281000 Electronic Access Control

Sections Included in this Standard:

1 Part 1: General 9

1.1 Introduction 9

A. Access Control Types 9

1. Exterior Entrances 9
2. Classrooms 9
3. Critical Facility Areas 10
4. High-Value / Sensitive Areas 10
5. Duress Buttons 10

1.2 Scope of Work 11

A. Scope of Work for Designer and/or Consultants 11

B. Scope of Work for Contractors 12

1.3 Related Documents 13

A. Documents 13

B. References 13

1. National Electrical Code (NEC), current edition as per Florida Building Code 13
2. Life Safety Code (NFPA 101), current edition as per Florida Building Code 13
3. Florida Building Code, current edition 13
4. Electronic Industry Association ANSI/EIA/TIA 13
5. National Electrical Manufacturers Association (NEMA) 13
6. Underwriters Laboratories UL 294, UL 639, and UL 1037, UL 1076 13
7. National Fire Protection Association (NFPA) 13
8. Federal Communications Commission (FCC) 47 CRF Part 15 and 90 13
9. Applicable Federal, State, and Local Laws, Regulations, and Codes 13

C. UF Construction Standards – Division 08 - Openings 14

1. 081000 – DOORS AND FRAMES 14
2. 084000 – STOREFRONTS, CURTAINWALLS, AND WINDOWS 14
3. 087000 – HARDWARE 14

D. Additional UF Policies and Standards 14

1. UF IT Policies 14

2. UF IT Telecommunications Standards 14
3. UF Key and Lock Policy 14

E. Coordination Items with other Divisions 15
1. Division 01 – General Requirements 15
2. Division 02 – Demolition 15
3. Division 05 – Metals 15
4. Division 06 – Wood & Plastic 15
5. Division 07 – Thermal & Insulation 15
6. Division 08 – Openings 15
7. Division 10 – Glazed Partition Systems 16
8. Division 12 – Glazed Partition Furniture Systems 16
9. Division 13 – Special Construction (security related to fabricated room assemblies) 16
10. Division 14 – Vertical Conveyance Systems 16

1.4 Contractor Qualifications 17

A. Qualified Lenel Authorized Value-Added Resellers 17

B. Other Vendors / Installers 17

1.5 Abbreviations 19
1. ACS 19
2. ANSI 19
3. ASCII 19
4. AWG 19
5. BPS 19
6. CPU 19
7. DPS 19
8. FCC 19
9. GUI 19
10. ID 19
11. IP 19
12. I/O 19
13. NEC 20
14. NEMA 20
15. ODBC 20
16. PIN 20
17. PTZ 20
18. RAID 20

19. REX 20
20. SDRAM 20
21. STP 20
22. UL 20
23. UPS 20
24. USB 20
25. UTP 20

1.6 Glossary of Terms 21

1. Access Controlled Opening 21
2. Access Group 21
3. Access Mode 21
4. Acknowledge 21
5. Action Messages 21
6. Advisory 21
7. Alarm Condition 21
8. Application Servers 21
9. Boundary Types 21
10. Classrooms 21
11. Credential 22
12. Credential Reader 22
13. Clear 22
14. Double Door 22
15. Download 22
16. Electrified Locksets 22
17. Electrified Strike 22
18. Exterior Entrance 22
19. Exterior Perimeter 22
20. Graphical User Interface (GUI) 22
21. Head-End 23
22. Interior Opening 23
23. Interior Perimeter 23
24. Key Cylinder 23
25. Line Supervision 23
26. Off-Line 23
27. Password 23
28. Reset 23
29. Room 23

30. Secure Mode 23
31. Secured Area 24
32. Secured Side 24
33. Side Mullion Mounting Box 24
34. Single Door 24
35. Tamper 24
36. Time Interval 24
37. Time Period 24
38. Trouble 24
39. Un-Secured Side 24
40. User Definable 24

2 Part 2: Products 25

2.1 Software 25

A. Administration 25

B. Access Control System 25

C. Software Licenses 25

2.2 Hardware 26

A. Access Control Equipment Enclosure 26
1. Enclosure 26
2. Tamper Switch 26
3. IDRC (Intelligent Dual Reader Controller) 27
4. DRIM (Dual Reader Interface Module) 27
5. ICM (Input Control Module) 28
6. OCM (Output Control Module) 28

B. Power Supply Enclosure 29
1. Enclosure 29
2. Access Power Controller 29
3. Power Distribution Module 30
4. Batteries 30

C. Door Operator Integration (ADA) Enclosure 31
1. Auxiliary Enclosure 31
2. Timers 32
3. Relays 32

D. Video / Door Phone Enclosure 33
1. Auxiliary Enclosure 33
2. Security Relay for Video Door Phone 33
3. Network Enabled Relay Control (Non-Video Phone) 34
E. Line Supervision 35
1. Resistors 35
F. Credential Readers 35
1. NFC Smart Credential Reader 35
2. NFC Smart Credential Reader with Keypad 36
3. Iris Biometric Reader 36
G. Door Hardware 37
1. Mortise Lock (Built-In REX) 37
2. RIM Exit with Electrified Trim 38
3. RIM Exit with Latch Retraction (Operated Doors) 39
4. Key Removable Mullion 40
5. Electrical Power Transfer (EPT) 40
6. Electrified Strike 40
7. ADA Push Button 40
H. Credential Reader Pedestals 41
1. Small Pedestals (without Door Phone) 41
2. Large Pedestals (with Door Phone) 41
I. Door Position Switch (DPS) 42
1. Door DPS 42
2. Delayed Egress DPS 43
3. High Security DPS 44
4. Roll-up (Overhead Door) DPS 44
J. Emergency Notification Buttons 45
1. Duress Button 45
K. Door Release / Control Switches 46
1. Emergency Exit By-Pass Push Button (Non-ADA without Cover or Horn) 46
2. High Security Emergency Exit By-Pass Push Button (Non-ADA, Cover, Horn) 47
3. Under Counter / Desk Door Release Buttons 48
4. Keypad 48
5. Key Switch 48

L. Emergency Activation Buttons 49
1. Classroom Secure-In-Place Button 49
2. Area Secure-In-Place Button 50
3. Suite Secure-In-Place Button 51
M. Gates 52
1. Pedestrian Gate 52
2. Vehicle Gate 52
N. Surge Protection 53
1. Head-End Surge Protection 53
2. Credential Reader Surge Protection 53
3. Gate Surge Protection 54
O. Cables Specifications for Access Control 55
1. Composite Cable 55
2. RS-232, RS-422 or RS-485 57
3. Accessory Cable 58
4. Cable Gauge 59
5. Cable Jackets 59
6. UTP Category Cables and Fiber Optic Cables 59
2.3 Substitutions 60
3 Part 3: Design 61
3.1 Specifications 61
A. Head-End 61
1. Access Control Equipment Enclosure 62
2. Power Supply Enclosure 64
3. Door Operator Integration (ADA) Enclosure 65
4. Video / Door Phone Enclosure 66
B. Access Control Opening Types 67
1. Exterior Entrances 67
2. Classrooms 68
3. Critical Facility Areas 68
4. High-Value / Sensitive Areas 68
C. Access Control Devices 69
1. Credential Reader 69

2. Door Position Sensor (DPS) ... 70
3. Electrified Locksets ... 71
4. Operator Actuator ... 73
5. Duress Buttons ... 74
6. Door Releases ... 75
7. Video Door Phones ... 76
8. Door Phone (non-video) ... 76
9. Lockdown Readers ... 77

3.2 Construction Plans ... 78

A. Symbols ... 78
1. Credential Readers ... 78
2. Electrified Locksets ... 78
3. Other Access Control Devices ... 78

B. Floor Plans ... 79

C. Typicals ... 79
Typical 1. Head-End ... 80
Typical 2. Single Door, Electrified Mortise ... 81
Typical 3. Single Door, Electrified Trim ... 82
Typical 4. Single Door, Electrified Strike ... 83
Typical 5. Single Door, Monitoring Only ... 84
Typical 6. Single Door with Door Operator (ADA) ... 85
Typical 7. Double Door, Electrified Trim ... 86
Typical 8. Double Door, Monitoring Only ... 87
Typical 9. Double Door with Door Operator (ADA) ... 88
Typical 10. Electrified Mortise with Passive Leaf ... 89
Typical 11. Electrified Trim with Passive Leaf ... 90
Typical 12. Duress Button ... 91
Typical 13. Pedestals ... 91

4 Part 4: Construction ... 93

4.1 Submittals ... 93

A. Product Data ... 93
1. Part Numbers ... 93
2. Data Sheets ... 93

B. Shop Drawings ... 94

1. Device Legend 94
2. Cable Legend 94
3. Floor Plan 94
4. Typicals 94
5. Access Control Schedule 94
6. Head-End Diagram 95
7. Access Control Riser Diagram 95

4.2 Execution 96

A. Head-End 96

B. Wiring and Conduit 97

4.3 Progress Inspections 98

A. Inspections for UF Standards 98
1. Inspection Request Form 98

B. Inspection Checklists 100
1. Inspection 1: Rough-In (Door Frames & Conduit) 100
2. Inspection 3: Door Hardware 101
3. Inspection 4: AC and Head End Components 102
4. Inspection 5: Operational Testing 103

4.4 Closeout Documents 104

A. MAC Addresses 104

B. Cable Records 104

C. Programming Sheet 104

D. As-Built Drawings 104

E. Warranty Information 104

F. Product Registration 104

1 Part 1: General

1.1 Introduction

The following is a summary of the types of **Access Control** locations at the University of Florida.

A. Access Control Types

1. Exterior Entrances

All Exterior Entrances require Video Surveillance.

a. Primary Entrances

Electronic Doors with Credential Readers are required.

b. Secondary Entrances

Exit Only hardware configuration with Doors monitored electronically by Door Position Switches (DPS).

2. Classrooms

All Classrooms must be outfitted with end user Secure-In-Place button for activation in the event of an emergency at the local level.

a. Single Entry Classrooms

Electronic Doors with Credential Readers required.

b. Multiple Entry Classrooms

Identify single entry point for Credential Reader access and electronically activate all associated doors on schedule.

3. Critical Facility Areas

All Critical Facility Areas require Electronic Doors with Credential Readers.

a. Telecom Rooms

   All Telecom Rooms also require Video Surveillance.

b. Electrical Rooms

c. Mechanical Rooms

4. High-Value / Sensitive Areas

All High-Value / Sensitive Areas require Electronic Doors with Credential Readers and Video Surveillance.

a. Research Space

b. High-Value Material Storage

c. Audio Visual Rooms

5. Duress Buttons

Duress Buttons require Video Surveillance.

a. Welcome / Employee Desks

   Duress Button are to be placed in work areas where button is less likely to be accidentally activated but user is familiar with placement and ease of access Electronic Doors with Credential Readers are required.

1.2 Scope of Work

A. Scope of Work for Designer and/or Consultants

This document is designed to assist designers such as Architects, Security Consultants, and Professional Engineers (Security Designer) in the preparation of Electronic Access Control documents that will accompany a full set of Drawings and Specifications for new construction projects, major renovation projects, and minor renovation projects at the University of Florida.

B. Scope of Work for Contractors

Individuals or companies acting as general contractors or security contractors bidding or executing projects involving Physical Security equipment, in buildings owned by University of Florida (UF) in new construction or retrofits projects shall follow all specification sections under the UF Design & Construction Standards.

Contractors shall factor in their proposals or GMP (guarantee maximum price) for the projects the following tasks:

a. Supply and Installation Labor of all Devices, Raceways and Wiring as part of the Security Systems.

b. Supply of all spare parts for the Security Systems, as indicated in the project's Design Documents.

c. Production and Delivery of all Submittals for all Security Systems part of the project, as indicated in the Design Documents.

d. Production and Delivery of all As-Built Information for all Security Systems part of the project as indicated in the Design Document.

e. All cost (materials, labor and transportation) associated with warranties for the Security Systems as indicated in the Design Documents.

f. The Contractors shall also factor into their proposals all the requirements in the front end Specifications or General Requirements (Division 1) part of the project.

g. The Contractor shall provide all information as required in this Specification section for the Owner to program the Access Control System when the system is tied to the main Access Control System in the UF campus.

h. The Contractor shall provide all Software Licenses for administration or programming of security equipment.

i. The Contractor shall not base their quote or GMP in equipment substitutes or alternate methods unless the Contractor has previously received an approved Variance Form from UF Facilities Services for such substitute equipment or alternate methods.

1.3 Related Documents

A. Documents

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 specification sections, apply to this section.

B. References

Design and Operation of the Security Systems shall conform to the following referenced Codes, Regulations, and Standards as applicable:

1. National Electrical Code (NEC), current edition as per Florida Building Code
2. Life Safety Code (NFPA 101), current edition as per Florida Building Code
3. Florida Building Code, current edition
4. Electronic Industry Association ANSI/EIA/TIA
5. National Electrical Manufacturers Association (NEMA)
6. Underwriters Laboratories UL 294, UL 639, and UL 1037, UL 1076
7. National Fire Protection Association (NFPA)
8. Federal Communications Commission (FCC) 47 CRF Part 15 and 90
9. Applicable Federal, State, and Local Laws, Regulations, and Codes

C. UF Construction Standards – Division 08 - Openings

The following documents from Division 08 - Openings of the UF Construction Standards are also relevant to this Section:

1. 081000 – DOORS AND FRAMES

https://facilities.ufl.edu/wp-content/uploads/forms/dcs/081000.pdf

2. 084000 – STOREFRONTS, CURTAINWALLS, AND WINDOWS

https://facilities.ufl.edu/wp-content/uploads/forms/dcs/084000.pdf

3. 087000 – HARDWARE

https://facilities.ufl.edu/wp-content/uploads/2022/10/087000-rev-092122-final.pdf

D. Additional UF Policies and Standards

The following UF documents may also apply to this Section:

1. UF IT Policies

http://www.it.ufl.edu/policies/

2. UF IT Telecommunications Standards

2021-07-01 Revision

3. UF Key and Lock Policy

https://www.facilitiesservices.ufl.edu/_library/KeyPolicy.pdf

E. Coordination Items with other Divisions

The following specification divisions will typically contain information related to the coordination of assemblies and work that impact Physical Security (Division 28) specifications:

1. Division 01 – General Requirements

a. Coordination of requirements for the Work including coordination requirements with Physical Security staff.

b. Submittal requirements and coordination for pertinent submittal reviews.

c. Execution of work and timing of keying meetings, substantial completion, preconstruction meetings, coordination between trades, etc.

2. Division 02 – Demolition

a. Selective or Structural Demolition that may impact scope for physical security and systems.

3. Division 05 – Metals

a. Miscellaneous metal framing for supports or infrastructure for Security (i.e. Unistrut, pipe and tube structures for cameras, etc.)

4. Division 06 – Wood & Plastic

a. Blocking requirements for security infrastructure and equipment.

5. Division 07 – Thermal & Insulation

a. Joint sealants, penetration firestopping and other materials to be coordinated with scope associated with installation of physical security scope.

b. Roof accessories – roof access hatches and components constituting another entry point into the building.

6. Division 08 – Openings

a. Door assemblies (Hollow Metal Frames and Doors, Wood Doors, etc.).

b. Storefront entry systems and assemblies.

c. Finish hardware.

7. Division 10 – Glazed Partition Systems

a. Specialty glazed partition systems (as contrasted from storefront or curtainwall systems specified in Division 08)

8. Division 12 – Glazed Partition Furniture Systems

a. Specialty glazed partition systems specified as furnishings and installed by furniture vendors and manufactured by furniture companies; typically by others and as contrasted from glazed wall/partition systems specified in Divisions 08 or 10)

9. Division 13 – Special Construction (security related to fabricated room assemblies)

a. Factory assemblies or other specialized building assemblies manufactured off-site and site installed (i.e. X-ray rooms/enclosures; metal buildings, etc).

10. Division 14 – Vertical Conveyance Systems

a. Elevators and escalators including requirements for limiting or providing access to select floors with electronic access and inclusion of cameras or other security measures.

1.4 Contractor Qualifications

A. Qualified Lenel Authorized Value-Added Resellers

1. Contact UF Physical Security for a current list of approved Lenel vendors/installers.

B. Other Vendors / Installers

1. The Contractor must be a direct Lenel Authorized Value Added Reseller (VAR) and a certified Lenel OnGuard dealer.

2. The Contractor shall submit a letter issued by Lenel authorizing this Contractor to provide and install Lenel equipment for UF.

3. The Contractor shall have a fully staffed office and service department located within 125 miles of Gainesville, Florida. All employees servicing University of Florida campuses will require a UF qualified background check to be completed.

4. The Contractor shall agree, in writing, as part of their proposal, to provide both warranty and non-warranty service within 24 hours of notification of a problem. The Contractor shall be able to perform any and all repairs to the systems they install within 48 hours.

5. All technicians assigned to install and configure systems in UF facilities shall be Lenel-trained and certified for the proper installation of this equipment and be thoroughly familiar with all aspects of the software and control hardware.

6. The Contractor must have a minimum of 3 qualified and factory-trained technicians on staff to support this system.

7. The Contractor shall have at least two Lenel Access Control trained and certified technician’s onsite when system installation work is being performed.

8. The Contractor technicians shall be trained and experienced to work with Sargent and Von Duprin electrified locking hardware, must be able to understand and configure complex Input, Output, and Timer logic and have experience troubleshooting impedance issues as well as door hardware installation issues.

9. The Contractor shall be an experienced firm regularly engaged in the layout and installation of systems of similar size and complexity as required for this installation.

10. The Contractor shall have successfully completed the layout, installation, programing, testing and warranty of not less than five systems of similar scope of this project for a minimum period of three years prior to the bid date, and shall have been regularly engaged in the business of Access Control and Security contracting.

11. The Contractor shall submit a list of all employees that will be doing work on campus. This list will need to be submitted quarterly and must be resubmitted immediately when there are any personnel changes that impact the list.

12. The Contractor, as a minimum, must carry a current state-issued limited energy (low voltage) license.

13. Along with a project Security bid a Security Contractor shall be required to provide example As-Built and Wiring diagram documents used on systems of similar size and Scope. (100+ reader installations). The Contractor will need to provide photos of previous installations depicting wiring methods and installation workmanship.

