

**SECTION 08 71 00
DOOR HARDWARE**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Sliding doors.
 - 3. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
 - 3. Automatic operators.
 - 4. Cylinders specified for doors in other sections.
- C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. State Building Codes, Local Amendments.
- D. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series.
 - 2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
 - 3. ANSI/UL 294 - Access Control System Units.
 - 4. UL 305 - Panic Hardware.
 - 5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- D. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
- G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
 1. Function of building, purpose of each area and degree of security required.
 2. Plans for existing and future key system expansion.
 3. Requirements for key control storage and software.

4. Installation of permanent keys, cylinder cores and software.
 5. Address and requirements for delivery of keys.
- H. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 3. Review sequence of operation narratives for each unique access controlled opening.
 4. Review and finalize construction schedule and verify availability of materials.
 5. Review the required inspecting, testing, commissioning, and demonstration procedures
- I. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods:
 - 1. Ten years for mortise locks and latches.
 - 2. Ten years for extra heavy duty cylindrical (bored) locks and latches.
 - 3. Seven years for heavy duty cylindrical (bored) locks and latches.
 - 4. Five years for standard duty cylindrical (bored) locks and latches.
 - 5. Five years for exit hardware.
 - 6. Five years for manual overhead door closer bodies.
 - 7. Ten years for manual overhead door closer bodies.
 - 8. Fifteen years for manual overhead door closer bodies.
 - 9. Twenty five years for manual overhead door closer bodies.
 - 10. Ten years for heavy duty floor closers.
 - 11. Two years for shallow depth floor closers.
 - 12. Five years for motorized electric latch retraction exit devices.
 - 13. Two years for electromechanical door hardware, unless noted otherwise.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
 5. Manufacturers:
 - a. HB Ives; An Allegion Group Company. (IV).
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
 - c. Best Hinges (ST).
- B. Concealed Hinges: Hinges mortised into door and frame so that they are concealed when the door is closed. Hinges shall be adjustable three ways; vertically, horizontally and compression (in/out) capable of a 180 degree swing. Hinges are to be non-handed and available for hollow metal and steel covered composite fire doors rated up to 3 hours and for 20 minute wood core fire doors. Provide fastener type, size, and quantity as recommended by hinge manufacturer for properly installing concealed hinges in the door and frame type application. Provide steel receiver for metal door and frame cutouts for receiving concealed hinges.
1. Manufacturers:
 - a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
 - b. Soss Door Hardware.
 - c. Tectus by Simonswerk.
- C. Continuous Double-acting Hinges. ANSI/BHMA A156.26 Grade 1-600 Certified continuous hinges. Hinges shall be non-handed and allow the door to swing up to 100 degrees in either direction. Where required provide electrified transfer hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions as specified. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
1. Manufacturers:
 - a. ABH Manufacturing. (AH). (A507).
 - b. Markar Products; ASSA ABLOY Architectural Door Accessories (MR) - DSH Series.
 - c. Pemko (PE) - DSH Series.
- D. Pin and Barrel Continuous Hinges: ANSI/BHMA A156.26 Grade 1-600 certified pin and barrel continuous hinges with minimum 12 gauge Type 304 stainless steel hinge leaves, concealed stainless pin, and twin self-lubricated nylon bearings at each knuckle separation. Factory trim hinges to suit door height and prepare for electrical cut-outs.
1. Manufacturers:

- a. ABH Manufacturing. (AH). A5500 series.
 - b. Markar Products; ASSA ABLOY Architectural Door Accessories (MR). FM3500 / FM100 series.
 - c. Select Products Limited. (SE). SL3500 series.
- E. Floor Closers: ANSI/BHMA A156.4 certified floor closers. Provide independent and adjustable valves for closing speed, latch speed, and backcheck with built-in dead stop and hold open features as specified. Provide finished cover plates or thresholds as indicated in door Hardware Sets.
 - 1. Manufacturers:
 - a. Dorma Products (DO).
 - b. Norton Rixson (RF).
- F. Pivots: ANSI/BHMA A156.4, Grade 1, certified. Space intermediate pivots equally not less than 25 inches on center apart or not more than 35 inches on center for doors over 121 inches high. Pivot hinges to have oil impregnated bronze bearing in the top pivot and a radial roller and thrust bearing in the bottom pivot with the bottom pivot designed to carry the full weight of the door. Pivots to be UL listed for windstorm where applicable.
 - 1. Manufacturers:
 - a. ABH (AH).
 - b. HB Ives (IV).
 - c. Norton Rixson (RF).

