP Devices
1. 7060-W Keypad: Green LCD, shortcut keys, white
2. 7070-W Keypad: Green LCD, 4 zones, shortcut keys, white
3. 714-8 Expansion: 8PT zone expander in 340 enclosure
4. 714-16 Expansion: 16PT zone expander in 340 enclosure
5. 716 Expansion: Relay output expander module