14. Example As-Built Floorplan layouts with Reader, Control Board and Camera layouts.

15. Example wiring diagrams developed by the firm depicting the integration of an Access Control System with another building control system. (i.e., ADA, Intrusion system, Intercom, Man-trap. etc.)

16. 10 photos of installation enclosures depicting use of wire management and wire labeling.

17. 3 references of customers with similar size and scope projects (100+ reader installation) with contact information and willingness to correspond with UF Physical Security.

1.5 Abbreviations

The following abbreviations are used in this document:

1. ACS
   Access Control System

2. ANSI
   American National Standards Institute

3. ASCII
   American Standard Code for Information Interchange

4. AWG
   American Wire Gauge

5. BPS
   Bits Per Second

6. CPU
   Central Processing Unit

7. DPS
   Door Position Switch

8. FCC
   Federal Communications Commission

9. GUI
   Graphical User Interface

10. ID
    Identification

11. IP
    Internet Protocol

12. I/O
    Input / Output

13. NEC
    National Electrical Code

14. NEMA
    National Electrical Manufacturers Association

15. ODBC
    Open Database Connectivity

16. PIN
    Personal Identification Number

17. PTZ
    Pan / Tilt / Zoom

18. RAID
    Redundant Array of Independent Disks

19. REX
    Request to Exit

20. SDRAM
    Synchronized Dynamic Random Access Memory

21. STP
    Shielded Twisted Pair

22. UL
    Underwriters Laboratories, Inc.

23. UPS
    Uninterrupted Power Supply

24. USB
    Universal Serial Bus

25. UTP
    Unshielded Twisted Pair

1.6 Glossary of Terms

1. Access Controlled Opening
   Any Opening controlled and or monitored by Access Control.

2. Access Group
   A logical group of Credential Readers which may be connected to one or more sub-controllers, and which represent a collection of Credential Readers for which a particular credential holder may have access privileges.

3. Access Mode
   The mode of Operation in which the Security Control System shall only annunciate tamper and trouble conditions at a monitored point. Alarm conditions shall not be annunciated in this mode. This is also referred to as Alarm Shunting.

4. Acknowledge
   The action taken by a Security Control System Operator to indicate that they are is aware of a specific alarm or tamper state.

5. Action Messages
   A set of instructions automatically provided to the Operator when an alarm condition is generated.

6. Advisory
   A message provided by the Security Control System to the Operator to inform him/her of a condition as reported by the Security Control System.

7. Alarm Condition
   A change of state, as sensed by the Security Control System, indicating that the Security Control System has detected a condition which its sensors were designed to detect.

8. Application Servers
   Primary host computers in the networked Security System which maintains the Access Control System Database.

9. Boundary Types
   Any area that establishes a boundary within an area.

10. Classrooms
    Teaching areas that include, but are not limited classrooms, auditoriums, laboratories, lecture halls, research spaces.

11. Credential
A person who has been issued a valid Access Credential.

12. Credential Reader
A device usually located at Access Points, designed to decode the information contained on or within a Credential for the purposes of making an access decision, or for identity verification.

13. Clear
The action taken by a Security Control System Operator to respond to an alarm condition or advisory so that other alarms may be serviced or so that other actions may be taken.

14. Double Door
An opening with two individual active door leaves, secured as one opening.

15. Download
To send computer data from the Application Server Database to a Controller for the purposes of making access decision without the intervention of the Application Server.

16. Electrified Locksets
Any lockset that is electromechanically controlled or electrically monitored (REX).

17. Electrified Strike
Installed in place of the conventional lock strike plate on the inside of the door frame. Electrical power is supplied to the strike, which holds the latch or lock bolt in place, keeping the door locked until the release system is activated.

18. Exterior Entrance
Any exterior opening that provides access into a building.

19. Exterior Perimeter
A group of one or more openings that establish a boundary from outside of a facility.

20. Graphical User Interface (GUI)
A type of user interface that allows users to interact with electronic devices through graphical icons and visual indicators such as secondary notation.

21. Head-End

A centrally located place that houses the Access Control Panel(s), Power Supplies, Timers, Relays, etc. and usually in an established Telecom room.

22. Interior Opening

An interior opening that establishes a boundary from within one area of a facility to another.

23. Interior Perimeter

A group of one or more openings that establish a boundary within an area of a facility.

24. Key Cylinder

A custom-ordered part kept in stock by UF Facilities Services. It can only be acquired by issuing a P.O. through work management by a University entity.

25. Line Supervision

The monitoring of an electrical circuit via electrical and software systems to verify the electrical integrity of the supervised circuit.

26. Off-Line

A condition in which a controller is not in communication with the application servers. In the off-line mode, the controller continues to make access decisions and process alarms according to the information stored at its local database.

27. Password

A combination of numbers or letters unique to Security Control System Operator which defines commands and data fields they may view, edit, or command.

28. Reset

A command or feedback signal that indicates that a monitored point has returned to its normal state after having transferred to the alarm or trouble state.

29. Room

An interior Access Controlled location that establishes a boundary for a specific room.

30. Secure Mode

The normal state of an alarm input point from which it will be monitored for change of state to either an alarm or trouble condition.

31. Secured Area
A physical location within the facility to which access is controlled by one or more Credential Readers.

32. Secured Side
Side of a Security Door where a higher security level needs to be granted for a user to be authorized to be in that side of the door.

33. Side Mullion Mounting Box
A custom-ordered part kept in stock by UF Facilities Services. It can only be acquired by issuing a P.O. through work management by a University entity.

34. Single Door
An opening with a single door leaf.

35. Tamper
A condition within the circuitry of a monitored point which indicates the electrical integrity of that sensing circuit has been compromised.

36. Time Interval
A time stamp of one start time and one stop time within a time period.

37. Time Period
A user programmable period of time made up of days of the week and hours in the day.

38. Trouble
A condition within the circuitry of a monitored point which indicates that an equipment malfunction, single break, single fault or a wire-to-wire short exists.

39. Un-Secured Side
Side of a Security Door where a lower security level needs to be granted for a user to be authorized to be in that side of the door.

40. User Definable
An attribute of a Security Control System function that may be easily tailored by the System Administrator.

2 Part 2: Products

2.1 Software

A. Administration

1. The University of Florida has standardized on a centralized Electronic Access Control System.

2. The centralized Access Control System shall be a fully operational system using the software supported by the software vendor.

3. UF Physical Security shall administer the central system.

4. Colleges, Departments, Divisions or other UF entities having administrative ownership of buildings or defined spaces requiring Electronic Access Control shall utilize the centralized Access Control System to manage access to their respective spaces.

5. Video Surveillance and Intrusion Detection Systems shall be compatible with the centralized Access Control System and in conformance with these standards.

B. Access Control System

1. Approved Software, no substitutions, or equivalents:

    a. Lenel® OnGuard® Pro

        https://www.lenels2.com/en/us/security-products/onguard/

C. Software Licenses

1. Software Licenses are required to be purchased for each Reader installed at the time of installation.

2. Licenses are only sold in packs of 64. Installations of 16 or more card readers, must purchase a license pack of 64. Installations of 15 or less card readers are not required to buy reader licenses. Each project is responsible for purchasing required Licenses.

2.2 Hardware

A. Access Control Equipment Enclosure

NOTE TO DESIGNERS OR CONSULTANTS: The Designer or Consultant shall indicate in the Design Documents the location of each Hardware device and the required quantities.

1. Enclosure

All Enclosures shall be provided with a Key-Lockable Door and all Doors shall be keyed alike. All Enclosures shall include a Tamper Switch for Direct Supervision of the Cabinet Door. Cabinet openings shall initiate an Alarm condition to the Security Monitoring System.

Approved equipment, no substitutions, or equivalents:

a. UF Physical Security 6-Panel Enclosure

The 6-Panel Enclosure with back panel is a custom-ordered part kept in stock by UF Facilities Services. It can only be acquired by issuing a P.O. through work management by a University entity. Please be prepared to encumber the funds for these parts in addition to the funds to the Project Manager.

2. Tamper Switch

All Security Enclosures shall include a Tamper Switch for Direct Supervision of the Cabinet Door. Any opening of these Doors shall initiate an Alarm condition to the Security Monitoring System. Tamper Switches shall be wired as to report separate alarms to the system for each Enclosure, no daisy chaining of Tamper Switches is acceptable.

Approved equipment, no substitutions, or equivalents:

a. GRI TSC-20

Tamper Switch, Reed Plunger, Clip Mounted, Closed Loop

https://www.grisk.com/wp-content/uploads/mdocs/C_RP%207_tamper%20switch%20TS-20%20series.pdf

3. IDRC (Intelligent Dual Reader Controller)

An Intelligent Dual Reader Controller (IDRC) shall link the security software to all other field hardware components (Reader Modules, I/O Modules and Biometric Modules). The IDRC shall provide full distributed processing of Access Control & Alarm Monitoring operations. Access levels, hardware configurations, and programmed alarm outputs assigned through the software GUI shall be downloaded to the ISC. The network IDRC shall be an Ethernet-based panel that has the capability to reside on a Local Area Network (LAN) or Wide Area Network (WAN). All Inputs to the IDRC shall be wired with End-Of-Line Resistors for supervisory conditions. The Supervision shall be installed at the device being monitored (i.e., Door contacts need to be supervised at the Contact, Door Locks need to be supervised at the Lock Body, Duress Buttons need to be supervised at the Button).

Approved equipment, no substitutions, or equivalents:

a. Lenel LNL-X2220

   Intelligent Dual Reader Controller (IDRC)

   https://www.lenels2.com/en/us/media/LNL-X2220-ds_tcm841-145616.pdf

4. DRIM (Dual Reader Interface Module)

The DRIM shall provide an interface between the IDRC and authentication devices. The DRIM shall operate with any authentication device that produces a secure OSDP communication. All Inputs to the DRIM shall be wired with end-Of-Line Resistors for supervisory conditions. The Supervision shall be installed at the device being monitored (i.e., Door contacts need to be supervised at the Contact, Door Locks need to be supervised at the Lock Body, Duress Buttons need to be supervised at the Button).

Approved equipment, no substitutions, or equivalents:

a. Lenel LNL-1320-S3

   Dual Reader Interface Module

   https://www.lenels2.com/en/us/media/LNL-1320-Series-3-Datasheet_tcm841-145619.pdf

5. ICM (Input Control Module)

The ICM shall provide an interface between the IDRC and contact closures from individual devices (i.e., Door Contacts, Motion Sensors, Duress Buttons, etc.) All inputs to the ICM shall be wired with end-of-line resistors for supervisory conditions. The supervision shall be installed at the device being monitored (i.e., Door contacts need to be supervised at the contact, door locks need to be supervised at the lock body, duress buttons need to be supervised at the button).

Approved equipment, no substitutions, or equivalents:

a. Lenel LNL-1100-S3

   Input Control Module (ICM)

   https://www.lenels2.com/en/us/media/LNL-1100-Series-3-Data-Sheet_tcm841-145633.pdf

6. OCM (Output Control Module)

The OCM shall provide an interface between the IDRC and to individual devices (i.e., sounders, strobes, buzzers, etc.) The OCM shall incorporate Output Relays that can control a corresponding output device upon commands from the Access System.

Approved equipment, no substitutions, or equivalents:

a. Lenel LNL-1200-S3

   Output Control Module (OCM)

   https://www.lenels2.com/en/us/media/LNL-1200-Series-3-Data-Sheet_tcm841-145622.pdf

B. Power Supply Enclosure

1. Enclosure

The Power Supplies shall convert 115 VAC 60 Hz input to a continuously supplied low voltage current of 12VDC and 24VDC via two (2) single output power supply/chargers. All enclosures shall be provided with a key-lockable door and all doors shall be keyed alike. All enclosures shall include a tamper switch for direct supervision of the cabinet door. Cabinet openings shall initiate an alarm condition to the Security Monitoring System. Power supply enclosures shall be adjacent to the access control enclosures. All power supplies shall be monitored for A/C power failure and low battery failure using power supply monitoring outputs. These outputs shall be wired to available system power failure and auxiliary inputs. All power supplies shall be installed with means of disconnect through a dedicated electrical panel circuit breaker. The panel number and circuit number shall be labeled on the inside door of each respectively.

Approved equipment, no substitutions, or equivalents:

a. Altronix Maximal75E

   Power Enclosure with Power Supplies

   https://www.altronix.com/products/Maximal75E

2. Access Power Controller

The Access Power Controller shall convert one (1) 12-volt DC Input into eight (8) independently controlled PTC protected power-limited auto-resettable Outputs. Contact Closures from system control modules are used to trigger each powered Output. These outputs shall provide independent power to each locking or signaling device (i.e., sounder, strobe, buzzer, etc.).

Approved equipment, no substitutions, or equivalents:

a. Altronix ACM8CB

   Access Power Controller, 8 PTC Class 2 Relay Outputs, FAI, Board

   https://www.altronix.com/products/ACM8CB

3. Power Distribution Module

The Power Distribution Module shall convert a single DC input into eight (8) PTC protected power-limited Outputs. Each Output shall be used to independently power each System Control Module.

Approved equipment, no substitutions, or equivalents:

a. Altronix PD8CB

   Power Distribution Module, 8 PTC Outputs up to 28VAC/VDC, Board

   https://www.altronix.com/products/PD8CB

4. Batteries

All Power Supplies shall be equipped with Backup Batteries. These Batteries shall be labeled with the Date of Installation. All Batteries shall be 12V 7AH and wired in series for 24V Power Supplies.

Approved equipment, no substitutions, or equivalents:

a. Yuasa NP7-12

   12V-7Ah Sealed Lead Acid Battery with F1 Terminal

   https://www.yuasa.co.uk/yuasa/datasheet/index/sku/NP7-12/

C. Door Operator Integration (ADA) Enclosure

1. Auxiliary Enclosure

All Enclosures shall be provided with a Key-Lockable Door and all Doors shall be keyed alike. All Enclosures shall include a Tamper Switch for Direct Supervision of the cabinet door. Cabinet openings shall initiate an Alarm condition to the Security Monitoring System.

Approved Equipment, no substitutions, or equivalents:

a. Altronix BC300

Enclosure, 13.5"H x 13"W x 3.25"D, Grey, 19 Gauge

https://www.altronix.com/products/BC300

b. Altronix BC400

Enclosure, 15.5"H x 12"W x 4.5"D, Grey, 19 Gauge

https://www.altronix.com/products/BC400

2. Timers

The programmable Timer is required to Delay the operation of the Door Operator sequencing. The Timer will be wired with 24V to hold and delay the Door Operator for proper sequencing. The Timer is to be mounted using Snap Track.

Approved Equipment, no substitutions, or equivalents:

a. Altronix 6062

Multi-function Timer 12/24 VDC

https://www.altronix.com/products/6062

b. Altronix ST3

Snap Track Mount

https://www.altronix.com/products/ST3

3. Relays

The Relay is required to provide Isolation when connecting two different systems. The relay will be wired with 24V to trigger the Door Operator, Electrified Locks, and Request to Exit switches. The Relay is to be mounted using Snap Track.

Approved Equipment, no substitutions, or equivalents:

a. Altronix RB1224

Relay Module, 12/24VDC

https://www.altronix.com/products/RB1224

b. Altronix ST1

Snap Track Mount

https://www.altronix.com/products/ST1

D. Video / Door Phone Enclosure

1. Auxiliary Enclosure

All Enclosures shall be provided with a Key-Lockable Door and all Doors shall be keyed alike. All Enclosures shall include a Tamper Switch for Direct Supervision of the Cabinet Door. Cabinet openings shall initiate an Alarm condition to the Security Monitoring System.

Approved Equipment, no substitutions, or equivalents:

a. Altronix BC100

Enclosure, 8.5"H x 7.5"W x 3.5"D, Indoor

https://www.altronix.com/products/BC100

b. Altronix BC200

Enclosure, 12.25"H x 7.25"W x 4.5"D, Grey, 19 Gauge, Indoor

https://www.altronix.com/products/BC200

2. Security Relay for Video Door Phone

The Security Relay acts as a Disconnect between the Access Control module to the lock in the event the Door Phone is tampered with. The Relay is to be mounted in the Auxiliary Enclosure.

Approved Equipment, no substitutions, or equivalents:

a. AXIS A9801

Security Relay

https://www.axis.com/products/axis-a9801-security-relay

3. Network Enabled Relay Control (Non-Video Phone)

The Network Enabled Relay Control is to be mounted in the Auxiliary Enclosure.

Approved Equipment, no substitutions, or equivalents:

a. Viking RC-4A

Network Enabled Relay Controller

https://vikingelectronics.com/products/rc-4a/

E. Line Supervision

1. Resistors

All Inputs into the Access Control System shall be Supervised using a 1K/2KΩ Resistor pack.

Approved equipment, no substitutions, or equivalents:

a. GRI 6644

1K/2KΩ Resistor Pack

https://www.grisk.com/wp-content/uploads/mdocs/Magnetic%20Contacts%20w%20EOL%20Resister%20&%20Packs.pdf

F. Credential Readers

1. NFC Smart Credential Reader

The NFC Smart Credential Reader shall provide an audiovisual indication to signify Access Granted or Access Denied. This operation shall be displayed by a high intensity LED light bar which shall change from Red or Green based on the status of the operation. The housing shall mount on an industry standard single gang electrical junction box.

Approved equipment, no substitutions, or equivalents:

a. Schlage MTB15

Mobile Enabled Multi-Technology Reader

https://commercial.schlage.com/en/products/readers/mtb15-mobile-enabled-multi-technology-wall-readers.html

2. NFC Smart Credential Reader with Keypad

The NFC Smart Credential Reader with Keypad shall provide an audiovisual indication to signify Access Granted or Access Denied. This operation shall be displayed by a high intensity LED light bar which shall change from Red or Green based on the status of the operation. The housing shall mount on an industry standard single gang electrical junction box.

When indicated in the design drawings, the NFC Smart Credential Reader with Keypad shall have all the properties of the Reader but shall be suitable for functionality that requires the use of Credential holder pins or Function Codes.