2.3 POWER TRANSFER DEVICES

- A. Electrified Quick Connect Transfer Hinges: Provide electrified transfer hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets with a 1-year warranty. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
 - 1. Manufacturers:
 - a. HB Ives; An Allegion Group Company. (IV). TW (12 wires) CON series.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC (12 wires) Option.
 - c. Stanley Hardware (ST) – (12 wires) C Option.
- B. Electrified Quick Connect Intermediate Transfer Pivots: Provide electrified offset intermediate transfer pivot hinges with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

- a. ABH (AH) -E019-EZ (12 wires).
- b. HB Ives (IV) -7230FPT-TW-CON (12 wires).
- c. Norton Rixson (RF) - E-M19-QC (12 wires).

- C. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Manufacturers:

- a. ABH (AH) – PT-1000EZ Series.
- b. Securitron (SU) - EL-CEPT Series.
- c. Von Duprin EPT-10-CON series.

- D. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

- a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
- b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

- a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) – (12 wires) QC-C Series.
- b. Stanley Hardware (ST) – (12 wires) WH Series.
- c. Von Duprin (VD) –(12 wires) CON Series.

2.4 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
 2. Furnish dust proof strikes for bottom bolts.
 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
 5. Manufacturers:
 - a. HB Ives; An Allegion Group Company. (IV).
 - b. Rockwood (RO).
 - c. Trimco (TC).
- B. Coordinators: ANSI/BHMA A156.3 certified door coordinators consisting of active-leaf, hold-open lever and inactive-leaf release trigger. Model as indicated in hardware sets.
1. Manufacturers:
 - a. HB Ives; An Allegion Group Company. (IV).
 - b. Rockwood (RO).
 - c. Trimco (TC).
- C. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
1. Push/Pull Plates: Minimum .125 inch thick, size as indicated in hardware sets, with beveled edges, secured with internal fasteners. Exposed screws are not acceptable.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
 3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
 4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
 5. Manufacturers:
 - a. Burns Manufacturing. 74L x 5426C push/pull, VP4251 Mtg Type SF95 offset door pull (BM).
 - b. Rockwood 111x73C/73CL push/pull, RM33311 Mtg Type 12XHD offset door pull (RO).
 - c. Trimco 1895-4B push/pull, AP423 Mtg Type N offset door pull (TC).

2.5 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
 - 1. Manufacturers:
 - a. Yale existing system (Accentra).
 - b. Corbin
 - c. Best
 - d. See Alternate for Schlage Primus.
- C. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 - 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 - 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 - 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 - 4. Tubular deadlocks and other auxiliary locks.
 - 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 - 6. Keyway: Manufacturer's Standard.Match Facility Standard.Match Facility Restricted Keyway.
- D. Interchangeable Cores: Provide small format interchangeable cores as specified, core insert, removable by use of a special key; usable with other manufacturers' cylinders.
- E. Removable Cores: Provide removable cores as specified, core insert, removable by use of a special key, and for use with only the core manufacturer's cylinder and door hardware.
- F. Security Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed security cylinders and keys able to be used together under the same facility master or grandmaster key system. Cylinders to be factory keyed.
 - 1. Existing key system. Key into owner's existing key system.
 - 2. Manufacturers:
 - a. Yale existing system (Accentra).
 - b. Corbin
 - c. Best
 - d. See Alternate for Schlage Primus.

3. Supplier shall coordinate a "Keying Conference" to define and document keying system instructions and requirements to be held with owner's rep and Best Access Keying Dept.
4. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
5. Existing System: Field verify and key cylinders to match Owner's existing system.

G. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2) Three (3).
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).
4. Construction Control Keys (where required): Two (2).
5. Permanent Control Keys (where required): Four (4).

H. Construction Keying: Provide construction master keyed cylinders.

I. Construction Keying: Provide temporary keyed construction cores.

J. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 KEY CONTROL

- P. Electronic Key Management System: Provide an electronic key control system with Stand-alone Plug and Play features including advanced RFID technology. Touchscreen interface with PIN access for keys individually locked in place. Minimum 1,000 system users and 21 iFobs for locking receptors. System shall have a minimum 250,000 audit events screen displayed or ability to be exported via USB port.

1. Manufacturers:

- a. Medeco (MC).
- b. Traka (TA).

2.7 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Mortise locks to be certified Security Grade 1.

