

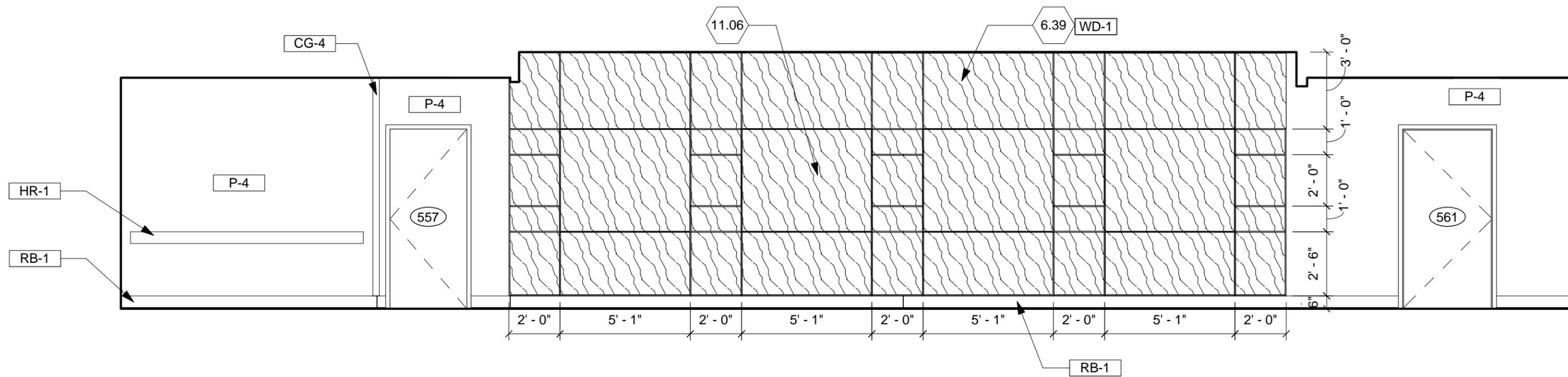
**3** **DETAIL - PARAPET**  
 1-79 1 1/2" = 1'-0"

RDC/JOHN POE ARCHITECTS

524 FERNWOOD DRIVE  
 ALTAMONTE SPRINGS, FL  
 32701  
 937 461 3290 PHONE  
 937 461 0260 FAX  
 jpa@johnpoe.com

**5th FLOOR MAIN  
 ADDITION**  
 VA Medical Center  
 Leestown Road Division  
 2250 Leestown Rd.  
 Lexington KY 40511

**SKA-02**  
 Sheet Ref.  
 N/A



17

# CORRIDOR 586

Scale: 1/4" = 1'-0"

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524 FERNWOOD DRIVE  
ALTAMONTE SPRINGS, FL  
32701

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5th FLOOR MAIN  
ADDITION  
VA Medical Center  
Leestown Road Division  
2250 Leestown Rd.  
Lexington KY 40511

SKA-01  
Sheet Ref.  
A702

**SECTION 08 71 00  
DOOR HARDWARE**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Door hardware and related items necessary for complete installation and operation of doors.

**1.2 RELATED WORK**

- A. Caulking: Section 07 92 00 JOINT SEALANTS.
- B. Application of Hardware: Section 08 14 00, WOOD DOORS Section 08 11 13, HOLLOW METAL DOORS AND FRAMES Section 08 41 13, ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS
- C. Finishes: Section 09 06 00, SCHEDULE FOR FINISHES.
- D. Painting: Section 09 91 00, PAINTING.
- E. Card Readers: Section 28 13 11, PHYSICAL ACCESS CONTROL SYSTEMS.
- F. Electrical: Division 26, ELECTRICAL.
- G. Fire Detection: Section 28 31 00, FIRE DETECTION AND ALARM.

**1.3 GENERAL**

- A. All hardware shall comply with UFAS, (Uniform Federal Accessible Standards) unless specified otherwise.
- B. Provide rated door hardware assemblies where required by most current version of the International Building Code (IBC).
- C. Hardware for Labeled Fire Doors and Exit Doors: Conform to requirements of NFPA 80 for labeled fire doors and to NFPA 101 for exit doors, as well as to other requirements specified. Provide hardware listed by UL, except where heavier materials, large size, or better grades are specified herein under paragraph HARDWARE SETS. In lieu of UL labeling and listing, test reports from a nationally recognized testing agency may be submitted showing that hardware has been tested in accordance with UL test methods and that it conforms to NFPA requirements.
- D. Hardware for application on metal and wood doors and frames shall be made to standard templates. Furnish templates to the fabricator of these items in sufficient time so as not to delay the construction.
- E. The following items shall be of the same manufacturer, if possible, except as otherwise specified:
  - 1. Mortise locksets.
  - 2. Hinges for hollow metal and wood doors.
  - 3. Surface applied overhead door closers.
  - 4. Exit devices.

**1.4 WARRANTY**

- A. Automatic door operators shall be subject to the terms of FAR Clause 52.24-21, except that the Warranty period shall be two years in lieu of one year for all items except as noted below:

1. Locks, latchsets, and panic hardware: 5 years.
2. Door closers and continuous hinges: 10 years.

**1.5 MAINTENANCE MANUALS**

- A. In accordance with Section 01 00 00, GENERAL REQUIREMENTS Article titled "INSTRUCTIONS", furnish maintenance manuals and instructions on all door hardware.