Prior to ordering any Credential Readers, obtain written verification of the Color Preference, Model and Style Requirements. This selection shall be coordinated through the Architect, UF Physical Security, and Consulting Engineers so that the visual impacts can be evaluated.

Approved equipment, no substitutions, or equivalents:

a. Schlage MTBK15

   Mobile Enabled Multi-Technology Reader with Keypad

   https://commercial.schlage.com/en/products/readers/mtkb15-mobile-enabled-multi-technology-wall-readers-with-keypad.html

3. Iris Biometric Reader

Prior to ordering any Credential Readers, mandatory discussions are required between the Occupant and UF Physical Security.

Approved equipment, no substitutions, or equivalents:

a. IRIS ID Systems ICAM7101S-T

   Biometric Iris Recognition Reader

   https://www.irisid.com/productssolutions/hardwareproducts/icam7-series/

G. Door Hardware

1. Mortise Lock (Built-In REX)

Approved equipment, no substitutions, or equivalents:

a. Sargent

1. LC RX 8271 24VDC WTL 32D

   Electric Mortise Lock with REX

   https://www.assaabloylibrary.us/sargentlock/SARGENT-Mortise-Lock-78008200-Series-Catalog/1/

2. RIM Exit with Electrified Trim

Approved equipment, no substitutions, or equivalents:

a. Von Duprin

https://us.allegion.com/content/dam/allegion-us-2/web-documents-2/Catalog/Von_Duprin_98.99_Series_Catalog_106590.pdf

1. LD RX 98 L-NL 630 M996L 06

   Rim Exit, Less Dogging, Request to Exit, 98 Series, Rigid Lever – Night Latch, Satin Stainless, Motorized Electric Trim (Lever-Night Latch), Standard Lever (Less Cylinder)

2. LD RX 98 L-NL 630 M996L-BE 06

   Rim Exit, Less Dogging, Request to Exit, 98 Series, Rigid Lever – Night Latch, Satin Stainless, Motorized Electric Trim (Lever-Blank Escutcheon), Standard Lever (Less Cylinder)

b. Sargent

https://www.sargentlock.com/en/products/exit-devices/80-series/rim-exit-devices/8800-rim-exit-device121/

1. 19 43 55 LD LC 8876 ETL 24VDC 32D

   Rim Exit with REX Switch, Electric Trim, Less Cylinder, No Lexan Pad

2. 19 43 55 LD LC 8874 ETL 24VDC 32D

   Rim Exit with REX Switch, Electric Trim, Blank Escutcheon, No Lexan Pad

3. RIM Exit with Latch Retraction (Operated Doors)

Approved equipment, no substitutions, or equivalents:

a. Von Duprin

https://us.allegion.com/content/dam/allegion-us-2/web-documents-2/Catalog/Von_Duprin_98.99_Series_Catalog_106590.pdf

1. LD QEL RX 98 L-NL 630 996 L-NL 06

   Rim Exit, Quiet Electric Latch Retraction, 3' RHR 996 L-NL 06 Less Dogging, Request to Exit, 98 Series, Rigid Lever – Night Latch, Satin Stainless, 3' width, Right (or Left) Hand Reverse, 996 Trim (Lever-Night Latch), Standard Lever (Less Cylinder)

b. Sargent

https://www.sargentlock.com/en/products/exit-devices/80-series/rim-exit-devices/8800-rim-exit-device121/

1. 19 43 55 56 LD LC 8804 ETL 24VDC 32D 36"

   Rim Exit with REX Switch, Latch Retraction, Less Cylinder, No Lexan Pad

2. 19 43 55 56 LD LC 8810 ETL 24VDC 32D

   Rim Exit with REX Switch, Latch Retraction, Blank Escutcheon, No Lexan Pad

4. Key Removable Mullion

Approved equipment, no substitutions, or equivalents:

a. Von Duprin KR4954, SP28

Key-Removable Mullion (7'-6", field cut)

https://www.vonduprin.com/en/products/options-accessories/mullions.html

5. Electrical Power Transfer (EPT)

Approved equipment, no substitutions, or equivalents:

a. Securitron CEPT-10

Concealed Electrical Power Transfer, US32D, (8) 22 AWG, (2) 18 AWG Wires

https://www.securitron.com/en/products/power-transfers/cept/

6. Electrified Strike

Approved equipment, no substitutions, or equivalents:

a. HES 8500 Series

https://www.hesinnovations.com/en/products/electric-strikes/8500-series

Will only work with a Mortise Lock that is Latch only.

b. HES 9600 Series

https://www.hesinnovations.com/en/products/electric-strikes/9600-series

Will only work with Rim exit.

7. ADA Push Button

Approved equipment, no substitutions, or equivalents:

a. WIKK I36-3-US32D-CC

ADA Pushbutton, Stainless, with Bottom Caps

https://wikk.com/products/s-i36-3/

H. Credential Reader Pedestals

Prior to ordering any Credential Reader Pedestals, mandatory discussions are required with UF Physical Security. See Typical #13 for installation heights.

1. Small Pedestals (without Door Phone)

Standard approved equipment is:

a. Credential Reader (Only)

1. Pedestal PRO ADA-SS-TWR-47x4x6

   1 hole at 42”

   https://pedestalpro.com/product/ada-ss-twr-47x4x6

b. Credential Reader and ADA Push Button

1. Pedestal PRO ADA-SS-TWR-47x4x6-2

   1 hole at 42” (CR), 2nd hole at 36” (ADA)

   https://pedestalpro.com/product/ada-ss-twr-47x4x6-2

2. Large Pedestals (with Door Phone)

Standard approved equipment is:

a. Credential Reader, ADA Push Button, & Door Phone

1. Pedestal PRO ADA-SS-TWR-60x4x6

   1 hole at 54” (Door Phone), 2nd hole at 42” (CR), 3rd hole at 36” (ADA)

   (2^{nd} and 3^{rd} hole are custom cut by manufacturer)

   https://pedestalpro.com/product/ada-ss-twr-60x4x6

I. Door Position Switch (DPS)

1. Door DPS

The standard recessed Door Position Switch shall have a Contact and the Magnet shall be hermetically sealed in a one piece, molded, flame retardant ABS plastic housing for maximum strength and durability. The Contact and Magnet shall snap-lock into a pre-drilled 3/4" diameter hole. Color of the housing shall match the Door and Door Frame. The top channel mounted contacts are required to be installed with Epoxy to prevent movement of the Contact housing.

Approved equipment, no substitutions, or equivalents:

a. Standard:

1. GRI 180-12

   3/4" Steel Door Recessed Switch Set

   https://www.grisk.com/mdocs-posts/c_rs-14-steel-door-180-184-8080-t/c_rs-14-steel-door-180-184-8080-t-2/

b. Top Channel:

1. GRI MC-180-12 (Requires Epoxy)

   Door Channel Magnet with 3/4" Recessed Switch

   https://www.grisk.com/mdocs-posts/c_rs-17-mc-180-door-channel-mag/c_rs-17-mc-180-door-channel-mag-2/

2. Delayed Egress DPS

Approved equipment, no substitutions, or equivalents:

a. Standard:

1. GRI 195-12

   3/4” Steel Door Recessed Switch Set

   https://www.grisk.com/mdocs-posts/c_rs-14-steel-door-180-184-8080-t/c_rs-14-steel-door-180-184-8080-t-2/

b. Top Channel:

1. GRI 195MC-12 (Requires Epoxy)

   Door Channel Magnet with 3/4” Recessed Switch

   https://www.grisk.com/wp-content/uploads/mdocs/C_RS%2017%20MC%20180%20door%20channel%20mag.pdf

3. High Security DPS

Balanced Magnetic Switches (BMS) or Contacts are acceptable in High Security applications.

Approved equipment, no substitutions, or equivalents:

a. Magnasphere HSS-L2D

Dual Alarm, Surface Mount Contact

https://magnasphere.com/product/hss-l2d-dual-alarm-surface-mount-contact/

4. Roll-up (Overhead Door) DPS

The standard Roll-Up (Overhead Door) Door Position Switch shall be mounted at the top of the Door Frame to avoid physical damage.

Approved equipment, no substitutions, or equivalents:

a. GRI 4405-A

Industrial Surface Mount Switch Set

https://www.grisk.com/wp-content/uploads/mdocs/Aluminum%20Industrial%20Wide%20Gap%20Switch%20Set%204400%20Series.pdf

b. GRI 4482

Commercial Overhead Door Switch Set (Monitors Latch/Bolt)

https://www.grisk.com/mdocs-posts/comm-od-4110-and-4482-series/comm-od-4110-and-4482-series-2/

J. Emergency Notification Buttons

1. Duress Button

Duress Buttons shall be of the double squeeze type that will not allow accidental tripping when bumped. The Switch shall have a unique key to enable the resetting of the Switch after Activation.

The Switch shall be mounted underneath desks or counters with access to the resetting Keyway. The Switch shall only be connected to a Supervised System Input and Supervision shall be installed inside the Switch.

Approved equipment, no substitutions, or equivalents:

a. AMSECO HUSD-15BL

Dual Button Hold-Up Switch

https://www.pottersignal.com/product/datasheet/8880126_HUSD15BLBM.pdf

K. Door Release / Control Switches

1. Emergency Exit By-Pass Push Button (Non-ADA without Cover or Horn)

Where indicated on the Drawings, an Emergency Exit By-Pass Push Button (Non-ADA) shall be provided to function as an Emergency means of Door Release. Upon activation, this device shall provide a momentary release of the Lock and issue a separate Alarm using a connected Contact closure. This action will allow unobstructed Egress through the Door for an adjustable amount of time.

Approved equipment, no substitutions, or equivalents:

a. STI SS2408EX-EN

Stopper Station, Blue, No Cover, Pneumatic Illuminated, Emergency Exit

https://www.sti-usa.com/series/stopper-stations/?model=SS2408EX-EN

2. High Security Emergency Exit By-Pass Push Button (Non-ADA, Cover, Horn)

Where indicated on the drawings, a covered emergency exit by-pass push button (Non-ADA with Cover and Horn) shall be provided to function as an emergency means of door release. Access Control powered local Horn and Alarm event is activated when protective cover is raised. Once button is pressed, this device shall provide a momentary release of the Lock and issue a separate Alarm using a connected Contact closure. This action will allow unobstructed egress through the Door for an adjustable time.

Approved equipment, no substitutions, or equivalents:

a. STI SS2408EX-EN

Stopper Station, blue, no Cover, Pneumatic Illuminated, Emergency Exit

https://www.sti-usa.com/series/stopper-stations/?model=SS2408EX-EN

b. STI STI-13230CB

Dome Cover, Flush back box, Label Hood with Horn & Relay, Blue, Custom Text:

IN CASE OF EMERGENCY

LIFT COVER - PUSH BUTTON

https://www.sti-usa.com/series/universal-stopper/?model=STI-13230CB

c. STI KIT-320

Remote Wiring Harness for Cover Monitoring

https://www.sti-usa.com/series/universal-stopper-fire/?goto_model=37793

3. Under Counter / Desk Door Release Buttons

Approved equipment, no substitutions, or equivalents:

a. United Security Products HUB-2SA

Hold Up Button, Momentary Contact Closure, SPDT

https://www.unitedsecurity.com/copy-of-dialers

4. Keypad

Approved equipment, no substitutions, or equivalents:

a. Barantec EverSwitch AT134S

Touch Metal Access Keypad

https://barantec.com/product/at134s/

5. Key Switch

Approved equipment, no substitutions, or equivalents:

a. Schlage 653-14-L2-ATS-HDP

Key Switch, DPDT maintained Single Direction, 2 LEDs (red/green), 12/24 VDC, Anti-tamper switch, Heavy Duty Plate

https://us.allegion.com/en/home/products/categories/system-accessories/schlage-650-keyswitches.html

L. Emergency Activation Buttons

1. Classroom Secure-In-Place Button

Where indicated on the Drawings, a **Classroom** Secure-In-Place Button shall be provided to function as a means to secure the electronic locks in the Classroom. Upon activation, this device shall provide a LED indicator light and issue an emergency notification.

This part must be approved by UF Physical Security prior to specifying or ordering.

Approved equipment, no substitutions, or equivalents:

a. STI SS2229ZA-EN

Stopper Station

#2 Yellow

#2 Cover Indoor Only Flush or Surface

#9 Turn-to-Reset, 2 Form C

ZA Non-Returnable Custom Label

English Labeling

Custom Text:

Shell Text 1: CLASSROOM

Shell Text 2: SECURE IN PLACE

https://www.sti-usa.com/series/stopper-stations/?model=SS2229ZA-EN

2. Area Secure-In-Place Button

Where indicated on the Drawings, an **Area** Secure-In-Place Button shall be provided to function as a means to secure the electronic locks in the Area. Upon activation, this device shall provide a LED indicator light and issue an emergency notification.

This part must be approved by UF Physical Security prior to specifying or ordering.

Approved equipment, no substitutions, or equivalents:

a. STI SS2229ZA-EN

Stopper Station

#2 Yellow

#2 Cover Indoor Only Flush or Surface

#9 Turn-to-Reset, 2 Form C

ZA Non-Returnable Custom Label

English Labeling

Custom Text:

Shell Text 1: AREA

Shell Text 2: SECURE IN PLACE

https://www.sti-usa.com/series/stopper-stations/?model=SS2229ZA-EN

3. Suite Secure-In-Place Button

Where indicated on the Drawings, a **Suite** Secure-In-Place Button shall be provided to function as a means to secure the electronic locks in the Suite. Upon activation, this device shall provide a LED indicator light and issue an emergency notification.

This part must be approved by UF Physical Security prior to specifying or ordering.

Approved equipment, no substitutions, or equivalents:

a. STI SS2229ZA-EN

Stopper Station

#2 Yellow

#2 Cover Indoor Only Flush or Surface

#9 Turn-to-Reset, 2 Form C

ZA Non-Returnable Custom Label

English Labeling

Custom Text:

Shell Text 1: SUITE

Shell Text 2: SECURE IN PLACE

https://www.sti-usa.com/series/stopper-stations/?model=SS2229ZA-EN

M. Gates

1. Pedestrian Gate

- No MAG LOCKS
- Emergency Egress included
- Camera Required
- Must be approved by UF Physical Security prior to specifying or ordering.

2. Vehicle Gate

Vehicle Gates will need to be a V-tracked rolling type supported by 8" wheels and side rollers. Far end of Gate will need to have End-Catch. The Operator for Vehicle Gates shall provide Contact closure for Access Control System when Gate is in Open / Closed position. Gate monitoring and status shall be provided by access Control system. Gates shall have a Photoelectric / Infrared sensor system designed to detect an obstruction in the Gate's path when the Infrared Beam in the zone pattern is interrupted. The Photosensor will require a second set of Contacts to notify Access Control System when sensor is obstructed.

Approved equipment, no substitutions, or equivalents:

a. Gate Operator

1. HySecurity SlideDriver 222 EX 1.7 ST (3000 pounds)

https://hysecurity.com/products/slide-gate/slidedriver/

b. Internal Solenoid Kit

1. HySecurity MX001225 120VAC
2. HySecurity MX001227 240VAC

https://support.hysecurity.com/hc/en-us/articles/360043724393

c. Gate Loop Detector

1. HySecurity HY5B

https://support.hysecurity.com/hc/en-us/articles/360043238554

N. Surge Protection

1. Head-End Surge Protection

Provides surge protection for Credential Readers operating on 12V power. Protects three pairs of Power/Data connections.

Approved equipment, no substitutions, or equivalents:

a. DITEK DTK-3LVLPX

Credential Reader Surge Protector

https://www.diteksurgeprotection.com/products/voice-data-and-signaling-protection/screw-terminal-connections/118-dtk-3lvlpx

2. Credential Reader Surge Protection

Provides surge protection for Credential Readers operating on 12V power. Protects three pairs of Power/Data connections.

Approved equipment, no substitutions, or equivalents:

a. DITEK DTK-3LVLPX

Credential Reader Surge Protector

https://www.diteksurgeprotection.com/products/voice-data-and-signaling-protection/screw-terminal-connections/118-dtk-3lvlpx

3. Gate Surge Protection

All security components installed Outdoors or exposed to lighting shall be provided with Surge and Lighting Protection. Provide UL listed multi-stage protection on all Low Voltage and Signal transmission lines.

All 120 VAC surge suppression devices shall be EDCO.HSP121BT-1RU or an approved equivalent.

For low voltage connections provide DTK-2MHLPF series with base DTK-MB Surge Suppressors manufactured by DITEK or an approved equivalent.

