

SECTION 28 13 00

ACCESS CONTROL

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Access Control System Software
2. Access Control Head End Equipment
3. Access Control Field and Monitoring Devices

B. Substitutions and Pre-Qualification

1. Access Control System shall be the BASIS Access Control Management System (no substitutions) so as to interface into the Owner's existing BASIS Access/Cougar One Card System, and shall be provided by Stanley Convergent Security Solutions, Inc., Contact: Mr. Terry Clymer, Ph.: 832-289-4538, Fax 713-861-7808, Terry.Clymer@sbdinc.com.

C. Related Sections:

1. Section 08110 – Steel Doors and Frames
2. Section 08210 – Wood Doors
3. Section 08710 – Door Hardware
4. Section 08430 or 0860 – Automatic Entrance Doors
5. Section 14200 – Elevators
6. Section 16050 – Basic Electrical Materials and Methods
7. Section 16100 – Wiring Methods
8. Section 16400 – Low-Voltage Distribution

D. Related Work by Others

1. Door Hardware:

- a. Provide electrified door hardware for all card access doors, and for doors to be electronically locked and unlocked on a time schedule for all leaves.
- b. Provide request to exit switches (REX) on all electrified locking hardware and on all electrified exit devices.
- c. Provide electrified mortise locksets as 24VDC.
- d. Provide electrified latch retraction for all electrified exit devices.
- e. Provide exit device power supplies for all electrified exit devices. Exit device and power supply shall be of same manufacturer.
- f. Provide electric through wire devices for all electrified door hardware.
- g. Provide all electrified door hardware as fail-secure entry with free mechanical egress, except where required to be fail-safe entry according to life safety code and/or local AHJ.

2. Electrical:

- a. Provide dedicated 120VAC power circuits, conduit, raceways, back boxes, j-boxes, fittings, hardware and earth grounds as necessary to provide a complete working system for the access control system. Provide 120VAC connections to access control head end equipment and access control system power supplies and door locking power supplies.
- b. Install power supplies for electrified door hardware, unless otherwise noted.
- c. Provide conduit and back boxes for cable protection within walls, to door jambs, stubbed above drop ceilings, within closed ceilings, where exposed, and penetrating all walls and ceilings. Conduit shall be provided to all access control and security devices, including but not limited to all card readers, electrified door hardware, door contacts,

request to exit devices, system power supplies, power supplies for electrified door hardware and electrified exit devices, automatic door operators and associated controls, vehicle gate operators and associated controls, and all other access control and security related devices.

- d. Provide necessary masonry coordination for the back box installations.
- e. Patch and paint all items relating to conduit, raceways, J boxes, fittings hardware and earth grounds, conduit, and conduit installations.
- f. The installing electrician shall be present during the final walkthrough and system commissioning to resolve any electrical issues.

2. Elevator (only where card access is specified):

- a. Provide and install demarcation box(s) in elevator room.
 - 1. One dry contact per floor for remote elevator actuation by access system.
 - 2. One input per floor for elevator indication to access system.
 - 3. Other inputs/outputs as specified in the drawings and specifications.
- b. Wiring to the Cab
 - 1. Card Readers as specified by the drawings and specifications.
- c. Life safety, software and testing
 - 1. Elevator contractor responsible for following all code requirements.
 - 2. Responsible for all software necessary to interact with all input/output points connected to the access system relating to elevator.
 - 3. Provide an elevator technician for testing of the interfaces to access system.

4. Automatic Doors:

- a. Provide input interface for the control of the automatic door by card reader.
- b. Provide one contact from each ADA button for interface with the BASIS Access System for "individual" ADA button control by card reader and/or time schedule.
- c. Provide integral electrified door locking mechanisms for automatic "sliding" doors.
- d. Provide integral door monitoring contacts for automatic "sliding" doors.

5. Fire Alarm:

- a. Provide one fire alarm relay with a dry contact at each BASIS Access Control Head End for input to power distribution module(s) that control emergency door release when/if "fail-safe" locks are used.

6. Owner's Information Services:

- a. Provide network connection to each BASIS Head End and provide static IP addresses.

