



ATLANTA  
PUBLIC  
SCHOOLS

Making A Difference

FACILITIES SERVICES  
1631 LAFRANCE STREET  
ATLANTA, GEORGIA 30307

JERE J. SMITH III, AIA  
DIRECTOR OF CAPITAL IMPROVEMENTS  
(404) 802-3736  
FAX (404) 802-3897  
[jersmith@atlanta.k12.ga.us](mailto:jersmith@atlanta.k12.ga.us)

**BULLETIN  
TO  
DESIGN AND CONSTRUCTION PROFESSIONALS**

**Date:** July 1, 2017  
**Bulletin:** 0004 – 2017  
**Section:** 28 13 00 – Access Control System  
**Re:** APS Design Guidelines and Standard Specifications Update

---

- Item 1:** This is a clarification, change or addition to the existing Atlanta Public Schools (APS) Design Guidelines and Standard Specifications dated December 1, 2010 and any previous Bulletins.
- Item 2:** This set of requirements and specifications should be implemented IMMEDIATELY on all projects that are in the "Construction Document" phase of the project delivery process. On projects where the "Construction" has begun, these requirements and specifications should be implemented IMMEDIATELY, WHERE PRACTICAL as to not adversely impact the schedule, budget or overall delivery of the project.
- Item 3:** The existing APS Standard Specification Section 28 13 00 Access Control System should be replaced in entirety by the attached updated version (dated May 8, 2017, 18 pages).



---

Jere J. Smith III, AIA  
Director of Capital Improvements



ATLANTA  
PUBLIC  
SCHOOLS

**Making A Difference**

**Facilities and Construction**

1631 La France Street NE  
Atlanta, Georgia 30309  
(404) 802-3700

**Access Control Specifications**

May 8, 2017

Reviewed By:

Charles Johnson, APS Building Systems Programmer

5/11/17  
Date

Approved By:

Ralph Velez, Director of Security

5/11/17  
Date

### Access Control Specification Changes:

- Remove Aiphone Door Stations and replace with Axis Communications A8105-E Network Video Door Station
- Remove Aiphone master station and replace with Cisco CP8865 Video Phone
- Remove Freezer/ Cooler monitoring probes

## **1.0 CURRENT SITUATION**

The Atlanta Public Schools district uses Lenel Onguard hardware and software for monitoring 1700 keyless access doors at 100 sites. Currently there are four (4) vendors included among the vendor pool for access control systems services.

## **2.0 SCOPE OF WORK**

The SOW includes the provisioning and installation and final commissioning of a Lenel Access Control System. This shall encompass compatibility in operation, design, functionality, and manufacturer specification. The vendor shall be responsible for the purchase and installation of all hardware, software, licenses, peripherals, accessories, and materials as outlined in these specifications and as required to maintain, upgrade, replace, and/or install Lenel Access Control Equipment throughout the district. When required, the vendor shall be able to integrate the CCTV, Fire, and Burg systems into the Lenel Control panel and/or monitoring software. The current network is critical to the security and operations of the district. The network currently includes the components listed below. This information is provided for informational purposes only:

- ❖ Lenel Door Readers: LNL 1300 and LNL 1320 totaling approximately 1650 units;
- ❖ Freezer/Cooler Monitoring Probes-approximately 120;
- ❖ Aiphones-Approximately 110;
- ❖ Lantronix External/Embedded Device-Approximately 120.