Approved equipment, no substitutions, or equivalents:

a. DITEK DTK-2MHLPF

Data & Signaling Circuit Surge Protection Module

https://www.diteksurgeprotection.com/products/voice-data-and-signaling-protection/panel-mount-modules/94-dtk-2mhlp24f

b. DITEK DTK-MB10

Snap-Track Type Mounting Base

https://www.diteksurgeprotection.com/products/voice-data-and-signaling-protection/panel-mount-modules/183-dtk-mb10

O. Cables Specifications for Access Control

1. Composite Cable

Cables for the following devices shall have the following specifications:

- Request to Exit (REX)
    - Minimum Cable Gauge: AWG 22
    - Number of Conductors: 4, stranded conductors
    - Conductor Type: Bare copper
    - Cable Insulation: Color coded Plenum PVC
    - Conductor Insulation Colors: Black, Red, White, and Green
    - Voltage Rating: 300V
    - Cable Shield: No cable shield

- Door Locks
    - Minimum Cable Gauge: AWG 18
    - Number of Conductors: 4, stranded conductors
    - Conductor Type: Bare copper
    - Cable Insulation: Color coded Plenum PVC
    - Conductor Insulation Colors: Black, Red, White, and Green
    - Voltage Rating: 300V
    - Cable shield: No cable shield

- Door Position Switches (DPS)
    - Minimum Cable Gauge: AWG 22
    - Number of Conductors: 2, stranded conductors
    - Conductor Type: Bare copper
    - Cable Insulation: Color coded Plenum PVC
    - Conductor Insulation Colors: Black and Red
    - Voltage Rating: 300V
    - Cable Shield: No cable shield

- Access Control Readers (ACRs)
    - Minimum Cable Gauge: AWG 22
    - Number of Conductors: 6, stranded conductors
    - Conductor Type: Bare copper
    - Cable Insulation: Color coded Plenum PVC
    - Conductor Insulation Colors: Black, Red, Yellow (or White), Green, Orange (or Brown), and Blue
    - Voltage Rating: 300V
    - Cable Shield: .001" Al/Mylar/ Drain 24 7/32 TC

Approved equipment, any Substitutions must be approved prior to Submittals or Bid:

a. Plenum Applications

1. Honeywell 3195

Composite Cable, Plenum Profusion Unjacketed Access Control Wire

https://www.resideo.com/us/en/pro/products/wire-cable/security/access-control/31955099-plenum-profusionr-access-control-unjacketed-500-ft-reel-31955099/

b. Riser Applications

1. Honeywell 2195

Composite Cable, Riser Profusion Unjacketed Access Control Wire

https://www.resideo.com/us/en/pro/products/wire-cable/security/access-control/21955099-riser-profusionr-access-control-unjacketed-500-ft-reel-21955099/

c. Exterior / Underground / Wet Environments

1. West PennAQC1822

Composite Cable, Indoor/ Outdoor AquaSeal Access Control Wire

https://store.westpennwire.com/mobile/aqc1822-p3646.aspx

2. RS-232, RS-422 or RS-485

Cables for RS-232, RS-422 or RS-485 control lines shall have the following specifications:

- Minimum Cable Gauge: AWG 22
- Number of Conductors: 4, stranded conductors
- Conductor Type: Bare copper
- Cable Insulation: Plenum PVC
- Conductor Insulation Colors: Black, Red, White, and Green
- Voltage Rating: 300V
- Cable Shield: 001" Al/Mylar/ Drain 24 7/32 TC
- Nominal Characteristic Impedance: 120 Ohms
- Nominal Capacitance: 12.8 pF/ft.
- Nominal Delay: 1.6 ns/ft.
- Nominal Attenuation: 0.6 dB/100 ft @ 1 MHz

Approved Equipment, any substitutions must be approved prior to submittals or bid:

a. Plenum

1. Honeywell 3204

   22 AWG 4C Stranded Shielded Plenum Cable

   https://www.resideo.com/us/en/pro/products/wire-cable/security/multipurpose/32041112-22-awg-4c-str-shielded-plenum-natural-1000-ft-pull-box-32041112/

b. Riser

1. Honeywell 2204

   22 AWG 4C Stranded Shielded Riser Cable

   https://www.resideo.com/us/en/pro/products/wire-cable/security/multipurpose/22041109-22-awg-4c-str-shielded-riser-gray-1000-ft-pull-box-22041109/

c. Exterior / Underground / Wet Environments

1. West Penn AQC3270

   22 AWG 6C Stranded Shielded, Indoor/ Outdoor AquaSeal Cable

   https://store.westpennwire.com/aqc3270-p3612.aspx

3. Accessory Cable

Cables for access control accessories such as Duress Buttons or Door Release Buttons should have the following specifications:

- Minimum Cable Gauge: AWG 22
- Number of Conductors: 4, stranded conductors
- Conductor Type: Bare copper
- Cable Insulation: Plenum PVC
- Conductor Insulation Colors: Black, Red, White, and Green
- Voltage Rating: 300V

Approved Equipment, any substitutions must be approved prior to submittals or bid:

a. Plenum

1. Honeywell 3104

   22 AWG 4C Stranded, Unshielded, Plenum Cable

   https://www.resideo.com/us/en/pro/products/wire-cable/security/multipurpose/31041112-22-awg-4c-str-plenum-natural-1000-ft-pull-box-31041112/#resources

b. Riser

1. Honeywell 2014

   22 AWG 4C Stranded, Unshielded, Riser Cable

   https://www.resideo.com/us/en/pro/products/wire-cable/security/multipurpose/21041109-22-awg-4c-str-riser-gray-1000-ft-pull-box-21041109/

4. Cable Gauge

All cable gauges shall be estimated as to allow a maximum of 5% voltage drop from the source to the load.

Sizes given previously are only minimum gauges accepted.

The Contractor shall always estimate proper values.

5. Cable Jackets

All cable jackets shall be suitable for the environment on which the cables will be installed.

Use cable jackets with water-blocking material when installed in underground conduits.

6. UTP Category Cables and Fiber Optic Cables

For specifications on all UTP paired category cables and fiber optic cables the Contractor shall follow all requirements on UF Telecommunications Standards.

2.3 Substitutions

1. Because of compatibility issues, the hardware and software manufactured by the UF approved Access Control System, and specified herein, may NOT be substituted. Equipment and software shall be provided as specified.

2. The Contractor is NOT AUTHORIZED to install any substitute equipment before receiving an Approved Variance Request form.

3. For the new product to be accepted as an equivalent, the Security Contractor shall follow these steps:

   a. Submit a Variance Request form, attaching a complete list of such substituted products with drawings and product data sheets.

      https://facilities.ufl.edu/wp-content/uploads/forms/dcs/StandardsRequest.pdf

   b. Design professionals or UF Project Managers should submit and receive written Approval from UF Physical Security of such Variances before incorporating changes into the Design Documents or proceeding with work that varies from these Standards.

4. Substitute equipment must be a standard part of that system's current product line and should meet or exceed the capabilities of the equipment specified herein. Beta, Specials, or “One Time” products will NOT be acceptable. If proposed substitutions do not meet or exceed the performance levels specified herein, the limitations of this equipment must be highlighted and brought to the attention of the designer and/or consultant. Failure to notify the Designer/Consultant of these limitations, whether intentionally or by oversight may result in rejection of those components at any time. Should this occur, the Contractor will be required to replace the rejected equipment with pre-approved components that meet or exceed the requirements as specified herein. This will be done at no additional cost to the client.

5. Alternate Methods: When the Contractor proposes alternate methods to a UF standard practice indicated in this Specification, the Contractor shall follow the same process as for equipment substitutions. The Contractor shall submit a Variance Request form and obtain Approval from UF Facilities Services before applying any alternate methods.

3 Part 3: Design

The purpose of this section is to clearly define requirements for Physical Security, as it relates to Electronic Access Control, of university facilities.

The Security Designer shall provide Construction Documents complete enough for Contractors to bid the project.

3.1 Specifications

Architects, Design Professionals, Engineers shall provide the following information when submitting design specifications for the following Access Control hardware.

A. Head-End

1. All Access Control Panels, Power Supplies and other control equipment shall be installed in a dedicated Security Room or centralized Telecom Room.

2. Multi-level buildings, depending on size and quantity of devices, shall provide a centralized control location per floor in a dedicated Security Room or centralized Telecom Room.

3. All Access Control cabling shall be secured from the device location in Conduit to Cable Tray or to the Access or Power Supply Enclosure. It is acceptable to install cable in slotted wiring duct only within a dedicated Security or Telecom room with Ladder Tray.

4. 4” Panduit, slotted, wiring duct shall be installed as a raceway for low voltage cable from the Enclosures to the cable tray within the Telecom or Security Room. If Cable Tray does not exist, then dedicated Conduit shall be installed from Enclosures to field devices.

5. All Access Control equipment will need to be installed in University designed and project funded Access Control Enclosures.

6. All Enclosures must be mounted on a Fire-Retardant Panel.

7. All Enclosures shall have dedicated and independently wired Tamper Switches.

8. All Access Control devices installed away from a building shall have Surge Protection on Inputs and Outputs to the access system.

9. B-wire connectors shall be used to make any necessary wire splices in the Enclosures.

10. All Cables and Wires shall be clearly identified by pre-printed labels or tags at each Head-End termination point.

1. Access Control Equipment Enclosure

a. General

1. No modules (boards) shall be mounted on Enclosure doors.

2. Access Enclosures shall be equipped with Panduit, slotted, wiring duct. 2”x 2” wiring duct shall be installed around inside edge and 1”x 2” wiring duct shall be installed between each module. (See Typical #1 below)

3. Power Fail and Cabinet Tamper Inputs have priority and shall be used before any Auxiliary Inputs.

4. Unused Power Fail and Cabinet Tamper Inputs shall be bypassed using a Jumper.

5. Module relays shall be wired to an Access Power Controller.

6. The Security Relay for Video Door Phones shall act as a disconnect between the Video Door Phone and Access Input and shall be secured with screw mount cable ties.

b. Intelligent Dual Reader Controller (IDRC)

1. A system shall be designed to have a single Controller operate up to (32) downstream devices. If needed, data cabling shall be installed between multiple levels to accomplish this.

2. A UF Network outlet must be installed to support the single Controller.

3. Each Controller shall be labeled with Segment number and Controller number as indicated in Programming Sheet (i.e., 155-01).

c. Dual Reader Interface Module (DRIM)

1. All electrified openings (with or without Credential Reader) shall be wired to a dedicated Reader Port.

2. Each module shall be labeled with Controller number and Module Address (i.e., 01-02).

d. Input Control Module (ICM)

1. Input Control Modules shall only be installed when all Auxiliary Inputs have been used within that specific Head-End.

2. Input Control Modules shall only be used when more than 4 additional Inputs required. If less than 4 inputs are required, a LNL-1320 should be used instead.

3. Each module shall be labeled with Controller number and Module Address (i.e., 01-02).

e. Output Control Module (OCM)

1. Output control modules shall only be installed when interlock functionality is needed.

2. Each module shall be labeled with Controller number and Module Address (i.e., 01-02).

2. Power Supply Enclosure

a. All wiring shall be continuous with no splices.

b. Wiring serving an entry's REX and lock power shall have its outer jacketing removed in the Power Supply Enclosure. This will allow for the REX to be separated from the Lock and routed to the Access Control Enclosure with no splices.

c. The Power Supplies shall have a dedicated 110VAC 20A circuit from the Emergency Panel. All Power Supplies shall have dedicated conduit from the Electrical Panel to the Enclosure. Power cords are prohibited.

d. All system power supplies shall include backup batteries that will provide continuous power for a minimum of 30 minutes, maintain the battery's charge and provide status of the battery's failure.

e. The source of the AC power feed shall be identified at termination point of equipment.

f. Each Access Module shall be independently powered by an Output on the Power Distribution Module.

g. Each switched device shall be independently powered by a PTC circuit on the Power Access Controller.

h. All Fire Alarm integration shall be connected using the Power Access Controller. This includes device deactivation on an Active Fire Alarm (delayed Egress, Mandated Fail Safe Locksets, etc.).

i. All wiring shall be labeled with door number and device type (i.e., C199H REX, C199H Lock, C199H DPS, C199H CR, etc.). Labeling shall be wrapped around cabling jacket within the wiring duct.

j. All output relays on the Power Access Controller shall be labeled with device address and name (i.e., (01-02A) Door C199H, (01-02B) Sounder C199H, etc.).

k. All Batteries shall be labeled with Date of Installation.

l. All Batteries shall be 12V 7AH and wired in series for 24V Power Supplies.

3. Door Operator Integration (ADA) Enclosure

a. Automatic Door Operator components on Access Control openings shall integrate so that:

   1. Interior Actuator is Always Active and signals REX upon activation.

   2. Exterior Actuator is Only Active when Unlocked or “Access Granted”.

b. Each Operated Door or pair of Doors shall have (2) Timers and (2) Relays for integration with Door Operator.

c. Supervision for the REX of an operated Door shall be installed within this Enclosure.

d. All wiring shall be labeled with Door number and device type (i.e., C199H REX, C199H Lock, C199H DPS, C199H CR, etc.). Labeling shall be wrapped around cabling jacket within the wiring duct.

e. Relays and timers shall be labeled with Door number (i.e., Door C199H).

f. The Timer and Relay Enclosure shall be equipped with Panduit, slotted, wiring duct. 1” x 2” wiring duct shall be installed around the entire Interior of the Enclosure.

4. Video / Door Phone Enclosure

a. DC power for the Relay Controller shall be provided by an independent PTC circuit from the Access Power Controller.

b. Molded male, DC, power connector shall be spliced into 22 AWG Access Control cable in wiring duct within the Enclosure.

c. Supervision for the Door Trigger shall be installed within this Enclosure.

d. All wiring shall be labeled with Door address and number (i.e., (01-02A) Door C199H).

e. The Door Phone Enclosure shall be equipped with Panduit, slotted, wiring duct. 2” x 2” wiring duct shall be installed on the bottom edge within the Enclosure.

B. Access Control Opening Types

1. Exterior Entrances

a. All Exterior Entrances are required to have Access Control.

b. Exterior Entrances requiring Ingress and Egress shall have a Credential Reader, Integrated Request to Exit switch (REX), Door Position Sensor (DPS), Concealed Electric Power Transfer (CEPT), and Electrified Lockset.

c. Exterior Entrances requiring Egress only shall have a REX, DPS, CEPT, and Exit Only hardware with cylinder (no Trim, Pull).

d. Exterior Entrances requiring Delayed Egress (Exit-Only) shall have a Credential Reader with Keypad (secure side), DPDT DPS, CEPT, and no Outside hardware (no Trim, Pull, or Cylinder).

e. Exterior Entrances requiring Ingress and Delayed Egress shall have a Credential Reader with Keypad (Secure side), Credential Reader (Unsecure side), DPDT DPS, CEPT, and Electrified Trim.

f. Roll-up or Overhead Doors shall have a Credential Reader with Keypad on Secure side, DPS, and Operator integrated with Access Control system.

g. Exterior openings providing Roof access shall have a Credential Reader on the Secure side, REX, DPS, CEPT, and Electrified Lockset.

h. Access Hatches to the Exterior shall have a DPS.

i. All Exterior Entrances shall be covered by a Security Camera, refer to Section 28 20 00 Electronic Surveillance (to be created) for more details.

2. Classrooms

a. All Classroom Doors shall have Access Control.

b. Classroom Doors requiring Ingress and Egress shall have a Credential Reader, integrated Request to Exit switch (REX), Door Position Sensor (DPS), Concealed Electric Power Transfer (CEPT), Electrified Lockset or Electric Strike where approved.

c. Classroom Doors requiring Egress only shall have a REX, DPS, CEPT, and Exit Only hardware (no Trim, Pull, or Cylinder).

d. Classroom Doors with Electronic Access Control requires a Secure-In-Place Input Button to engage the Doors and Lock in the event of an Emergency.

3. Critical Facility Areas

a. All Critical Facility Area Openings for Electrical, Elevator, Fire, Mechanical, Telecom, or Security rooms shall have Access Control.

b. Openings requiring Ingress and Egress shall have a Credential Reader, integrated Request to Exit switch (REX), Door Position Sensor (DPS), Concealed Electric Power Transfer (CEPT), and Electrified Lockset.

c. Openings requiring Egress only shall have a REX, DPS, CEPT, and Exit Only hardware (no Trim, Pull, or Cylinder).

d. All Critical Facility Area Openings shall be covered by a Security Camera, refer to Section 28 20 00 Electronic Surveillance.

4. High-Value / Sensitive Areas

a. Openings identified by the Occupant as requiring Access Control shall also have Access Control on all other Openings, forming a complete Perimeter around the identified space.

b. Openings requiring Ingress and Egress shall have a Credential Reader, integrated request to exit switch (REX), Door Position Sensor (DPS), Concealed Electric Power Transfer (CEPT), and Electrified Lockset.

c. Openings requiring Egress only shall have a REX, DPS, CEPT, and Exit Only hardware (no Trim, Pull, or Cylinder).

d. Any Occupant required Access Controlled Opening shall be covered by a Security Camera, refer to Section 28 20 00 Electronic Surveillance.

C. Access Control Devices

All cabling between Access Control devices to the Head End shall have no splices.

1. Credential Reader

a. All Openings

1. All Readers shall be wired for RS-485 (OSDP).

2. All Readers shall be mounted 48” from finished floor to the top of Reader.

3. All readers shall be mounted level on a solid, flat surface supporting the full length and width of the Reader.

4. All Readers shall have pullable Conduit installed to the junction box above the Secured Side of the Door.

5. A Credential Reader with Keypad shall be installed on all main entries into a building and for all Delayed Egress Openings.

6. Credential Readers installed away from a building shall have Surge Protection.

7. Readers shall be mounted on the Strike side of the Door at a maximum of 3’ from the Door.

b. Single Doors

1. Readers shall be mounted on the Strike side of the Door at a maximum of 3’ from the Door.

c. Double Doors

1. Readers shall be mounted on the Right side of Double Doors at a maximum of 4’ from the Door.

2. If the Reader is mounted within the swing of the Door, then provisions must be made to prevent the Door from swinging into the Reader (i.e., Floor Stop, Swing Limiting Door Closer, etc.).

d. Operated (ADA) Doors

1. Readers shall be mounted above the 36” Push Strip Actuator.

2. Reader and Actuator shall be mounted within 10’ of the door with consideration to ADA accessibility.

3. Instances where appropriate mounting locations are not available may require a dedicated Pedestal for the Reader and Actuator.

2. Door Position Sensor (DPS)

a. DPS shall be mounted on the top face of the door, 3” from the Strike side.

b. Plastic housing for Magnet shall remain intact on all DPS.

c. DPS for Doors with top channel shall be mounted with the Door Channel Magnet epoxied in place.

d. DPS for Double Doors shall be wired in series.

e. DPS shall be Supervised with Resistor pack installed within the Door Frame.

f. All DPS shall have pullable Conduit installed to the junction box above the Secured Side of the Door.

g. DPS installed away from a building shall have Surge Protection.

h. A Double Pole Double Throw DPS shall be installed on all Delayed Egress Openings.

3. Electrified Locksets

All Electrified Locksets shall have pullable Conduit installed from the EPT pocket in the Door Frame to the junction box above the Secured Side of the Door.

All Electrified Locksets installed away from a building shall have Surge Protection.

a. Electrified Mortise Lock

1. REX shall be supervised with resistor pack installed within the Mortise pocket.

b. Single Door, Panic Device

1. REX shall be supervised with Resistor Pack installed within the Exit Device.

c. Double Door, Panic Device

1. REX shall be supervised with Resistor Pack installed within the Right hand EPT pocket.

d. Single / Double Door with Operator

1. REX shall be supervised with Resistor Pack installed within the Auxiliary Enclosure at the Access Control Head-End.

e. Single / Double Door Delayed Egress (Exit-Only)

1. A 22/6 cable shall be installed to support the following functions: Inhibit / Remote Reset, Remote Alarm, and Secure Relay / Latch Bolt Monitoring.