1.03 SYSTEM DESCRIPTION AND SCOPE OF WORK

- A. The BASIS Access Control Management System (as provided exclusively by Stanley Convergent Security Solutions, Inc., to be referred to as "System") is the existing access control system for the University of Houston Central Campus and utilizes the existing Cougar One Cards (magnetic stripe) with an existing data import script tied to the university's student and employee database. The System is a sophisticated, multi-tasking, multi-user Access Control Management System and is modular and network capable. The System has the ability of handling multiple sites, controls access with various reader technologies supported simultaneously, includes alarm monitoring with text and graphics based annunciation, and allows for easy expansion or modification of readers, inputs, and outputs.

The System utilizes an existing central server and is managed under a single software program by the existing BASIS Access Control Server Software, which provides full integration of all system components. Reconfiguration shall be accomplished on-line through

- system programming, without hardware changes (except for database, operating system, or technology upgrades by Owner).
- B. Access Control Contractor shall provide and install the BASIS System for all specified doors including the following equipment: card readers, intelligent system controllers, system enclosures, card reader panels, input panels, output panels, interface relays, power distribution modules, door contacts, egress motion detectors, exit buttons, door prop horns, key switches, system power supplies, fused relay outputs, back up batteries, and power distribution modules for fail-safe locks only (to be tied into the building fire alarm system).
 - C. Access Control Contractor shall provide and install all low voltage plenum cabling to access control devices and electrified door hardware, and make all low voltage connections.
 - D. Access Control Contractor shall provide door lock power supplies if not provided with door hardware in Section 8710 (except for power supplies for latch retraction exit devices, which shall be provided by the door hardware supplier and shall be of the same manufacturer as the exit devices).
 - E. Access Control Contractor shall provide specified BASIS client software (if specified), and associated training.

1.04 SUBMITTALS

- A. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the design intent of the system/assembly is completely understood and can be reviewed together.
 - 1. Section 08110 – Steel Doors and Frames
 - 2. Section 08210 – Wood Doors
 - 3. Section 08710 – Door Hardware
 - 4. Section 08430 or 0860 – Automatic Entrance Doors
 - 5. Section 14200 – Elevators
 - 6. Section 16050 – Basic Electrical Materials and Methods
 - 7. Section 16100 – Wiring Methods
 - 8. Section 16400 – Low-Voltage Distribution
- B. Product Data: Provide Manufacturer's Data and Catalog Cut Sheets for all access control equipment.
- C. Device Schedules: Submit a schedule of access control devices and security equipment per door and per access control head end.

1.05 QUALITY ASSURANCE

- A. Distributor's Qualifications:
 - 1. Company shall be certified as an authorized dealer on the BASIS System.
 - 2. Company shall have with a minimum of 5 years experience with the BASIS System.
 - 2. Company shall provide programming only by factory trained technicians.
- B. Arrange with the General Contractor for a coordination meeting with all subcontractors and material suppliers involved with the access control including doors, frames and door hardware supplier(s), elevator, automatic doors, entrances, electrical, and Owner's information services.

- C. Review Submittals for doors, entrances and builder's hardware to confirm that adequate provisions will be made for proper installation and function for access control and door monitoring.

1.08 WARRANTY:

- A. Warranty materials, fabrications, and installation for a period of 12 month upon substantial completion using factory-authorized service representatives.
 - 1. Owner shall notify Access Control Contractor by phone immediately upon noticing a security system problem, and Stanley shall respond (during normal working hours, 8 am to 5 pm, Monday through Friday, excluding holidays or weekends), with a phone response within 2 hours after notification, and onsite technician response within 24 hours of notification. After hours, emergency, weekend, or holiday response shall be at additional cost.
 - 2. Access Control Contractor shall not be required to replace or warrant damage due to misuse, abuse, abnormal use, negligence, acts of God or vandalism.
 - 3. Access Control Contractor shall not be responsible for warranty, repair, or troubleshooting of any equipment provided by others.
 - 4. Access Control Contractor shall not be responsible for any existing field devices/equipment that is not functional for whatever reason.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Stanley Convergent Security Solutions, Inc. is the sole supplier for the BASIS Access Control Security System (no substitutions).