**1.6 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Submit 6 copies of the schedule per Section 01 33 23 plus 2 copies to the VAMC Locksmith (VISN Locksmith if the VAMC does not have a locksmith).
- B. Hardware Schedule: Prepare and submit hardware schedule in the following form:

Hardware Item	Quantity	Size	Reference Publication Type No.	Finish	Mfr. Name and Catalog No.	Key Control Symbols	UL Mark (if fire rated and listed)	ANSI/BHMA Finish Designation

- C. Samples and Manufacturers' Literature:
1. Samples: All hardware items (proposed for the project) that have not been previously approved by Builders Hardware Manufacturers Association shall be submitted for approval. Tag and mark all items with manufacturer's name, catalog number and project number.
  2. Samples are not required for hardware listed in the specifications by manufacturer's catalog number, if the contractor proposes to use the manufacturer's product specified.
- D. Certificate of Compliance and Test Reports: Submit certificates that hardware conforms to the requirements specified herein. Certificates shall be accompanied by copies of reports as referenced. The testing shall have been conducted either in the manufacturer's plant and certified by an independent testing laboratory or conducted in an independent laboratory, within four years of submittal of reports for approval.

**1.7 DELIVERY AND MARKING**

- A. Deliver items of hardware to job site in their original containers, complete with necessary appurtenances including screws, keys, and instructions. Tag one of each different item of hardware and deliver to COTR for reference purposes. Tag shall identify items by Project Specification number and manufacturer's catalog number. These items shall remain on file in COTR's office until all other similar items have been installed in project, at which time the COTR will deliver items on file to Contractor for installation in predetermined locations on the project.

**1.8 PREINSTALLATION MEETING**

- A. Convene a preinstallation meeting not less than 30 days before start of installation of door hardware. Require attendance of parties directly affecting work of this section, including Contractor and Installer, COTR and VA Locksmith, Hardware Consultant, and Hardware Manufacturer's Representative. Review the following:
  - 1. Inspection of door hardware.
  - 2. Job and surface readiness.
  - 3. Coordination with other work.
  - 4. Protection of hardware surfaces.
  - 5. Substrate surface protection.
  - 6. Installation.
  - 7. Adjusting.
  - 8. Repair.
  - 9. Field quality control.
  - 10. Cleaning.

**1.9 INSTRUCTIONS**

- A. Hardware Set Symbols on Drawings: Except for protective plates, door stops, mutes, thresholds and the like specified herein, hardware requirements for each door are indicated on drawings by symbols. Symbols for hardware sets consist of letters (e.g., "HW") followed by a number. Each number designates a set of hardware items applicable to a door type.
  
- C. Keying: All cylinders shall be keyed into existing Best Grand Master Key System. Provide removable core cylinders that are removable only with a special key or tool without disassembly of knob or lockset. Cylinders shall be existing 6 or 7 pin type. Keying information shall be furnished at a later date by the COTR .

**1.10 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only. In text, hardware items are referred to by series, types, etc., listed in such specifications and standards, except as otherwise specified.
- B. American Society for Testing and Materials (ASTM):
  - F883-04 ..... Padlocks
  - E2180-07.....Standard Test Method for Determining the Activity of Incorporated Antimicrobial Agent(s) In Polymeric or Hydrophobic Materials

C. American National Standards Institute/Builders Hardware Manufacturers Association  
(ANSI/BHMA):

- A156.1-06..... Butts and Hinges
- A156.2-03..... Bored and Pre-assembled Locks and Latches
- A156.3-08..... Exit Devices, Coordinators, and Auto Flush Bolts
- A156.4-08..... Door Controls (Closers)
- A156.5-01..... Auxiliary Locks and Associated Products
- A156.6-05..... Architectural Door Trim
- A156.8-05..... Door Controls-Overhead Stops and Holders
- A156.13-05..... Mortise Locks and Latches Series 1000
- A156.16-08..... Auxiliary Hardware
- A156.18-06..... Materials and Finishes
- A156.21-09..... Thresholds
- A156.22-05..... Door Gasketing and Edge Seal Systems
- A156.25-07 ..... Electrified Locking Devices
- A156.26-06..... Continuous Hinges
- A156.28-07 ..... Master Keying Systems
- A156.29-07 ..... Exit Locks and Alarms
- A156.30-03 ..... High Security Cylinders
- A250.8-03..... Standard Steel Doors and Frames

D. National Fire Protection Association (NFPA):

- 80-10 ..... Fire Doors and Fire Windows
- 101-09 ..... Life Safety Code

E. Underwriters Laboratories, Inc. (UL):

Building Materials Directory (2008)

**PART 2 - PRODUCTS**

**2.1 BUTT HINGES**

A. ANSI A156.1. Provide only three-knuckle hinges, except five-knuckle where the required hinge type is not available in a three-knuckle version (e.g., some types of swing-clear hinges). The following types of butt hinges shall be used for the types of doors listed, except where otherwise specified:

1. Exterior Doors: Type A2112/A5112 for doors 900 mm (3 feet) wide or less and Type A2111/A5111 for doors over 900 mm (3 feet) wide. Hinges for exterior outswing doors shall have non-removable pins. Hinges for exterior fire-rated doors shall be of stainless steel material.
2. Interior Doors: Type A8112/A5112 for doors 900 mm (3 feet) wide or less and Type A8111/A5111 for doors over 900 mm (3 feet) wide. Hinges for doors exposed to high

humidity areas (shower rooms, toilet rooms, kitchens, janitor rooms, etc. shall be of stainless steel material.

- B. Provide quantity and size of hinges per door leaf as follows:
1. Doors up to 1210 mm (4 feet) high: 2 hinges.
  2. Doors 1210 mm (4 feet) to 2260 mm (7 feet 5 inches) high: 3 hinges minimum.
  3. Doors greater than 2260 mm (7 feet 5 inches) high: 4 hinges.
  4. Doors up to 900 mm (3 feet) wide, standard weight: 114 mm x 114 mm (4-1/2 inches x 4-1/2 inches) hinges.
  5. Doors over 900 mm (3 feet) to 1065 mm (3 feet 6 inches) wide, standard weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).
  6. Doors over 1065 mm (3 feet 6 inches) to 1210 mm (4 feet), heavy weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).
  7. Provide heavy-weight hinges where specified.
  8. At doors weighing 330 kg (150 lbs.) or more, furnish 127 mm (5 inch) high hinges.
- C. See Articles "MISCELLANEOUS HARDWARE" and "HARDWARE SETS" for pivots and hinges other than butts specified above and continuous hinges specified below.

