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| --- |
| Revision History |
| Revision Date | Section / Nature of Revision |
| 05/09/2017 | Document Issued |
| 06/21/22 | 1.03 I added Access Control2.01 A removed w/No Lip Strike2.01 D 3 added ANSI function 092.01 D. 7) A. 1) b) removed WUSR Cylinder and keys2.01 D. 7) B. 1) b) removed WUSR Cylinder and keys2.01 I. 2) a) (9) removed WUSR keyway 2.01 I. 2) c) (2) changes to Function, Latch and Location2.01 I. 2) c) (6) changes to Latch2.01 I. 2) c) (8) changes to Latch2.01 I. 2) c) (9) changes to Function, Latch and Location2.01 I. 3) a) changed Schlage PL1000 Series to KS Series2.01 I. 3) b) changed Schlage PL1000 Series to KS Series2.01 I. 6) removed entire section 6 “Electromagnetic Locks”4.01 C. f) changes to fastener to SNB and strikeout TB4.01 C. h) added h)4.01 I. 1) a) changed center-lined 36” to per template4.01 I. 4) removed entire old section 4) and relabeled proceeding sections4.01 I. 4) changed qty and added new language4.01 I. 4) a) removed Frank Angelelli and added new construction bittling list4.01 I. 4) c) 1) (b) removed WSUR thought-out section4.01 I. 4) c) 6) b) removed Frank Angelelli through-out sectionPart 5 Special Note removed first 3 paragraphs  |
| 6/15/23 | 2.01 I. (3) a) changed American 3601 to 3650 with Schlage cylinder No. 23-030 |

# PART 1 – GENERAL

## 1.01 RELATED DOCUMENTS

 The Pinellas County School Board Bidding and Contractual Requirements and general provisions of Section 00 00 00 Procurement and Contracting Requirements Division One shall apply to all work.

## 1.02 DESCRIPTION OF WORK

 Provide all Finish Hardware items necessary to complete the Project without additional cost to the Owner. The Finish Hardware List included within this Specification Section is intended cover all Finish Hardware necessary to complete this project.

## 1.03 RELATED WORK

1. Section 03 61 00 Concrete Materials (Anchoring Grouts)
2. Section 06 10 00 Rough Carpentry
3. Section 08 13 00 Steel Doors and Frames
4. Section 08 13 16 Aluminum Doors and Frames
5. Section 08 43 00 Aluminum Storefront
6. Section 08 33 00 Coiling Doors and Grilles
7. Section 08 35 00 Folding Doors
8. Section 08 14 00 Wood Doors

 I. Section 28 10 00 Access Control

## 1.04 QUALITY ASSURANCE

A. The Contractor/Construction Manager shall provide a supplier of Finish Hardware for this Project. This “Finish Hardware Supplier” shall have membership in the American Society of Architectural Hardware consultants and shall employ an Architectural Hardware Consultant (AHC) to schedule, order, detail and coordinate the hardware and supervise the hardware installation. The AHC shall be available to the Contractor/Construction Manager, Project Architect and Owner throughout the course of work.

The Hardware Manufacturers shall provide factory trained Finish Hardware representatives on all job site(s) of all projects to provide initial instruction to the Finish Hardware Installer regarding the proper installation techniques. No Finish Hardware Items shall be installed on the Project until this pre-installation class has been held.

B. Marking, delivery and storage shall meet the best standards of the industry. See Part 1, Paragraph 1.06.

C. The Finish Hardware Supplier SHALL provide hardware templates to the suppliers furnishing the Aluminum Doors or Storefront Doors and the Hollow Metal Doors. Hardware for Aluminum Doors or Storefront Doors SHALL NOT be furnished by the supplier of the Aluminum Doors or the Storefront Doors. The Aluminum Door or Storefront Door Supplier shall install the hardware furnished under this Finish Hardware section.

D. Adjust and check each operating item of Finish Hardware and each door to ensure proper operation or function of every opening. Replace Hardware Units that cannot be adjusted to operate freely and smoothly or as intended for the proper application.

1) Where Finish Hardware is installed more than one month prior to acceptance or occupancy of a space or area, the Finish Hardware Supplier and the Finish Hardware Installer SHALL return to the installation during the week prior to acceptance or occupancy and make a final review and adjustment of all hardware items in the space or area. The Finish Hardware Installer SHALL clean all operating items as necessary to restore proper function and finish to the hardware and shall adjust door control devices to compensate for final operation of heating and ventilating equipment.

2) Clean adjacent surfaces to the hardware soiled by the installation.

3) The Finish Hardware Supplier shall inspect the hardware installation and certify the hardware has been furnished and installed in accordance with the manufacturer’s instructions and with the Contract Documents. The Finish Hardware Supplier shall provide a Letter of Certification of proper hardware installation to the Project Architect and the Owner.

4) The Contractor/Construction Manager, after acceptance of the hardware, is responsible for the proper protection of all hardware items until the Owner accepts the project as complete.

