SECTION 28 13 00 – SECURITY AND ACCESS CONTROL SYSTEM

PART 1 GENERAL

1.01 DESCRIPTION

A. Division 28 Contractor shall furnish and install a complete Security and Access Control System as shown on the Drawings and as specified herein. Provide all accessories and equipment as necessary for a complete system. **The access control system shall match the current Kantech system by Tyco.**

B. System shall be complete with control panels, card readers, door contacts, motion detectors, keypads, power supplies, batteries, phone line dialer, audible devices, supervised wiring, and all other items required for a complete fully functioning system. The connection to the intrusion devices shall be fully supervised and support normally open, normally closed, supervised and non-supervised circuits.

C. The system shall connect to all reader and alarming devices to support the following:
1. **The system shall support Kantech XSF cards.**

D. Electric strikes/latches and power supplies are provided by the door hardware supplier. This Contractor is required to coordinate with door hardware supplier and Division 26 Contractor, and is responsible for final connections to access control system including integration with automatic handicap door operators.

E. The Security System shall be designed and installed to not interfere with egress requirements for life safety nor interfere with intrusion or fire alarm systems.

1.02 QUALITY ASSURANCE

A. The system shall be UL listed and approved for the application intended and shall be compliant with all standards and regulations that may apply. These listing and approvals shall include, but not be limited to, FCC, CE, UL 1950, UL 294, and UL 1076. The latter UL 1076 will be applied only to the overall system, including the host when available.

B. **The contractor shall be a Kantech Global partner. All contractor installation technicians shall be Kantech Corporate certified and will meet all training required by the manufacturer.**

1.03 SUBMITTALS

A. For Review:
1. Product data sheets of all components
2. Wiring Diagrams
3. Full Size Layout Drawings

B. To be included in Record and Information Manuals:
1. One (1) copy of each approved submittal
2. Test results
3. Certificate of System Completion
4. Certificate of Material Receipt

1.04 MANUFACTURERS

A. Security and Access Control System
1. Kantech KT-400

B. Proximity Card Reader
1. **Kantech ioSmart Multi-Technology Reader (XSF)**

C. Power Supply
1. Altronix T2428300E

PART 2 PRODUCTS

2.01 CONTROL UNIT

A. Control unit shall contain all necessary components to provide complete control, testing and indicating facilities for the entire security alarm and access control system. The unit shall have battery back-up providing four hours of continuous operation during power outages.
1. The unit shall have processing capabilities to remain completely operational in an offline mode should the communications link become non-functional.
2. The unit shall have as a part of its standard package the ability to communicate with servers and other local controllers via an Ethernet based TCP/IP protocol.
3. The unit shall have the capability to interface standard Wiegand devices, as well as provide I/O to various serial protocols, including but not limited to RS-485, RS-422, and RS-232.

4. The unit shall have as a part of their standard package the ability to communicate with servers and other local controllers via an Ethernet based TCP/IP protocol.
5. The unit shall have peripheral I/O panels that provide additional digital I/O both logic level and form-C contacts.
6. The unit shall be Kantech KT-400.

B. The Contractor shall provide sufficient cabinets, card, and related hardware to control all doors, door contacts and other related devices indicated on the drawings, plus spare capacity of 25% per Telecommunications Room (TR). This spare capacity shall be distributed throughout the system control panels on a TR-by-TR basis; i.e. each TR shall contain the available spare capacity as defined above.

C. To ensure continued, one-call support, the system shall be constructed of sensing components provided directly by the system manufacturer, such as power supplies, motion detectors, door and window position switches, glass break detectors, or other sensing devices that the manufacturer offers.

D. The Contractor shall include all power supplies, batteries and other peripheral devices required to provide a fully functional system as described herein, and indicated on the Drawings.

E. The system shall support user interaction by way of a keypad, web browser, system software, key switch, or radio frequency wireless control, using integrated or auxiliary devices provided by the system manufacturer.