## 2.2 CONTINUOUS HINGES

- A. ANSI/BHMA A156.26, Grade 1-600.
1. Listed under Category N in BHMA's "Certified Product Directory."
- B. General: Minimum 0.120-inch- (3.0-mm-) thick, hinge leaves with minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete
- C. Continuous, Barrel-Type Hinges: Hinge with knuckles formed around a Teflon-coated 6.35mm (0.25-inch) minimum diameter pin that extends entire length of hinge.
1. Base Metal for Exterior Hinges: Stainless steel.
  2. Base Metal for Interior Hinges: Stainless steel.
  3. Base Metal for Hinges for Fire-Rated Assemblies: Stainless steel.
  4. Provide with non-removable pin (hospital tip option) at lockable outswing doors.
  5. Where required to clear adjacent casing, trim, and wall conditions and allow full door swing, provide wide throw hinges of minimum width required.
  6. Provide with manufacturer's cut-outs for separate mortised power transfers and/or mortised automatic door bottoms where they occur.
  7. Where thru-wire power transfers are integral to the hinge, provide hinge with easily removable portion to allow easy access to wiring connections.
  8. Where models are specified that provide an integral wrap-around edge guard for the hinge edge of the door, provide manufacturer's adjustable threaded stud and machine screw mechanism to allow the door to be adjusted within the wrap-around edge guard.

### **2.3 DOOR CLOSING DEVICES**

- A. Closing devices shall be products of one manufacturer.

### **2.4 OVERHEAD CLOSERS**

- A. Conform to ANSI A156.4, Grade 1.
- B. Closers shall conform to the following:
  1. The closer shall have minimum 50 percent adjustable closing force over minimum value for that closer and have adjustable hydraulic back check effective between 60 degrees and 85 degrees of door opening.
  2. Where specified, closer shall have hold-open feature.
  3. Size Requirements: Provide multi-size closers, sizes 1 through 6, except where multi-size closer is not available for the required application.
  4. Material of closer body shall be forged or cast.
  5. Arm and brackets for closers shall be steel, malleable iron or high strength ductile cast iron.
  6. Where closers are exposed to the exterior or are mounted in rooms that experience high humidity, provide closer body and arm assembly of stainless steel material.
  7. Closers shall have full size metal cover; plastic covers will not be accepted.
  8. Closers shall have adjustable hydraulic back-check, separate valves for closing and latching speed, adjustable back-check positioning valve, and adjustable delayed action valve.
  9. Provide closers with any accessories required for the mounting application, including (but not limited to) drop plates, special soffit plates, spacers for heavy-duty parallel arm fifth screws, bull-nose or other regular arm brackets, longer or shorter arm assemblies, and special factory templating. Provide special arms, drop plates, and templating as needed to allow mounting at doors with overhead stops and/or holders.
  10. Closer arms or backcheck valve shall not be used to stop the door from overswing, except in applications where a separate wall, floor, or overhead stop cannot be used.
  11. Provide parallel arm closers with heavy duty rigid arm.
  12. Where closers are to be installed on the push side of the door, provide parallel arm type except where conditions require use of top jamb arm.
  13. Provide all surface closers with the same body attachment screw pattern for ease of replacement and maintenance.
  14. All closers shall have a 1 ½" (38mm) minimum piston diameter.

### **2.5 DOOR STOPS**

- A. Conform to ANSI A156.16.
- B. Provide door stops wherever an opened door or any item of hardware thereon would strike a wall, column, equipment or other parts of building construction. For concrete, masonry or quarry tile construction, use lead expansion shields for mounting door stops.

- C. Where cylindrical locks with turn pieces or pushbuttons occur, equip wall bumpers Type L02251 (rubber pads having concave face) to receive turn piece or button.
- D. Provide floor stops (Type L02141 or L02161 in office areas; Type L02121 x 3 screws into floor elsewhere. Wall bumpers, where used, must be installed to impact the trim or the door within the leading half of its width. Floor stops, where used, must be installed within 4-inches of the wall face and impact the door within the leading half of its width.
- E. Where drywall partitions occur, use floor stops, Type L02141 or L02161 in office areas, Type L02121 elsewhere.
- F. Provide stop Type L02011, as applicable for exterior doors. At outswing doors where stop can be installed in concrete, provide stop mated to concrete anchor set in 76mm (3-inch) core-drilled hole and filled with quick-setting cement.
- G. Omit stops where floor mounted door holders are required and where automatic operated doors occur.
- H. Provide appropriate roller bumper for each set of doors (except where closet doors occur) where two doors would interfere with each other in swinging.
- I. Provide appropriate door mounted stop on doors in individual toilets where floor or wall mounted stops cannot be used.
- J. Provide overhead surface applied stop Type C02541, ANSI A156.8 on patient toilet doors in bedrooms where toilet door could come in contact with the bedroom door.
- K. Provide door stops on doors where combination closer magnetic holders are specified, except where wall stops cannot be used or where floor stops cannot be installed within 4-inches of the wall.
- L. Where the specified wall or floor stop cannot be used, provide concealed overhead stops (surface-mounted where concealed cannot be used).

## **2.6 OVERHEAD DOOR STOPS AND HOLDERS**

- A. Conform to ANSI Standard A156.8. Overhead holders shall be of sizes recommended by holder manufacturer for each width of door. Set overhead holders for 110 degree opening, unless limited by building construction or equipment. Provide Grade 1 overhead concealed slide type: stop-only at rated doors and security doors, hold-open type with exposed hold-open on/off control at all other doors requiring overhead door stops.