2. All Delayed Egress Openings will require DPDT DPS for device monitoring of Door Status. The DPS will need to report to the Panic Device and the Access Control System.

3. All Delayed Egress Openings will require a Credential Reader with Keypad on Secure Side to allow Reset with Access Control System.

f. Single / Double Door Delayed Egress (Read-In / Read-Out)

1. A 22/6 cable shall be installed to support the following functions: Inhibit / Remote Reset, Remote Alarm, and Secure Relay / Latch Bolt Monitoring.

2. All delayed egress openings will require DPDT DPS for device monitoring of Door Status. The DPS will need to report to the Panic Device and the Access Control System. This will require an additional 22/2 cable from the DPS to Panic Device.

3. Read-In / Read-Out Delayed Egress openings will require a Credential Reader with Keypad on the Secure side and Credential Reader on the Unsecure side.

4. The Electrified Trim will need to be integrated with the Panic Device for improved security.

4. Operator Actuator

a. Actuators shall be mounted level on a solid, flat surface supporting the full length and width of the device.

b. Actuators shall be mounted directly below the Credential Reader.

c. Actuators and Readers shall be mounted within 10’ of the door with consideration to ADA accessibility.

d. Actuators shall be hardwired.

e. All Actuators shall have pullable Conduit installed to the junction box above the Secured Side of the Door.

f. REX shall be supervised with Resistor Pack installed within the Auxiliary Enclosure at the Access Control Head-End.

5. Duress Buttons

a. The requirement for Duress Buttons shall be identified by the Occupant.

b. All Duress Buttons shall have a Camera viewing the Button's immediate area or Opening into the immediate area, refer to section 28 20 00 Electronic Surveillance.

c. Duress Buttons shall be mounted to the underside of a fixed desk or counter and concealed from plain sight. Mounting Duress Buttons to mobile or sit / stand furniture is prohibited.

d. Duress Buttons shall be supervised with a Resistor Pack installed at the Button.

e. Cabling from the wall to the Button shall be secured in Flexible Conduit.

f. Cabling from the Access Control Module to the Button shall be continuous with no splices.

6. Door Releases

a. The requirement for Door Releases shall be identified by the Occupant.

b. Door releases shall require line of sight from the device to the individual requesting access.

c. A Credential Reader with Keypad is required for a door release located on the Un-Secured Side of the opening(s) it controls.

d. Door Release Buttons shall be mounted to the underside of a fixed desk or counter. Mounting Door Release Buttons to mobile or sit/stand furniture is prohibited.

e. Door Release Buttons shall be supervised with a Resistor Pack installed at the Button.

f. Cabling from the wall to the Button shall be secured in Flexible Conduit.

g. Cabling from the Access Control Module to the Button shall be continuous with no splices.

7. Video Door Phones

a. Video Door Phones shall be used when Door Release functionality is required and there is not a direct Line of Sight from the Release to the individual requesting access.

b. Any Phone which serves as a Receiver shall have the capability of displaying video from the Door Phone.

c. Video Door Phones shall be mounted level on a solid, flat surface supporting the full length and width of the device.

d. Video Door Phones shall be mounted directly above the Credential Reader at a height of 60” to center Above Finished Floor.

e. Video Door Phones shall have a 22/4 Security Relay Cable installed from the device to the Access Control Head-End.

f. Video Door Phones shall have a Power Over Ethernet (POE) network connection.

g. Video Door Phones installed away from the building shall have Surge Protection on both Security Relay and Network Connections.

8. Door Phone (non-video)

a. Door phones shall be used when Door Release functionality is needed, and direct line of sight exist from the Release to the Individual Requesting Access.

b. Door Phones shall be mounted level on a solid, flat surface supporting the full length and width of the device.

c. Door Phones shall be mounted directly above the Credential Reader at a height of 60” to center Above Finished Floor.

d. Door Phones shall have a Power Over Ethernet (POE) network connection.

e. Door Phones installed away from the building shall have Surge Protection at the device.

9. Lockdown Readers

a. The requirement for Lockdown Readers shall be identified by the Occupant.

b. Lockdown Readers shall be in an Occupant accessible location adjacent to management personnel with the Authority to Lockdown the facility.

c. Lockdown Readers shall be a Credential Reader with Keypad.

3.2 Construction Plans

All Access Control System information shall be annotated within the Technology section of the Construction Plans.

A. Symbols

Construction Plans shall use the following Symbols for Access Control devices.

1. Credential Readers

a. CR = Credential Reader

b. CRK = Credential Reader and Keypad

c. LR = Lockdown Reader (includes Keypad)

d. CDR = Credentialed Door Release (includes Keypad)

e. PED = Pedestal

2. Electrified Locksets

a. EM = Credential Reader, Electrified Mortise (with integrated REX)

b. EL = Credential Reader, Electrified Latch Retraction (with integrated REX)

c. ET = Electrified Trim (with integrated REX)

d. EO = Exit Only (with integrated REX)

e. DE = Delayed Egress

f. ES = Electric Strike (Classroom, Secondary Doors)

3. Other Access Control Devices

a. ACH = Access Control Head-End

b. OA = Operator Actuator (ADA Push Strip)

c. DB = Duress Button

d. DR = Door Release Button

e. VP = Video Door Phone

f. DP = Door Phone (non-video)

B. Floor Plans

1. Technology Floor Plans shall depict the most current Architectural Floor Plan.

2. Technology Floor Plans shall accurately depict Door Number, Swing, Single/Double, and Location as shown on the Architectural Floor Plan.

3. Door numbers shall be constructed using the Room number for which the opening leads into. Rooms with multiple Openings shall be numbered with Room number followed by .1, .2, .3, etc.

4. Technology Floor Plans shall annotate the location of each Access Control Opening with Electrified Lockset, Credential Reader, and other Access Control device locations, using the Symbols defined above.

5. Technology Floor Plans shall depict the location of each Pedestal location.

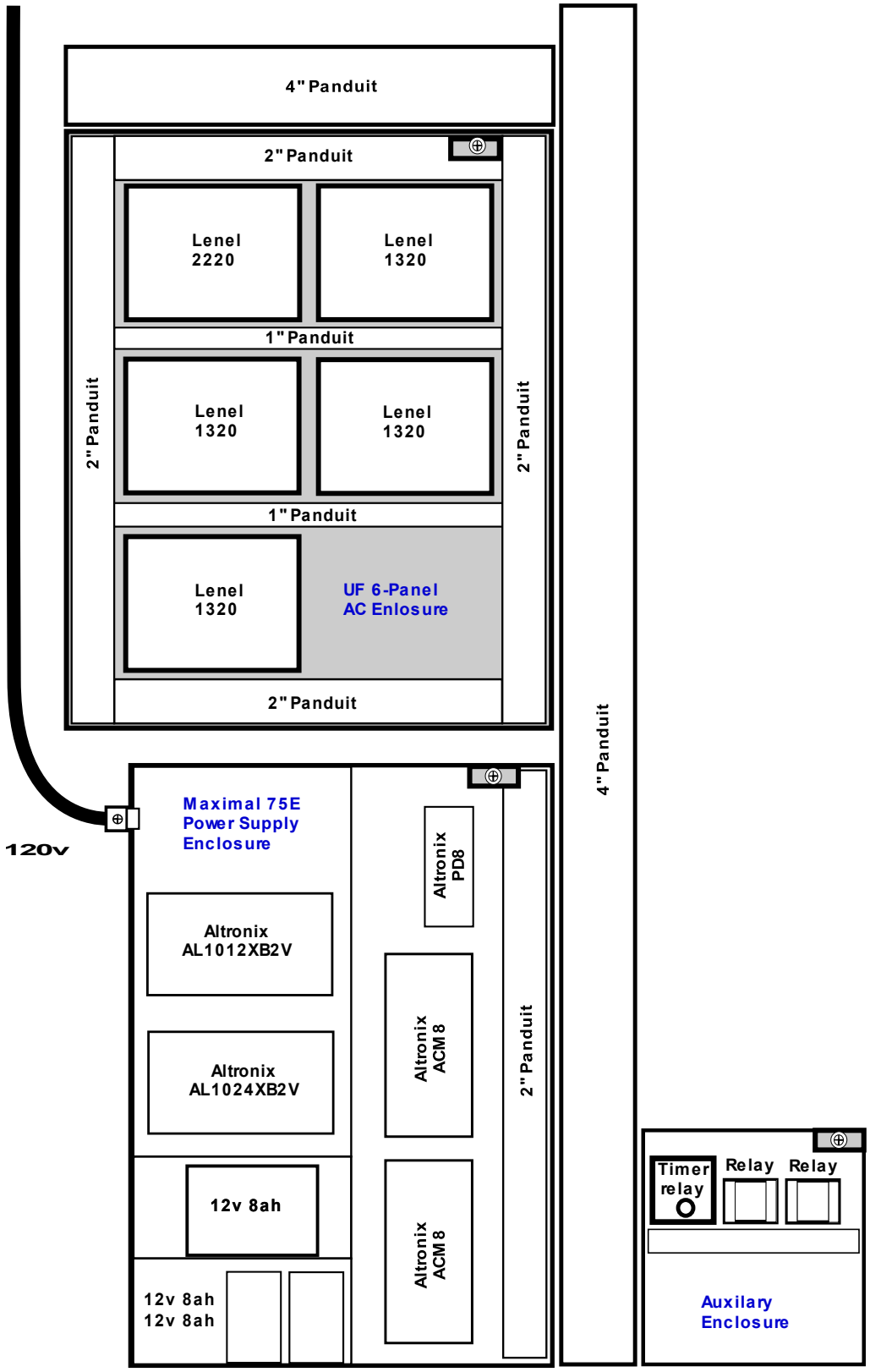
6. When an Access Control device is to be mounted away from a Wall (i.e., Built-In Desks, Islands), then the Fixed Furniture shall be depicted.

7. Technology Floor Plans shall annotate Cable Tray.

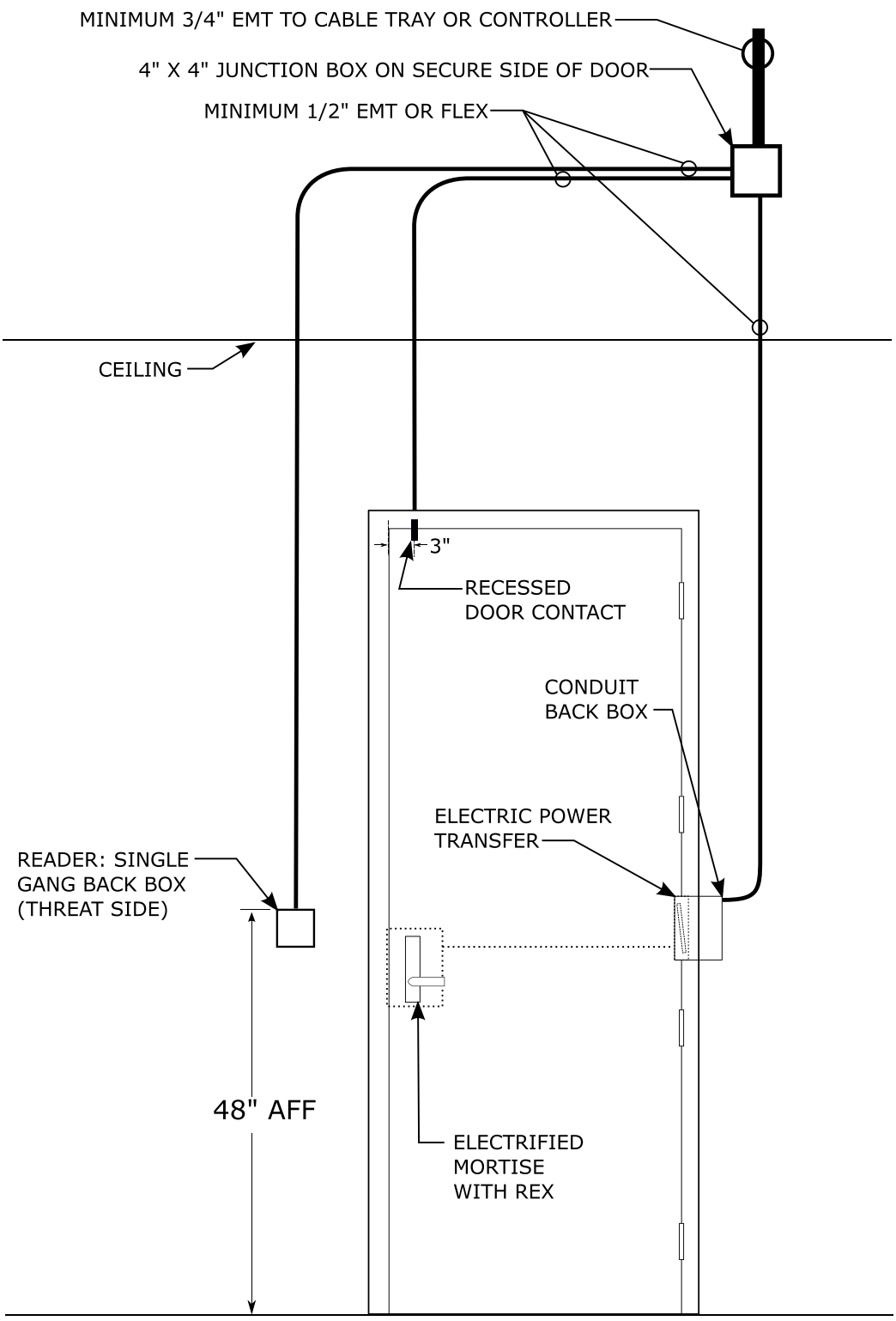
C. Typicals

A Typical shall be provided for each Opening configuration (i.e., Single, Double, Operated, Mortise Lock, Rim Exit, etc.). The following are examples of common Typicals used at UF.

