

SECTION 08 71 00
DOOR HARDWARE

PART 1 - GENERAL

1.1 DESCRIPTION

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, INTERIOR WOOD DOORS, Section 08 11 13, HOLLOW METAL DOORS AND FRAMES
- D. Painting: Section 09 91 00, PAINTING.

1.3 GENERAL

- A. All hardware shall comply with UFAS, (Uniform Federal Accessible Standards) unless specified otherwise.
- B. 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. Cylindrical locksets.
 - 2. Hinges for hollow metal and wood doors.
 - 3. Surface applied overhead door closers.
 - 4. Exit devices.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Hardware Schedule: Prepare and submit hardware schedule in Standard DHI Format showing Opening Mark degree of opening and fire rating.
- 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.

1.5 DELIVERY AND MARKING

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 Resident Engineer for reference purposes. Tag shall identify items by Project Specification number and manufacturer's catalog number. These items shall remain on file in Resident Engineer's office until all other similar items have been installed in project, at which time the Resident Engineer will deliver items on file to Contractor for installation in predetermined locations on the project.

1.6 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 "HW" followed by a number. Each number designates a set of hardware items applicable to a door type.
- B. Keying: Coordination of Keying shall between Lock Manufacturer and Owner. Supplier shall provide an Architectural Hardware Consultant, in good standing, to assist as required.

1.7 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):

F883-04Padlocks

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

A156.1-00Butts and Hinges

A156.2-03Bored and Pre-assembled Locks and Latches

A156.3-01Exit Devices

A156.4-00Door Controls (Closers)

A156.5-01Auxiliary Locks and Associated Products

A156.6-05Architectural Door Trim

A156.8-05Door Controls-Overhead Stops and Holders

A156.15-06Release Devices-Closer Holder, Electromagnetic
and Electromechanical

A156.16-02American National Standard for Auxiliary
Hardware

A156.18-00Materials and Finishes

A156.21-06Thresholds

A156.22-05Door Gasketing and Edge Seal Systems

A156.23-04Electromagnetic Locks

A156.24-03Delayed Egress Locking Systems

A156.26-00Continuous Hinges

A156.31American National Standard for Electric Strikes
and Frame Mounted Actuators

A250.8-03Standard Steel Doors and Frames

D. National Fire Protection Association (NFPA):

80-06Fire Doors and Fire Windows

101-05Life Safety Code

E. Underwriters Laboratories, Inc. (UL):

Building Materials Directory (2007)

PART 2 - PRODUCTS

2.1 BUTT HINGES

A. ANSI A156.1. The following types of butt hinges shall be used for the types of doors listed, except where otherwise specified:

1. Exterior Doors: Type A2112 for doors 900 mm (3 feet) wide or less and Type A2111 for doors over 900 mm (3 feet) wide. Hinges for exterior doors shall have non-removable pins.

2. Interior Doors: Type 8112 for doors 900 mm (3 feet) wide or less and Type A8111 for doors over 900 mm (3 feet) wide.
 3. Automatic doors hung on butts, provide Type A2111 for exterior doors and aluminum doors, and Type A8111 for other doors.
 4. Any door installed in structural steel frames: Type A2412, A8412, A2411 or A8411 as applicable, except where otherwise specified. Such hinges shall be of same quality and weight as other hinges listed above for applicable door sizes.
 5. Labeled Wood Fire Doors: Type 8411 or Type 8412; these hinges shall be thru bolted to door with hex nuts and bolts.
- B. 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
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:
1. Fire Pins: Steel pins to hold labeled fire doors in place if required by tested listing.
- C. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves; joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.

2.3 DOOR CLOSING DEVICES

Closing devices shall be products of one manufacture for each type specified.

2.4 OVERHEAD CLOSERS

- A. Conform to ANSI A156.4, Grade 1.
- B. Closers shall conform to the following:
1. The closer shall have 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: Size closers in accordance with manufacturer's recommendations or provide multi-size closers, sizes 1 through 6.
 4. Material of closer shall be forged or cast iron or cast aluminum.

5. Arm and brackets for closers shall be steel, malleable iron or high strength ductile cast iron.
6. Closers shall have full size cover.
7. Closers shall have adjustable hydraulic back-check and separate valves for closing and latching speed.

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.
 1. Use concave style wall stops.