## **2.7 LOCKS AND LATCHES**

- A. Conform to ANSI A156.2. Locks and latches for doors 45 mm (1-3/4 inch) thick or over shall have beveled fronts. Lock cylinders shall have not less than 6 or 7 pins based on the existing system. Cylinders for all locksets shall be removable core type. Cylinder shall be removable by special key or tool. Construct all cores so that they will be interchangeable into the core housings of all mortise locks, rim locks, cylindrical locks, and any other type lock included in the Great Grand Master Key System. Disassembly of lever or lockset shall not be required to remove core from

lockset. All locksets or latches on double doors with fire label shall have latch bolt with 19 mm (3/4 inch) throw, unless shorter throw allowed by the door manufacturer's fire label. Provide temporary keying device or construction core of allow opening and closing during construction and prior to the installation of final cores.

- B. In addition to above requirements, locks and latches shall comply with following requirements:
1. Mortise Lock and Latch Sets: Conform to ANSI/BHMA A156.13. Mortise locksets shall be series 1000, minimum Grade 2. All locksets and latchsets, except on designated doors in Psychiatric (Mental Health) areas, shall have lever handles fabricated from cast stainless steel. Provide sectional (lever x rose) lever design matching 15H. No substitute lever material shall be accepted. All locks and latchsets shall be furnished with 122.55 mm (4-7/8-inch) curved lip strike and wrought box. At outswing pairs with overlapping astragals, provide flat lip strip with 21mm (7/8-inch) lip-to-center dimension. Lock function F02 shall be furnished with emergency tools/keys for emergency entrance. All lock cases installed on lead lined doors shall be lead lined before applying final hardware finish. Furnish armored fronts for all mortise locks. Where mortise locks are installed in high-humidity locations or where exposed to the exterior on both sides of the opening, provide non-ferrous mortise lock case.
  2. Cylindrical Lock and Latch Sets: levers shall meet ADA (Americans with Disabilities Act) requirements. Cylindrical locksets shall be series 4000 Grade I. All locks and latchsets shall be furnished with 122.55 mm (4-7/8-inch) curved lip strike and wrought box. At outswing pairs with overlapping astragals, provide flat lip strip with 21mm (7/8-inch) lip-to-center dimension. Provide lever design to match design selected by Architect or to match existing lever design. Where two turn pieces are specified for lock F76, turn piece on inside knob shall lock and unlock inside knob, and turn piece on outside knob shall unlock outside knob when inside knob is in the locked position. (This function is intended to allow emergency entry into these rooms without an emergency key or any special tool.)

## 2.8 PUSH-BUTTON COMBINATION LOCKS

- A. ANSI/BHMA A156.13, Grade 1. Battery operated pushbutton entry.
- B. Construction: Heavy duty mortise lock housing conforming to ANSI/BHMA A156.13, Grade 1. Lever handles and operating components in compliance with the UFAS and the ADA Accessibility Guidelines. Match lever handles of locks and latchsets on adjacent doors.
- C. Special Features: Key override to permit a master keyed security system and a pushbutton security code activated passage feature to allow access without using the entry code.

## 2.9 KEYS

- A. Stamp all keys with change number and key set symbol. Furnish keys in quantities as follows:

Locks/Keys	Quantity
Cylinder locks	2 keys each

Cylinder lock change key blanks	100 each different key way
Master-keyed sets	6 keys each
Grand Master sets	6 keys each
Great Grand Master set	5 keys
Control key	2 keys

**2.10 KEY CABINET**

- A. ANSI Standard A156.5. Provide key cabinet made of cold rolled, 1.2 mm (0.0478 inch) thick furniture steel electro-welded. Doors shall have "no sag" continuous brass-pin piano type hinge and be equipped with chrome plated locking door handles, hook cam and mechanical pushbutton door lock. Key Cabinet and Key Control System shall accommodate all keys for this project plus 25 percent. Provide minimum number of multiple cabinets where a single cabinet of largest size will not accommodate the required number of keys.
- B. Key tags shall consist of two sets: Permanent self-locking and loan key snaphook type with tag colors as follows: Red fiber marker of the permanent self-locking type approximately 32 mm (1-1/4 inch) in diameter engraved with the legend "FILE KEY MUST NOT BE LOANED." Also furnish for each hook a white cloverleaf key marker with snap-hooks engraved with the legend "LOAN KEY."
- C. The manufacturer of the lock cylinders and locks shall attach a key tag to keys of each lock cylinder and shall mark thereon the respective item number and key change number. Provide each group of keys in a key gathering envelope (supplied by Key Cabinet Manufacturer) in which the lock manufacturer shall include the following information: Item number, key change number and door number. The contractor shall furnish the Key Cabinet Manufacturer the hardware and keying schedules and change keys.
- D. The Key Cabinet Manufacturer shall set up a three-way cross index system, including master keys, listing the keys alphabetically, the hooks numerically and the key changes numerically on different colored index cards. Index cards shall be typewritten and inserted in a durable binder. Attach the keys to the two sets of numbered tags supplied with the cabinet. (The permanent tag and the loan key tag). Instruct the owner in proper use of the system. Install cabinet as directed by theCOTR.

**2.11 ARMOR PLATES, KICK PLATES, MOP PLATES AND DOOR EDGING**

- A. Conform to ANSI Standard A156.6.
- B. Provide protective plates and door edging as specified below:
  - 1. Kick plates, mop plates and armor plates of metal, Type J100 series.
  - 2. Provide kick plates and mop plates where specified. Kick plates shall be 254 mm (10 inches) or 305 mm (12 inches) high. Mop plates shall be 152 mm (6 inches) high. Both kick and mop

plates shall be minimum 1.27 mm (0.050 inches) thick. Provide kick and mop plates beveled on all 4 edges (B4E). On push side of doors where jamb stop extends to floor, make kick plates 38 mm (1-1/2 inches) less than width of door, except pairs of metal doors which shall have plates 25 mm (1 inch) less than width of each door. Extend all other kick and mop plates to within 6 mm (1/4 inch) of each edge of doors. Kick and mop plates shall butt astragals. For jamb stop requirements, see specification sections pertaining to door frames.