Typical 1. Head-End

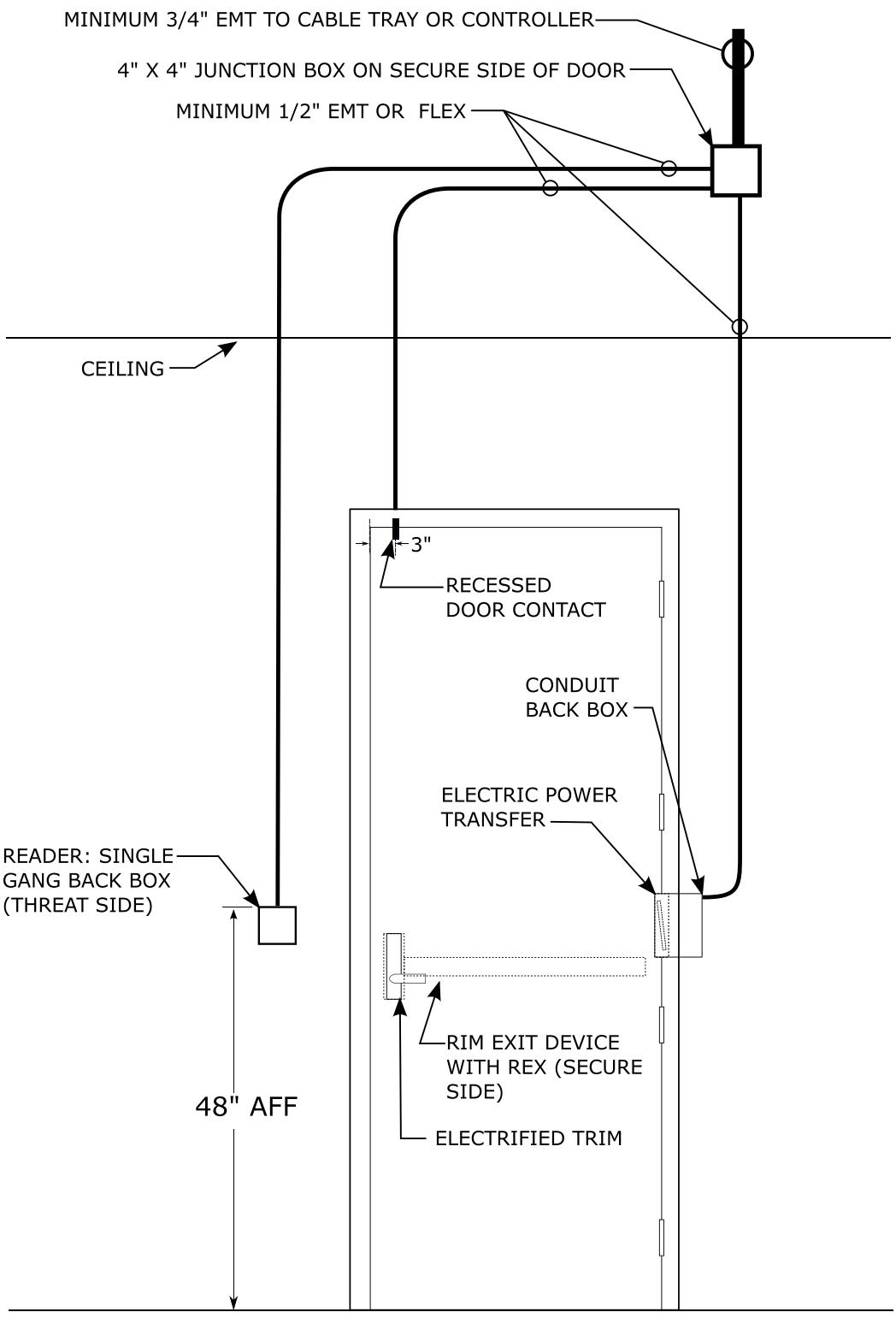


Typical 2. Single Door, Electrified Mortise



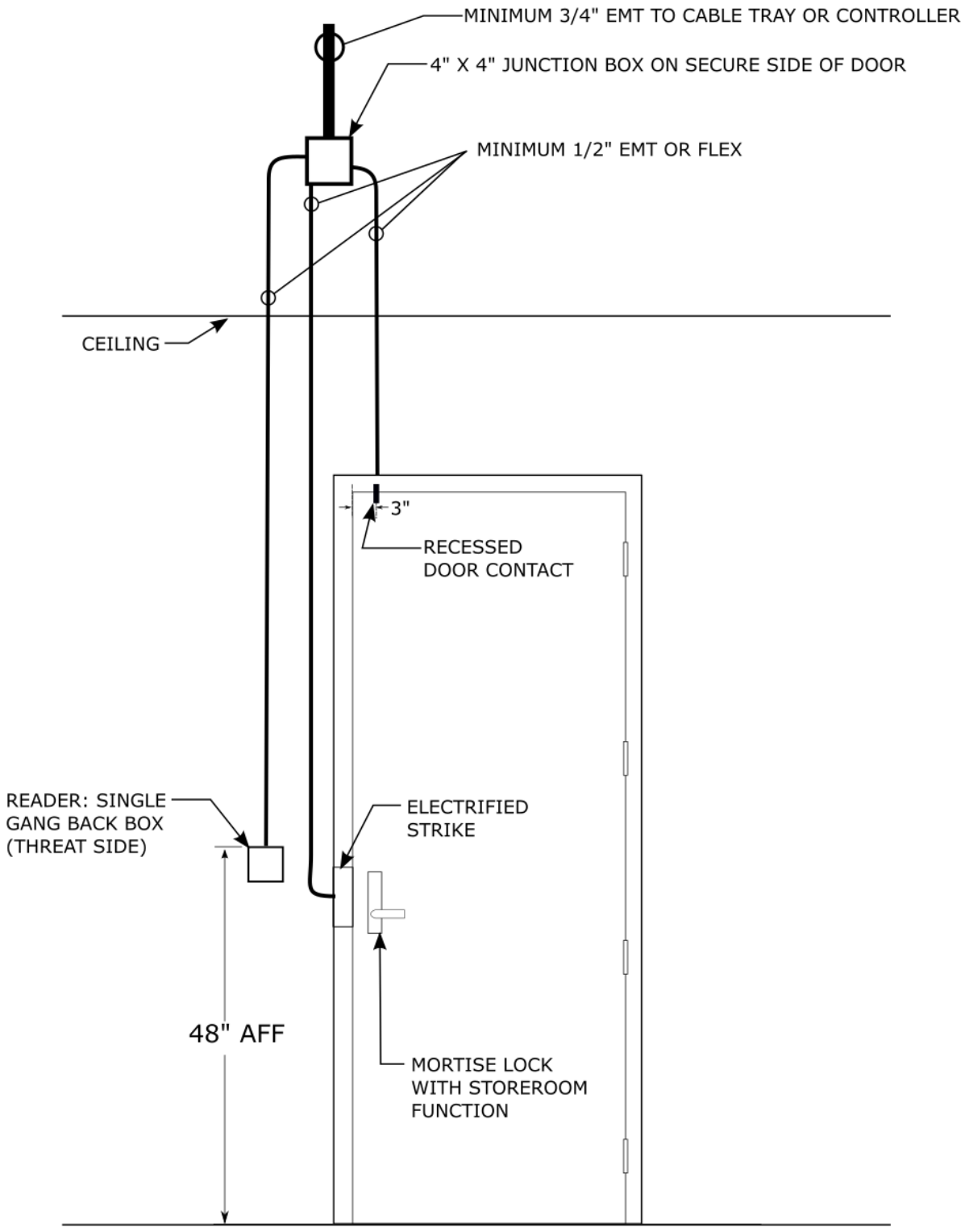
Note: All Conduit and Cabling is Concealed.

Typical 3. Single Door, Electrified Trim



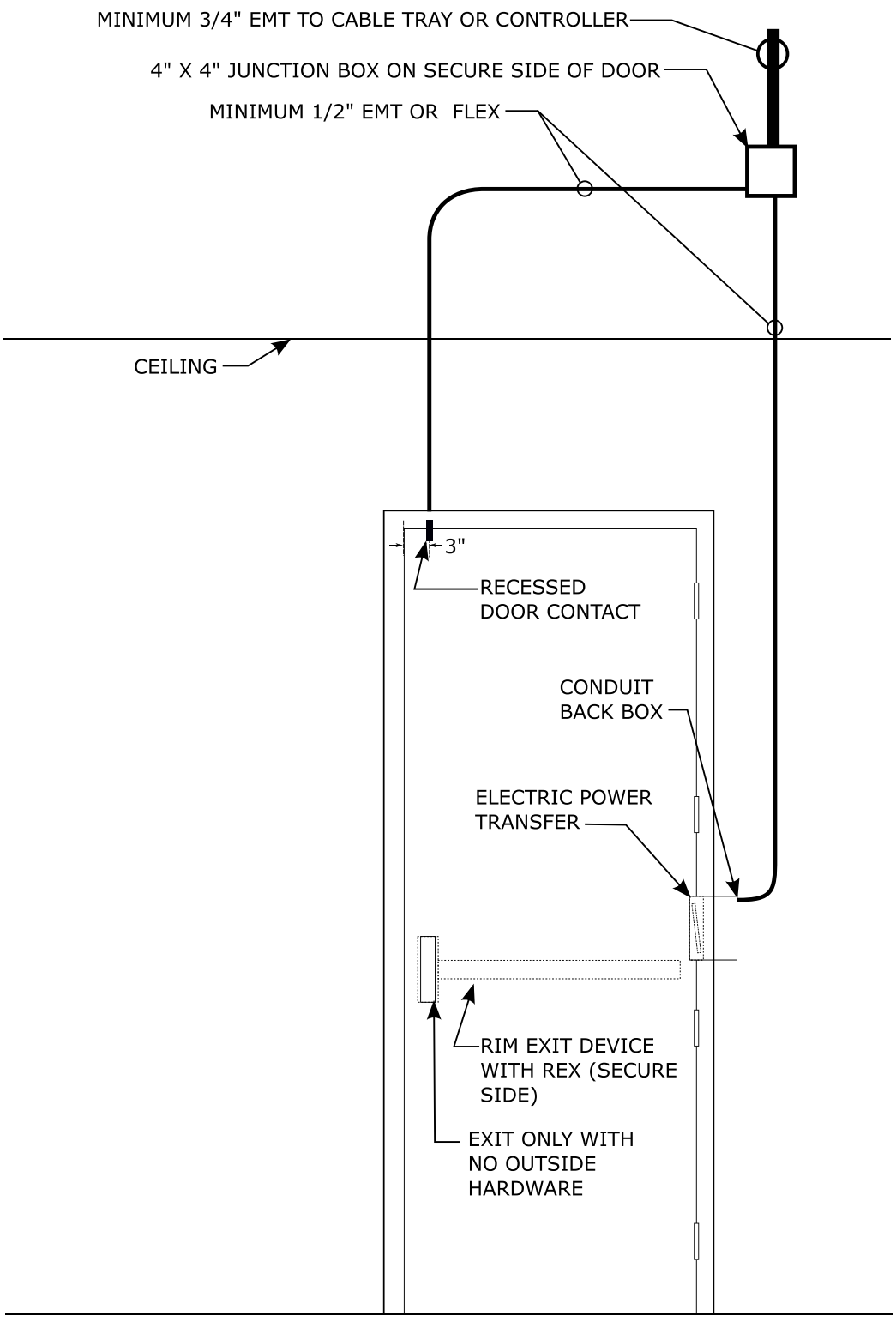
Note: All Conduit and Cabling is Concealed.

Typical 4. Single Door, Electrified Strike



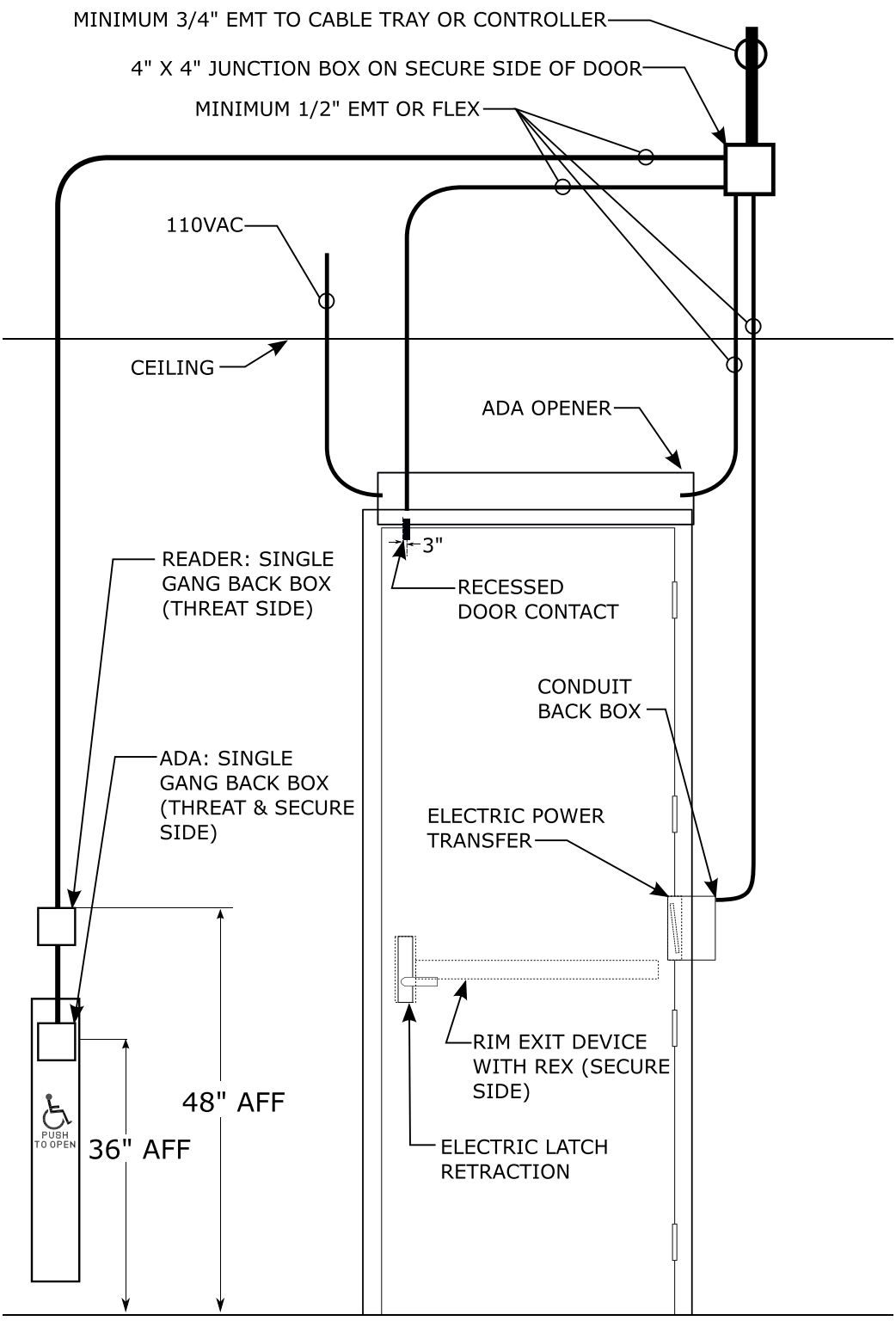
Note: All Conduit and Cabling is Concealed.

Typical 5. Single Door, Monitoring Only



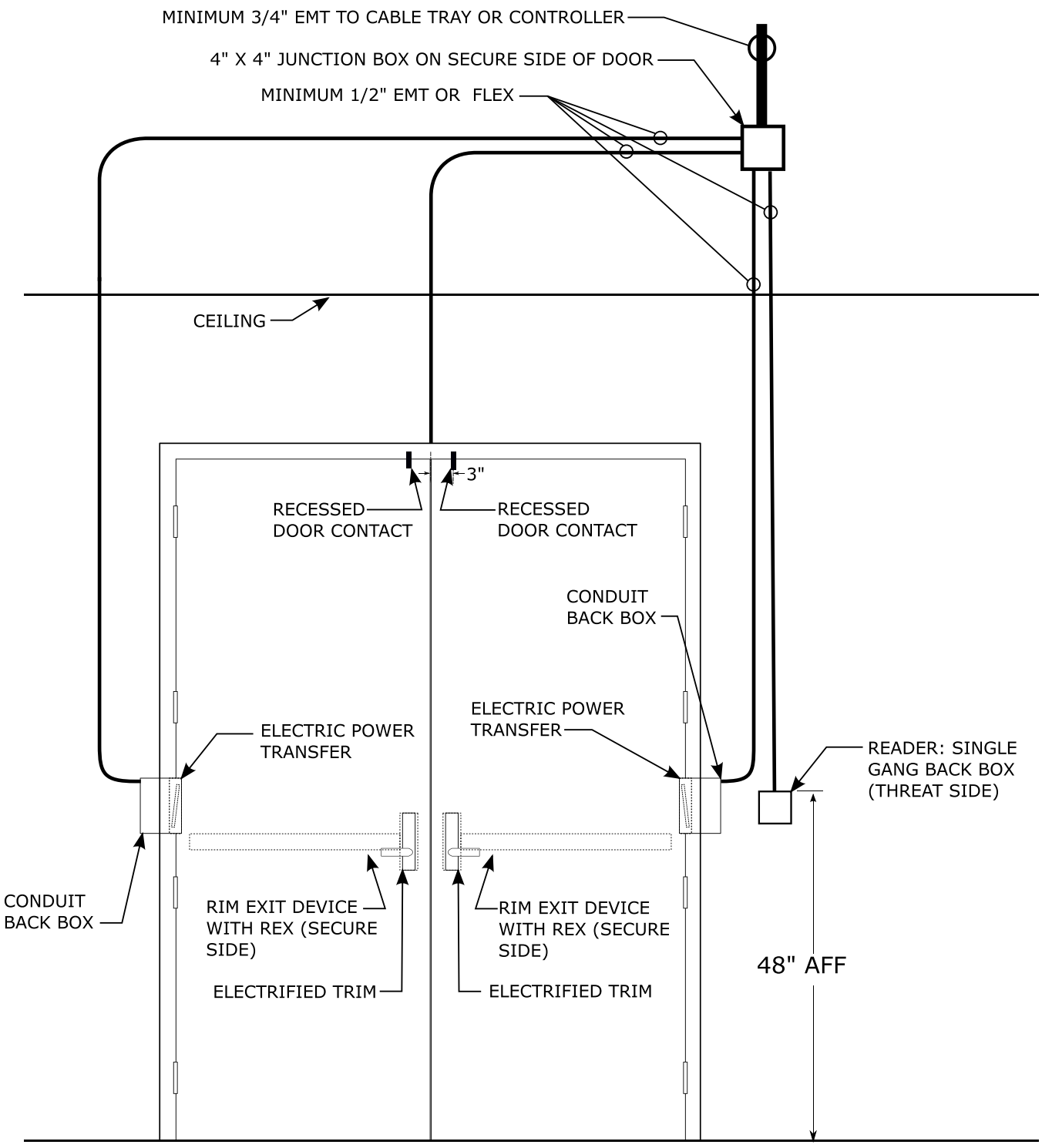
Note: All Conduit and Cabling is Concealed.

Typical 6. Single Door with Door Operator (ADA)



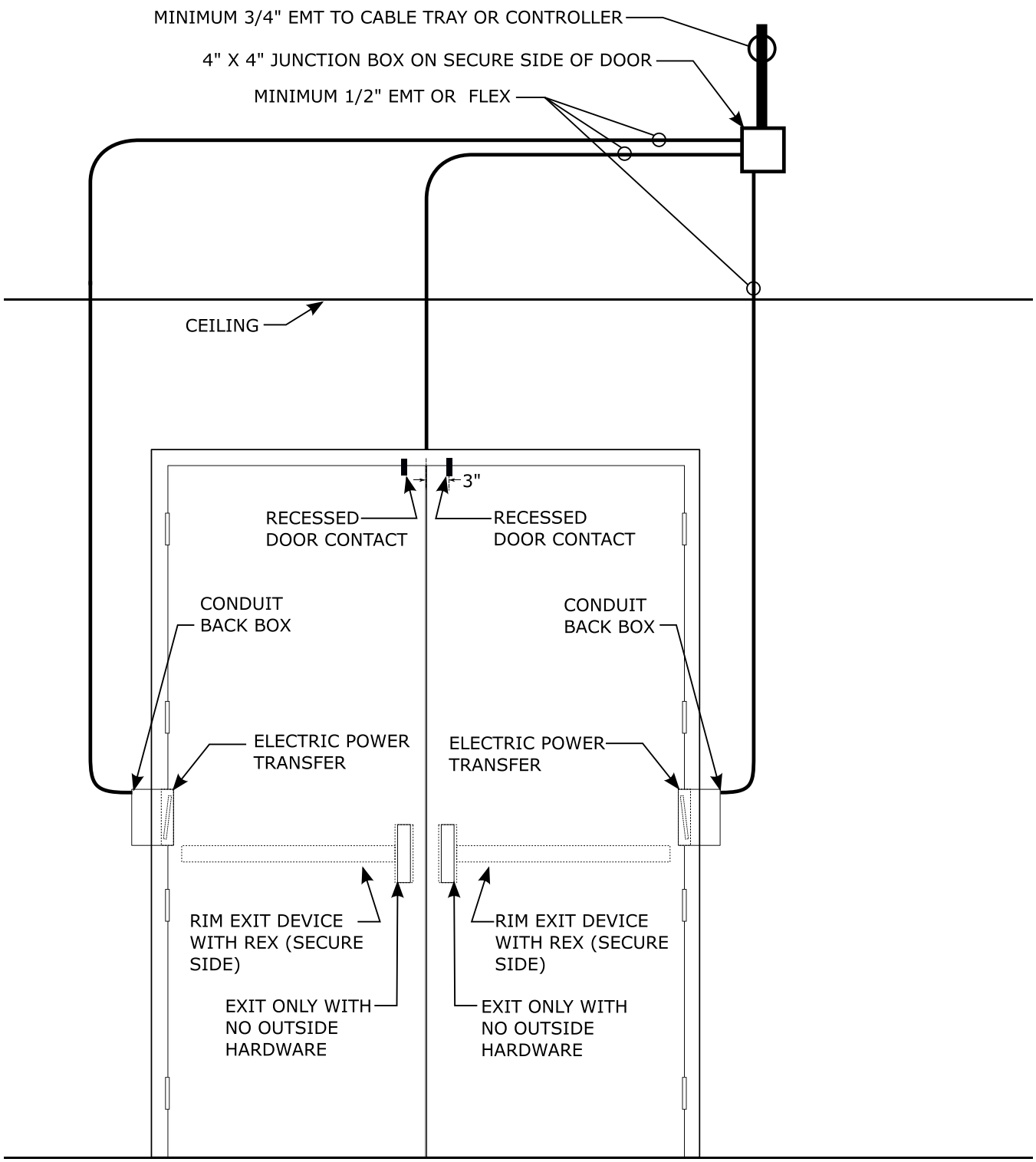
Note: All Conduit and Cabling is Concealed in Wall or Storefront.