2. Do not use convex style wall stops.



- D. Substitute floor stops Type L02141 or L02161 as appropriate, when wall bumpers would not provide an effective door stop.
- E. Where drywall partitions occur, use floor stops, Type L02141 or L02161.
- F. Provide stop Type L02011 or L02181, as applicable for exterior doors.
- 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 doors in spaces where doors could come in contact with other doors.
- K. Provide door stops on doors where combination closer magnetic holders are specified.

2.06 LOCKS AND LATCHES

- A. Provide Locks by Stanley Security Solutions (BEST). The Owner has requested no Substitution. 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 seven pins. Cylinders for all locksets shall be removable core type. Cylinders shall be furnished with construction removable cores and construction master keys. Cylinder shall be removable by special key or tool. Construct all cores so that they will be interchangeable into the core housings of all 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. 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. Cylindrical Lock and Latch Sets: levers shall meet ADA (Americans with Disabilities Act) requirements. Cylindrical locksets shall be series 4000 Grade I. Knobs for series 4000 lock and latch sets shall have 57 mm (2-1/4 inch) diameters. 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.)

2.07 ELECTRIC STRIKES

- A. ANSI/ BHMA A156.31 Grade 1.
- B. General: Use fail-secure electric strikes with fire-rated devices.
- C. Manufacturers:
 - 1. Adams Rite Manufacturing Co.
 - 2. Folger Adam Security Inc.; an ASSA ABLOY Group company.
 - 3. HES, Inc.; an ASSA ABLOY Group company.

4. Locknetics; an Ingersoll-Rand Company.
5. Precision Hardware, Inc.
6. Hager
7. Stanley Security Solutions (Best)

2.08 KEYS

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

Locks/Keys	Quantity
Cylinder locks	3 keys each
Master-keyed sets	3 keys each
Grand Master sets	3 keys each
Great Grand Master set	3 keys
Control key	1 key

- B. Psychiatric keys shall be cut so that first two bittings closest to the key shoulder are shallow to provide greater strength at point of greatest torque.

2.09 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 two parasentric keys. All locks shall be nickel plated with solid brass pin tumbler cylinder keyed as directed. Key Cabinet and Key Control System shall accommodate all keys for this project plus 25 percent.
- B. Key tags shall consist of two sets: Permanent self-locking and loan key snap hook 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 the Resident Engineer.

2.10 ARMOR PLATES, COMBINATION KICK-MOP PLATES AND DOOR EDGING

- A. Conform to ANSI Standard A156.6.
- B. Provide protective plates and door edging as specified below:
1. Kick-mop plates and armor plates metal, Type J101, J102 series,
 2. Provide kick-mop plates as listed in the sets. Kick-mop plates shall be 10 inches high. On push side of doors where jamb stop extends to floor, make combination kick-mop 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 combination kick-mop plates to within 6 mm (1/4 inch) of each edge of doors. Kick mop plates shall butt astragals. For jamb stop requirements, see specification sections pertaining to door frames.
 3. Kick-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) Storage side of doors to or from storage spaces; and
 - e) Both sides of aluminum entrance doors.
 4. Armor plates for doors are listed under Article "Hardware Sets". Armor plates shall be 875 mm (35 inches) high and 38 mm (1-1/2 inches) less than width of doors, except on pairs of metal doors. Plates on pairs of metal doors shall be 25 mm (1 inch) less than width of each door. Where top of intermediate rail of door is less than 875 mm (35 inches) from door bottom, extend armor plates to within 13 mm (1/2 inch) of top rail. On doors equipped with panic devices, extend armor plates to within 13 mm (1/2 inch) of panic bolt cross bar.

5. Where louver or grille occurs in lower portion of doors, substitute stretcher plate and kick-mop plate in place of armor plate. Size of stretcher plate and kick-mop plate shall be 200 mm (8 inches) high.
6. Door Edging or Edge Guard: Fabricate edge trim from stainless steel, 630/US32D Satin stainless steel - stainless steel finish, 0.050 inch thick by 36 inch long, ANSI/BHMA A156.4, J210 for the hinged side and J211 for the strike side. Fabricate edge trim for mortised application.

2.11 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 lever handles similar to locksets, unless otherwise specified.
- B. Exit devices for fire doors shall comply with Underwriters Laboratories, Inc., requirements for Fire Exit Hardware. Submit proof of compliance.