3. Kick plates and/or mop plates are not required on following door sides:
  - a. Armor plate side of doors;
  - b. Exterior side of exterior doors;
  - c. Closet side of closet doors;
  - d. Both sides of aluminum entrance doors.

### **2.12 EXIT DEVICES**

- A. Conform to ANSI Standard A156.3. Exit devices shall be Grade 1; type and function are specified in hardware sets. Provide flush with finished floor strikes for vertical rod exit devices in interior of building. Trim shall have cast satin stainless steel lever handles of design similar to locksets, unless otherwise specified. Provide key cylinders for keyed operating trim and, where specified, cylinder dogging.
- B. Surface vertical rod panics shall only be provided less bottom rod; provide fire pins as required by exit device and door fire labels. Do not provide surface vertical rod panics at exterior doors.
- C. Concealed vertical rod panics shall be provided less bottom rod at interior doors, unless lockable or otherwise specified; provide fire pins as required by exit device and door fire labels. Where concealed vertical rod panics are specified at exterior doors, provide with both top and bottom rods.
- D. Where removable mullions are specified at pairs with rim panic devices, provide mullion with key-removable feature.
- E. At non-rated openings with panic hardware, provide panic hardware with key cylinder dogging feature.
- F. Exit devices for fire doors shall comply with Underwriters Laboratories, Inc., requirements for Fire Exit Hardware. Submit proof of compliance.

### **2.13 FLUSH BOLTS (LEVER EXTENSION)**

- A. Conform to ANSI A156.16. Flush bolts shall be Type L24081 unless otherwise specified. Furnish proper dustproof strikes conforming to ANSI A156.16, for flush bolts required on lower part of doors.
- B. Lever extension manual flush bolts shall only be used at non-fire-rated pairs for rooms only accessed by maintenance personnel.
- C. Face plates for cylindrical strikes shall be rectangular and not less than 25 mm by 63 mm (1 inch by 2-1/2 inches).

- D. Friction-fit cylindrical dustproof strikes with circular face plate may be used only where metal thresholds occur.
- E. Provide extension rods for top bolt where door height exceeds 2184 mm (7 feet 2 inches).

#### **2.14 FLUSH BOLTS (AUTOMATIC)**

- A. Conform to ANSI A156.3. Dimension of flush bolts shall conform to ANSI A115. Bolts shall conform to Underwriters Laboratories, Inc., requirements for fire door hardware. Flush bolts shall automatically latch and unlatch. Furnish dustproof strikes conforming to ANSI A156.16 for bottom flushbolt. Face plates for dustproof strike shall be rectangular and not less than 38 mm by 90 mm (1-1/2 by 3-1/2 inches).
- B. At interior doors, provide auto flush bolts less bottom bolt, unless otherwise specified, except at wood pairs with fire-rating greater than 20 minutes; provide fire pins as required by auto flush bolt and door fire labels.

#### **2.15 DOOR PULLS**

- A. Conform to ANSI A156.6. Pull plate 90 mm by 350 mm (3-1/2 inches by 14 inches), unless otherwise specified. Cut plates of door pulls for cylinders, or turn pieces where required.

#### **2.16 PUSH PLATES**

- A. Conform to ANSI A156.6. Metal, Type J302, 200 mm (8 inches) wide by 350 mm (14 inches) high. Provide metal Type J300 plates 100 mm (4 inches wide by 350 mm (14 inches) high) where push plates are specified for doors with stiles less than 200 mm (8 inches) wide. Cut plates for cylinders, and turn pieces where required.

#### **2.17 COMBINATION PUSH AND PULL PLATES**

- A. Conform to ANSI 156.6. Type J303, stainless steel 3 mm (1/8 inch) thick, 80 mm (3-1/3 inches) wide by 800 mm (16 inches) high), top and bottom edges shall be rounded. Secure plates to wood doors with 38 mm (1-1/2 inch) long No. 12 wood screws. Cut plates for turn pieces, and cylinders where required. Pull shall be mounted down.

#### **2.18 THRESHOLDS**

- A. Conform to ANSI A156.21, mill finish extruded aluminum, except as otherwise specified. In existing construction, thresholds shall be installed in a bed of sealant with ¼-20 stainless steel machine screws and expansion shields. In new construction, embed aluminum anchors coated with epoxy in concrete to secure thresholds. Furnish thresholds for the full width of the openings.
- B. For thresholds at elevators entrances see other sections of specifications.
- C. At exterior doors and any interior doors exposed to moisture, provide threshold with non-slip abrasive finish.
- D. Provide with miter returns where threshold extends more than 12 mm (0.5 inch) from fame face.

#### **2.19 AUTOMATIC DOOR BOTTOM SEAL AND RUBBER GASKET FOR LIGHT PROOF OR SOUND CONTROL DOORS**

- A. Conform to ANSI A156.22. Provide mortise or under-door type, except where not practical. For mortise automatic door bottoms, provide type specific for door construction (wood or metal).

## **2.20 WEATHERSTRIPS (FOR EXTERIOR DOORS)**

- A. Conform to ANSI A156.22. Air leakage shall not to exceed 0.50 CFM per foot of crack length (0.000774m<sup>3</sup>/s/m).