Typical 7. Double Door, Electrified Trim



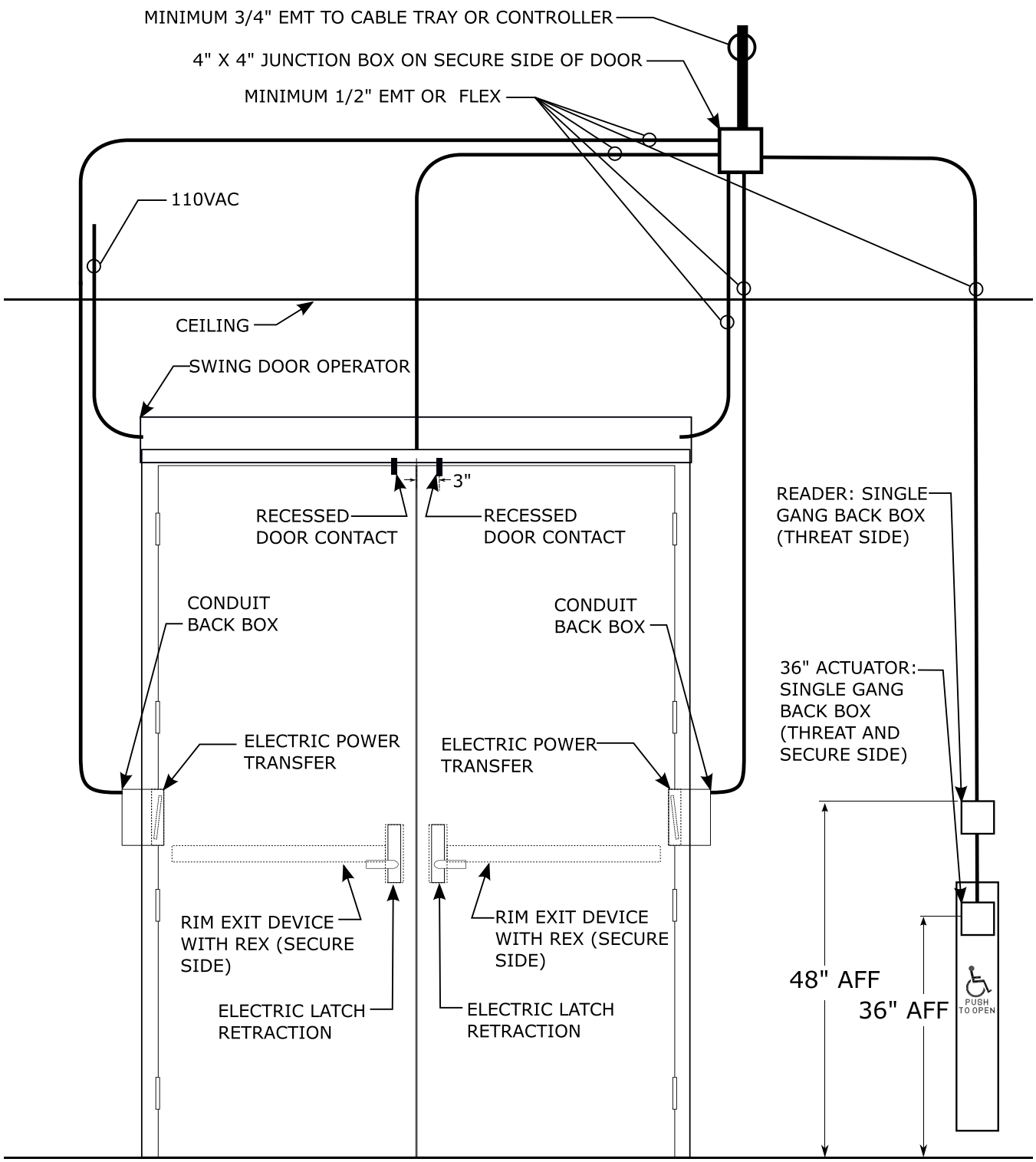
Note: All Conduit and Cabling is Concealed.

Typical 8. Double Door, Monitoring Only



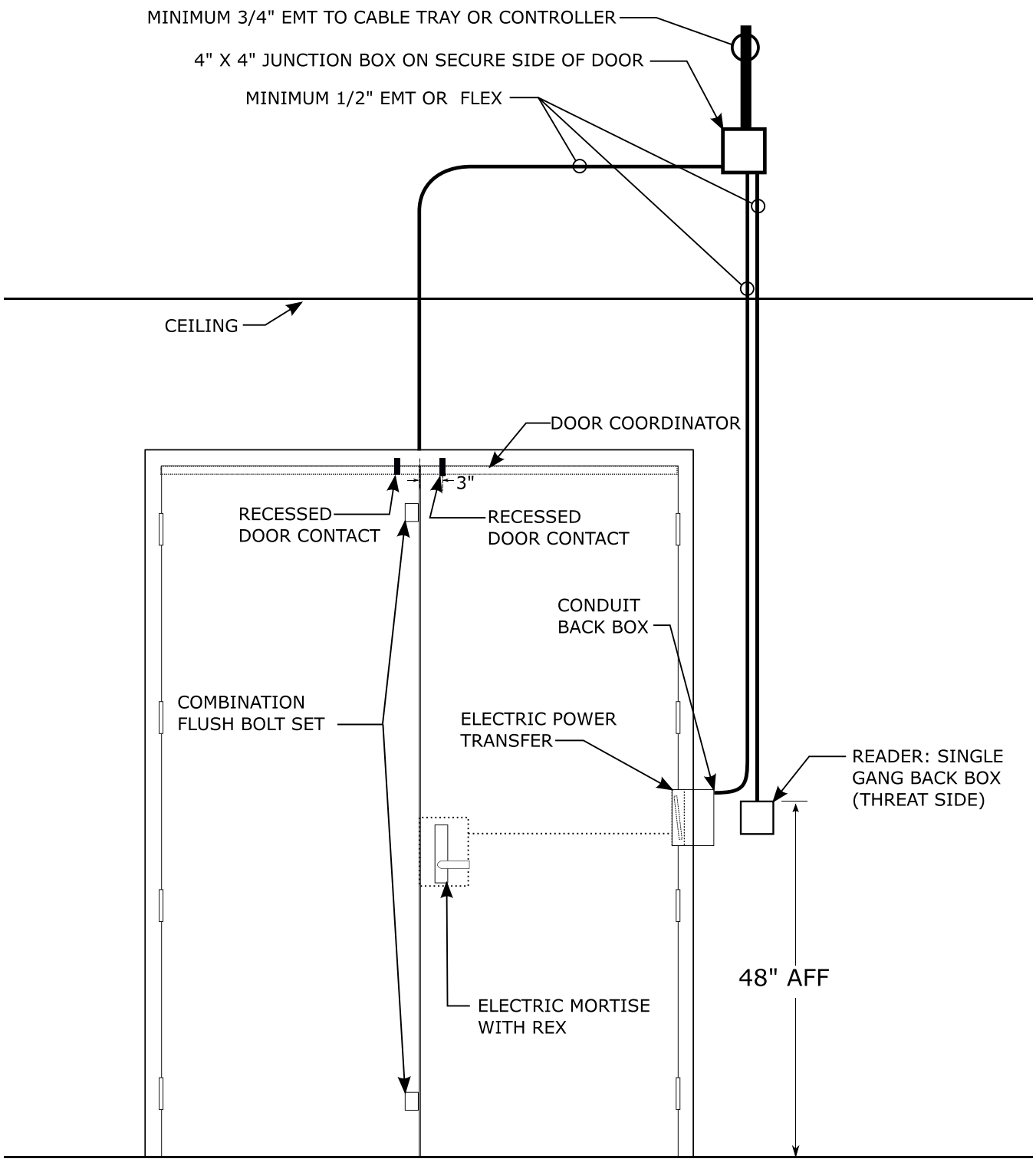
Note: All Conduit and Cabling is Concealed.

Typical 9. Double Door with Door Operator (ADA)



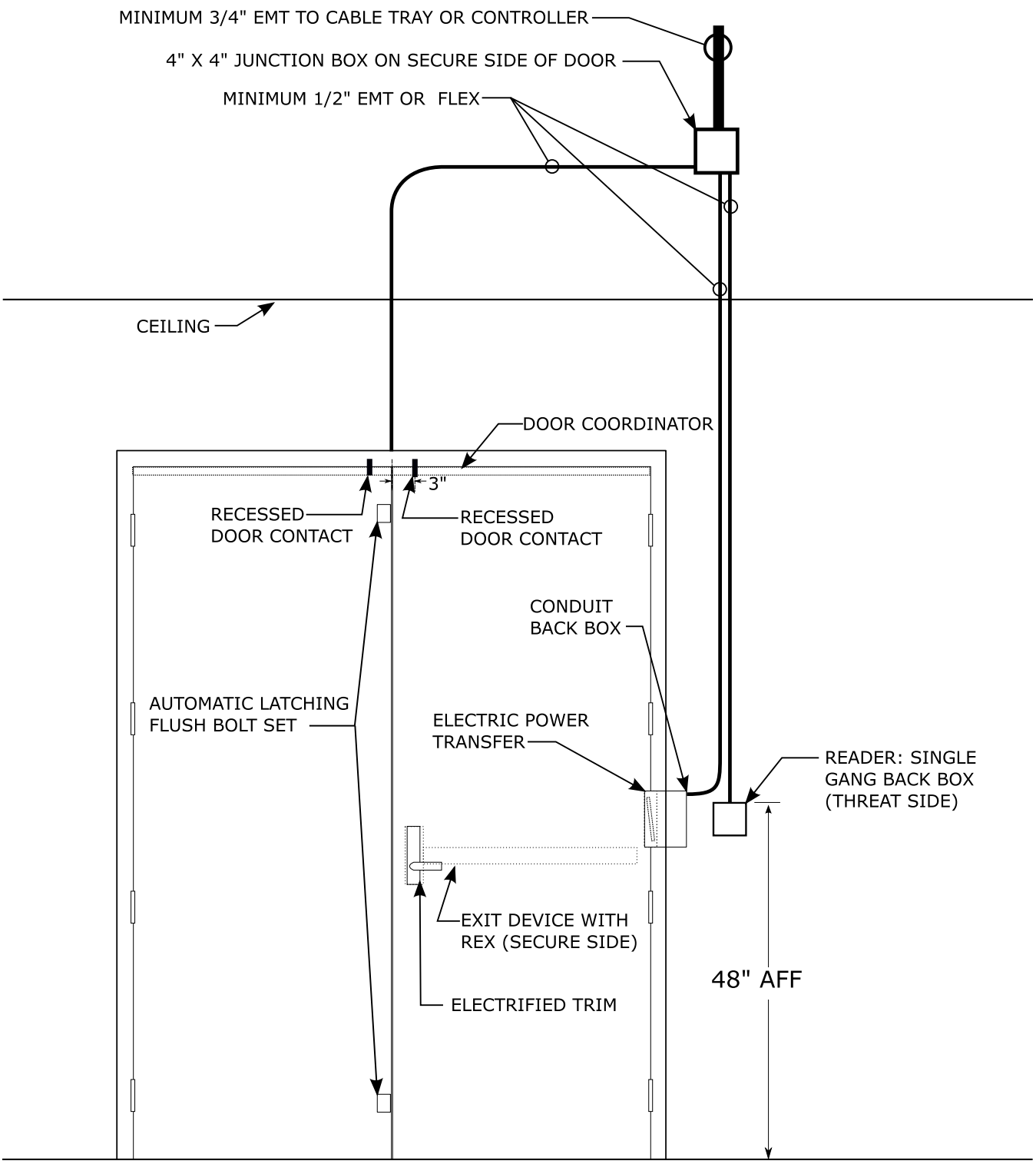
Note: All Conduit and Cabling is Concealed.

Typical 10. Electrified Mortise with Passive Leaf



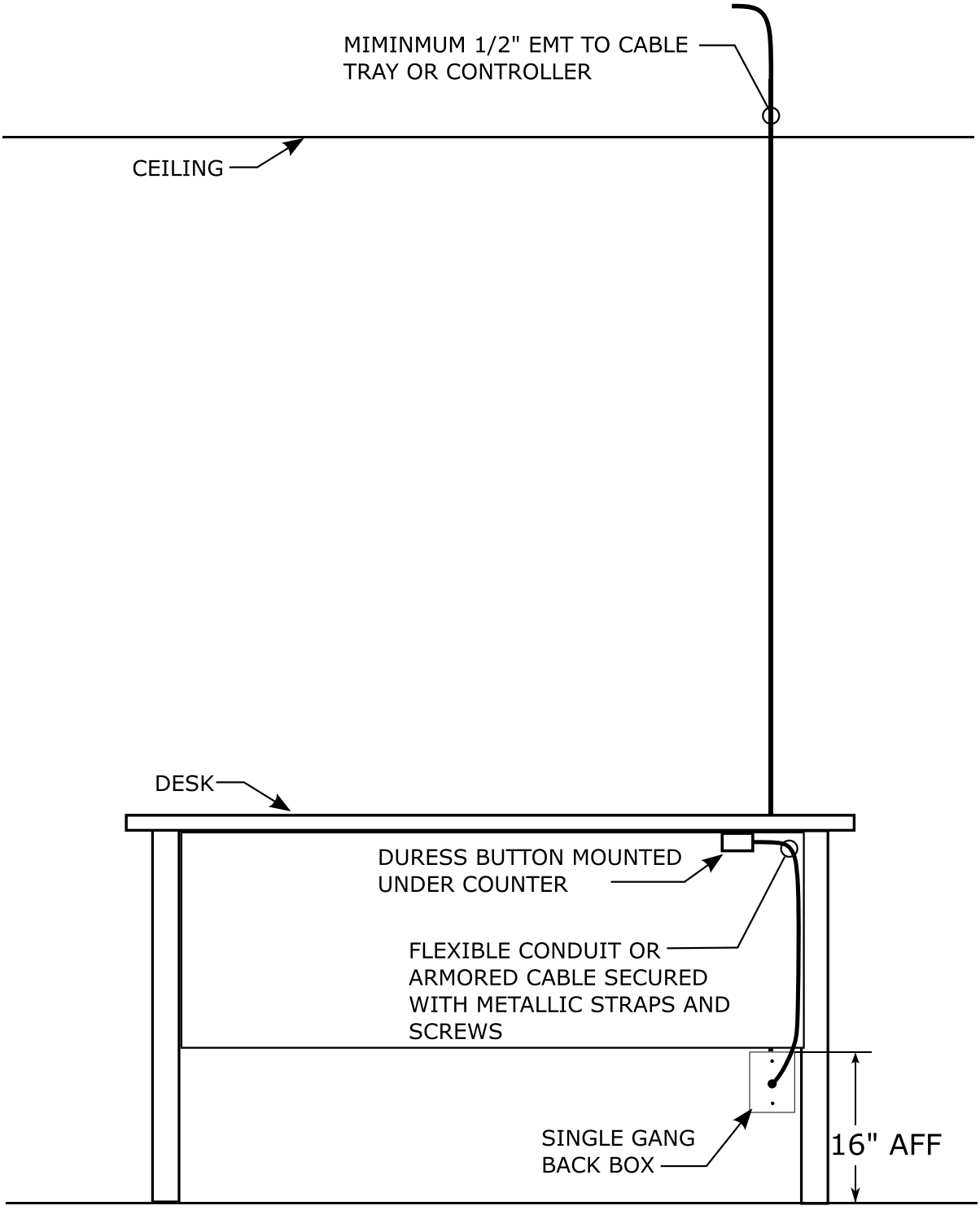
Note: All Conduit and Cabling is Concealed.