## **3.0 VENDOR GENERAL REQUIREMENTS**

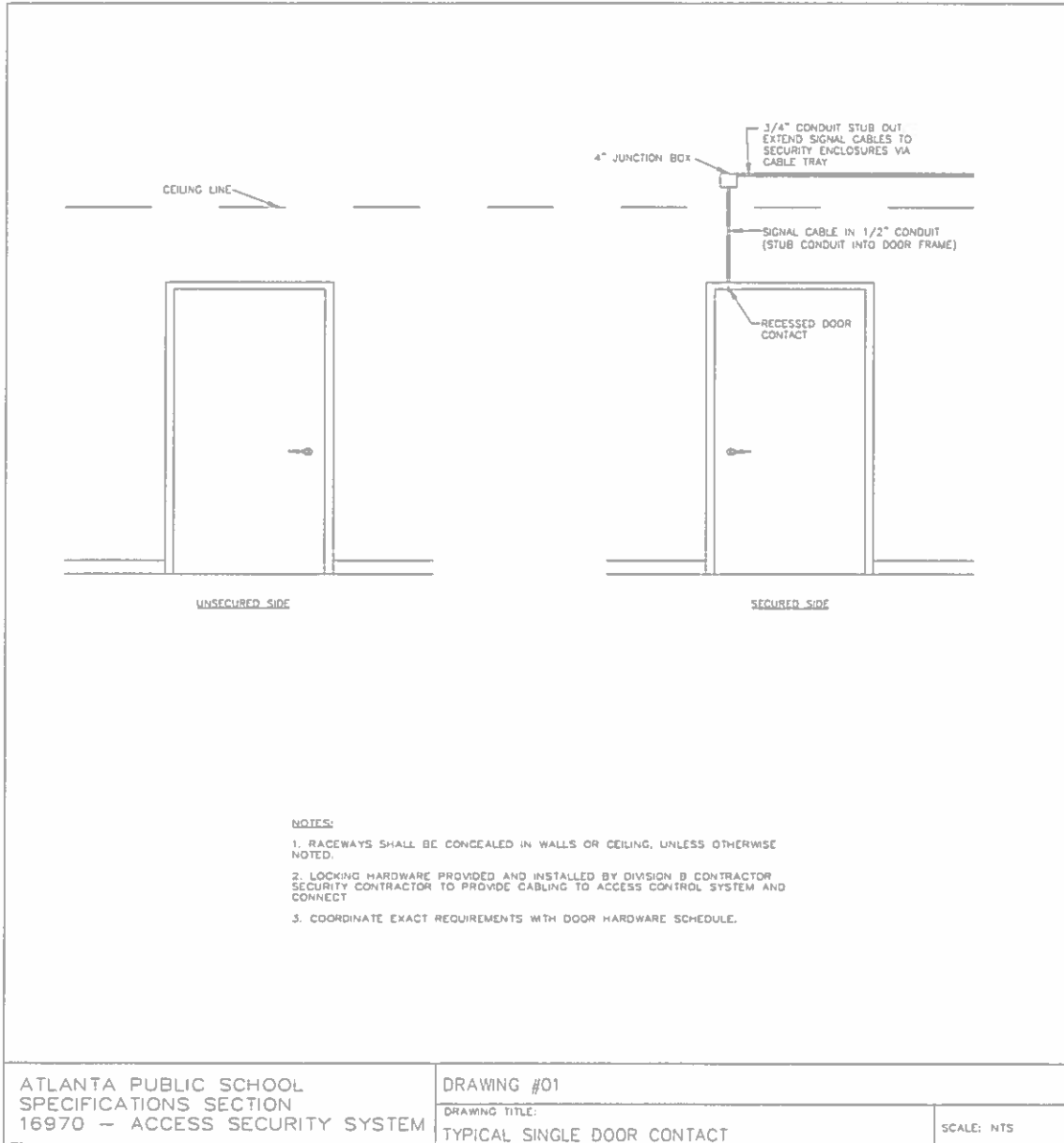
### **3.1 Purchase & Install**

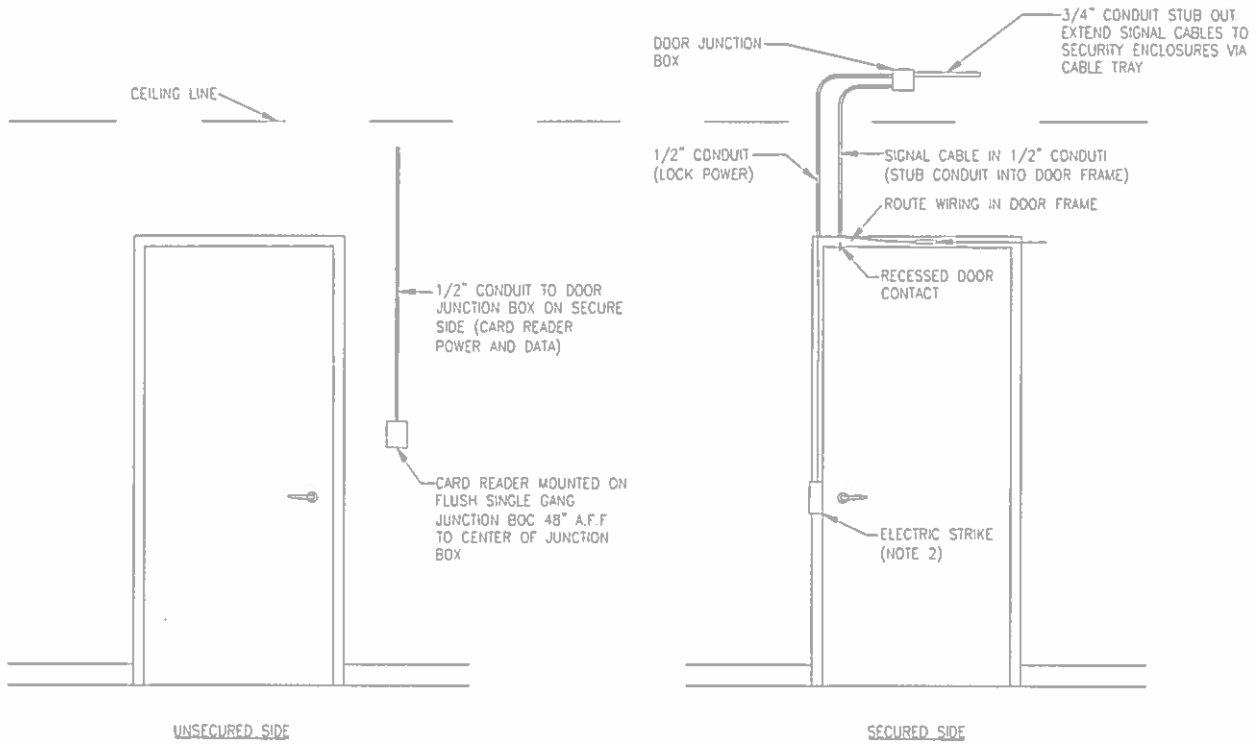
The Vendor shall purchase and install all hardware as outlined herein for the access control system and must ensure proper operation for a period of two years from the final acceptance of the system by the owner. Individual pieces of equipment may carry a longer warranty than two years; and should be so designated at final acceptance. All Hardware shall include material, mounting, peripherals and installation for the following:

- 3.2 Door Strikes
- 3.3 Cabling
- 3.4 Badge Readers
- 3.5 Access Panels
- 3.6 REX Devices
- 3.7 Network Communication Devices

**Equipment Specifications**

3.8 The Access Control Panel (ACP) will be connected to the designated doors using the set-up in the following diagrams (1 thru 7). The diagrams outlines the most common hardware configurations. The unit will be connected to the host database utilizing the APS internal network.





**NOTES:**

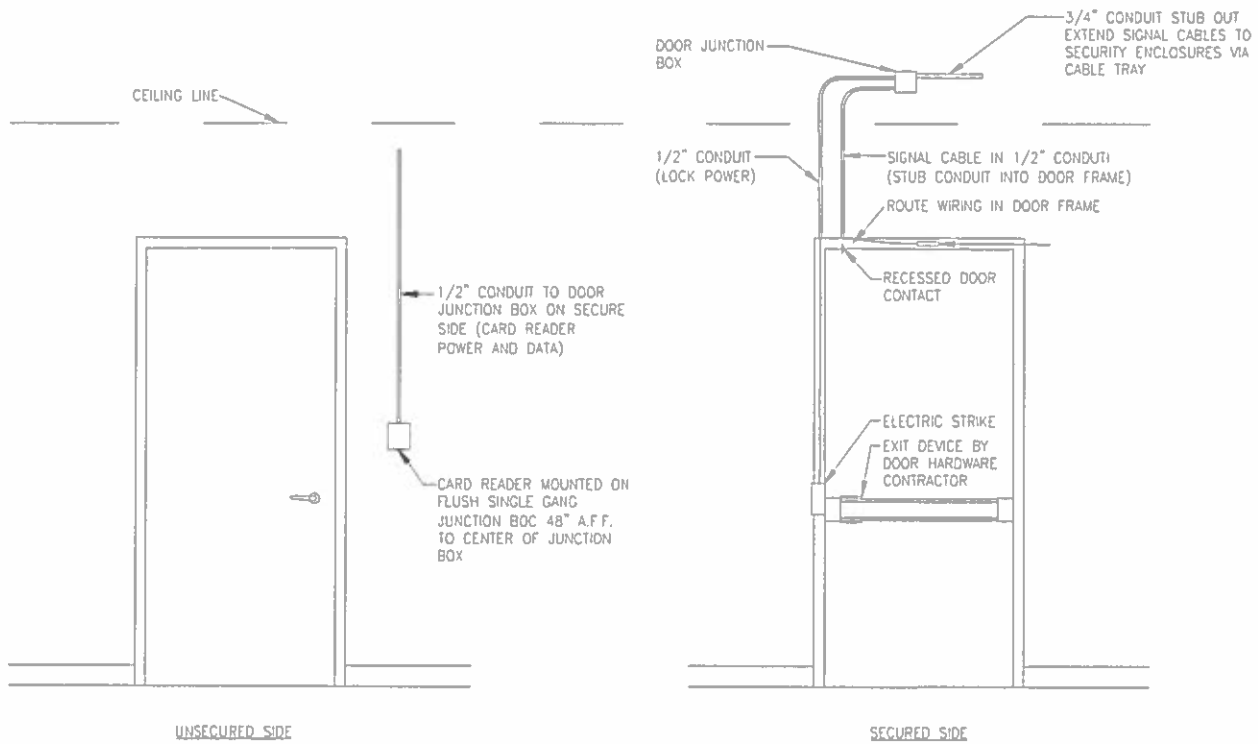
1. RACEWAYS SHALL BE CONCEALED IN WALLS OR CEILING, UNLESS OTHERWISE NOTED.
2. LOCKING HARDWARE PROVIDED AND INSTALLED BY DIVISION B CONTRACTOR. SECURITY CONTRACTOR TO PROVIDE CABLING TO ACCESS CONTROL SYSTEM AND CONNECT.
3. COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.