5) Six Month Adjustment:

a) Approximately six months after the Date of Substantial Completion, the Finish Hardware Supplier and the Finish Hardware Installer, accompanied by representatives of the lock, closer and exit device manufacturers, the Owner’s representative from the Maintenance Department - Hardware Section and the Head Plant Operator of the facility, shall inspect and adjust, as necessary, Finish Hardware items to restore proper function to comply with specified requirements.

b) The Finish Hardware Supplier shall replace all hardware items that have deteriorated or failed due to faulty design, materials or installation

c) The Finish Hardware Supplier shall provide written instructions and verbal consultations to the Owner for any additional proper and recommended maintenance procedures.

d) The Finish Hardware Supplier shall submit to the Project Architect and the Owner, a written report of the six-month review enumerating all discovered problems and the steps taken to resolve them. The report shall also indicate any anticipated problems in the performance of the hardware and shall address the Finish Hardware Supplier’s position concerning them

1.05 SUBMITTALS

### PRODUCT DATA:

1) PROPOSED FINISH HARDWARE SCHEDULE

Provide the Proposed Finish Hardware Schedule to the Project Architect for approval prior to placing order for this material.

Contractor/Construction Manager shall follow the established procedures for such submittals as described project design document submittal requirements.

2) SUBSTITUTIONS:

a) Certain Finish Hardware Items are proprietary. These items are clearly identified herein.

b) Attention is called to the Project Specification Manual Division I, Section 1B, Paragraph 10, Section 1E, Paragraphs 3.4. and Section 1F, Paragraphs: (as applicable), regarding Materials Quality and Substitutions.

c) Finish Hardware Items listed in this Specification Section are presented in a manner such as to establish the Owner’s choice of a minimum standard of quality. A specific list of “Approved Manufacturers” products is presented for each Finish Hardware Item. The Primary (First) Products listed in each Category of Finish Hardware items are intended to serve as the Primary selections of this minimum acceptable standard of quality. Criteria regarding the additional listed Approved Manufacturers products may vary slightly.

d) Specified fasteners for the listed Finish Hardware Items may vary from the manufacturer’s standard fasteners for such Finish Hardware Items. These variations are believed by the Owner to be necessary due to the Owner’s previous experiences. Except as indicated below in these specifications, the Finish Hardware Manufacturer’s standard Quantity of fasteners shall be used and Shall Not Be Reduced for any item.

e) Comply with all project design documents requirements for submittal of Construction Schedules, Material Samples and Shop Drawing Data.

f) The Contractor/Construction Manager Shall Not place a Purchase Order for the subject Finish Hardware Materials contained within this Proposed Finish Hardware Schedule until all process requirements and approvals for such submittals have been completed in accordance with the requirements in this Project Specification Manual.

3) OPERATIONAL AND MAINTENANCE DATA

Provide the following material and instructions at the completion of the project (e.g., closeout documents required by project Plans & Specifications):

This Owner’s Operational and Maintenance Manual shall include the minimum following items:

a) Installation Instructions for each Finish Hardware item

b) Maintenance Instructions for each Finish Hardware item

c) Catalog pages for each Finish Hardware item

d) Instructions regarding the proper operational and adjustment procedures for the individual Finish Hardware items

e) Equipment Lubrication requirements

f) Inspection Procedures related to Preventative Maintenance

g) Parts list for each product

h) Copy of “As-Installed” Finish Hardware Schedule

i) Copy of final Keying and Bitting Schedule. (\*\*CONFIDENTIAL\*\*)

j) Names, Addresses, Telephone Numbers, and E-Mail Addresses of the individual Finish Hardware Material Manufacturers

k) Name and Telephone number of the Finish Hardware Distributor

l) Warranty Data

4) WARRANTIES

The Contractor/Construction Manager shall provide Written Warranties and Guarantees for the following materials and instructions at the completion of the Project in accordance with the requirements contained in the project Plans & Specifications and Contract documents.

Such Warranties and Guarantees shall cover the following listed Finish Hardware Items against failure due to defective materials and workmanship for the periods indicated below. All such Finish Hardware Items so judged during these periods to be defective shall be replaced or repaired at no cost to the Owner.

 Item Warranty Period

 Door Closers Thirty (30) Years

 Exit Devices Three (3) Years

 Electromagnetic Door Locks Five (5) Years

 All other Finish Hardware Items furnished One (1) Year

## 1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver all products and materials to the Project site in manufacturer’s original sealed containers with seals and labels intact.

B. Inspect all Finish Hardware products and materials upon receipt, for damage and completeness. Reject and return all damaged or incomplete products and / or materials.

C. Verify all Finish Hardware products and materials to match such products and materials as listed in the approved Finish Hardware Schedule.

D. Store all Finish Hardware products and materials in a secured enclosed space protected from unauthorized access, vandalism, and the weather.

#

# PART 2 - PRODUCTS

## MATERIALS

### A. ASTRAGAL: On active leaf of all pairs with flush bolts

1) Type I: 2” x 1/8” x 84”, Door-mounted type

a) Material: Aluminum, steel, stainless steel

b) Finish: US28 / USP / US32

c) UL Listed Label Fire Smoke

Approved Manufactures:

 Mfg. Model

1. Pemko 357SP / 357SS
2. Hager 835S-X / 835S-P / 835S-S
3. Ultra WS 054-A / WS 054-SP / WS 054-SS

2) Type II: 2” x 3/16” x 84”, Door-mounted type with Silicone Compression Bulb Gasket S88\*

a) Material: Steel / Stainless Steel

b) Finish: USP / US32

c) UL Listed Label: Fire Smoke

 Labeled Assembly

Approved Manufactures:

 Mfg. Model

 Pemko 357SP / 357SS

### COORDINATOR

1) Rectangular Tube Casing: 1-5/8” (W) x 5/8” (D) x (#”) (L)

 # Manufacturer’s standard lengths vary to suit frame openings (60”, 72” or 96”)

a) Material: Steel

b) Finish: USP (Black) (1)

c) UL Listed Label: Fire

2) Including Accessories:

a) Rectangular Filler Unit, #297F (matching body cross-section configuration of Coordinator Unit.)

b) Mounting Brackets 297N, (Pairs):

(For Frame Stop Widths Over 2-1/4”)

 Or

c) Mounting Brackets, #297M (Pairs):

(For Frame Stop Widths From 7/8” To 2-1/4”)

1. Material: Steel
2. Finish: USP (Black) (1)

d) Carry Bar No. #297C (One Piece with Roller Type) (2)

* 1. Material: Steel
	2. Finish: USP (Black) (1)

Approved Manufactures:

 Mfg. Model

 Hager 297D 297M / 297N

 Ives COR MB

 Door Controls International 600 AB/C

 Rockwood 1600 Series 1601AB/1601C

Notes: 1) Or manufacturer’s standard color primer

 2) Specify the Carry Bar for situations ONLY where the inactive door leaf can be opened before the active leaf

### C. DOOR CLOSERS

1) Typical Features

1. Full Rack and Pinion Type; All-weather Type Hydraulic Fluid; Handing: Handed Left or Right (To suit existing conditions); Cylinder Material: Cast Iron; Tested to 10,000,000 cycles, Heavy Duty Motor Clock Type Spring; Cover: Plastic; Finish: Aluminum Power Coat (Al-Pt). Include SRI primer for installations in exterior and/or corrosive conditions.

 b) UL Listed Label: Fire (As Required)

c) Accessibility Requirements\*: (1) Florida Building Code, Chapter 11 ADA requirements, (Maximum door opening pressure of 8.5 lbs. for exterior doors and 5 lbs. for interior doors. Additionally, door closing speed at 10 seconds – closing speed from a 90° opening) and Chapter 553, Florida Statutes. Such requirements do not apply to the effort required to retract latch bolts or disengage other devices that keep the door closed for safety purposes.

 d) Quality: Manufacturer’s top of the line Heavy Duty Products

2) Type I, Parallel Arm, Model 4111 Series)

 a) Opening Type: (Student Occupied Locations) “Push Side” Mounting Type

 b) Advanced Variable Backcheck (AVB) (adjustable) Cylinder

(Door checks shall take effect at approximately 45)

c) Closer Arm: (Standard Parallel Arm) Arm Options and Accessories: Manufacturer’s recommended equipment to suit conditions. (Auxiliary Stop Is Recommended at Hold -Open Point, when a door cannot swing 180 or where Cush-N Stop® arm is not used)

 Cylinder Size: Exterior Interior

 Door size Cylinder Size Cylinder Size

 28” to 34” 2

 28” to 30” 3

 30” to 36” 4

 34” to 38” 3

 36” to 42” 5

 38” to 48” 4

3) Type II: Regular Arm “Pull Side” Mounting. Model 4011

a) Opening Type: (Non-Student-Occupied Locations) Conditions exposed to (1) weather, (2) where mounted inside in-swinging doors such as closets and mechanical rooms

b) Delayed Action (DA) (adjustable) Cylinder

c) Closer Arm: (Regular Arm) Arm Options and Accessories: Manufacturer’s recommended equipment to suit conditions.
(Auxiliary Stop is recommended at hold-open point or where door cannot swing 140)

 Cylinder Size Exterior Interior

 Door Size Cylinder Size Cylinder Size

 24” to 34” 2

 24” to 30” 3

 30” to 36” 4

 34” to 38” 3

 36” to 42” 5

 38” to 48” 4

Approved Manufactures:

 Mfg. Type Model

 LCN # I 4111 Series

 LCN # II 4011 Series

\* Utilize manufacturer’s special templates to achieve the Accessibility Requirements.

# LCN Brand Door Closers were approved by the School Board on August 12,1992 as a single-source product line in accordance with Section 255.04 Florida Statutes.

### D. EXIT DEVICES

1) TYPE I: PANIC RIM TYPE, Non-Handed, Field Sizable, ¾”, Latch Bolt Deadlocking, Hex Key Dogging, Model 99, XP99@Exterior

 a) Material: Aluminum

 b) Strike: No. 499F – Each Door

c) Cylinder No. 20-057, RIM LOCK CYLINDER: Interchangeable Core

 type for exit devices. Mfg. Schlage Lock Co. Finish US26D

 See Note (A)

 d) Finish: Interior: US26D Exterior: US32D

 e) Label: UL Listed: Accident Hazard Conditions

 f) Accessories: Stabilizer Set # 154: See Note (B)

2) TYPE II: FIRE RIM TYPE: Non-Handed, Field Sizable, ¾” Latch Bolt Deadlocking, Model 99-F

a) Material: Aluminum

b) Strike: No. 499F - Each Door

c) Temporary Cylinder No. 20-057, RIM LOCK CYLINDER: Interchangeable Core

 type for exit devices. Mfg. Schlage Lock Co. Finish

 US26D See Note (A)

 d) Finish: Interior: US26D Exterior: US32D

 e) Label: UL Listed: Fire Hazard Conditions: Labels: A, B, C, D, or E

 g) Accessories: Stabilizer Set # 154: See Note (B)