2.12 FLUSH BOLTS (LEVER EXTENSION)

- A. Conform to ANSI A156.16. Flush bolts shall be Type L04261 unless otherwise specified. Furnish proper dustproof strikes conforming to ANSI A156.16, for flush bolts required on lower part of doors. Modify flush bolts to fit stiles of aluminum doors on double-acting doors.
- B. Face plates for cylindrical strikes shall be rectangular and not less than 25 mm by 63 mm (1 inch by 2-1/2 inches).
- C. Friction-fit cylindrical dustproof strikes with circular face plate may be used only where metal thresholds occur.

2.13 DOOR PULLS

Conform to ANSI A156.6. Pull plate (4 inches by 16 inches), unless otherwise specified. Cut plates of door pulls for cylinders, or turn pieces where required.

2.14 PUSH PLATES

Conform to ANSI A156.6. Stainless Steel, Type J301, (4 inches) wide by (16 inches) high.

2.15 AUTOMATIC DOOR BOTTOM SEAL AND RUBBER GASKET FOR LIGHT PROOF DOORS

Conform to ANSI A156.22. Do not use brush type.

2.16 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.
 - 3. Door Closers: Factory applied paint finish. Dull or Satin Aluminum
 - 4. Other primed steel hardware: 652.
- 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: On all locksets, exit devices, and Push/Pulls provide a silver-based or performance equal, antimicrobial coating designed to stem the spread of germs and bacteria. See door hardware schedule for specified locations.

2.17 BASE METALS

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

Finish	Base Metal
652	Steel
626	Brass or bronze
630	Stainless steel

PART 3 - EXECUTION

3.1 HARDWARE HEIGHTS

- A. For existing buildings locate hardware on doors at heights to match existing hardware. The Contractor shall visit the site, verify location of existing hardware and submit locations to Resident Engineer for approval.

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 regular arm on left hand and right hand doors. 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. Closers shall be mounted parallel arm or top jamb mounting on left hand reverse and right hand reverse doors and where the following conditions occur:

1. Where door swing, in full open position, would be limited to less than 90 degrees due to partition construction and closer location.
2. Where door to room opens outward into corridor.
3. Where exterior doors open outward.
4. On doors equipped with roller latch.

C. Hinge Size Requirements:

1. Openings 36" and less shall have standard weight (.134) 4 1/2" Hinges
2. Openings greater than 36" shall have heavy weight (.180) 4 1/2" Hinges.

D. Hinge leaves shall be sufficiently wide to allow doors to swing clear of door frame trim.

E. 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 Resident Engineer. 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.

F. 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

G. 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.

- H. After locks have been installed; show in presence of Resident Engineer 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 Resident Engineer 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 HARDWARE SETS

Following sets of hardware correspond to hardware symbols shown on drawings. Where hardware set for a single door is specified for a pair of doors; equip each leaf of such pair of doors with set noted. Only those hardware sets that are shown on drawings will be required. Disregard hardware sets listed in specifications but not shown on drawings.

Door List

<u>Door#</u>	<u>Hardware Set#</u>
3-C2	3
3-C3	2
3-F1	1
3-F2	1
301	15
301A	16
302	20
302A	19
303	13
303A	13
304	12
304A	12
306	6
308	23
308A	23
308B	16
309	9
311	10
312	10
313	10
314	14
314A	16
315	8
316	17
316A	5
318	17
318A	5
319A	7
321	23
322	21
323	17
323A	5
325	17
325A	5
326	8
327	17
327A	5
330	4
330A	22
331	4
331A	16
332	10
333	10
334	10

Hardware Set#: 1

Single: 3-F1, 3-F2

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2 x NRP	26D
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x [AM]	626
1.0	EA	Electric Strike	8300 LBM-12/24VDC/VAC x 801 x 630-FP	630
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 42" [Pull Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 42" [Push Side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge}	US32D BIO
1.0	EA	Misc	2002	
1.0	EA	Misc	2005M	
1.0	EA	Latch Guard	345D	US32D
3.0	EA	Silencer	S1M	Gray

Keypad provides momentary access to Electric Strike.

Field Verify that Electric Strike will fit existing frame prep.

Keypad by Security Contractor.

Hardware Set#: 2

Single: 3-C3

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2 x NRP	26D
1.0	EA	Mortise Lockset	47H-7-IND-14-S [AM]	626
1.0	EA	Electric Strike	1006-12/24VDC x HM x 630-FP	630
1.0	EA	Magnetic Lock	1511 12/24VDC B	Q
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 40" [Pull Side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Push Side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Misc	2002	
1.0	EA	Misc	2005M	
1.0	EA	Latch Guard	345D	US32D
1.0	EA	Power Supply	632RF	Beige
3.0	EA	Silencer	S1M	Gray

Keypad operates Electric Strike for Day Operation.