ATLANTA PUBLIC SCHOOL  
 SPECIFICATIONS SECTION  
 16970 - ACCESS SECURITY SYSTEM

DRAWING #02

DRAWING TITLE TYP. ACCESS CONTROLLED SINGLE  
 DOOR WITH ELECTRIC STRIKE

SCALE: NTS



**NOTES:**

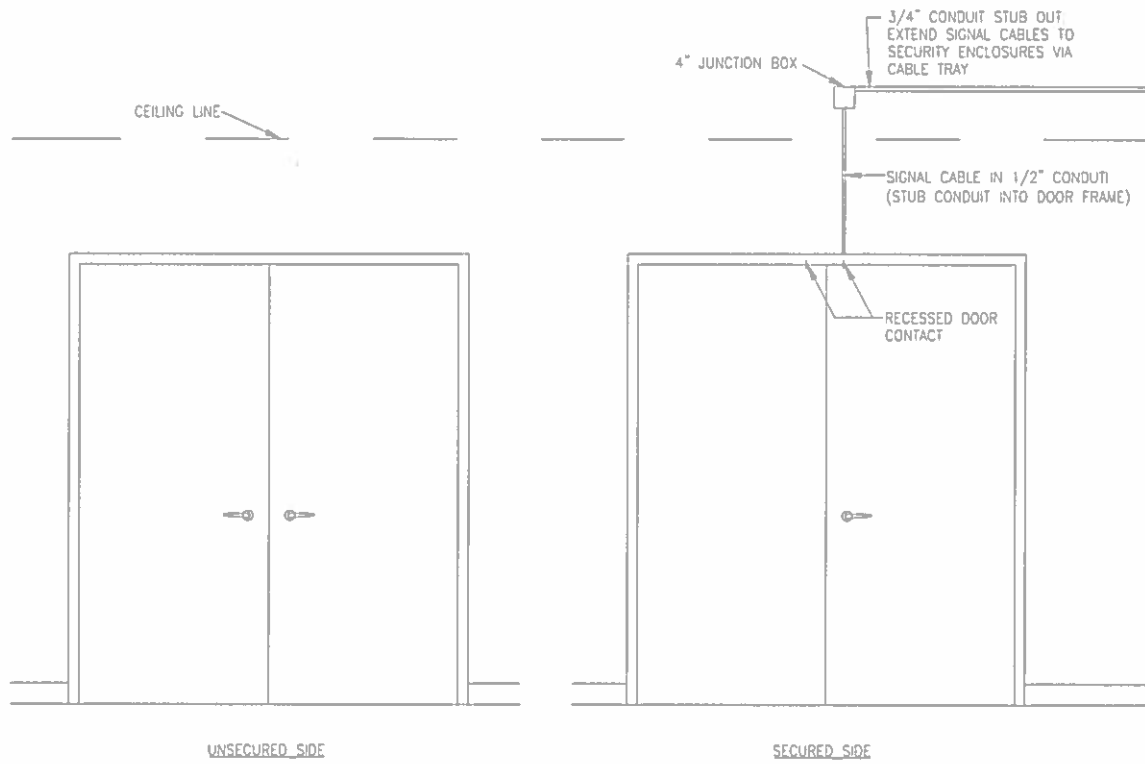
1. RACEWAYS SHALL BE CONCEALED IN WALLS OR CEILING, UNLESS OTHERWISE NOTED.
2. LOCKING HARDWARE PROVIDED AND INSTALLED BY DIVISION B CONTRACTOR. SECURITY CONTRACTOR TO PROVIDE CABLING TO ACCESS CONTROL SYSTEM AND CONNECT
3. COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.

ATLANTA PUBLIC SCHOOL  
SPECIFICATIONS SECTION  
16970 - ACCESS SECURITY SYSTEM

DRAWING #03

DRAWING TITLE: TYP. SINGLE DOOR WITH ELECTRIC STRIKE & EXIT DEVICE

SCALE: NTS



**NOTES:**

1. RACEWAYS SHALL BE CONCEALED IN WALLS OR CEILING, UNLESS OTHERWISE NOTED.
2. LOCKING HARDWARE PROVIDED AND INSTALLED BY DIVISION B CONTRACTOR. SECURITY CONTRACTOR TO PROVIDE CABLING TO ACCESS CONTROL SYSTEM AND CONNECT.
3. COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.

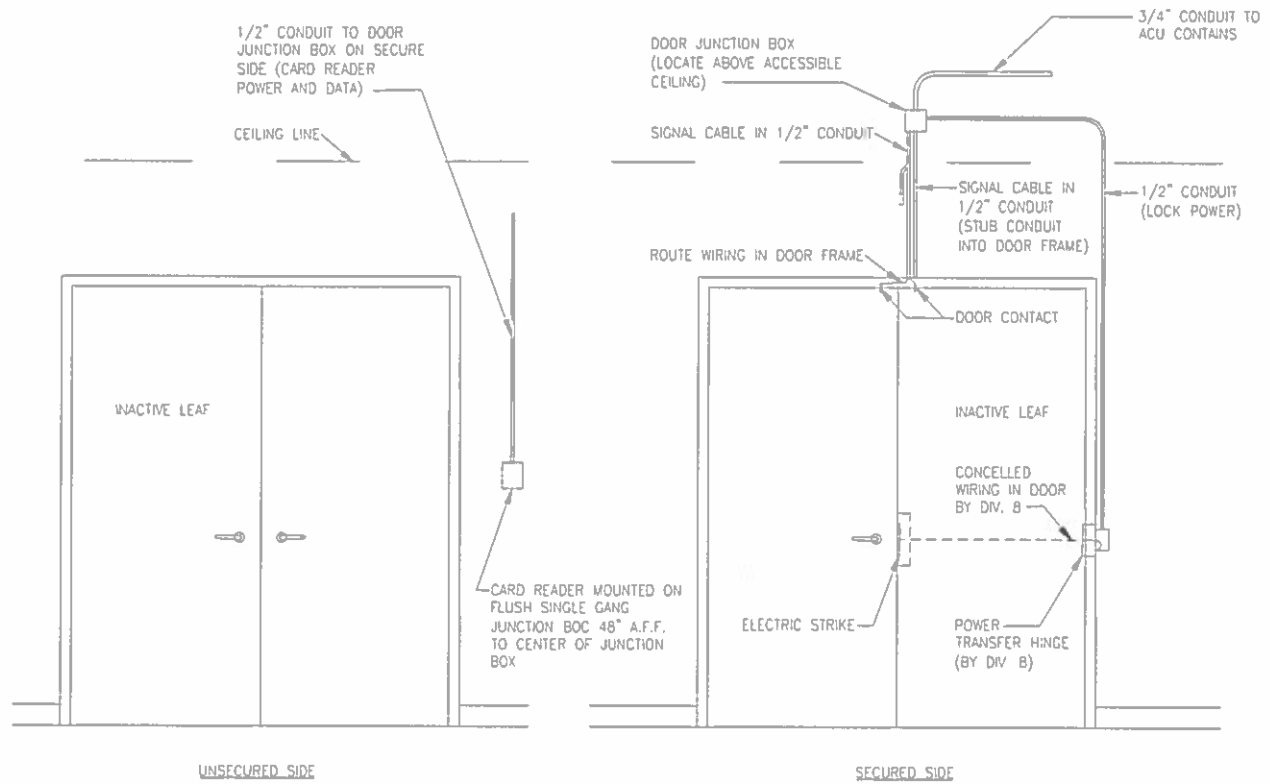
ATLANTA PUBLIC SCHOOL  
 SPECIFICATIONS SECTION  
 16970 - ACCESS SECURITY SYSTEM

