SECTION 16720D - SECURITY ALARM SYSTEMS AND ACCESS CONTROL

A. GENERAL PROVISIONS: The Department of Public Safety is responsible for planning, installation, and operation of the University Access Control System. This is an integrated security system, incorporating access control, alarms, and audio/video surveillance together. The system is administered by the Manager of Technical Services.

B. TRADE RESPONSIBILITIES: Access Control is installed by a Term Contractor provided by the University. This includes device installation, and final connections for the Access System. The General Contractor (or appropriate sub-contractor) is responsible for providing the locking hardware as listed on the door schedule, AC power, boxes, conduit, cable trays, and wiring materials as specified. University CITS provides the necessary communication lines from the building to the system central processor.

C. PLANNING

1. Coordination: Project Managers should contact the Technical Services Manager as early as possible in the design stages. At this point the general capabilities and functions of the system can be reviewed with the design team. Technical Services can also provide standard plans for the various door configurations possible, as well as hardware suggestions. Due to the number of variables involved, alarm requirements are handled on an individual basis. As the design process progresses, Technical Services will assist in specifying the items to be provided by the general and electrical contractors. Before the project is released for bid, the Technical Services Manager will review the final drawings and specifications to ensure the building will interface properly with the Access System.

D. BUILDING PERIMETER DOOR CONFIGURATION

1. Door Types: Perimeter doors shall be set up in one of the following three configurations:
   a. Card Access: Main entrances to the building will be equipped with an electric lock controlled by a card reader. Where banks of multiple doors occur, only one door needs to be equipped with a card reader, the others may be electrically locked only (see below). Where a handicap operator is in place, that door should always be equipped with a card reader.
   b. Electrically Locked: Entrances which need to be open for normal public access, but do not need after hours access will be equipped with an electric lock, but without a card reader.
   c. No Exterior Access: Doors which are intended only as emergency exits will be configured with mechanical locking hardware only. This should be with either no exterior hardware, or with key access only from the exterior (storeroom function lock). Optionally, emergency exit doors may also be equipped with a delayed egress alarm system, tied to the building fire alarm system.

2. Door Position Monitoring: All building perimeter doors, regardless of their individual configuration, will also be equipped with a magnetic contact allowing monitoring the door
position. They will also be provided with a local signal to indicate the door has been propped open.

3. Mechanical Key Access: All doors equipped with electric locks will also be provided with a cylinder for key bypass (emergency access). Doors equipped with magnetic locks will be provided with a keyswitch bypass. Best cylinders will be used for compatibility with the University standard locking system.

4. Typical Configuration Drawings: See the typical exterior door configuration drawings for examples of each door type.

5. Control panel locations: Control panels for card access (ITN - Intelligent Transceiver Node) will be located within a maximum distance of 150’ from the card reader. They may be located up to 250’ from a controlled door. The ITNs will be located on the same floor as the door they are controlling, and will be placed in the nearest telecommunication closet. For each ITN, a 2’W x 3’H mounting space on a 3/4” plywood backboard will be provided. A 120VAC, 20A emergency power outlet will be provided in the closet for powering the ITNs and associated equipment. See the typical control configuration drawings.

E. INTERIOR DOORS

1. General: Interior doors may be configured for card access, as well as alarms. Due to the wide range of configurations possible, especially for alarm systems, each location must be addressed individually with the Technical Services Unit.

2. Card Access: Options for interior access control include the usage of electrically locked doors and card reader, as installed on the perimeter doors. Additionally, keypads may be used, either separately or in conjunction with card readers.

3. Alarm Systems: Alarm systems include both intrusion protection as well as hold-up and panic alarms. Intrusion systems may be controlled from dedicated keypads, or by card reader/keypad combinations.

4. Specialized Systems: Special purpose systems may also be installed as required. An example might be an audio duress system combined with video surveillance in parking garage stairwells.

F. DOOR HARDWARE

1. General: Specific types of door hardware are recommended for use with the access system, in the interests of both performance and maintainability. Manufacturer’s names and model numbers are listed for reference only. The University standards for door locking hardware should also be consulted.

2. Fire and Panic Hardware: Doors requiring fire or panic hardware should be provided with VonDuprin E99 series hardware in either mortise or rim locking versions, configured for
Fail Secure operation, and with the RX (Request to Exit) option. The use of vertical rod locking versions may be required in some interior applications, but is discouraged due to long term maintenance problems. The use of E series (electric outside trim) as opposed to EL series (electric latch retraction) is required for fire rated doors, and strongly encouraged for other doors. The EL series is normally used only on doors equipped with a handicap operator, which requires the latch to be retracted. If an El series lock is used, the door hardware schedule must include the appropriate power supply, VonDuprin MPB-842, located within 50’ of the door. Supply to be located in electrical or telephone closet where available, or may be located in an accessible location above the finished ceiling if necessary. Supply must be fed from emergency power source. No supply need be provided for E series locks, as power will be provided from the access control system. Sample specifications; VonDuPrin RX-E9975-FSE.

3. Emergency Exit Only: Doors that are intended for emergency exit use only, and an alarm function is needed, should be provided with VonDuprin CX99 series hardware. Provision must be made to interface the door control with the building fire alarm system in accordance with NFPA-101. This is normally accomplished with a Simplex control ZAM located at the lock power supply. If no delayed egress or alarm function is needed, then the standard exit hardware set for the building may be used, with no exterior hardware on the door.

4. Interior Mortise Locks: Interior doors requiring standard mortise locks should be provided with Arrow, VonDuprin, Russwin, Corbin, or Best hardware. Electric strikes will not be used due to both poor security and reliability.

5. Power Transfer: Wiring to electric locks is by either power transfer (VonDuprin EPT-218 or equivalent) or by electric hinge, as appropriate. The use of a power transfer is preferred, due to greater ease of service in the event repair is required. Electric hinges may be used where retrofitting to an existing frame, or for interior wood doors.

6. Magnetic Locks: Magnetic locks may be used in special circumstances, as approved by the Technical Services Manager. This will require interfacing the Access system with the building Fire Alarm for emergency door release (Simplex control ZAM or equivalent). The standard magnetic lock is a VonDuprin DS4010HFSL. The use of magnetic locks also requires that a means of releasing the lock from the interior be provided. This may be either a card reader, touch bar, or motion detector. A key bypass switch must be provided for emergency bypass of the lock. The switch will be a VonDuprin SS-901-ISL-MAIN or equivalent, and must accept a University standard Best cylinder.

G. SPARE PARTS: Spare parts will be provided for all electrical components of the system, in a quantity of 2% of the total devices. A minimum of one spare device and a maximum of ten spare devices of each type will be supplied.