2. Where specified, provide status indicators with highly reflective color and wording for “locked/unlocked” or “vacant/occupied” with custom wording options if required. Indicator to be located above the cylinder with the inside thumb-turn not blocking the visibility of the indicator status. Indicator window size to be a minimum of 2.1” x 0.6” with a curved design allowing a 180-degree viewing angle with protective covering to prevent tampering.
 3. Manufacturers:
 - a. Best Access (BA). 45H Series 14H.
 - b. Corbin Russwin (RU) ML2000 Series LWA.
 - c. Yale Commercial (YA) - 8800FL Series. CRR.
- B. Electromechanical Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed, subject to same compliance standards and requirements as mechanical mortise locksets, electrified locksets to be of type and design as specified below and in the hardware sets.
1. Electrified Lock Options: Where indicated in the Hardware Sets, provide electrified options including: outside door lock/unlock trim control, latchbolt and lock/unlock status monitoring, deadbolt monitoring, and request-to-exit signaling. Support end-of-line resistors contained within the lock case. Unless otherwise indicated, provide electrified locksets standard as fail secure.
 2. Manufacturers:
 - a. Best Access (BA). 45H EL/EU Series.
 - b. Corbin Russwin (RU) ML20900 Series LWA.
 - c. Yale Commercial(YA) - 8890FL Series.
- C. Electromechanical Mortise Locksets, Grade 1 (Heavy Duty, High Security Monitoring): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed, subject to same compliance standards and requirements as mechanical mortise locksets, electrified locksets to be of type and design as specified below.
1. Electrified Lock Options: Where indicated in the Hardware Sets, provide electrified options including: outside door lock/unlock trim control, latchbolt and lock/unlock status monitoring, deadbolt monitoring, and request-to-exit signaling. Support end-of-line resistors contained within the lock case. Unless otherwise indicated, provide electrified locksets standard as fail secure.
- D. Electromechanical Multi-Point Locks: Vertical rod locking devices designed for openings requiring multiple latching points within one locking mechanism. Rods are retracted by dual mounted outside lever trim controls available in a variety of ANSI/BHMA operational functions. Option for single top latching only eliminates the need for bottom strikes. Electromechanical options include solenoid activated trim, electric latch retraction, and inside and outside lever monitoring.

1. Manufacturers:

- a. Corbin Russwin Hardware (RU) MP9800 Series.
- b. Schlage (SC) -LM9300 EL/EU Series.
- c. Sargent Manufacturing (SA) - 7000 Series.

2.8 AUXILIARY LOCKS

- A. Mortise Deadlocks, Small Case: ANSI/BHMA A156.36, Grade 1, small case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. Steel or stainless steel bolts with a 1" throw and hardened steel roller pins. Deadlocks to be products of the same source manufacturer and keyway as other specified locksets.

1. Manufacturers:

- a. Best Access (BA) -48H Series.
- b. Schlage (SC) -L400 Series.
- c. Yale Commercial(YA) - 350 Series.

2.9 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

- B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.10 ELECTROMAGNETIC LOCKING DEVICES

- A. Surface Electromagnetic Locks (Heavy Duty): Electromagnetic locks to be surface mounted type tested to ANSI A156.23, Grade 2 with minimum holding force strength of 1,200 pounds. Locks to be capable of accepting between 12 to 24 volts direct current and be UL listed for use

on fire rated door assemblies. Electromagnetic coils are to consume no more than 1.5W during normal operation. Locks are to have an integrated door position switch, tamper switch, and lock bond sensor. Locks are to have integrated motion sensor and/or security camera as indicated in the hardware sets. Locks to be capable of detecting door prop conditions and entering low power mode. Provide mounting accessories as needed to suit opening conditions. Power supply to be by the same manufacturer as the lock with combined products having a lifetime replacement warranty.

1. Manufacturers:
 - a. Schlage Electronics (SC) -M490P Series.
 - b. SDC (SD) -1570 Series.
 - c. Securitron (SU) - M680E Series.

2.11 ELECTRIC STRIKES

- A. Standard Electric Strikes: Electric strikes tested to ANSI/BHMA A156.31, Grade 1, for use on non-rated or fire rated openings. Strikes shall be of stainless steel construction tested to a minimum of 1500 pounds of static strength and 70 foot-pounds of dynamic strength with a minimum endurance of 1 million operating cycles. Provide strikes with 12 or 24 VDC capability, fail-secure unless otherwise specified. Where specified provide latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.

1. Manufacturers:
 - a. HES (HS) - 1500/1600 Series.
 - b. SDC (SD) -55 Series.
 - c. Von Duprin (VD) -6200 Series.

- B. Surface Mounted Rim Electric Strikes: Surface mounted rim exit device electric strikes tested to ANSI/BHMA A156.31, Grade 1, and UL Listed for both Burglary Resistance and for use on fire rated door assemblies. Construction includes internally mounted solenoid with two heavy-duty, stainless steel locking mechanisms operating independently to provide tamper resistance. Strikes tested for a minimum of 500,000 operating cycles. Provide strikes with 12 or 24 VDC capability supplied standard as fail-secure unless otherwise specified. Option available for latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike. Strike requires no cutting to the jamb prior to installation.