## **2.21 MISCELLANEOUS HARDWARE**

- A. Access Doors (including Sheet Metal, Screen and Woven Wire Mesh Types): Except for fire-rated doors and doors to Temperature Control Cabinets, equip each single or double metal access door with Lock Type E76213, conforming to ANSI A156.5. Key locks as directed. Ship lock prepaid to the door manufacturer. Hinges shall be provided by door manufacturer.
- B. Cylinders for Various Partitions and Doors: Key cylinders same as entrance doors of area in which partitions and door occur, except as otherwise specified. Provide cylinders to operate locking devices where specified for following partitions and doors:
  - 1. Folding doors and partitions.
  - 2. Wicket door (in roll-up door assemblies).
  - 3. Slide-up doors.
  - 4. Swing-up doors.
  - 5. Fire-rated access doors-Engineer's key set.
  - 6. Doors from corridor to electromagnetic shielded room.
  - 7. Day gate on vault door.
- C. Mutes: Conform to ANSI A156.16. Provide door mutes or door silencers Type L03011 or L03021, depending on frame material, of white or light gray color, on each steel or wood door frame, except at fire-rated frames, lead-lined frames and frames for sound-resistant, lightproof and electromagnetically shielded doors. Furnish 3 mutes for single doors and 2 mutes for each pair of doors, except double-acting doors. Provide 4 mutes or silencers for frames for each Dutch type door. Provide 2 mutes for each edge of sliding door which would contact door frame.

## **2.22 THERMOSTATIC TEMPERATURE CONTROL VALVE CABINETS**

- A. Where lock is shown, equip each cabinet door (metal) with lock Type E06213, conforming to ANSI A156.5. Key locks in Key Sets approved by Contracting Officer. See mechanical drawings and specifications for location of cabinets.
- B. Cabinet manufacturer shall supply the hinges, bolts and pulls. Ship locks to cabinet manufacturer for installation.

## **2.23 HINGED WIRE GUARDS (FOR WINDOWS, DOORS AND TRANSOMS) AND WIRE PARTITION DOORS**

- A. Butt hinges, type A8133 (special swaging) 100 mm by 90 mm (4 inches by 3-1/2 inches), Finish US2C.
  - 1. 3 hinges for guards over 1060 mm (3-1/2 feet) high.
  - 2. 2 hinges for guards less than 1060 mm (3-1/2 feet) high.
- B. Conform to ANSI A156.5. Lock Type E06081 for guards and Type E06061 for partitions.

1. Keying: Except as noted otherwise, key locks like entrance door or space wherein guards and partitions are located except as otherwise specified.
2. Key locks for partitions enclosing mechanical and electrical equipment in Engineer's Set. (See detailed drawings for number of locks and butt hinges required for each guard).

**2.24 FINISHES**

- A. Exposed surfaces of hardware shall have ANSI A156.18, finishes as specified below. Finishes on all hinges, pivots, closers, thresholds, etc., shall be as specified below under "Miscellaneous Finishes." For field painting (final coat) of ferrous hardware, see Section 09 91 00, PAINTING.
- B. 626 or 630: All surfaces on exterior and interior of buildings, except where other finishes are specified.
- C. Miscellaneous Finishes:
  1. Hinges --exterior doors: 626 or 630.
  2. Hinges --interior doors: 652 or 630.
  3. Pivots: Match door trim.
  4. Door Closers: Factory applied paint finish. Dull or Satin Aluminum color.
  5. Thresholds: Mill finish aluminum.
  6. Cover plates for floor hinges and pivots: 630.
  7. Other primed steel hardware: 600.
- D. Hardware Finishes for Existing Buildings: U.S. Standard finishes shall match finishes of hardware in (similar) existing spaces // except where otherwise specified. //
- E. Special Finish: Exposed surfaces of hardware for dark bronze anodized aluminum doors shall have oxidized oil rubbed bronze finish (dark bronze) finish on door closers shall closely match doors.
- F. Anti-microbial Coating: All hand-operated hardware (levers, pulls, push bars, push plates, paddles, and panic bars) shall be provided with an anti-microbial/anti-fungal coating that has passed ASTM E2180 tests. Coating to consist of ionic silver (Ag+). Silver ions surround bacterial cells, inhibiting growth of bacteria, mold, and mildew by blockading food and respiration supplies.

**2.25 BASE METALS**

- A. Apply specified U.S. Standard finishes on different base metals as following:

<b>Finish</b>	<b>Base Metal</b>
652	Steel
626	Brass or bronze
630	Stainless steel

**PART 3 - EXECUTION**

**3.1 HARDWARE HEIGHTS**

- A. For new buildings locate hardware on doors at heights specified below, with all hand-operated hardware centered within 864 mm (34 inches) to 1200 mm (48 inches), unless otherwise noted:
- B. Hardware Heights from Finished Floor:
  - 1. Exit devices centerline of strike (where applicable) 1024 mm (40-5/16 inches).
  - 2. Locksets and latch sets centerline of strike 1024 mm (40-5/16 inches).
  - 3. Deadlocks centerline of strike 1219 mm (48 inches).
  - 5. Centerline of door pulls to be 1016 mm (40 inches).
  - 6. Push plates and push-pull shall be 1270 mm (50 inches) to top of plate.
  - 7. Push-pull latch to be 1024 mm (40-5/16 inches) to centerline of strike.
  - 8. Locate other hardware at standard commercial heights. Locate push and pull plates to prevent conflict with other hardware.