2.02 CREDENTIAL READERS AND CREDENTIALS

A. The credential reader shall be a read only multi-technology contactless smart card reader and be designed to securely read, interpret, and authenticate access control data from 13.56 MHz contactless smart card credentials and 125 kHz proximity cards.
1. **The reader must be Kantech XSF compatible.**
2. Backwards compatibility with legacy 13.56 MHz contactless smart card and 125 kHz proximity access control formats (E.g. 26-bit, 32, 35-bit, 37-bit, 56-bit, and HID Corporate 1000 formats). Compatibility across the product line shall be assured without the need of special programming.
3. The multi-technology contactless smart card reader shall be configurable to provide multiple hierarchical degrees of key compatibility for accessing the smart card access control data.
4. The multi-technology contactless smart card reader shall provide simultaneous support for 125 kHz proximity FSK (HID Proximity, AWID). PSK (Indala), and ASK (EM4102) 125 kHz technology to increase credential technology migration options.

B. The Credential shall be a 13.56MHz based proximity card.
1. The card shall be 2.125" x 3.370" x 0,030" ±0.003" nominal.
2. The card shall be constructed of polyvinyl chloride (PVC) laminate.
3. The card shall have an operating temperature of -50º to 160º F. and weigh 6.8g.
4. The card shall be RF programmable at 13.56MHz with customer specified ID numbers.
5. The card shall use passive technology allowing an infinite number of reads.
6. The card shall be capable of accepting either direct image or thermal printing.
7. The card shall be laser engraved with an external identification number.

C. Provide battery backup with batteries and battery charger as required to provide one-hour operation of the security system in the event of a power failure.

D. Proximity Card Readers shall read cards up to 4" away, fit in a standard 1-gang wall box, be black in color, and have bi-color LED indicator. **Provide 100 proximity cards with the system.** Programming of cards shall be included and coordinated with Owner.

2.03 ACCESS CONTROL SOFTWARE FUNCTIONS

A. General
1. The Web based CCAS shall operate on a dedicated server system **Supplied by Owner**. This dedicated server shall run network and Internet services for industry standard web browsers to use in order to administer personnel records. For reporting purposes, a browser-accessible reporting package shall be used. Dynamic on-line help shall be available within the software with step-by-step instructions available for common administration tasks.
2. A copy of all personnel records from the individual LCPs shall be stored in the CCAS and shall be available to all authorized operators. All hardware components/modules shall be commercial off-the-shelf products offered by recognized industry manufacturers. Systems utilizing proprietary hardware shall not be acceptable.
3. The client Web browser PC shall be 100% IBM compatible PC running MS Edge and network enabled. No proprietary or advanced computer hardware (i.e. high-end video graphics cards, etc.) shall be necessary in order to retrieve and/or edit personnel records.
4. The CML-provided server shall interface, through the network, with the existing Access Control hardware server.

2.04 MISCELLANEOUS EQUIPMENT

A. Provide all cabling required for installation of complete system.

B. Provide hardwired lockdown switch (lever) for emergency door lockdown.
1. One lockdown switch (lever) device
2. Install under 1st-floor welcome desk where indicated on drawings
3. Program to communicate through Kantech system
   a. Basis for design **GRI GR3045** Panic Switch Set with Screw Terminals
   b. Engineer-approved equivalent.

C. Provide hardwired Duress Alarm/Panic Button for under-desk installation.
1. Install at locations indicated on drawings
2. Program to communicate through Kantech system and to building alarm monitoring service
3. Silent operation
4. Double-pole double-throw contacts for multi-notifications
5. Twin 45° screw terminals with EOL resistor splicing terminal
6. Fully supervised
7. Basis For design: **Potter HUB-M 2020130** – Panic button for immediate distress notification
8. Engineer-approved equivalent

D. Provide hardwired Duress Alarm for wall installation.

1. Install on wall by alarm panel near staff entrance door where indicated on drawings
2. BNT & LIN will have wall-mounted duress alarm with dedicated card reader in/ near Teen area where indicated on drawings.

2. Curved design helps protect against accidental activation
3. Stainless steel backplate.
4. Red illuminating button can be used as a status light, indicating activation.
5. Basis For design: **STI-SS2421EM-EN**
6. Engineer-approved equivalent

PART 3 EXECUTION

3.01 INSTALLATION

A. Division 28 Contractor shall install Security System as shown on the Drawings in accordance with Manufacturer's written instructions. **See figure 1 and 2 attached**

B. All wiring shall be installed in conduit.

C. All delayed egress equipped doors will be monitored by the Security System for device power supply status, fire alarm relay status, device arm/disarm status, device alarm status, and door position.