1. Manufacturers:
 - a. Adams Rite (AD) -7800 Series.
 - b. HES (HS) – 9000 Series.
 - c. Von Duprin (VD) -6300 Series.

2.12 CONVENTIONAL EXIT DEVICES

- A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
 2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
 3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
 4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
 5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
 6. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
 7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
 8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
 9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:
 - a. Precision (PR) -Apex 2000 Series.
 - b. Von Duprin (VD) -33/99 Series.
 - c. Yale (YA) - 7000 Series.
- C. Extruded Aluminum Removable Mullions: ANSI/BHMA A156.3 anodized, removable mullions with malleable-iron top and bottom retainers. Mullions to be provided standard with stabilizers and imbedded weatherstrip.
 1. Manufacturers:
 - a. Same as exit device manufacturer.
- D. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.
 1. Provide keyed removable feature where specified in the Hardware Sets.
 2. Provide stabilizers and mounting brackets as required.
 3. Provide electrical quick connection wiring options as specified in the hardware sets.
 4. Manufacturers:
 - a. Same as exit device manufacturer.

2.13 ELECTROMECHANICAL EXIT DEVICES

- A. Electromechanical Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices subject to same compliance standards and requirements as mechanical exit devices. Electrified exit devices to be of type and design as specified below and in the hardware sets.
 1. Where conventional power supplies are not sufficient, include any specific controllers required to provide the proper inrush current.
 2. Motorized Electric Latch Retraction: Devices with an electric latch retraction feature must use motors which have a maximum current draw of 600mA. Solenoid driven latch retraction is not acceptable.
 3. Manufacturers:
 - a. Precision (PR) -Apex 2000 Series.
 - b. Von Duprin (VD) -33/99 Series.
 - c. Yale (YA) - 7000 Series.

2.14 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.
1. Manufacturers:
 - a. Best Access (BA) -HD9000 Series.
 - b. Corbin Russwin Hardware (RU) - DC6000 Series.
 - c. LCN (LC) -4040XP Series.
 - d. Norton Rixson (NO) - 7500 Series.

2.15 ELECTROHYDRAULIC DOOR OPERATORS

- A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.

1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.
- B. Standard: Certified ANSI/BHMA A156.19.
- C. Performance Requirements:
 1. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
 2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.
- D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.
- E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19. When not in automatic mode, door operator to function as manual door closer with fully adjustable opening and closing forces, with or without electrical power.
- F. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.
- G. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
- H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.
- I. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. LCN (LC) -4630 Series.
 2. Norton Rixson (NO) - 6000 Series.
 3. Record USA (REC) -6000/8000 Series.

2.16 SURFACE MOUNTED CLOSER HOLDERS

- A. Electromagnetic Door Holders: Certified ANSI A156.15 electromagnetic door holder/releases with a minimum 20 to 40 pounds holding power and single coil construction able to accommodate 12VDC, 24VAC, 24VDC and 120VAC. Coils to be independently wound, employing an integral fuse and armatures to include a positive release button.

1. Manufacturers:
 - a. ABH (AH) -2300 Series.
 - b. Norton Rixson (RF) - 980/990 Series.
 - c. LCN (LC) -SEM7800 Series.

2.17 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
 - a. HB Ives. (IV).
 - b. Rockwood (RO).
 - c. Trimco (TC).

2.18 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

- a. HB Ives (IV).
- b. Rockwood (RO).
- c. Trimco (TC).

- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

- a. ABH (AH).
- b. Norton Rixson (RF).
- c. Rockwood (RO).

2.19 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:

1. National Guard Products (NG).
2. Pemko (PE).
3. Reese Enterprises, Inc. (RE).

2.20 ELECTRONIC ACCESSORIES

- A. Key Switches: Key switches furnished standard with stainless steel single gang face plate with a 12/24VDC bi-color LED indicator. Integral backing bracket permits integration with any 1 1/4" or 1 1/2" mortise type cylinder. Key switches available as momentary or maintained action and in narrow face plate options.

1. Manufacturers:

- a. Schlage Electronics (SC) -653-1414 or 653-1415 Series.
- b. SDC (SD) -700 Series.
- c. Securitron (SU) - MK Series.

- B. Push-Button Switches: Industrial grade momentary or alternate contact, back-lighted push buttons with stainless-steel switch enclosures. 12/24 VDC bi-color illumination suitable for either flush or surface mounting.