DRAWING #04

DRAWING TITLE:  
 TYPICAL DOUBLE DOOR CONTACT

SCALE: 3/8"=1'-0"





**NOTES:**

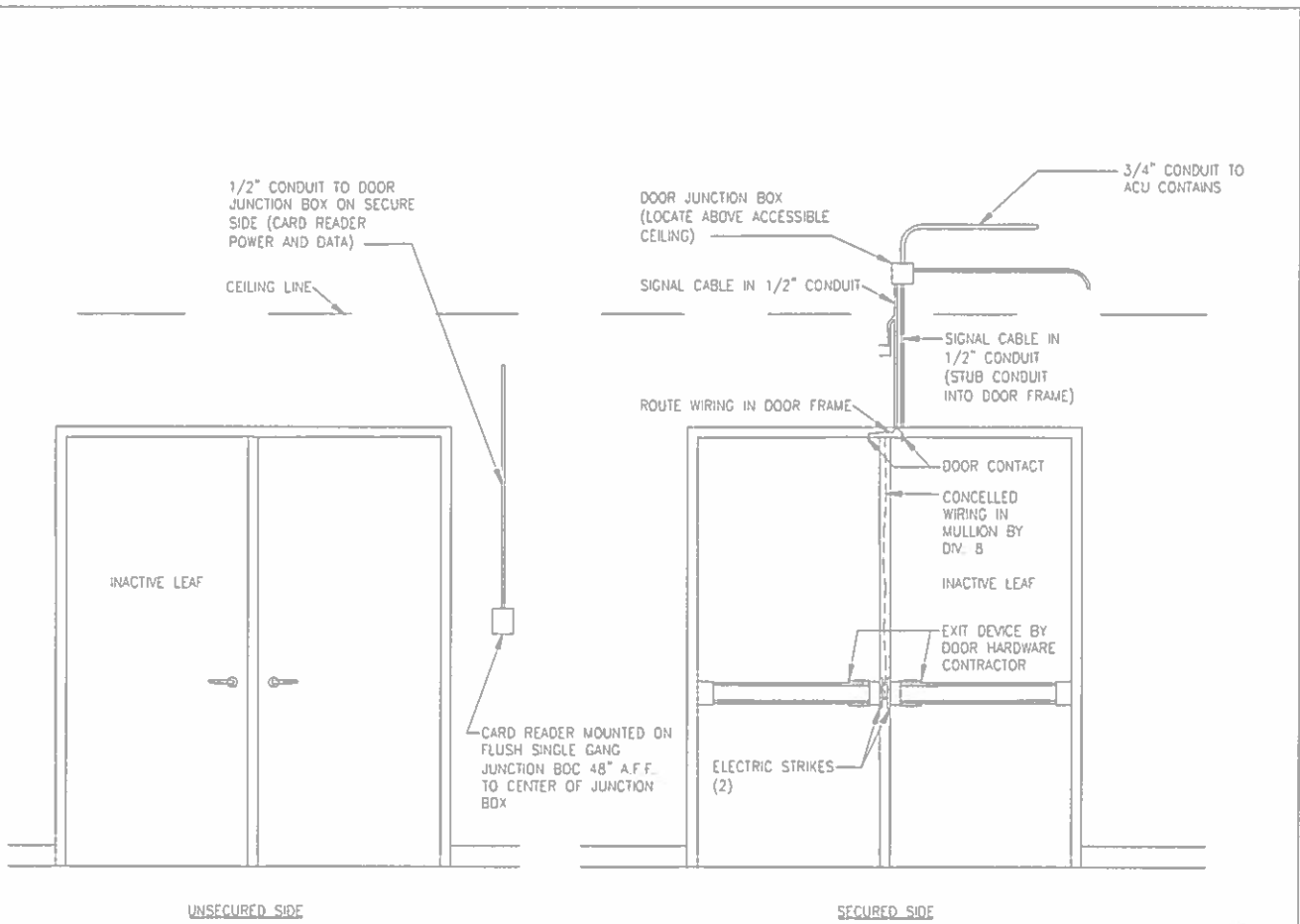
1. RACEWAYS SHALL BE CONCEALED IN WALLS OR CEILING, UNLESS OTHERWISE NOTED.
2. LOCKING HARDWARE PROVIDED AND INSTALLED BY DIVISION B CONTRACTOR. SECURITY CONTRACTOR TO PROVIDE CABLING TO ACCESS CONTROL SYSTEM AND CONNECT.
3. COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.

ATLANTA PUBLIC SCHOOL  
 SPECIFICATIONS SECTION  
 16970 - ACCESS SECURITY SYSTEM

DRAWING #05

DRAWING TITLE:  
 TYPICAL DOUBLE DOORS WITH ELECTRIC STRIKE

SCALE: NTS



**NOTES:**

1. RACEWAYS SHALL BE CONCEALED IN WALLS OR CEILING, UNLESS OTHERWISE NOTED.
2. LOCKING HARDWARE PROVIDED AND INSTALLED BY DIVISION 8 CONTRACTOR SECURITY CONTRACTOR TO PROVIDE CABLING TO ACCESS CONTROL SYSTEM AND CONNECT.
3. COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SCHEDULE.