D. **All Telecommunications Room (TR) doors will be monitored by the Security System for device power supply status and door position. If not part of the door hardware, Division 28 Contractor shall supply request-to-exit (REX) sensor on interior/TR side to ensure proper Kantech EntraPass door notification.**

E. **Division 28 Contractor shall input door names into Kantech EntraPass system using naming convention supplied by Owner. Input process will be completed in conjuction with Owner Kantech EntraPass administrator. Contractor will also label final door names in controller boxes to match names in EntraPass.**

3.02 TESTING

A. Division 28 Contractor shall provide a complete functional test of all components in accordance with Manufacturer's recommendations.

B. Operate system for a minimum of seven (7) consecutive days with no problems before claiming Contract Completion.

C. Refer to Section 26 08 40, "Electrical Tests, Adjustments, Inspection."

3.03 SPARE PARTS

A. Division 28 Contractor shall furnish one (1) spare device for each type used, including passive infrared detector and door contacts.

B. Obtain a signed copy of the Certificate of Material Receipt from Section 28 00 99, "Requirements for Contract Completion."

3.04 EQUIPMENT DEMONSTRATION

A. After all system tests have been completed, schedule an instruction period with the Owner. Instruction to be provided by Manufacturer's authorized field technician. Provide up to four

separate sessions of four hours each. Record sessions on flash drive and furnish two copies to Owner.

B. Instruction shall include:
1. Location of all components of the system and explanation of their function
2. Demonstration of equipment
3. Maintenance and repair procedures
4. Programming procedures
5. Review of documents in Record and Information Manuals

C. Division 28 Contractor shall have all participants sign the Certificate of System Completion in Section 28 00 99, "Requirements for Contract Completion."

3.05 WARRANTY OF WORK

A. The Division 28 Contractor shall warrant all materials, equipment, and workmanship for a period of one (1) year from date of completion. Refer to Section 28 00 00.

END OF SECTION (FIGURE 1 AND 2 ATTACHED)