1. Manufacturers:

- a. Schlage Electronics (SC) – 631AL Series.
- b. SDC (SD) - 400 Series.
- c. Securitron (SU) - PB Series.

- C. Touchless Switches: FCC certified microwave sensing switch used for REX or activation of various access control devices in place of a traditional wired switch. Unit to have an adjustable sensing zone from 4" to 24". At exterior locations furnish foam gaskets and weather covers. Provide single gang or double gang unit as specified in the hardware sets.

1. Manufacturers:

- a. BEA Sensors (BEA) -10MS Series.
- b. Norton Rixson (NO) - 700 Series.
- c. Securitron (SU) - WSS Series.

- D. Request-to-Exit Motion Sensor: Request-to-Exit Sensors motion detectors specifically designed for detecting exiting through a door from the secure area to a non-secure area. Include built-in timers (up to 60 second adjustable timing), door monitor with sounder alert, internal vertical pointability coverage, 12VDC or 24VDC power and selectable relay trigger with fail safe/fail secure modes.

1. Manufacturers:

- a. Schlage Electronics – Scan II Series.

- b. SDC (SD) – MD Series.
 - c. Securitron (SU) - XMS Series.
- E. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.
 - 1. Manufacturers:
 - a. Schlage Electronics (SC) 679-05HM/WD Series.
 - b. SDC (SD) -MC-4 Series.
 - c. Securitron (SU) - DPS Series.
- F. Switching Power Supplies: Provide power supplies with either single or dual voltage configurations at 12 or 24VDC. Power supplies shall have battery backup function with an integrated battery charging circuit and shall provide capability for power distribution, direct lock control and Fire Alarm Interface (FAI) through add on modules. Power supplies shall be expandable up to 16 individually protected outputs. Output modules shall provide individually protected, continuous outputs and/or individually protected, relay controlled outputs.
 - 1. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.
 - 2. Manufacturers:
 - a. Schlage Electronics (SC) -PS902 Series.
 - b. SDC (SD) – 600 Series.
 - c. Securitron (SU) – AQD2 Series.

2.21 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.22 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 - 1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.
 - 1. Quantities listed are for each pair of doors, or for each single door.
 - 2. The supplier is responsible for handing and sizing all products.
 - 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
 - 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.
 - 5. Substitutions: See Section 01 60 00 - Product Requirements.

HARDWARE SET 1,0

Doors: e101A, e141B

EACH TO RECEIVE:

2	Door Cord	TSB-C	Securitron
1	Mullion	5654 8'2 .628	Von Duprin
2	Rim Exit Device	.QEL .RX 33A.NLOP .CON .626 .388(Std)	Von Duprin
2	Rim Cylinder	1109 626 GMK	ASSA ABLOY
6	Cover Plate	70REB BSP	Rockwood
2	Door Pull	BF158 Mtg-Type 12XHD US32D	Rockwood
1	Automatic Opener	6061 689	Norton
2	Wire Harness	CON-192P	Von Duprin
1	Door Switch	502	Norton
2	Position Switch	DPS-M-GY	Securitron
1	Door Switch	504	Norton

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY.
CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.
REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 1.1

Doors: e152A, e167A, e291A, e298A, e299A

EACH TO RECEIVE:

2	Door Cord	TSB-C	Securitron
1	Mullion	5654 8'2 .628	Von Duprin
2	Rim Exit Device	.QEL .RX 33A.NLOP .CON .626 .388(Std)	Von Duprin
2	Rim Cylinder	1109 626 GMK	ASSA ABLOY
6	Cover Plate	70REB BSP	Rockwood
2	Door Pull	BF158 Mtg-Type 12XHD US32D	Rockwood
2	Wire Harness	CON-192P	Von Duprin
2	Position Switch	DPS-M-GY	Securitron

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY.
CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.
INTERCOM / REMOTE UNLOCK AT DOOR e299A PROVIDED BY OWNER.
REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 2,0

Doors: e101B

EACH TO RECEIVE:

8	Cover Plate	70REB BSP	Rockwood
1	Automatic Opener	6061 689	Norton
1	Door Switch	502	Norton

BALANCE OF HARDWARE IS EXISTING TO REMAIN. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED.
REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 3.0

Doors: e221, e231B

EACH TO RECEIVE:

1	Door Cord	TSB-C	Securitron
1	Rim Exit Device	,ALK 33A,EO ,CON ,626 ,RSS	Von Duprin
1	Mortise Cylinder	2153 1-1/4" 626 GMK	ASSA ABLOY
1	Wire Harness	CON-192P	Von Duprin
1	Position Switch	DPS-M-GY	Securitron