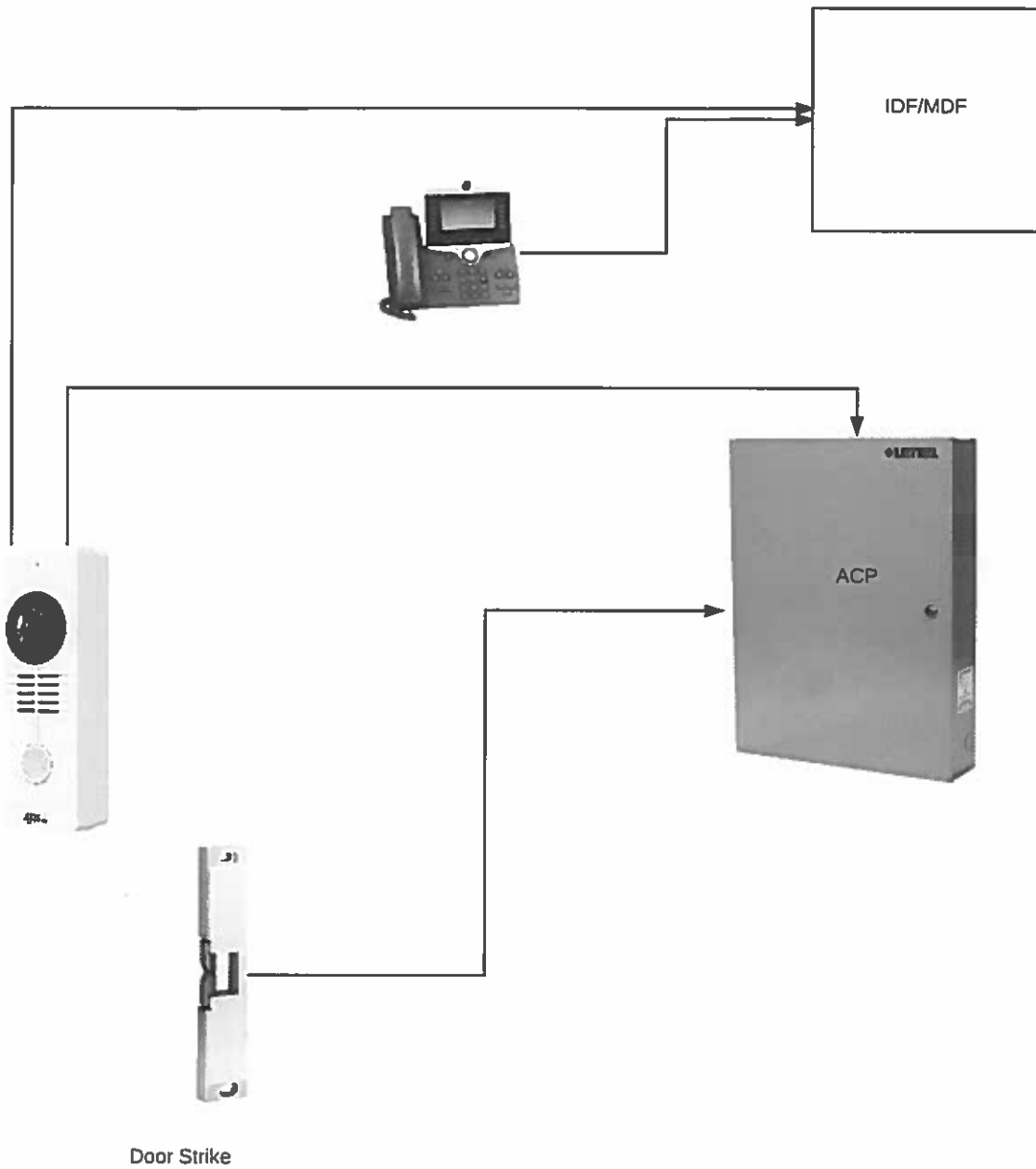
ATLANTA PUBLIC SCHOOL  
 SPECIFICATIONS SECTION  
 16970 - ACCESS SECURITY SYSTEM