 3) Trim Items for Type I And Type II: (As Applicable)

 Trim No. ANSI Function Description

a) EO 01 No trim on exterior face of door

b) 990DT 02 Blank Escutcheon Plate with Pull Handle on exterior

 face of door

c) 996L-DT 02 Blank Escutcheon Plate with (RIGID) Lever Handle

 on exterior face of door

d) 996L-BE 02 Blank Escutcheon Plate with (Always Active)

 Lever● Handle on exterior face of door

e) 990NL 03 Keyed-Rim Cylinder in Escutcheon Plate with Pull

 Handle on exterior face of door

f) 996L-NL 03 Keyed-Rim Cylinder in Escutcheon Plate with

 (RIGID) Lever Handle on exterior face of door

g) 996L 08 Keyed-Rim Cylinder in Escutcheon Plate and

 Lever● Handle on face of door

h) 22NL XSP28 Keyed-Rim Cylinder in Escutcheon Plate with Pull

 Handle on exterior face of door

ANSI Functions Used

 01 Exit Only

 02 Entrance by Trim when actuating bar is locked down

 03 Entrance by Trim when latch bolt is retracted by key. Key removable only

when locked

 08 Entrance by lever. Key locks or unlocks lever

 09 QEL electric exit devices (less PS902 power supply) on exterior doors in coordination with division 28

NOTES: Use Levers on Labeled Doors Only.

 Use “NL”, “DT”, “BE”, and “EO” functions, as needed, by requirements of the door openings. Lever Handle in No. 06 Design has anti-vandal breakaway function

4) Panic Hardware required on Electrical (1200 AMP) and High Hazard Area

 Von Duprin #22 NL, EO, DT, NL-OP

5) Type I: Panic Rim Type, non-handed, Field Sizable 19mm/3/4” deadlocking- hex key dogging, Model 22, 22NL XSP28

a) Material: Aluminum

b) Strike: No. 499F – Each Door.

c) Cylinder No. 20-057, RIM LOCK CYLINDER: Interchangeable Core type for

 exit devices. Mfg. Schlage Lock Co. Finish US26D See Note (A).

d) Finish: Interior: US26D Exterior: US32D

e) Label: UL Listed: Accident Hazard Conditions

f) Accessories: Stabilizer Set # 154: See Note (B)

6) Type II: Fire Rim 22-F

7) Mullions:

 See Notes (A) and (B):

1. Mullion: Keyed Removable Type IB for Type I Exit Device Interior installation

1) No. KR4954, steel (with Keyed Cylinder) including:

a) Manufacturer's furnished Fittings, Fasteners and Anchors for mullion anchorage to the floor and door frame head member

b) Schlage No. 20-061

c) Two (2) No. 499F Strikes

d) Finish: SP28

e) Interior Acoustical Openings: Two (2) continuous strips of self-adhesive pressure-sensitive type compression bulb-door seal. (i.e., Pemko S88 Type)

f) Pair #154 stabilizers with each mullion

 B. Mullion: Keyed Removable Type IC for Type Il Exit Device Interior Installation

1) No. K9954, (fire-rated), steel, (with Keyed Cylinder) including:

a) Manufacturer's furnished Fittings, Fasteners and Anchors for mullion anchorage to the floor and door frame head member.

b) Schlage No. 20-061

c) Two (2) No. 499F Strikes

d) Finish: SP28

e) Interior Acoustical Openings: Two (2) continuous strips of self-adhesive pressure-sensitive type compression bulb-door seal (i.e., Pemko S88 Type)

f) Pair #154 stabilizers with each mullion

Approved Manufactures:

 Mfg. Type Model

#####

 Von Duprin # I 99 Series

 Von Duprin # II 99-F Series

# Von Duprin Brand Fire Exit Devices were approved by the School Board on August 12,1992 as a single-source product line in accordance with Section 255.04 Florida Statutes.

Notes: A. See Part 4 Installation, 4.01 Products and Procedures, Paragraphs:
 5 Required Keying Arrangements and 6 Construction Keying

B. One (1) set Stabilizer Set # 154 including shims and manufacturer’s standard

 fasteners for each door leaf, mullion, and door frame jamb

### E. FLUSH BOLTS

1) FLUSH BOLTS Type I: Lever Extension: (Wood Composite Doors)

 Location: (Pair): (1) Top and (1) Bottom of latch-edge of inactive door

 Operation: Manual

 a) Material: Extruded Brass

 b) Face: 1” x 6-3/4”

 c) Bolt Head: 1/2” Flattened Semi-Round or Round Head

 d) Bolt Throw: 3/4” minimum

 e) Rod Backset: 3/4”

 f) Finish US26D

 g) Label: UL Listing: Yes

 h) Strikes:

1) (Top): 15/16” x 2-1/4”

2) (Floor): Strike, Dust-Proof for installation into aluminum threshold

3) Material: Brass: Solid Cast or Extruded

4) Barrel: 1” Diameter x 2-3/16” Long

5) Finish: US26D

Approved Manufactures:

 Mfg. Type Model

 Hager I 283D x 280X

 Ives I FB358 x (DP1)

 Rockwood I 557 x 572

 Trimco I 3917 x 3911

2) FLUSH BOLTS Type II: Automatic: (Wood Composite Doors)