**3.2 INSTALLATION**

- A. Closer devices, including those with hold-open features, shall be equipped and mounted to provide maximum door opening permitted by building construction or equipment. Closers shall be mounted on side of door inside rooms, inside stairs, and away from corridors. At exterior doors, closers shall be mounted on interior side. Where closers are mounted on doors they shall be mounted with sex nuts and bolts; foot shall be fastened to frame with machine screws.
- B. Hinge Size Requirements:

Door Thickness	Door Width	Hinge Height
45 mm (1-3/4 inch)	900 mm (3 feet) and less	113 mm (4-1/2 inches)
45 mm (1-3/4 inch)	Over 900 mm (3 feet) but not more than 1200 mm (4 feet)	125 mm (5 inches)
35 mm (1-3/8 inch) (hollow core wood doors)	Not over 1200 mm (4 feet)	113 mm (4-1/2 inches)

- C. Hinge leaves shall be sufficiently wide to allow doors to swing clear of door frame trim and surrounding conditions.
- D. Where new hinges are specified for new doors in existing frames or existing doors in new frames, sizes of new hinges shall match sizes of existing hinges; or, contractor may reuse existing hinges provided hinges are restored to satisfactory operating condition as approved by COTR. Existing hinges shall not be reused on door openings having new doors and new frames. Coordinate preparation for hinge cut-outs and screw-hole locations on doors and frames.
- E. Hinges Required Per Door:

Doors 1500 mm (5 ft) or less in height	2 butts
--	---------

Doors over 1500 mm (5 ft) high and not over 2280 mm (7 ft 6 in) high	3 butts
Doors over 2280 mm (7 feet 6 inches) high	4 butts
Dutch type doors	4 butts
Doors with spring hinges 1370 mm (4 feet 6 inches) high or less	2 butts
Doors with spring hinges over 1370 mm (4 feet 6 inches)	3 butts

- F. Fastenings: Suitable size and type and shall harmonize with hardware as to material and finish. Provide machine screws and lead expansion shields to secure hardware to concrete, ceramic or quarry floor tile, or solid masonry. Fiber or rawl plugs and adhesives are not permitted. All fastenings exposed to weather shall be of nonferrous metal.
- G. After locks have been installed; show in presence of COTR that keys operate their respective locks in accordance with keying requirements. (All keys, Master Key level and above shall be sent Registered Mail to the Medical Center Director along with the bitting list. Also a copy of the invoice shall be sent to the COTR for his records.) Installation of locks which do not meet specified keying requirements shall be considered sufficient justification for rejection and replacement of all locks installed on project.

**3.3 FINAL INSPECTION**

- A. Installer to provide letter to COTR that upon completion, installer has visited the Project and has accomplished the following:
  1. Re-adjust hardware.
  2. Evaluate maintenance procedures and recommend changes or additions, and instruct VA personnel.
  3. Identify items that have deteriorated or failed.
  4. Submit written report identifying problems.

**3.4 DEMONSTRATION**

- A. Demonstrate efficacy of mechanical hardware and electrical, and electronic hardware systems, including adjustment and maintenance procedures, to satisfaction of COTR and VA Locksmith.

**3.5 HARDWARE SETS**

- A. HARDWARE SETS TO FOLLOW

Hardware Group No. 01

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	CYLINDRICAL LOCK	KEYPAD, BATTERY OP	626	
1	EA	PERMANENT CORE	KEYED TO EXISTING SYSTEM	626	
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 02

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	STOREROOM LOCK	F07	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	DRIP CAP	R3Y976	CL	ANSI
1	SET	SEALS	R3E164	CL	ANSI
1	EA	DOOR SWEEP	R3A534	CL	ANSI
1	EA	THRESHOLD	J36100	AL	ANSI

Key Door 603 from stair.

Hardware Group No. 03 - Not Used

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	STOREROOM LOCK	F07	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	DRIP CAP	R3Y976	CL	ANSI
1	SET	SEALS	R3E164	CL	ANSI
1	EA	DOOR BOTTOM	R3F416	AL	ANSI
1	EA	THRESHOLD	J36130	AL	ANSI

Hardware Group No. 04

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	A5112	630	ANSI
2	EA	MANUAL FLUSH BOLT	L04251	626	ANSI
1	EA	DUST PROOF STRIKE	L14011	626	ANSI
1	EA	CYLINDRICAL LOCK	EXIT LOCK	662	
2	EA	SURFACE CLOSER	C02051 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	DRIP CAP	R3Y976	CL	ANSI
1	SET	SEALS	R3E164	CL	ANSI
1	SET	ASTRAGAL	R3J734	CL	ANSI
2	EA	DOOR SWEEP	R3A534	CL	ANSI
1	EA	THRESHOLD	J36100	AL	ANSI

Key from mechanical room.

Hardware Group No. 05

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	PASSAGE SET	F75	626	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 05A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	STOREROOM LOCK	F86	626	ANSI
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	FLOOR STOP	L12141	626	ANSI
1	SET	SEALS	ROE154	BRN	ANSI

Hardware Group No. 05B

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	PASSAGE SET	F75	626	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 05C

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	PASSAGE SET	F75	626	ANSI
1	EA	OH STOP	C01541	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 06

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A5111	630	ANSI
1	EA	PANIC HARDWARE	Grade 1, Type 1, Function 14	626	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
1	SET	SEALS	ROE154	BRN	ANSI

Hardware Group No. 07

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	PRIVACY SET	F76	626	ANSI
1	EA	MOP PLATE	J103	630	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

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Hardware Group No. 08

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	PRIVACY SET	F76	626	ANSI
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	MOP PLATE	J103	630	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 09

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 09A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 09B

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 10

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	OH STOP	C01541	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 11

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 11A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 12

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A5111	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 12A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 12B

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 13

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12251	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 14

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12251	626	ANSI
2	SET	SEALS	ROE154	BRN	ANSI
1	EA	DOOR BOTTOM	R3C324	AL	ANSI
1	EA	THRESHOLD	J36100	AL	ANSI

To obtain a STC 40 rating for this opening, 2 sets of perimeter seals are required.

Hardware Group No. 15

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
1	EA	WALL STOP	L12251	626	ANSI
2	SET	SEALS	ROE154	BRN	ANSI
1	EA	DOOR BOTTOM	R3C324	AL	ANSI

To obtain a STC 40 rating for this opening, 2 sets of perimeter seals are required.