DRAWING #06

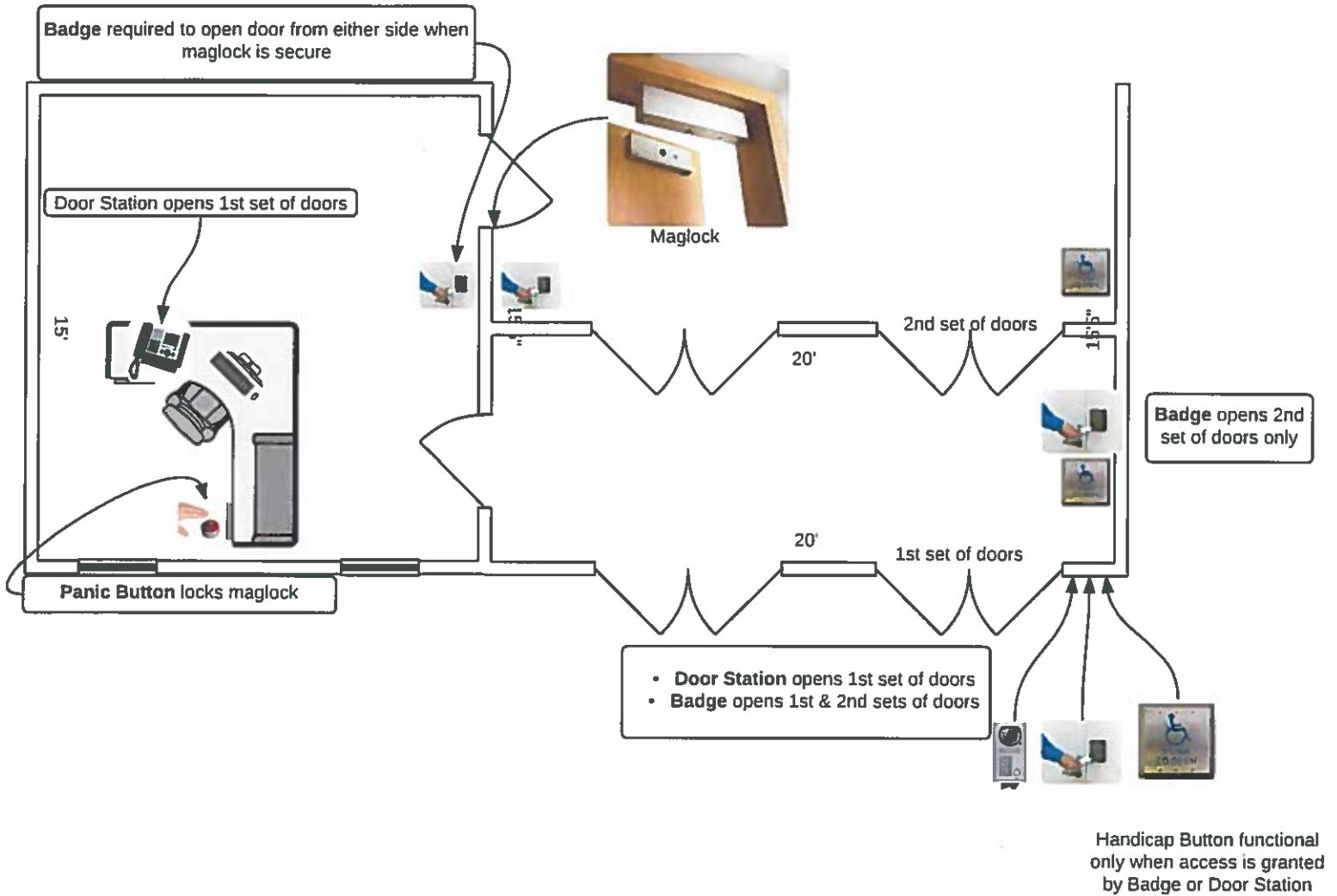
DRAWING TITLE: TYPICAL DOUBLE DOORS WITH  
 ELECTRIC STRIKE & EXIT DEVICES

SCALE: NTS

# Door Station



# Safe Vestibule



3.9 The proximity card reader is connected to the ACP and is mounted on the entry side of the door 18" from the frame (where applicable) and 48" AFF. The proximity card reader is mounted to a single gang box fed by concealed conduit 9or for renovation work, an exposed conduit or metal wire molding on the secure side of the wall. Either must be secured to the wall using screws. Tape of any kind is unacceptable.

3.10 The Electric Strike is connected directly to the ACP that controls access by unlatching the electric strike upon valid card read. The electric strike is 24DVDC power that is directly provided by the lock hardware power supply. If the ACP panel is an excessive distance from the Electric Strike a supplementary power supply powered by a 120 volt power source may be required. The wiring for the electric strike shall concealed in conduit to the door frame.

3.11 The door exit hardware will operate normally to provide unencumbered exiting from the building. A motion detector connected to the ACP will be provided above each doorway on the secure side of the opening to provide a "Request to Exit" signal back to the ACP. This will prevent an alarm condition upon opening the door from the inside of the building without a card key request for access.

3.12 The main entrance "handicap accessible door" shall have an automated door opener installed that works in conjunction with both keyless access and remote entry phone systems. The placement of the handicap reader and remote entry phones shall be in a location that will not conflict with the operation of the door and any handicap equipment that may be in use. When the door is under the control of the keyless access system, the handicap button shall be disabled. Once a valid card read or signal is sent by the remote entry phone, the button will be activated allowing the person to press and activate the automatic opener.

3.13 A door position sensor shall be mounted in the door header of each door located within the same frame and will signal a door (open/closed) position back to the ACP panel. If a door is opened without a card reader signal or a "request exit" signal, an alarm condition will occur. If the ACP has received a valid card read or request to exist and the door is held open longer than the programmed time period, an alarm condition will occur.

3.14 A 105 db piezo sounder will be placed at each door having keyless entry. This sounder will work in conjunction with the door contact and Onguard monitoring whereas during the alarm condition, this sounder will be active. Once the door is closed, the sounder will reset.

3.15 Axis Door Station - The Axis A8105-E consists of a door station with an addressable IP video camera. A call from the door station is received at the Cisco CP-8865-K9 where the monitor has video and audio communication with the door station to verify the identity of the caller. The monitor pushes a door release button on the Cisco phone that connects to the ACP causing the electric strike at the entry door to be activated.

3.16 At times, dual operation points may be required for a single Axis Door Station. The vendor will be responsible for addressing the IP camera with provide IP address and coordinating SIP integration with APS Technology.

3.17 Quality Assurance-Installation of the access control shall be under the direct supervision of an APS representative who is Lenel factory certified and has at least two years related experience installing security or door access systems.

3.18 Quality Assurance-Work shall not commence until the selected vendor's Lenel installer has coordinated a walkthrough with the APS Security Integrator..

3.19 A final walk thru, with the vendor will be performed by the APS Security Integrator prior to billing. In addition to contract deliverables, the vendor is responsible for cleanup, proper cable management and dressing, structural repairs that occurred due to negligence; paint touch-ups, and all deficiencies caused during installation.

3.20 All work will be photographed. The signoff sheet and photographs must be attached to deliverables. Other deliverables shall include the following:

- a. Schematic drawing of door names, numbers, or zones;
- b. Licenses;
- c. Badges.
- d. Programming Schedule

3.21 Warranty-The vendor must warrant for two years (24 months) all parts, labor, material, equipment and such required to maintain 100% functionality of the system. This shall include, but is not limited to Readers, door hardware, strikes, door stations, Lantronix control panels and all other equipment listed in the RFQ.

3.22 Response Time- The vendor is obligated, under this solicitation to provide a four (4) hour response during the standard operations. This shall include the following minimum guidelines:

- a. Vendor must respond and acknowledge receipt of request within two hours. All request made between 7:00 a.m. and 3:00 p.m. must be acknowledged the same day.
- b. Vendor must be able to dispatch a Technician to the affected site within four hours of sending acknowledgement to APS.

3.23 Liability-Vendor must assume full and complete responsibility for warranty repairs and/or replacement; and assumes all liability and expenses associated if APS must send another vendor to complete the job.

3.24 Replacement-Under no circumstances shall a vendor remove a malfunctioning unit of hardware without an immediate like-for-like replacement.

3.24.1 Vendors must maintain adequate hardware inventory to replace, repair and/or maintain each system at the time dispatched

2.24.1 Vendor must be prepared to provide an immediate replacement for defective equipment, to include hardware covered under the manufacturer's warranty

3.25 Access Control- The contractor shall provide Lenel software reader licensing for doors required to integrate the system to the parent server. The number of Lenel software reader licenses shall be provided by the owner on an as needed basis. All software, equipment, controls and devices shall work directly with the existing operating systems.

3.26 If integration of the Fire and Burglar alarms is called for by the Owner, then the contractor shall provide licensing and integrate the connections of the Notifier (or other approved compatible) fire alarm systems and Radionics D9412V4 burglar alarm systems (Part No. SWG1250). Integration of these systems shall be done down to component level detail.

3.27 For new installations at new or renovated construction sites, the contractor shall provide HID Model 1386 cards based on directions by the owner (minimum 200). The vendor must be able to supply cards for purchase by APS on an as needed basis.