Figure 1

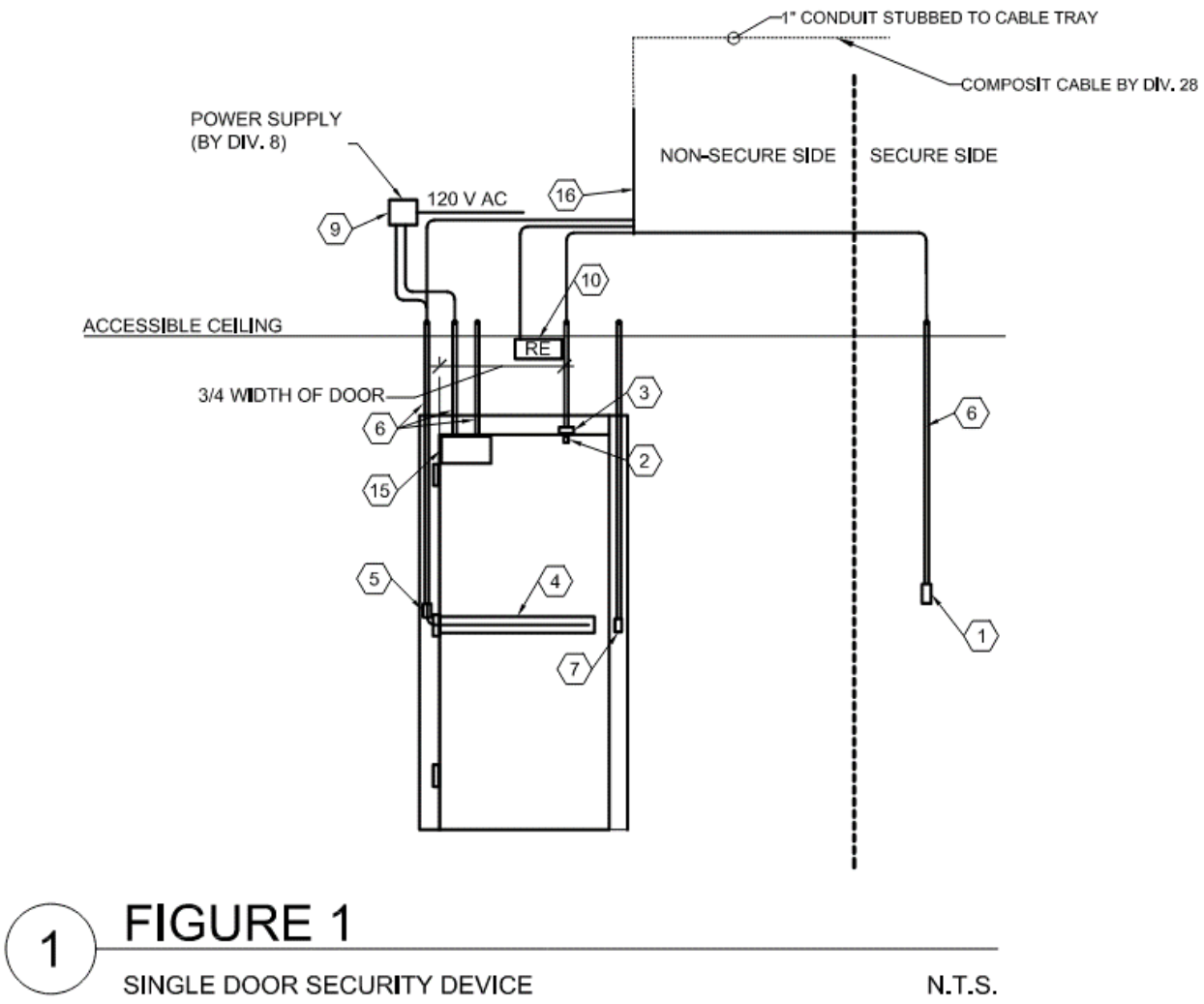
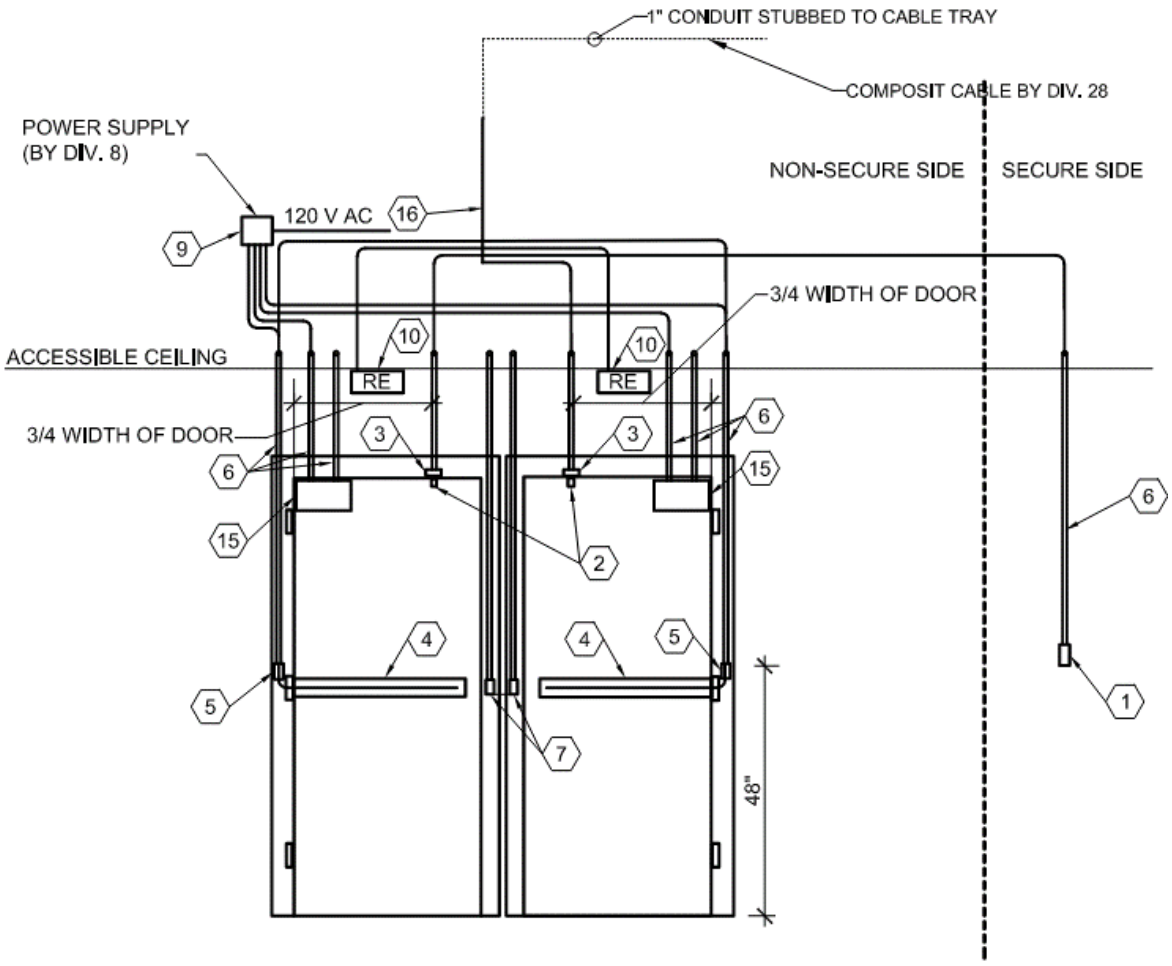