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED, HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. EMERGENCY EXIT ONLY. PUSHING DEVICE PAD WILL SOUND ALARM. INSTALL DECALS PROVIDED WITH DEVICE ON PUSH PAD. REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 3.1

Doors: e253A

EACH TO RECEIVE:

1	Door Cord	TSB-C	Securitron
1	Rim Exit Device	,QEL ,RX 33A,NLOP ,CON ,626 ,388(Std)	Von Duprin
1	Rim Cylinder	1109 626 GMK	ASSA ABLOY
1	Door Pull	BF158 Mtg-Type 12XHD US32D	Rockwood
1	Wire Harness	CON-192P	Von Duprin
1	Position Switch	DPS-M-GY	Securitron

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED, HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY, CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS. REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 4.0

Doors: 102

EACH TO RECEIVE:

6	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2" US26D	McKinney
2	Electric Power Transfer	EPT10 ,CON ,689	Von Duprin
1	Magnetic Lock	M68	Securitron
2	Surface Vert Rod Exit	,QEL ,RX 9927,EO ,CON ,626 ,LBR	Von Duprin
2	Surface Closer	CLP7500 689	Norton
2	Kick Plate	K1050 8" x 35" US32D BEV CSK	Rockwood
2	Silencer	608-RKW	Rockwood
2	Wire Harness	CON-26P	Von Duprin
2	Wire Harness	CON-192P	Von Duprin
2	Position Switch	DPS-M-GY	Securitron

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. LOCK MUST BE TIED INTO THE FIRE ALARM SYSTEM TO RELEASE IN THE EVENT OF A FIRE. CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 4.1

Doors: e103A, e203A, e203B, e234A, e331B

EACH TO RECEIVE:

2	Door Cord	TSB-C	Securiton
2	Surface Vert Rod Exit	.QEL ,RX 9927,L ,CON ,626 ,LBR .996L(Std) .03	Von Duprin
2	Rim Cylinder	1109 626 GMK	ASSA ABLOY
2	Wire Harness	CON-192P	Von Duprin
2	Position Switch	DPS-M-GY	Securiton

BALANCE OF HARDWARE IS EXISTING TO REMAIN. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM, CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 5.0

Doors: 153A, 166A, 183A, 192A, 192B, 204A, 205, 218, 231A, 235, 245A, 261A, 275, 296

EACH TO RECEIVE:

2	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Electric Hinge	TA2714-QC12 4-1/2" x 4-1/2" US26D	McKinney
1	Electrified Mortise Lock	CRR 8891FL 626 REX	ASSA ABLOY
1	Surface Closer	7500 689 SN-134	Norton
1	Kick Plate	K1050 8" x 34" US32D BEV CSK	Rockwood
1	ElectroLynx Harness	QC-C300P	McKinney
1	ElectroLynx Harness	QC-C1500P	McKinney
1	Position Switch	DPS-M-GY	Securiton

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL UNLOCK OUTSIDE LEVER AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY INSIDE LEVER. CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 5.1

Doors: 142

EACH TO RECEIVE:

2	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2" US26D	McKinney
1	Electric Hinge, Hvy Wt	T4A3786-QC12 4-1/2" x 4-1/2" US26D	McKinney
1	Electrified Mortise Lock	CRR 8891FL 626 REX	ASSA ABLOY
1	Surface Closer	7500 689 SN-134	Norton
1	Kick Plate	K1050 8" x 40" US32D BEV CSK	Rockwood
1	ElectroLynx Harness	QC-C1500P	McKinney
1	ElectroLynx Harness	QC-C306P	McKinney
1	Position Switch	DPS-M-GY	Securiton

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL UNLOCK OUTSIDE LEVER AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY INSIDE LEVER. CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS. REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 6.0

Doors: 141A

EACH TO RECEIVE:

3	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2" US26D	McKinney
1	Electric Power Transfer	EPT10 ,CON ,689	Von Duprin
1	Rim Exit Device	,QEL ,RX 99.L ,CON ,626 ,996L(Std) ,03	Von Duprin
1	Rim Cylinder	1109 626 GMK	ASSA ABLOY
1	Automatic Opener	6061 689	Norton
1	Kick Plate	K1050 8" x 40" US32D BEV CSK	Rockwood
1	Wall Stop	409 US32D	Rockwood
1	Wire Harness	CON-26P	Von Duprin
1	Wire Harness	CON-192P	Von Duprin
2	Door Switch	502	Norton
1	Position Switch	DPS-M-GY	Securitron

OPERATION:

DOOR IS LOCKED/UNLOCKED ON SCHEDULE. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE LOCKED DOWN IN EVENT OF EMERGENCY.
POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 6.1

Doors: e153C, e309

EACH TO RECEIVE:

1	Door Cord	TSB-C	Securitron
1	Rim Exit Device	,QEL ,RX 99.L ,CON ,626 ,996L(Std) ,03	Von Duprin
1	Wire Harness	CON-192P	Von Duprin

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. HARDWARE DISTRIBUTOR MUST FILL AND FINISH EXISTING PREP HOLES, FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM.
CARD READER PER OWNER . POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 7.0

Doors: 121A, 166B, 180, 197B, 201, 211A, 211B

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Classroom Lock	CRR 8808FL 626	ASSA ABLOY
1	Surface Closer	7500 689 SN-134	Norton
1	Kick Plate	K1050 8" x 34" US32D BEV CSK	Rockwood
1	Wall Stop	409 US32D	Rockwood
3	Silencer	608-RKW	Rockwood

HARDWARE SET 7.1

Doors: 148, 177, r136A, r138C

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Classroom Lock	CRR 8808FL 626	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood
3	Silencer	608-RKW	Rockwood

HARDWARE SET 9.0

Doors: 122, 123, 124, 145, 146, 147, 161B, 162B, 163B, 203A, 203B, 203C, 203D, 203E

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Office/Entry Lock	CRR 8807FL 626	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood
3	Silencer	608-RKW	Rockwood

HARDWARE SET 9.1

Doors: 163A

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Office/Entry Lock	CRR 8807FL 626	ASSA ABLOY
1	Surface Overhead Holder/Stop	9-336 630	Rixson
3	Silencer	608-RKW	Rockwood

HARDWARE SET 9.2

Doors: 127

EACH TO RECEIVE:

3	Hinge, Full Mortise, Hvy Wt	T4A3786 4-1/2" x 4-1/2" US26D	McKinney
1	Office/Entry Lock	CRR 8807FL 626	ASSA ABLOY
1	Surface Overhead Holder/Stop	9-436 630	Rixson
3	Silencer	608-RKW	Rockwood

HARDWARE SET 10.0

Doors: 143, 144, 201A, 201B

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Privacy Set w/ Ind.	CRR 8802FL 626 V21	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood
3	Silencer	608-RKW	Rockwood

HARDWARE SET 11.0

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Passage Set	CRR 8801FL 626	ASSA ABLOY
1	Surface Overhead Holder/Stop	9-336 630	Rixson
3	Silencer	608-RKW	Rockwood

HARDWARE SET 11.1

Doors: 129A, 129B

EACH TO RECEIVE:

3	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Passage Set	CRR 8801FL 626	ASSA ABLOY
1	Surface Overhead Holder/Stop	9-336 630	Rixson
1	Surface Closer	7500 689 SN-134	Norton
1	Kick Plate	K1050 8" x 34" US32D BEV CSK	Rockwood
3	Silencer	608-RKW	Rockwood

HARDWARE SET 11.2

Doors: 197A

EACH TO RECEIVE:

2	Hinge, Full Mortise	TA2714 4-1/2" x 4-1/2" US26D	McKinney
1	Passage Set	CRR 8801FL 626	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood
2	Silencer	608-RKW	Rockwood

HARDWARE SET 12.0

Doors: e103B

EACH TO RECEIVE:

1	Magnetic Lock	M68	Securitron
2	Surface Closer	CLP7500 689	Norton
1	Push Button	EEB2	Securitron

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RELEASE MAG LOCK ALLOWING INGRESS. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY. LOCK MUST BE TIED INTO THE FIRE ALARM SYSTEM TO RELEASE IN THE EVENT OF A FIRE. CARD READER PER OWNER. POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 13.0

Doors: e105, e106, e107, e108, e109, e110, e111, e112, e113, e114, e115, e117, e118, e119, e120, e121B, e125, e130A, e134, e135, e136B, e137, e138A, e138B, e155, e156, e157B, e198, e199, e207, e208, e209, e210, e212, e213, e214A, e214B, e215, e216, e217A, e217B, e219A, e219B, e220, e222, e223, e226, e304, e305, e306, e307, e308, e312, e313A, e313B, e314A, e315, e316, e317, e319, e320, e321, e322, e323, e324, e326, r130B, r154, r157A, r159, r161A, r162A, r204B, r204C, r204D, r328

EACH TO RECEIVE:

1	All Hardware	Existing to Remain
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ALL HARDWARE IS EXISTING TO REMAIN.