 Location: Pair:(1) Top and (1) Bottom of latch-edge of inactive door

a) Material: Steel and stainless-steel components.

b) Face: 1” x 8-1/2”

c) Bolt Head: 1/2” Flattened Square chamfered edge Heads x 3/4” backset

d) Bolt Throw: 3/4” with ¾” vertical adjustment of the bolt and rod without

 removing door from frame

e) Rub Plate: 1-1/4” wide x 1-3/4” long x 0.048” thick (for latch edge of active door)

f) Label: UL Listing(s): Fire Label: B, C, D, & E. (To 8’ High)

g) Finish US26D

h) Strikes:

* + 1. (Top): 2-1/4” x 15/16”
		2. (Floor): STRIKE, DUST-PROOF, for installation into aluminum Threshold
		3. Material: Cast Brass
		4. Barrel: 1-3/16” Diameter x 2-3/16” Long
		5. Finish: US26D

i) Features:

 Built-in extra strength and cam-action to eliminate need for a fusible link

Approved Manufactures:

 Mfg. Type Model

 Ives II FB41P x (DP1)

 Hager II 291D x (280X)

 Rockwood II 1942 x (572)

 Door Controls, Inc. II 942 x (81)

3) FLUSH BOLTS Type III: Automatic (Metal Doors)

 Location: Pair (1) Top and (1) Bottom of latch-edge of inactive door

a) Material: Steel with brass components.

b) Face: 1” x 6-3/4”

c) Bolt Head: 1/2” diameter, Beveled or Flattened Square Head

d) Bolt Backset 3/4”

e) Bolt Throw: 3/4”

f) UL Listing Label(s) Fire: A, B, C, D, & E. (max. 9’ high door)

g) Finish US26D

h) Strike:

* + 1. (Top): ANSI A 115.4 (Prepare Metal Frame or Coordinator).
		2. (Floor) STRIKE, DUST-PROOF: for use with aluminum threshold
		3. Material: Polished Wrought Brass
		4. Barrel: 1” Diameter x 2-3/16” Long
		5. Finish: US26D

i. Features:

(1) Thermal Lock: Flush Bolt automatically locks inactive door under high fire/heat conditions

(2) Fully automatic, when active door is opened, inactive door is free

Approved Manufactures:

 Mfg. Type Model

 Ives III FP31P x (DP1)

 Hager III 292D x (280X)

 Rockwood III 1842 x (572)

 Door Controls, Inc. III 845 x (81)

4) FLUSH BOLTS Type IV: Lever Extension, (Metal Doors)

Location: (Pair): (1) Top and (1) Bottom of latch-edge of inactive door

Operation: Manual

 (a) Material: Extruded Brass

 (b) Face: 1” x 6-3/4”

 (c) Bolt Head: 1/2” Flattened Semi-Round or Round Head

 (d) Bolt Throw: 5/8”” minimum

 (e) Rod Backset: 3/4”

 (f) Rod Length 12”

 (g) Finish US26D

 (h) Label: UL Listing: Yes

 (i) Strikes:

* + 1. (Top): 15/16” x 2-1/4”
		2. (Floor): Strike, Dust-Proof for installation into aluminum threshold
		3. Material: Brass: Solid Cast or Extruded
		4. Barrel: 1” Diameter x 2-3/16” Long
		5. Finish: US26D

Approved Manufactures:

 Mfg. Type Model

 Hager IV 282D x (280X)

 Ives IV FB458 x (DP1)

 Rockwood IV 555 x (572)

 Door Controls Inc. IV 780F x (81)

### F. HINGES

Hinges, Butt, Architectural, Passage Door, Single barrel, Square Corner Type:

Features TYPE I TYPE II TYPE III TYPE IV

ANSI No: A8111 A5111 A8112 A5112

Height: 4.5” 4.5” 4.5” 4.5”

Width: 4.5” 4.5” 4.5” 4.5”

Gauge: 0.180” \* 0.180” \* 0.134” 0.134”

Material (Hinge & Pin) Steel Stainless Steel Steel Stainless Steel

Finish: US26D US32D US26D US32D

Square Corner Yes Yes Yes Yes

Full mortise: Yes Yes Yes Yes

Swaged Yes Yes Yes Yes

Weight: Heavy Heavy Medium Medium

Template: Yes Yes Yes Yes

Knuckle: Five Five Five Five

Ball bearing: Four Four Two Two

Single pin: Yes Yes Yes Yes

Non-rising pin: Yes Yes Yes Yes

Non-removable pin: No Yes No Yes

Button tip with plug: Yes Yes Yes Yes

Approved Manufacturers:

HAGER BB1168 BB1199 NRP BB1279 BB1191

STANLEY FBB168 FBB199 NRP FBB179 FBB191

IVES 5BB1HW 652 5BB1HW 630 NRP 5BB1 652 5BB1 630 NRP

\* Exception: (Gauge: (0.185”)

### G. KEY CABINET

1) KEY CABINET, Surface Wall Mounted Type: Included Features:

a) Key Cabinet and Capacity

1. KEY PANEL, built-in, mounted on cabinet back, fifty (50) key capacity
2. ADD-ON PANELS, side-pivot hinged, double faced, 100 key capacity type