2.3 SYSTEM COMPONENTS

- A. BASIS Access Control System Software
 - 1. BASIS Access Control Server and Server Software – System shall utilize the existing Cougar One Card Access Control Server, Operating System, Database, and existing BASIS Access Control Server Software.
 - 2. BASIS Access Control Client Software – Provide optional cost per client license, plus training cost. To be specified if building user needs to add, modify, or delete cardholders, access levels, time schedules for access or door lock/unlock intervals, for monitoring of door alarms, and running access control and alarm monitoring reports.
 - 3. BASIS Area Access Manager Software – Provide optional cost per client license, plus training cost. To be specified if building user only needs to add existing cardholders to existing access levels, and run reports on assigned readers/doors.
- B. BASIS Access Control Head End Equipment – as required for specified field devices on plan drawings. Locations shall be in MDF or IDF Rooms, as specified on plan drawings.
 - 1. Intelligent Dual Reader Controllers (IDRC) – BASIS Dual Reader Controller, BAS-2220
 - a. On-board Ethernet 10/100Base-T port, RS232 port, and RS485 port.
 - b. Two (2) Reader ports.
 - c. Two (2) Electric Lock Output (one per door), Form-C outputs, 5 A at 30 VDC.
 - d. Two (2) Auxiliary Output (one per door), Form-C outputs, 5 A at 30 VDC.

- e. Two (2) Door Contact supervision (open/closed) (one per door).
 - f. Two (2) REX (request to exit) Monitor (one per door).
 - g. Individual extended held open and strike times (ADA required).
 - h. 6 MB of available on-board, non-volatile flash memory.
 - j. Provide one controller per MDF or IDF Room, or connect to existing BASIS controller if applicable.
2. Single Reader Interface Panels (SRI) – BASIS Single Reader Panel, BAS-1300
- a. One Reader port.
 - b. One Electric Lock Output (one per door), Form-C output, 5 A at 30 VDC.
 - c. One Auxiliary Output (one per door), Form-C outputs, 1 A at 30 VDC.
 - d. One Door Contact Supervision (open/closed).
 - e. One REX (request to exit) Monitor.
 - f. Individual extended held open and strike times (ADA required).
3. Dual Reader Interface Panels (DRI) – BASIS Dual Reader Panel, BAS-1320
- a. Two (2) Reader ports.
 - b. Two (2) Electric Lock Outputs (one per door), Form-C outputs, 5 A at 30 VDC.
 - c. Four (4) Auxiliary Output (one per door), Form-C outputs, 5 A at 30 VDC.
 - d. Two (2) Door Contact Supervision (open/closed) (one per door).
 - e. Two (2) REX (request to exit) Monitor (one per door).
 - f. Individual extended held open and strike times (ADA required).
4. Input Modules (IM) – BASIS Input Panel, BAS-1100
- a. Line Supervision.
 - b. Sixteen (16) programmable supervised or non-supervised contacts.
 - c. Two (2) Form-C 5 A, 30 VDC Relay output contacts.
 - d. Two (2) dedicated inputs for tamper and power failure status.
 - e. Door Monitoring, Alarm Monitoring, and Elevator Control inputs.
5. Output Modules (OM) – BASIS Output Panel, BAS-1200
- a. Sixteen (16) Form-C 5 A, 30 VDC programmable relay outputs.
 - b. Two (2) dedicated digital inputs for tamper and power failure status.
 - c. Door Control and Elevator Control outputs.
6. System Power Supplies (SPS) – Altronix (model number as required)
- a. Amperage based on connected equipment.
 - b. Provide with 25% spare capacity.
 - c. Provide fused outputs.
 - d. Provide battery backup for up to 4 hours.
 - e. Provide lockable enclosures as required.
 - f. Provide system power supplies separate from lock power supplies.
7. Interface Relays (IR) – Altronix, GE, or Honeywell
- a. 12 or 24VDC relay coil.
 - b. Output voltage and current rating as required for interface.
 - c. For use with automatic door, elevator, or vehicle gate controls interface.
8. Lockable System Enclosures (BASIS Head End) – BASIS BAS-CTX-6
- a. Lockable Metal Enclosure.
 - b. Supports up to six (6) BASIS panels per enclosure.
 - c. Provide sufficient enclosures for connected equipment.
9. Power Distribution Modules (PDM) – Altronix MOM5
- a. Five (5) Individual Outputs (one per locking device).
 - b. Input from fire alarm system disables power to all connected devices.