Typical 11. Electrified Trim with Passive Leaf



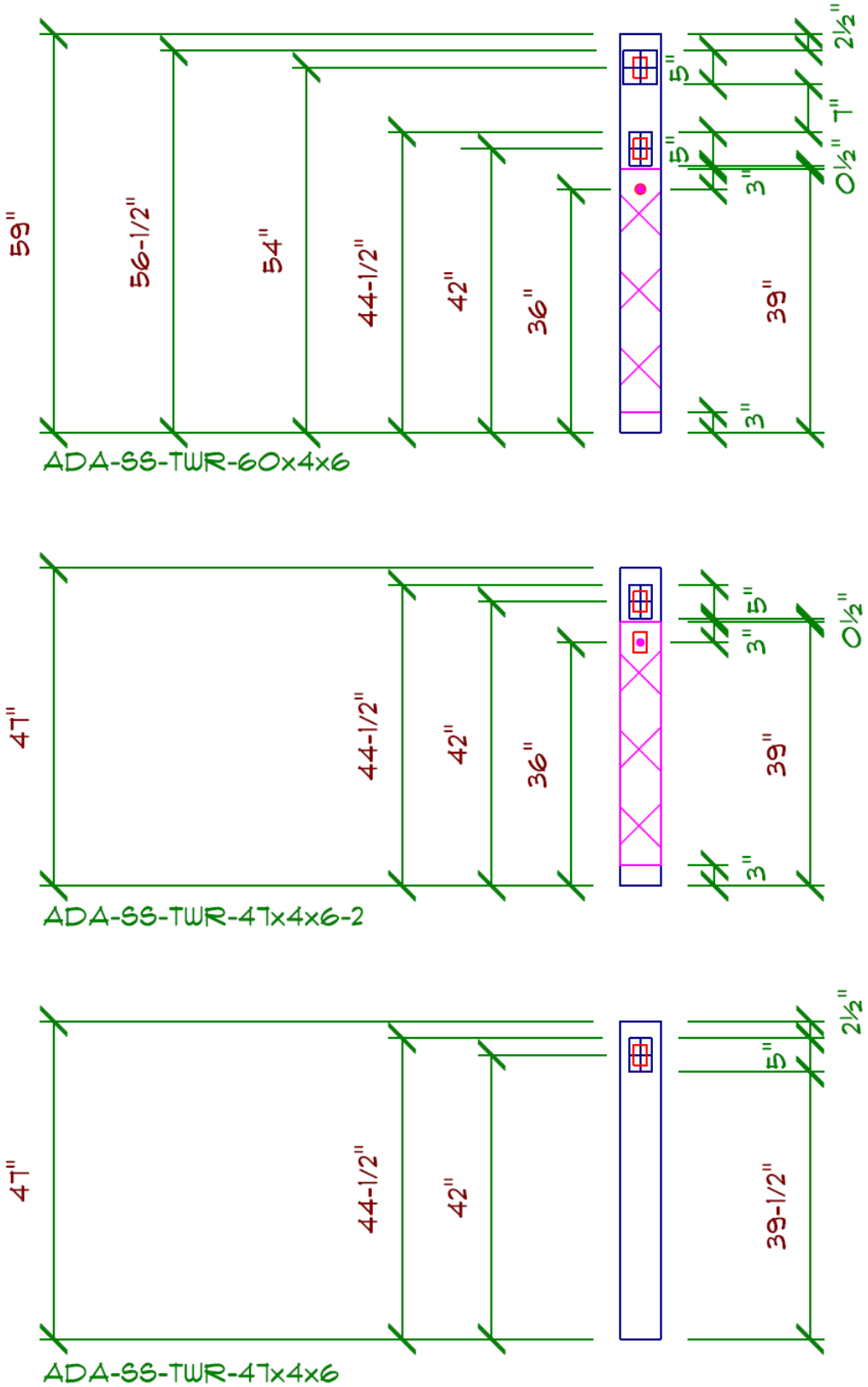
Note: All Conduit and Cabling is Concealed.

Typical 12. Duress Button



Note: All Conduit and Cabling is Concealed.

Typical 13. Pedestals


59"
56-1/2"
54"
44-1/2"
42"
36"
5"
5"
3"
3"
39"
0½" T"
2½"
ADA-SS-TWR-60x4x6
47"
44-1/2"
42"
36"
3"
5"
39"
3"
0½"
ADA-SS-TWR-47x4x6-2
47"
44-1/2"
42"
5"
39-1/2"
2½"
ADA-SS-TWR-47x4x6

4 Part 4: Construction

4.1 Submittals

The following Access Control Submittals shall be provided electronically to UF Physical Security, following the release of 100% Construction Documents and in coordination with Door Hardware Submittals.

Product Data: Submit manufacturer's technical product data, including specifications and installation instructions, for each type of system equipment. Include drawings, which contain complete wiring and schematic diagrams and other details required to demonstrate that the system has been coordinated and will function properly as a system. Drawings shall include floor plan layouts of devices, components, vertical riser diagrams, equipment rack details, elevation drawings of equipment racks, sizes and types of all cables and conduits. For each IP Networked device cable label names, patch down room numbers, patch down cable names, patch down port numbers, and switch port numbers must be provided.

A. Product Data

The Product Submittals shall include the following for all Access Control Equipment.

1. Part Numbers

a. Provide Manufacturers Part Numbers.

2. Data Sheets

a. Provide Manufacturers Data sheets.

B. Shop Drawings

1. Device Legend

The Device Legend shall utilize UF Physical Security Symbols provided in Section 3.2.A of this document.

2. Cable Legend

The Cable Legend shall provide information regarding what cable will be used for each security device. Information shall include Conductor Size, Number of Pairs, Insulation Type, and Shielding.

3. Floor Plan

The Floor Plans shall provide all information included in Technology Floor Plans of the Construction Documents. In addition to this information, Shop Drawing Floor Plans shall also include Cable Type, Integration, and Functionality.

4. Typicals

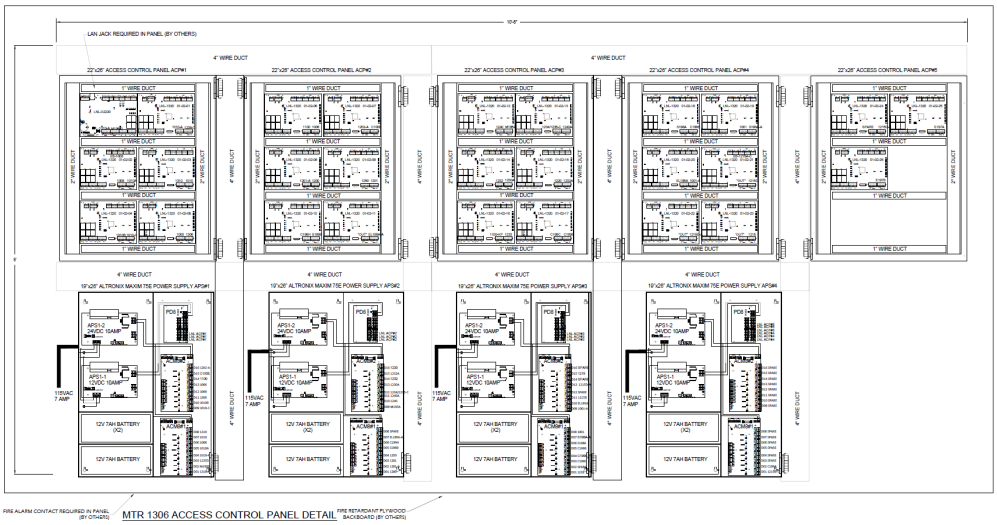
UF Physical Security Typicals from Section 3.2.C of this document shall be provided in Shop Drawings.

5. Access Control Schedule

The Access Control Schedule shall include the Floor, Door number, Description, Credential Reader, DPS, REX, Single or Double, Door Hardware Set, Lockset Electrification Type, Typical, and Head End location of each Opening.

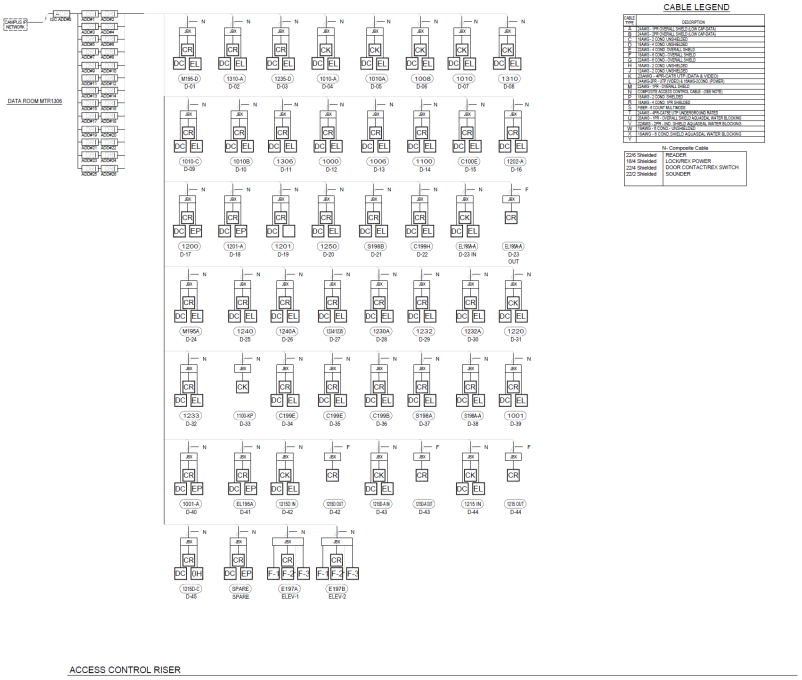
6. Head-End Diagram

The Head End Diagram shall include all Access Control Modules, Enclosures, Relays, Power Supplies, Power Controller, distribution boards, wire ducts, electrical service, etc. as depicted in the example below.



7. Access Control Riser Diagram

The Access Control Riser Diagram shall include each Access Control Device, cable, module, controller, and Head End location as depicted in the example below.



4.2 Execution

A. Head-End

1. All Access Control Panels, Power Supplies and other control equipment shall be installed in a dedicated Security Room or centralized Telecom Room.

2. Multi-level buildings, depending on size and quantity of devices, shall provide a centralized control location per floor in a dedicated Security Room or centralized Telecom Room.

3. All Access Control cabling shall be secured in Conduit and Cable Tray (where available) from the device location to the Access or Power Supply Enclosure. It is acceptable to install cable in slotted wiring duct only within a dedicated Security or Telecom room with Ladder Tray.

4. 4” Panduit, slotted, wiring duct shall be installed as a raceway for low voltage cable from the Enclosures to the cable tray within the Telecom or Security Room. If Cable Tray does not exist, then dedicated Conduit shall be installed from Enclosures to field devices.

5. All Access Control equipment will need to be installed in University designed and project funded Access Control Enclosures.

6. All Enclosures must be mounted on a Fire-Retardant Panel.

7. All Enclosures shall have dedicated and independently wired Tamper Switches.

8. All Access Control devices installed away from a building shall have Surge Protection on Inputs and Outputs to the access system.

9. B-wire connectors shall be used to make any necessary wire splices in the Enclosures.

10. All Cables and Wires shall be clearly identified by pre-printed labels or tags at each Head-End termination point.

B. Wiring and Conduit

1. All proposed Wire and Cable shall meet or exceed the recommendations established by the equipment manufacturers and shall comply with all state and local codes.

2. After installation and prior to termination, all Wiring and Cabling shall be checked and tested with a Volt ohms Meter to ensure there are no Grounds, Opens, or Shorts on any Conductors or Shields.

3. Provide grommets and strain relief materials where necessary to avoid abrasion and excess tension on Wire and Cable.

4. All penetrations through Fire Rated Barriers shall be provided with appropriate fire stopping materials in accordance with NFPA requirements and local fire authority having jurisdiction.

5. Installation of all UTP Category cables and Fiber Optic cables shall be in accordance with EIA/TIA guidelines and UF Telecommunications Standards.

   http://net-services.ufl.edu/infrastructure/

6. All Cable runs shall be continuous from the device to the Head-End equipment.

7. All cabling runs shall be physically accessible for replacement of cables. Physically accessible is defined as by means of Cable Tray or Conduit in which cabling can be physically re-pulled after construction. Cable that is installed in unfinished structural framing, store front framing, or in any inaccessible space that will require disassembly for access will NOT be accepted. **Failure to notify the designer/consultant of these issues, whether intentionally or by oversight may result in rejection of this installation method. Should this occur, the contractor will be required to reinstall the cabling/raceway with a pre-approved method that meets or exceeds the requirements as specified herein**. This will be done at no additional cost to the client.

8. Cables of similar signal level shall be bundled together and kept physically separate from power cords, plug strips, or other circuits with different potential. Exposed wire bundles or individual cables shall be neatly secured with self-clinching nylon "TY-Raps" (Thomas & Betts or equivalent). Lacing of cables is not permitted.

9. Finger Duct Wire Managers shall be used inside all equipment panels to properly dress cables.

10. Wiring at Head-End shall be labeled with each Door Number and Device Type (i.e., C199H REX, C199H Lock, C199H DPS, C199H CR). Labeling shall be wrapped around cabling jacket within the Wiring Duct.

4.3 Progress Inspections

A. Inspections for UF Standards

In addition to any required inspections for UF EH&S, periodic inspections are also required to ensure all work meets UF Construction Standards. These inspections can be requested through UF Facilities Services website at:

https://www.facilitiesservices.ufl.edu/inspection-requests/

1. Inspection Request Form

The following information is required to request an inspection.

a. Contact Info

1. Include the Field Contact's cell phone number for the Inspector to contact.

b. Request Details

1. Project

   Search for the Project Number by entering only the numbers in the space provided, but do not hit Enter. Choose the Project Number from the dynamically populated list results.

2. Building and Floor

   Select the Building and Floor information, if applicable.

3. Location Notes

   Enter applicable location information here (not required but recommended).

4. Description

   Enter any other applicable information regarding the inspection being requested here (not required but recommended).

5. Date / Time Inspection Requested

   Enter preferred inspection time and date.

c. Inspection Type

    1. Routine

        Used for the following Inspection request Categories:

        a. Inspection 1: **Rough-In (Door Frame & Conduit)**

        b. Inspection 2: **Door Hardware**

    2. Substantial

        a. Used for “Inspection 3: **AC and Head End Components**” only.

    3. Final

        a. Used for “Inspection 4: **Operational Testing**” only.

d. System & Subsystem

    1. At the “**System**” dropdown box, choose “**Physical Security**”.

    2. At the “**Subsystem**” dropdown box, choose “**Access Control**”.

e. Category

    1. Inspection 1: Rough-In (Door Frames & Conduit)

    2. Inspection 2: Door Hardware

    3. Inspection 3: AC and Head End Components

    4. Inspection 4: Operational Testing

Select the green “Submit” button to submit this Inspection Request.

B. Inspection Checklists

1. Inspection 1: Rough-In (Door Frames & Conduit)

a. Door should fit evenly inside frame with a uniform gap around the door (1/8” to 3/16”).

b. Door face should be flush with frame edge when closed within (1/8”) of the frame’s border.

c. Door should be free of defects including warping, dents, holes, scratches, or unpainted surfaces.

d. Preparation for Electric Power Transfers (EPTs) shall be free of burs or sharp edges.

e. Gaps between EPTs and frames or doors shall be less than 1/16”.

f. Each device shall have a Conduit to Head End or to Cable Tray.

g. “Free-wiring” is NOT acceptable.

h. Labeled Junction boxes.

i. AC Conduit Painted Black.

j. Conduit junctions are to be made with Compression fittings.

2. Inspection 3: Door Hardware

a. Door Hardware needs to be installed following manufacturer instructions and templates.

b. Door Hardware is to be installed level.

c. Door Hardware Latches, Rods and Pins are to engage the Floor or Jamb as designed.

d. Door Hardware is to be installed with manufacturer provided screws of matching finish.

e. Door Hardware screws are to be installed with proper tension.

f. Stripped, cross threaded or loose screws will NOT be acceptable and will need to be replaced.

g. No hardware shall be installed with power tools.

h. Door Closers are to be adjusted to close the door completely without slamming.

i. All doors are to close and latch completely after every use.

j. EPTs are to be installed flush with the Door and Door Frame.

k. Mortise lock faceplates are to be installed flush with Door edge.

l. Strikes and Latch Plates shall sit flush with Frame and Door.

m. The filing or grinding of Strikes and Latch Plates is not acceptable.

n. Door hardware is to be free of dirt, paint, or defects.

o. All removed hardware is property of UF and should be delivered to UF Physical Security prior to project completion.

3. Inspection 4: AC and Head End Components

a. 3/4” Door contacts are to be installed 3” from the strike edge of the door or the center edge of a double door set.

b. Door contacts and magnet shall be fully seated and secured.

c. Large gap squeeze type magnets used for storefront doors are to be epoxied in place.

d. Credential readers are to be installed flush and level with surface without warping of the reader.

e. All keys (Enclosures, Duress Buttons, etc.) shall be delivered to UF Physical Security.

f. All removed hardware is property of UF and should be delivered to UF Physical Security prior to project completion.

4. Inspection 5: Operational Testing

a. Prior to requesting this inspection, the following is required:

1. Contractor shall provide a System Programming Sheet (addressing, MAC address, etc.) at least 2 business days prior to submitting request.

2. Meter all supervision inputs for faults.

3. System shall be powered up and actively configured on the network.

4. The Contractor shall activate all Alarms and other Output Devices that are in the System to test for proper operation, including System Power Supplies, Backup Battery notifications, and Cabinet Tamper Switches.

b. Testing procedures:

1. Testing and Acceptance of this System will take place in the presence of UF Physical Security.

2. Acceptance of the system shall require a demonstration of all system components to evaluate their performance and reliability

3. Verify all inspection details above have been checked.

4. Verify Access Control System is powered.

5. Verify Access Control System is communicating to the University network.

6. Verify System has been Programmed.

7. Verify all Electrified Doors Unlock when presented with a valid Credential.

8. Verify all Doors securely latch after every use.

9. Verify all Doors Secure when changed from “Card Only” to Unlock, and back to “Card Only”.

10. Verify all Door Closers are adjusted so that Doors are held against the Door Frame, even when Latches are retracted.

11. Verify Secure Side ADA Actuator activates the Door Operator when pressed.

12. Verify Unsecure Side ADA Actuator only activate the Door Operator when a valid Credential is presented.

13. Any items discovered during Final Inspection which require the contractor’s attention, shall be promptly addressed. These items will then be re-inspected by the UF Physical Security for approval.

4.4 Closeout Documents

Upon the completion of Operational Testing, the Contractor shall submit all finalized project documentation and associated electronic media to UF Physical Security

Upon Approval, UF Physical Security will issue a Letter of Completion to the Contractor indicating the date of such completion. This notice will serve as Client Acceptance of this System.

A. MAC Addresses

MAC Address information of each applicable AC device.

B. Cable Records

Cable Installation Contractor shall submit Cable Records to the PM that denote the IP switch port numbers and locations (room number) assigned to the security system. This is a requirement for every IP device.

C. Programming Sheet

The Contractor shall provide a Programming Sheet that accurately represents the addressing of each device of the Access Control System, which include defining descriptions for Access Control hardware, Doors, etc. Contact UF Physical Security to obtain an example Programming Sheet:

D. As-Built Drawings

Provide updated As-Built Shop Drawings that accurately document any changes made during the construction process.

These shall accurately represent the Locations, Quantities, Cabling, and Lockset Electrification of each device to include a depiction of all End-to-End devices and connection locations as they were installed.

E. Warranty Information

Date of Installation needs to be recorded.

F. Product Registration

Manufacturer’s registration for each device. Model and Serial number recorded.

END OF SECTION