Keypad by Security Contractor.

Mortise Lock Deadlock secures door for Night Operations.

Operation: Lockout feature - the electric strike will not release when the deadbolt is extended.

The deadbolt is retracted during traffic hours.

The latchbolt is released by the keeper.

The keeper returns to the locked position.

Hardware Set#: 3

Pair: 3-C2

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
1.0	EA	Hinge	CE-56-FBB168 4-1/2 x 4-1/2 x N RP	26D /Leaf#2
2.0	EA	Hinge	FBB168 4-1/2 x 4-1/2 x NRP	26D /Leaf#2
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2 x NRP	26D /Leaf#1
2.0	EA	Flush Bolt	FB02W	US26D /Leaf#2
1.0	EA	Dust Proof Strike	DPS3	US26D /Leaf#1
1.0	EA	Mortise Lockset	47H-7-IND-14-S [AM]	626 /Leaf#1
1.0	EA	Electric Strike	1006-12/24VDC x HM x 630-FP	630
2.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 16" [Pull Side]	US32D BIO /Leaf#2
1.0	EA	Kick Plate	KP50 x 10" x 40" [Pull Side]	US32D BIO /Leaf#1
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Push Side]	US32D BIO /Leaf#1
1.0	EA	Armor Plate	KP50A2 x 36"h x 16"w [Push Side)	US32D BIO /Leaf#2
2.0	EA	Edge Guard	EG04 x 36	US32D BIO
2.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Misc	2002	
1.0	EA	Misc	2005M	
1.0	EA	Latch Guard	345D	US32D
2.0	EA	Silencer	S1M	Gray

Keypad operates Electric Strike for Day Operation.

Keypad by Security Contractor.

Mortise Lock Deadlock secures door for Night Operations.

Operation: Lockout feature - the electric strike will not release when the deadbolt is extended.

The deadbolt is retracted during traffic hours.

The latchbolt is released by the keeper.

The keeper returns to the locked position.

Hardware Set#: 4

Single: 330, 331

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Push Plate	P053	US32D BIO
1.0	EA	Pull Plate	DP703 [Barrier free]	US32D BIO
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Armor Plate	KP50A2 x 36"h x 34"w [pull side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36"h x 34"w [push side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 5

Single: 316A, 318A, 323A, 325A, 327A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-AB-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 35" [Pull Side]	US32D BIO
1.0	EA	Overhead Holder/Stop	10-336	652
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 6

Single: 306

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-AB-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 35" [Pull Side]	US32D BIO
1.0	EA	Wall Bumper	WS02	US32D
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 7

Single: 319A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x [AM]	626
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 40" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 41" [Pull Side]	US32D BIO
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 8

Single: 315, 326

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 40" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 41" [Pull Side]	US32D BIO
1.0	EA	Overhead Holder/Stop	10-436	652
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 9

Single: 309

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-AB-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36"h x 34"w [push side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Overhead Holder/Stop	10-336	652
1.0	EA	Door Bottom	MCK411APKL48	A
3.0	EA	Silencer	S1M	Gray

STC 42 Sound Rated Assembly
Sound Seals may be replaced by Manufacturer's Standard

Hardware Set#: 10

Single: 311, 312, 313, 332, 333, 334

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x [AM]	626
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 35" [Pull Side]	US32D BIO
1.0	EA	Wall Bumper	WS02	US32D
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 11

Not Used

Hardware Set#: 12

Single: 304, 304A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
1.0	EA	Cylinder - Rim	1E-7-2-S2-RP3	626

Hardware Supplier to Coordinate Cylinder Requirements with Door Supplier.

Balance of Hardware by Door Manufacturer.