Figure 2



2 FIGURE 2

DOUBLE DOOR SECURITY DEVICE N.T.S.

NOTES FOR FIGURE 1 AND 2

GENERAL NOTES

1. EACH DOOR DOES NOT CONTAIN EACH DEVICE DEPICTED. SEE DOOR HARDWARE SCHEDULE AND FLOOR PLANS FOR MORE INFORMATION

CODED NOTES:

1. CARD READER BY DIV. 28. BACKBOX BY DIV. 26.
2. DOOR CONTACT BY DIV. 28.
3. BACKBOX AND 3/4" CONDUIT FROM BACKBOX TO ABOVE ACCESSIBLE CEILING BY DIV. 26. UTILIZE FOR DOOR CONTACT (AND MAG LOCK IF APPLICABLE

4. ELECTRIC CRASH BAR (IF APPLICABLE) INSTALLED BY DIV. 8 AND WIRED TO POWER BY DIV. 28
5. BACKBOX MOUNTED IN DOOR FRAME (IF ELECTRIC CRASH BAR UTILIZED) BY DIV. 26
6. 3/4" CONDUIT FROM BACKBOX TO ABOVE CEILING (IF DEVICE UTILIZED) BY DIV. 26
7. BACKBOX AND 3/4" CONDUIT FROM TO ABOVE ACCESSIBLE CEILING FOR DOOR STRIKE (IF APPLICABLE) BY DIV. 26
8. N/A
9. OWER SUPPLY INSTALLED AND WIRED TO 120 V AC BY DIV. 26
10. REQUEST TO EXIT MOTION DETECTOR (IF APPLICABLE) BY DIV. 28 MOUNT TO CEILING CENTERED ABOVE DOORWAY WHENEVER POSSIBLE, IF CEILING IS NOT POSSIBLE, WALL MOUNT WITH A SINGLE GANG BOX AT 108” AND EXTEND A ¾” CONDUIT TO ABOVE ACCESSIBLE CEILING BY DIV. 26
11. N/A
12. REQUEST TO EXIT BUTTON (IF APPLICABLE) BY DIV. 28. SINGLE GANG MASONRY BACKBOX (IF APPLICABLE) BY DIV. 26
13. N/A
14. N/A
15. POWER OPERATED DOOR OPERATOR (IF WALL ACTIVATOR UTILIZED) BY DIV. 8
16. ACCESS CONTROL CABLE CONNECTED TO DOOR CONTROLLER KT-400 INSTALLED IN TECHNOLOGY ROOM BY DIV. 28

END OF ATTACHMENTS