Hardware Group No. 16

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A5111	630	ANSI
1	EA	OFFICE LOCK	F04	326	ANSI
2	SET	SEALS	ROE154	BRN	ANSI
1	EA	DOOR BOTTOM	R3C324	AL	ANSI
1	EA	THRESHOLD	J36100	AL	ANSI

To obtain a STC 40 rating for this opening, 2 sets of perimeter seals are required.

Hardware Group No. 17

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	A51031B	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	CUSH SHOE SUPPORT	4110-30	689	LCN
1	EA	BLADE STOP SPACER	4110-61	689	LCN
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 18

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	OFFICE LOCK	F82	626	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 19

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	CLASSROOM LOCK	F84	626	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 19A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	CLASSROOM LOCK	F84	626	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 19B

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	CLASSROOM LOCK	F84	626	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 20

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	STOREROOM LOCK	F86	626	ANSI
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 20A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	STOREROOM LOCK	F86	626	ANSI
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
1	SET	SEALS	ROE154	BRN	ANSI

Hardware Group No. 21

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	MORTISE LOCK	ELECTRICALLY UNLOCKED	326	
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 21A - Alternate 2

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	MORTISE LOCK	ELECTRICALLY UNLOCKED	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	SET	SEALS	ROE154	BRN	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 21B - Alternate 2

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	CYLINCRICAL LOCK	ELECTRICALLY UNLOCKED	626	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	SET	SEALS	ROE154	BRN	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 22

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	MORTISE LOCK	ELECTRICALLY UNLOCKED	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 22A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	CYLINCRICAL LOCK	ELECTRICALLY UNLOCKED	626	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	KICK PLATE	J102	630	ANSI
3	EA	SILENCER	L03011	GRY	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 23

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
2	EA	MANUAL FLUSH BOLT	L04251	626	ANSI
1	EA	DUST PROOF STRIKE	L14011	626	ANSI
1	EA	CYLINCRICAL LOCK	ELECTRICALLY UNLOCKED	626	
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H 180 degree	689	ANSI
2	EA	KICK PLATE	J102	630	ANSI
2	EA	WALL STOP	L12011	626	ANSI
2	EA	SILENCER	L03011	GRY	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Doors normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 24

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	EA	CYLINCRICAL LOCK	ELECTRICALLY UNLOCKED	626	
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	FLOOR STOP	L12141	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

Operational Description: Door normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to unlock upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 25

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	A5112	630	ANSI
1	EA	POWER TRANSFER	CONCEALED	SP28	
1	SET	CONST LATCHING BOLT	Type 27	630	ANSI
1	EA	DUST PROOF STRIKE	L14011	626	ANSI
1	EA	MORTISE LOCK	ELECTRICALLY UNLOCKED	326	
1	EA	COORDINATOR	Type 21A	628	ANSI
2	EA	MOUNTING BRACKET	MB	689	
2	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
2	EA	KICK PLATE	J102	630	ANSI
2	EA	WALL STOP	L12011	626	ANSI
2	SET	SEALS	ROE154	BRN	ANSI
1	EA	ASTRAGAL	R3C635	CL	ANSI
2	EA	DOOR BOTTOM	R3C324	AL	ANSI
1	EA	THRESHOLD	J36100	AL	ANSI
1	EA	POWER SUPPLY	REGULATED, FILTERED, 24VDC, AMPERAGE AS REQUIRED	LGR	
1	EA	CARD READER			

To obtain a STC 40 rating for this opening, 2 sets of perimeter seals are required as listed in set.

Operational Description: Doors normally closed and locked. Presenting a valid credential to the reader will momentarily unlock the lock allowing access. Door to remain locked upon loss of power or activation of the fire alarm. Free egress at all times by depressing lock lever.

Hardware Group No. 26

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	A5112	630	ANSI
1	SET	AUTO FLUSH BOLT	Type 25	630	ANSI
1	EA	DUST PROOF STRIKE	L14011	626	ANSI
1	EA	CLASSROOM LOCK	F05	326	ANSI
1	EA	COORDINATOR	Type 21A	628	ANSI
2	EA	MOUNTING BRACKET	MB	689	
2	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
4	EA	KICK PLATE	J102	630	ANSI
2	EA	WALL STOP	L12011	626	ANSI

Hardware Group No. 27

For use on mark/door #(s):

Provide each PR door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	A51031B	630	ANSI
1	EA	THUMB TURN	CYLINDER		
1	EA	MORTISE CYLINDER	CYLINDER	626	
1	EA	DEADBOLT	MS1851S-410	628	ADA
1	EA	THRESHOLD BOLT	4015		ADA
1	EA	HEADER BOLT	4016		ADA
1	EA	HEADER BOLT	4085		ADA
2	EA	90 DEGREE OFFSET DOOR PULL	PULL	654	
2	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4G, PT-4H	689	ANSI
2	EA	CUSH SHOE SUPPORT	4110-30	689	LCN
2	EA	BLADE STOP SPACER	4110-61	689	LCN

Hardware Group No. 28

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A5111	630	ANSI
1	EA	PUSH PLATE	8" x 16"	US32D	
1	EA	PULL PLATE	4" x 16"	US32D- AM	
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	MOP PLATE	J103	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 28A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	A8111	652	ANSI
1	EA	PUSH PLATE	8" x 16"	US32D	
1	EA	PULL PLATE	4" x 16"	US32D-AM	
1	EA	SURFACE CLOSER	C02011/C02041 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	MOP PLATE	J103	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
3	EA	SILENCER	L03011	GRY	ANSI

Hardware Group No. 29A

Provide each SGL door(s) with the following:

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	A5112	630	ANSI
1	EA	PASSAGE SET	F01	326	ANSI
1	EA	SURFACE CLOSER	C02021 PT-4A, PT-4C, PT-4D, PT-4H	689	ANSI
1	EA	KICK PLATE	J102	630	ANSI
1	EA	WALL STOP	L12201	626	ANSI
1	SET	SEALS	ROE154	BRN	ANSI