Hardware Set#: 13

Pair: 303, 303A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
6.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
2.0	EA	Flush Bolt	FB02W	US26D /Leaf#2
1.0	EA	Dust Proof Strike	DPS3	US26D /Leaf#1
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x TL(O)3/4{AM]	626 /Leaf#1
2.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
4.0	EA	Kick Plate	KP50 x 10" x 34" [Both Sides]	US32D BIO
			Coordinate with Louver	
4.0	EA	Kick Plate	KP50 6" x 34"[Stretcher Plates]	US32D BIO
2.0	EA	Edge Guard	EG04 x 36	US32D BIO
2.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge	US32D BIO
2.0	EA	Silencer	S1M	Gray

Hardware Set#: 14

Pair: 314

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
6.0	EA	Hinge	FBB168 4-1/2 x 4-1/2 x NRP	26D
2.0	EA	Flush Bolt	FB02W	US26D /Leaf#2
1.0	EA	Dust Proof Strike	DPS3	US26D /Leaf#1
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626 /Leaf#1
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689 /Leaf#1
1.0	EA	Kick Plate	KP50 x 10" x 16" [Pull Side]	US32D BIO /Leaf#2
1.0	EA	Kick Plate	KP50 x 10" x 40" [Pull Side]	US32D BIO /Leaf#1
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Push Side]	US32D BIO /Leaf#1
1.0	EA	Armor Plate	KP50A2 x 36"h x 16"w [Push Side]	US32D BIO /Leaf#2
2.0	EA	Edge Guard	EG04 x 36	US32D BIO
2.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Overhead Holder/Stop	10-136	652 /Leaf#2
2.0	EA	Silencer	S1M	Gray

Hardware Set#: 15

Single: 301

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Pull Side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Push Side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 16

Single: 301A, 308B, 314A, 331A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x [AM]	626
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Gasketing	MCKS88BL21	BL
1.0	EA	Auto Door Bottom	MCK412C 36 PKL	
1.0	EA	Thrsehold	MCK154A 36	

Hardware Set#: 17

Pair: 316, 318, 323, 325, 327

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
1.0	EA	By-Pass Door Hardware	H200A/6 [Track Kit]	
1.0	EA	Cylinder - Mortise	1E-7-4-C181-RP3	626
1.0	EA	Deadlock	MS1850	628
1.0	EA	Flush Pull	BFP16	US32D BIO
1.0	EA	Misc	F134C72 [Fascia]	
3.0	EA	Silencer	S2W	Gray

Hardware Set#: 18

Not Used

Hardware Set#: 19

Single: 302A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 22" [Pull Side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36"h x 22"w [Push Side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Wall Bumper	WS02	US32D
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 20

Single: 302

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB168 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 40" [Pull Side]	US32D BIO
1.0	EA	Armor Plate	KP50A2 x 36" x 40" [Push Side]	US32D BIO
1.0	EA	Edge Guard	EG04 x 36	US32D BIO
1.0	EA	Edge Guard	EG04 x 36 x 1-Cutout x [Hinge]	US32D BIO
1.0	EA	Roller Stop	RS02S	US26D
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 21

Single: 322

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-AB-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 35" [Pull Side]	US32D BIO
1.0	EA	Wall Bumper	WS02	US32D
1.0	EA	Weatherstripping	MCK319CN x 36" x 84" C	
1.0	EA	Door Bottom	MCK411APKL36	A
1.0	EA	Gasketing	MCKS88BL17	BL
3.0	EA	Silencer	S1M	Gray

Hardware Set#: 22

Single: 330A

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-D-14-D-S3 x LM x [AM]	626
1.0	EA	Door Closer	D-4550Std. w/PA Brkt	689
1.0	EA	Kick Plate	KP50 x 10" x 30" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 31" [Pull Side]	US32D BIO
1.0	EA	Wall Bumper	WS02	US32D
3.0	EA	Silencer	S1M	Gray

Existing Electric Strike to Remain.
Keypad provides momentary access to Electric Strike.
Keypad by Security Contractor.

Renovate Research Lab Phase 3
VA Project No. 626-11-101

Hardware Set#: 23

Single: 308, 308A, 321

<u>Qty</u>	<u>UOM</u>	<u>Item Type</u>	<u>Item Series / Description</u>	<u>Finish</u>
3.0	EA	Hinge	FBB179 4-1/2 x 4-1/2	26D
1.0	EA	Lockset	93K-7-R-14-D-S3 x LM x [AM]	626
1.0	EA	Kick Plate	KP50 x 10" x 34" [Push Side]	US32D BIO
1.0	EA	Kick Plate	KP50 x 10" x 35" [Pull Side]	US32D BIO
1.0	EA	Overhead Holder/Stop	10-336	652
3.0	EA	Silencer	S1M	Gray

END OF SCHEDULE