3.28 Reader Access Control Panel: The ACP shall have the following features:

- a. The ability to process valid card entries and unlock the ability to unlock the doors within 1.5 seconds when all locations are attempted simultaneously.
- b. The ACP shall include a microprocessor controlled by solid state electronic devices, incorporating a real time clock/calendar on board.
- c. The ACP shall be compliant with U1294, U11950 and UL1076. A set of the ACP's database sufficient to support access and alarm functions for its designated readers and points shall be stored at the ACP.
- d. In the event of communication loss, the ACP shall continue to function without degradation of operation and will provide storage of at least 1000 (expandable) transactions. These stored events will be uploaded to the CPU automatically upon restoration of the communication.
- e. The ACP shall include, as standard, at least 8 hours of battery backup for the ACP. The ACP shall include internal battery backup to maintain controller database, program, time and date during power loss.
- f. The ACP currently allows and shall allow (through software download) the user to choose whether the alarms are supervised or non-supervised.
- g. All field wire terminations shall be on removable terminal strips.
- h. The ACP shall have direct-connect, on-board, built in RS232 programming port. No external interface module will be required. RS232 connection to the panel will be through removal terminal strip.
- i. The ACP shall be manufactured by Lenel Systems International, Model #LNL-3300, 2220, or 22000 only.

3.29 All new installations and all future upgrades to the panel must have the ability to add the following boards to the systems:

- a. Alarm Expander Board- Additional inputs shall be available through the use of expansion boards mounted in the ACP enclosure. Each expansion board shall have minimum of 16 supervised inputs. Up to 3 expansion boards shall be available for the ACP. The relay expander board shall be model LNL-1100.
- b. Relay Expander Board-Additional outputs shall be available through the use of expansion boards mounted in the ACP enclosure. Each expansion board shall have minimum of 16 form "C" relay outputs up to 3 expansion boards shall be available for the ACP. The relay expander board shall be model LNL-1200.

3.30 RS232 to LAN Interface- A micro serial server unit shall be provided for ACP network connectivity. One embedded unit is standard for each ACP. The manufacturer shall be Lenel LNL-ETHLAN. And must utilize manufacturer supplied RS-232 to Ethernet cable. Custom made cables will not be approved.

3.31 Proximity Readers shall include the following:

- a. OmniProx, Model OMNI-90 and manufactured by Northern Computers, Inc.;
- b. Vandal resistant, metallic with hidden mounting screws, 4.5" x 3.15" x .59";
- c. The materials shall be composed of a stainless steel;
- d. The reader shall omit an ADA compliant audio tone as well as have an LED indicator.

3.32 Door contact shall include the following:

- a. Manufacturer: Sentrol Model 1078-C;
- b. The contact shall be of rugged construction a 1" diameter and specifically designed for use in steel doors;
- c. The contact shall feature wire leads; self locking mounting and be designed for recessed installation.

### 3.33 Sounder

- a. The sounder should connect in conjunction with the door to sound if the door is held open or forced open. The sounder should sound until the door is closed back to the closed position.
- b. The sounder shall fit in a single fit in a single gang box and produce a steady piezo tone.
- c. The sounder shall produce 105dB at 24VDC.
- d. Manufacturer: ATW security Model SGST-W.

### 3.34 Locking Hardware

- a. The locking hardware will be 24VDC fail secure strikes;
- b. Strikes will be the only device permitted on the exterior of the building. No exceptions will be made.
- c. Magnetic locks may be used on a per incident basis and must be approved in writing by an APS representative. If used, there must be a time delay push button release that removes power to the lock locally to release the door in the event of a system failure. If code states a connection to the fire alarm system is necessary, it is the contractors responsibility to insure that this takes place. This type lock shall be 24VDC as well.

### 3.35 Axis

Manufacturer: Axis A8105-E

### 3.36 Plenum 485 cable:

- a. The cable must be rated for plenum return ceilings. Multi-conductor, 4 conductors, 18 AWG, stranded (7 x 16) BC- Bare copper conductors, FA-Flamarrest insulation, Unshielded, FA-Flamarrest jacket. Applicable Specifications: UL type CMP, CEC type CMP. Flame resistant: UL 910 Steiner Tunnel, New Generation, Unshielded Plenum Multi Conductor. Two pair and each are shielded.
- b. Manufacturer: Belden #82723.

### 3.37 Plenum 18-6 Reader Cable:

- a. The cable must be rated for plenum return ceilings. The cable shall be multi-conductors, 18 AWG, stranded (7x26) BC-Bare Copper conductors, FA, Flamarrest insulation, polypropylene separator tape, Aluminum Foil-Polyester Tape (Beldfoil) shield (foil side out) with a 20 AWG drain wire, 100% shield coverage, FA-Flamarrest jacket. Applicable Specifications: UL CMP, CSA C (UL) CMP. Flame Reistant: UL 910 Steiner Tunnel, CSA FT6. New Generation. Overall Shielded Plenum Multi-Conductor.
- b. Manufacturer-Belden #6304FE or Equivalent.

### 3.38 Plenum 18-4 Lock/Sounder:

- a. The cable must be rated for plenum return ceilings. Multi-conductor, 4 conductors, 18 AWG, stranded (7x26) BC-bare Copper conductors, FA-Flamarrest insulation, Unshielded, FA-Flamarrest jacket. Applicable Specification: UL Type CMP, C (UL) CMP. Flame Resistance: UL 910 Steiner Tunnel. New Generation. Commercial audio cables. Unshielded plenum multi-conductor.
- b. Manufacturer: Belden #6302UE or Equivalent.

### 3.39 Plenum 22-4 Motion cable:

- a. The cable must be rated for plenum return ceilings. Multi-Conductor, 4 conductors, 22 AWG, stranded (7x 24) BC-bare Copper conductors, FA-Flamarrest insulation, Unshielded, FA Flamarrest Jacket. Applicable Specifications: UL 910 Steiner Tunnel, net generation and unshielded Plenum Multi-Conductor.
- b. Manufacturer: Belden #630sUE or Equivalent.



#### 3.40 Plenum 20-2 Contact Cable:

- a. The cable must be rated for plenum return ceilings. 2 conductors, 20 AWG, stranded (7x28) BC-Bare Copper Conductors, FA-Flamarrest insulation, Unshielded, FA-Flamarrest Jacket. Applicable Specifications: UL Type CMP, CEC Type CMP. Flame Resistance: UL 910 Steiner Tunnel. Net generation. Unshielded plenum Multi Conductor.
- b. Manufacturer: Belden #6400UE or Equivalent.

#### 3.41 Category 5-4 pair Plenum Cable:

- a. The cable must be rated for plenum return ceilings. The cable shall be paired, 4 pairs, 24 AWG, Solid BC- Bare Copper conductors, FEP-Flourinated Ethylene Propylene insulation, unshielded, flexible Flamarrest jacket with nylon ripcord. The jacket should be sequentially marked at two-foot intervals. The cable shall have a flame rating and test: UL CMP, UL 910 (UL) CMP, CSA FT6. The cable shall be UTP 9unshielded twisted pair).
- b. Manufacturer: Belden #1585A or Equivalent.