1. Model No. P/100. Quantity Four (4)
2. TOTAL CAPACITY: 450 Keys minimum
3. DIMENSIONS: 13” Wide x 27” High x 7-7/8” Depth
4. MATERIAL: Cold-rolled steel body and door
5. CABINET DOOR: Continuous hinged side-swinging type (left side hinge) (door is same size as face of box body)
6. CABINET LOCK: Door-mounted, nickel-plated brass, pin tumbler lock with two (2) paracentric keys
7. STANDARD: Federal Spec. AA - C - 30D
8. FINISH: Enamel: “Gray”
9. Keys shall be installed in a Key Cabinet and marked appropriately by the Hardware Supplier

b.) Cabinet Components:

(1) KEY MARKERS, PERMANENT TYPE:

 (No. 2RF-N)\*, Red Fiber octagonal-shaped material, with permanently attached self-locking key clip, stamped: “File Key Must Not Be Loaned”, and numbered consecutively. Quantity: 450 each (to identify reserve-pattern keys from which duplicates can be made)

(2) KEY MARKERS, TEMPORARY TYPE: (No. 3G-N)\*, White Fiber shamrock-shaped material, with permanently attached self-locking key clip, numbered consecutively. Quantity: 450 each (to identify all duplicate keys available for temporary loan-out)

(3) KEY MARKERS, Federal Spec. FF - T - 77B

(4) ENVELOPES: Manilla, Key Gathering”, (No. 252)\* Quantity: 450 each (for use in key collection, identification, tagging and hanging)

(5) KEY HOOK LABELS, \*(No. LA-100). Numerically printed and perforated. 100 numbers per sheet to identify individual key hooks (No.’s: “01” through “450”)

(6) SIGNATURE RECEIPT FORMS: \*(No. 154). (For use in (\*No.41) Holders). 200 forms per pad. Quantity: three (3) pads (to indicate in writing, “when and to whom”, duplicate key is loaned)

(7) RECEIPT HOLDERS: Bright Brass, \*(No. 41) Quantity: 450 each. (For use with \*(No 154) Signature Receipt Forms”)

(8) Instruction Booklet

 \* TELKEE Brand Part Numbers as material/quality guide.

 Approved Manufacturers

 Mfg. Model

 Telkee AWC450-S

 Key Control Systems 2480PLR

### H. DOOR PLATES

1) KICKPLATE, Type I:

a) Material: Stainless Steel

b) Height: 12” (Minimum)

c) Width: \*Two inches (2”) less than door width

d) Thickness: 0.050”

e) Finish: US32D

Approved Manufacturers

 Mfg. Type Model

 Hager I 196R

 Rockwood I J102

 Ives I 8400-(--\*--)

 Trimco I K0050

2) ARMOR PLATE, Type II:

a) Material: Stainless Steel

b) Height: 36” (Minimum)

c) Width: Two inches (2”) less than door width

d) Thickness: 0.050”

e) Finish: US32D

Approved Manufacturers

 Mfg. Type Model

 Hager II 196R

 Rockwood II J101

 Ives II 8400- (--\*--)

 Trimco II KA050-2

3) PUSH PLATE, Type III, Square Corner:

a) Material: Stainless Steel

b) Size: 8” Wide x 16” High x 0.050” Thick

c) Finish: US32D

Approved Manufacturers

 Mfg Type Model

 Rockwood III 70F

 Ives III 8200 8 x 16

 Trimco III 1001-11

 Hager III 30S x 8” x 16”

4) PUSH PLATE, Type IV, Square Corner:

a) Material: Stainless Steel

b) Size: 4” Wide x 16” High x 0.050” Thick

c) Finish: US32D

Approved Manufacturers

 Mfg Type Model

 Rockwood IV 70C

 Ives IV 8200 4 x 16

 Trimco IV 1001-3

 Hager IV 30S x 4” x 16”

5) PULL PLATE, Type V, Square Corner:

a) Material: Stainless Steel

b) Plate Size: 4” Wide x 16” High x 0.050” Thick

c) Pull Handle Base: 1’ Diameter

d) Pull Handle Diameter/Shape: 1” Diameter / Round

e) Pull Handle Length: 11” Overall

f) Handle C-T-C Length: 10”

g) Handle Projection: 2-1/2” Minimum

h) Handle Clearance: 1-1/2” Minimum

i) Finish: US32D

Approved Manufacturers

 Mfg. Type Model

Rockwood V 111X 70C

Ives V 8303-0 4” x 16”

Trimco V 1018-3B

Hager V 34J x 4” x 16”

### I. LOCKS

1) OVERVIEW:

 The paragraphs of this Specification Sub-Section include the following products:

1. Cylindrical Type Locks
2. Padlocks
3. Rim Lock Cylinders for Panic and Fire Exit Devices

 d) Cylinders for Specialty Type Doors and Removable Mullions. (See Part 2.0,

 Paragraph 2.01, D)

 e) Electro-Magnetic Locks for Time Out Rooms

1. LOCKS, Cylindrical Type:

a) General Description:

1. LOCK, Cylindrical Type, Extra Heavy Duty, Exceeds 800,000 cycle ANSI Grade 1
2. Certifications: ANSI A156.2, 1996, Series 4000, Grade 1, lock lever torque requirements U L. Listed: 3 hours
3. Includes ANSI Prep. Strike A115.2, Schlage No. 10-025 (and Strike box for wood doors)
4. Standard Backset: 2-3/4”
5. Mechanism: Through-bolted type for positive interlock with door
6. Cylindrical Housing: Heavy gauge cold rolled steel mechanisms, corrosion treated for normal atmosphere conditions
7. Roller bearings and coil compression springs on anti-friction latch retractors to ensure smooth lever action
8. Spring Cages: Heavy duty type for effective lever support
9. Cylinder: Precision Solid Brass 6 pin cylinder with nickel silver pins and keys
10. Levers: Non-handed Type. Pressure Cast Zinc. Key removable outside lever for quick re-keying and easy cylinder replacement
11. Concealed mounting screws
12. Rose: Wrought Brass or Bronze
13. Trim: Design: RHODES (RHO)
14. Latch: "Reversible--See Individual Lock Device"
15. Finish: US26D

b) Egress Function:

Typically, EGRESS MUST always be possible from the interior spaces served by these locks: Ref.: “Florida Building Code Building, Paragraph 453.13.1 Doors. “…All doors and gates from spaces with an occupant load of six or more students, regardless of use or location, shall swing in the direction of exit travel, shall be of the side-hinged type, and shall always be operable from the inside by a single operation and without a key.”

c) Specific Approved Locks:

Note: Certain Descriptions vary from Industry Standard Descriptions due to specific usage requirements

(1). PASSAGE SET, Cylindrical, Type I:

 Function: ND10S-RHO Passage Latch

 Latch: Springlatch No. 14-001 1/2" Throw

 Location: Interior Doors: Between adjacent interior spaces that do not

 require security. i.e., between Teachers Offices

 Operation: (no keyed cylinders) Both Levers are always free

 Egress is always possible from either side of doorway

(2) LOCKSET, Cylindrical, Type II

 Function: ND25PD-RHO "Exterior" Exit Lock

 Latch: Springlatch No. 14-001 1/2" Throw

 Location: Exterior Doors: Openings providing egress from

 Administrative and Instructional Offices, (non-hazardous areas)

 Used to control personnel access into room or area

 Operation: (no keyed cylinders) Blank Plate on exterior. Interior lever always unlocked

(3) LOCKSET, Cylindrical, Type III

 Function: ND40S-RHO Bath/Bedroom Privacy Lock

 Latch: Springlatch No. 14-001 1/2" Throw

 Location: Interior Doors to Single-Occupant Student Toilet Rooms and

 Single-Occupant Staff Toilet Rooms in contained Staff Lounge Areas

 Operation: (no keyed cylinders) Push-button locking from the interior side

 door can be opened from the outside with a small screwdriver. Turning inside lever or closing door releases button (unlocks door)

(4) LOCKSET, Cylindrical, Type IV

 Function: ND70PD-RHO "Administrative" Lock

 Latch: Deadlatch No. 14-019 1/2" Throw.

 Location: Interior Doors: (Not Opening to Corridors\*) Administrative Offices,

 Closets, (non-hazardous areas) Conference Rooms, etc.

 \*Exception: Doors may open to interior corridors within contained administrative suites

 Not for use in Student occupied areas.

 Operation Lock or unlock exterior lever by key. Inside lever always unlocked

(5) LOCKSET, Cylindrical, Type V

 Function: ND95PD-RHO "Interior" Classroom Security Lock

 Latch: Deadlatch No. 14-019 1/2" Throw.

 Location: Interior Doors: (Openings to Corridors, including also Dutch

 Doors) providing access to Administrative Suites, Classrooms, Instructional Offices, Conference Rooms, Group Student Toilet Rooms, between\* Classrooms, and Certain Administrative Rooms (i.e., Bookkeepers Office\*\*) (non-hazardous areas)

\* When this lock is installed in doors between classrooms, "secondary egress travel flow" shall be considered. Install "exit side" of lock (side with always free lever) on the side of the door facing the classroom that must exit into the classroom containing the "entry side" of the lock. (Door must swing in the direction of exit travel flow."

\*\* Use locks on such rooms located within contained administrative suites in order to provide passive restriction of unauthorized personnel into that area where staff-supervised access is desired

 Operation: Vandlgard™ Function: (two (2) keyed cylinders) Key in either

lever locks or unlocks outside lever. Inside lever always free

(6) LOCKSET, Cylindrical, Type VI

 Function: ND95PD-RHO "Exterior" Classroom Security Lock

 Latch: Deadlatch No. 14-019 1/2" Throw

 Location: Exterior Doors: Openings to Corridors providing access to

 Classrooms, Administrative and Instructional Offices, (non-hazardous areas) Conference Rooms, and Group Student Toilet Rooms

 Operation: Vandlgard™ Function: (two (2) keyed cylinders) Key in either

 lever locks or unlocks outside lever. Inside lever always free

(7) LOCKSET, Cylindrical, Type VII

 Function: ND96PD-8RO "Interior" Storeroom Lock

 Latch: Deadlatch No. 14-019 1/2" Throw

Modifications: ADA Compliant Tactile Warning. Permanently attached textured

surface filler strip on the underside of the lockset (Entry-side)

lever handle

 Location: Interior Doors to: Storage Rooms (Custodial, General and Science

 Type) Mechanical Rooms, Electrical Rooms, (hazardous areas), etc.

 Operation: Vandlgard™ Function: Outside Lever always DISENGAGED.