- c. For use with "fail-safe" locking devices only.
- d. Fire Alarm Relay provided by others next to BASIS Head End.

B. BASIS Access Control Field and Monitoring Devices – as shown on plan drawings.

1. Card Readers, Magnetic Stripe (CR-MS) – Magnetic Stripe Readers, BAS-2010BK
 - a. Fully weatherized metal casing, black.
 - b. Bi-directional high coercivity magnetic card swipe.
 - b. One million card pass read head.
 - c. Maximum 500 feet (152 m) distance from reader interface panel.
 - d. Provide with backplate or weather shield as required.
 - e. Used at all card access doors for use with UH Cougar One Card.
 - f. Provide with keypad option if specified on plan drawings.
2. Card Readers, Proximity (CR-PR) – HID Proximity Readers (no substitution).
 - a. HID #5395 Thin Line Readers for use with single gang back boxes.
 - b. HID #5365 Mini-Prox Readers for use when mounted on aluminum mullions.
 - c. Maximum 500 feet (152 m) distance from reader interface panel.
 - d. Proximity readers shall be used only at ADA entrances (in addition to magnetic stripe readers). Proximity readers are for use with special UH formatted HID proximity cards issued to disabled students, faculty, and/or employees in order to operate automatic openers for after hours access.
3. Egress Motion Detectors (EMD) – Bosch, GE, or Honeywell
 - a. Egress passive infrared detector.
 - b. Adjustable zone detection for egress.
 - c. Unlocks or shunts door automatically.
 - d. Hands free.
 - e. Provide only when integral request to exit function is not provided with electrified door hardware.
4. Exit Buttons (EB) – Alarm Controls, Locknetics, or Securitron
 - a. Double pole (DP) contacts – connect one pole directly to magnetic lock power, and connect one pole as request to exit to BASIS System.
 - b. Provide 30 second pneumatic delay(not dependent on electronics to operate).
 - c. Provide 2" min. red mushroom button with exit signage "Push Button to Exit".
 - d. Provide only for use with magnetic locks, in addition to egress motion detector.
5. Door Contacts (DC) – Bosch, GE, or Honeywell
 - a. Concealed 3/4" or 1" diameter (surface mount where concealed is impractical).
 - b. Self-lock mounting.
 - c. Rugged construction.
6. Door Prop Horns (DPH)
 - a. Decibel level as specified on plan drawings.
 - b. 12VDC power.
7. Key Switches (KS) – Best Access (no substitutions)
 - a. Maintained or momentary key switch functions.
 - b. Accepts Best Access key-removable core (UH keying system standard).
 - c. Single, double, or triple pole, depending on the interface.
 - d. Voltage and current rating, depending on the interface.
 - e. Used for interface with door prop horns, automatic doors, emergency override.

PART 3 – EXECUTION

3.01 INSTALLATION:

A. COORDINATION

1. Coordinate meeting with all subcontractors and material suppliers involved with the access control including doors, frames and door hardware supplier(s), elevator, automatic doors, entrances, electrical, and Owner's information services.

B. INSTALLATION STANDARDS

1. Install access control system components per manufacturer's instructions and recommendations.

C. ACCESSIBILITY

1. Comply with ANSI A117.1 Accessibility Standard requirements for disabled.

D. CABLING

1. Install plenum cabling and wiring in raceways (by electrical contractor), and with j-hooks above drop ceilings, without damaging conductors, shield, or jacket.

E. LABELING

1. Label access control panels with access door information provided by Owner.

F. PROGRAMMING

1. Program all system and door set up information.
2. Owner shall program all cardholders and access levels.
3. Owner shall provide final door labeling information for programming.

G. FIELD QUALITY CONTROL

1. Engage a factory-authorized service representative to test and adjust field-assembled components and equipment installation, including connections, and assist in field testing.

H. ACCEPTANCE TESTING

1. Operational Test and Acceptance: With Owner and General Contractor representatives, after installation of access control equipment, cables and connections, demonstrate system capability and compliance with requirements. Acceptance of access control system shall be independent of equipment or services provided in other sections or by Owner.

END OF SECTION 13750