#### 3.42 Power Supply Equipment:

- a. Mounted in a NEMA 1 hinged enclosure with power indicator integral with door.
- b. Rated at 1.2 times the current draw for devices served. Coordinate with Division 8 electrical vendor for electrical power requirements.
- c. Individually fused outputs to each locking device.
- d. Input for connection to UL listed fire alarm panel output, which upon initiation shall disconnect power to the lock outputs.
- e. Sufficient battery back-up to power devices connected for 30 minutes in the event of primary failure.
- f. UL Class 2 rated outputs.
- g. Manufacturer: Securitron BPS 24-6: for locking hardware and sounders and Altronix AL400ULXB for Lenel head end, readers and REX motions.

#### 3.43 Battery Back-up:

- a. Standby batteries with charger shall power microprocessor-based units, controllers and control panels and detectors in the event of a primary power failure.
- b. Batteries shall be sized to provide 105% capacity for the same time interval as the batteries in the security control Console.
- c. Stand by batteries shall be sealed lead-calcium. Lead acid or nickel cadmium.
- d. Power supplies shall be solid state.
- e. Controls shall be designed to maintain full battery charge when primary power is available.
- f. Batteries shall be recharged to 85% of capacity within 24 hours from battery use.
- g. Micro-processor-based units, controllers and control panels upon loss of primary power and returned to primary power upon restoration.
- h. Alarms shall not be initiated during switchover.
- i. An Alarm shall be initiated upon failure of battery and or primary power.

#### 3.44 Miscellaneous Equipment:

- a. Custom control panels: Aluminum backed plastic laminate engraving stock, engraved and filled anodized plated or anodized photo- sensitized aluminum plates. Minimum plate thickness shall be 0.125".
- b. Lock key-lock switches; Locks and key-lock operated switches shall be UL listed, round key type with 3 dual, 1 mushroom and 3 plain tumblers or have a pick resistance equal to a lock having a combination of 5 cylinders pins and 5 point 3 position side bars in the same lock.
- c. Relays: light duty relays and switching devices shall be solid state type or hermetically sealed electro-mechanical type.
- d. Time delay relays: release type with minimum adjustable range of 2 to 120 seconds.

- e. Enunciator lamps/LED: Visual enunciators shall be electric lamps or light emitting diodes (LEDs) unless otherwise specified herein.
- f. Fire/Life safety interface for perimeter locks, stair tower locks and locks which are installed on required exist doors which empty into exit corridors, vestibules, stairwells or building exits.
- g. Locks shall be power, dual fail safe type and state fire marshal approved.

#### 3.45 General Execution (Installation)

- a. ACP shall be mounted on a ¾' painted plywood backboard.
- b. ACP and associated components shall be mounted in a Hoffman or West Penn enclosure only.
- c. ACP Board will not be mounted to the door of the enclosure under any circumstances. Provide a second enclosure, if needed.
- d. Piggy backing of ACP boards is unacceptable. (I.e. No more than one board per standoff).
- e. Wire all devices following manufactures specifications. No Wired shall be visible below the ceiling or next floor up if room is unfinished. Free run at deck level is acceptable but must be properly secured and neat.
- f. Wire management devices such as Panduit finger type duct or equivalent and must be used within the enclosure to provide a neat and presentable installation.
- g. All wires will be labeled to identify the location of the device.
- h. Documentation shall be placed in each enclosure showing placement and identification of each filed device.
- i. Burden the responsibility for the delivery of a turnkey system that may require coordination with door hardware contractors to achieve a functional system.

#### 3.46 Programming

- a. With each move, add or change the vendor must provide a complete loading schedule to the district. Failure to complete the loading schedule properly will delay the programming, testing and signoff of the project.
- b. The district project management team will program all points in the loading schedule.
- c. Upon completion of programming, a date will be scheduled for APS to meet the vendor on site and perform a sign-off walk-thru.

#### 3.47 Graphics

- a. Develop graphic maps that detail the facility and email said map to APS for import into Lenel. At this point, APS will place the necessary icons on the map as needed.
- b. Utilize AutoCAD architectural floor plans that show walls, doors, windows, room names and room numbers.

#### 3.48 Keys

- a. Permanently identify all equipment keys with metal tags.
- b. Turn over keys along with manufacturer's certificate stating the quantity of each key made to the owner and obtain a signed receipt acknowledging receipt of same.

#### 3.49 Miscellaneous Equipment

- a. Door Station -Install per manufacturer's instructions to avoid noise, interference and malfunction.
  - o For moves adds and changes to legacy systems, connect master station to door station using Aiphone brand solid wire 18/2 vinyl jacketed PE insulated cable. Connect master station door release signal wire back to Access Control Panel to signal electric strike/hardware operation.
  - o Cat 6 Ethernet cable is to be used with an additional 18/2 vinyl jacketed PE insulated

door release signal wire back to Access Control Panel to signal electric strike/hardware operation

- b. Fire/Life Safety Interface-Any locking device installed that is required to fail safe to an open unlocked position upon receipt of a building alarm shall be connected to the building fire alarm system.
- c. Emergency exits connected to the building fire alarm system shall unlock on loss of primary power to the building fire alarm system. The use of battery or emergency power shall not be used to keep emergency exits locked.
- d. Alarm By pass Switches- Configure (wire and program) those key switches designated as alarm bypass switches such that when the key-switch is turned to the access position, it will engage a set of momentary contacts which will signal the access control system to shunt the alarm at the adjacent door. The key switch can then be released such that it returns to its neutral position from which they can be removed. The alarm shall remain shunted until the access control system received a door closed indication from the magnetic contacts or position switch at the door. Also, provide a second set of magnetic contacts at the door if necessary to accomplish this control sequence. Once the door is closed indication is received, the alarm shunt shall be discontinued.
- e. All exposed cabling must be protected in metallic or liquid tight conduit.
- f. Each cable shall be labeled within one foot of the terminating connection with the identifier and location.
- g. The patch panel shall be labeled with an identifier. This label must be printed clearly and not handwritten. Label must include "Security" and the last octet of the devices' IP address

### 3.50 Power Supply Equipment

Components specified below shall be provided with battery up or connected to the UPS.

- a. Motion Detection Devices;
- b. Security devices located in the central control equipment rack;
- c. Card access readers
- d. Reader interface devices;
- e. Electric door hardware (and their power supplies);
- f. Controllers.

### 3.51 Cables

- a. Vendor shall size power conductors as required ensuring voltage drop does not exceed 10% of the source voltage of the load

### 3.52 Other Requirements

The purpose of these supplemental requirements will be used, as necessary, to support the efforts by the APS to ensure that the network is at 100% level of optimum performance. Pricing for these items may be requested of the approved vendors as deemed necessary by the owner's representative. This work is not guaranteed as a result of this solicitation and any required pricing will be requested as needed. The following components shall be considered supplemental requirements:

- a. Door Stations -Furnish and install units as required. Also move to new location within 10' of existing location: 10 sites;
- b. Door Readers: Install units at MDF/IDF and other locations.