HARDWARE SET 13.1

Doors: r116

EACH TO RECEIVE:

1	All Hardware	Existing to Remain
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ALL HARDWARE IS EXISTING TO REMAIN,
SEE DOOR SCHEDULE FOR DETAILS OF HARDWARE MODIFICATION.

HARDWARE SET 14.0

Doors: r158

EACH TO RECEIVE:

1	Office/Entry Lock	CRR 8807FL 626	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood

ALL OTHER HARDWARE EXISTING TO REMAIN.

HARDWARE SET 15.0

Doors: r131, r132, r178

EACH TO RECEIVE:

1	Privacy Set w/ Ind.	CRR 8802FL 626 V21	ASSA ABLOY
1	Wall Stop	409 US32D	Rockwood

ALL OTHER HARDWARE EXISTING TO REMAIN.

HARDWARE SET 16,0

Doors: r139

EACH TO RECEIVE:

1	Classroom Lock	CRR 8808FL 626	ASSA ABLOY
1	Surface Overhead Holder/Stop	9-336 630	Rixson

ALL OTHER HARDWARE EXISTING TO REMAIN.

HARDWARE SET 17,0

Doors: e165, e193A, e193B, e195A, e227A, e276, e311, r318

EACH TO RECEIVE:

1	Storeroom Lock	CRR 8805FL 626	ASSA ABLOY
1	Electric Strike	1006CLB-LBM 630	HES
1	Surface Closer	7500 689 SN-134	Norton
1	ElectroLynx Harness	QC-C1500P	McKinney
1	Position Switch	DPS-M-GY	Securitron

ALL OTHER HARDWARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED, PRESENTING A VALID CREDENTIAL TO THE CARD READER UNLOCKS STRIKE AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY INSIDE LEVER, DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM, CARD READER PER OWNER, POWER SUPPLY PER ELECTRICAL DRAWINGS.

HARDWARE SET 18,0

Doors: e253B

EACH TO RECEIVE:

1	Dummy Cylinder	AS REQUIRED VERIFY	ASSA ABLOY
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ALL OTHER HARDWARE EXISTING TO REMAIN.

HARDWARE SET 19,0

Doors: e331A

EACH TO RECEIVE:

1	Mullion	KR4954 7'6 .689	Von Duprin
2	Rim Exit Device	99.L .626 .996LxM Lever .03	Von Duprin
2	Rim Cylinder	1109 626 GMK	ASSA ABLOY
1	Mortise Cylinder	2153 1-1/4" 626 GMK	ASSA ABLOY

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED, HARDWARE DISTRIBUTOR MUST FILL AND FINISH EXISTING PREP HOLES, FIELD PREP FOR NEW HARDWARE, REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 20,0

Doors: e169, e330

EACH TO RECEIVE:

1	Rim Exit Device	99.L .626 .996LxM Lever .03	Von Duprin
1	Rim Cylinder	1109 626 GMK	ASSA ABLOY

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED, HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED, FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED, PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS, FREE EGRESS AT ALL TIMES BY PUSH PAD, DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM, DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY, CARD READER PER OWNER, POWER SUPPLY PER ELECTRICAL DRAWINGS, REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

HARDWARE SET 21,0

Doors: e299B

EACH TO RECEIVE:

1	Door Cord	TSB-C	Securitron
1	Rim Exit Device	,QEL ,RX 33A,NLOP ,CON ,626 .388(Std)	Von Duprin
1	Rim Cylinder	1109 626 GMK	ASSA ABLOY
3	Cover Plate	70REB BSP	Rockwood
1	Door Pull	BF158 Mtg-Type 12XHD US32D	Rockwood
1	Wire Harness	CON-192P	Von Duprin
1	Position Switch	DPS-M-GY	Securitron

BALANCE OF HARDWARE IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. HARDWARE DISTRIBUTOR MUST FIELD VERIFY ALL EXISTING PREP HOLES WILL BE COVERED. FIELD PREP FOR NEW HARDWARE.

OPERATION:

DOOR IS NORMALLY CLOSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE CARD READER WILL RETRACT LATCH AND SHUNT POSITION SWITCH ALLOWING INGRESS. FREE EGRESS AT ALL TIMES BY PUSH PAD. DOOR MAY BE SCHEDULE UNLOCKED BY ACCESS CONTROL SYSTEM. DOORS MAY BE LOCKED DOWN IN EVENT OF EMERGENCY, CARD READER PER OWNER, POWER SUPPLY PER ELECTRICAL DRAWINGS. REMOVE EXISTING LOCK BOLTS AT ALL EXTERIOR DOORS.

END OF SECTION 087100