 Lock or unlock outside lever by key only. Inside lever always free

(8) LOCKSET, Cylindrical, Type VIII

 Function: ND96PD-8RO "Exterior" Storeroom Lock

 Latch: Deadlatch No. 14-019 1/2" Throw

 Modifications: ADA Compliant Tactile Warning. Permanently attached textured

 surface filler strip on the underside of the lockset (Entry-side) lever handle

 Location: Exterior Doors to: Storage Rooms (Custodial, General and Science

 Type) Mechanical Rooms, Electrical Rooms, (hazardous areas),

 etc.

 Operation: Vandlgard™ Function: Outside Lever always DISENGAGED.

 Lock or unlock outside lever by key only. Inside lever always free

(9) LOCKSET, Cylindrical, Type IX

 Function: ND85PD-RHO Faculty Restrooms

 Latch: Deadlatch No. 14-019 1/2" Throw

 Location: Doors to Individual faculty restrooms opening directly into interior

 corridors or public areas, and directly onto Covered Walks

 Operation: Vandlgard™ Function: Outside Lever always DISENGAGED.

 Lock or unlock outside lever by key only. Inside lever always free

Approved Manufacturers

 Mfg Type Model

Schlage # I through VI and IX ND Series x RHO

Schlage # VII and VIII ND Series x 8RO

# Note: Schlage brand cylindrical type locksets were approved by the School Board on August 12, 1992 as a single-source product line in accordance with section 255.04 Florida Statutes.

3) PADLOCKS

1. PADLOCK, Type I:

(1) Body, Material: Solid Brass

(2) Body, Width 1-3/4”

(3) Body, Height: 2-1/8”

(4) Body, Thickness: 3/4”

(5) Body Finish: US4

(6) Cylinder: Six (6) Pin, Solid Brass. Tumbler Type

(7) Shackle Material: Hardened Steel (Locking recesses at heel and toe.)

(8) Shackle Dimensions: 2” Vertical Interior Clearance x 5/16” Diameter

(9) Shackle Finish: US26D

(10) Keys Two (2) per padlock. Material and quality shall be as per

 Paragraph 4.01, I-I, 4 of this specification

Approved Manufacturers:

 Mfg. Model

 Schlage KS Series

 American 3650 with Schlage Cylinder No. 23-030

b. PADLOCK, Type II:

(1) Body, Material: Solid Brass

(2) Body, Width 2”

(3) Body, Height: 2-1/4”

(4) Body, Thickness: 7/8”

(5) Body Finish: US4

(6) Cylinder: Six (6) Pin, Interchangeable, Solid Brass Core Tumbler

 Type

(7) Shackle Material: Hardened Steel (Locking recesses at heel and toe)

(8) Shackle Dimensions: 3” Vertical Interior Clearance x 3/8” diameter

(9) Shackle Finish: US26D

(10) Keys Two (2) per padlock. Material and quality shall be as per

 Paragraph 4.01, I, 4 of this specification

Approved Manufacturers

 Mfg. Model

 Schlage KS series

 American 3702 with Schlage Cylinder No. 23-030

###### 4) STRIKES AND KEEPERS:

Description:

a) Material: Steel

b) Size 1-1/4” Wide x 4-7/8” Long x 3/32” Thick

c) Lip Length: 1-3/16” Standard

d) Finish: US26D

e) ANSI Prep A115.2

Approved Manufacturers:

 Mfg. Model

 Schlage 10-025

5) CYLINDER: (Specialty Type)

 Cylinder lock shall be designed to fit the grille or door lock mechanism and shall be included in the Master Key System. Cylinders shall be provided for each opening as follows:

1. Function:

b) Location: In Roll Up Doors and Ceiling Roll-Up Doors.

(1) Provide 1 cylinder for electrically controlled doors.

(2) Provide 2 cylinders for manually controlled doors.

c) Operation: Cylinder is locked or unlocked by key. Key may be removed when the cylinder is unlocked.

Approved Manufacturers

Location Mfg. Model

Door Cylinders Schlage 20-061

### J. DOORSTOP and HOLDERS:

1) DOOR STOP, Type I, HOLDER, DOOR and WALL MOUNTED, AUTOMATIC: MINIMUM door to wall clearance 3-1/2”.

a) Material: Cast Brass or Bronze

b) Post Base (Wall Unit) 2-1/4” Diameter

c) Base / Post 3-5/8” Projection (Minimum)

d) Finish: US26D

e) Installation Type: Model

 Hollow Wall Solid Wall

 III-A III-B

Approved Manufacturers:

 Mfg. Model III-A Model III-B

 Hager 255S 255W

 Rockwood WS45X WS45X

 Ives 447 443

 Trimco 1205 1205

 Door Controls International 3260X 3260X

2) DOORSTOP and HOLDER, Type II: Wall Mounted, Rubber-Tipped Post with HOOK and KEEPER (Use with Dutch Doors)

a) Material: Cast Brass or Bronze

b) Post Base (Wall Unit) 2-1/4” Diameter

c) Base / Post 3-5/8” Projection (Minimum)

d) Keeper: (Door Unit) 13/16” x 2-1/2” x ½”

e) Finish: US26D

f) Installation Type: Model

 Hollow Wall Solid Wall

 II-A II-B

Approved Manufacturers:

 Mfg. Model II-A Model II-B

 Hager 256S 256W

 Rockwood 476 477

 Ives WS445 WS445

 Trimco 1207 1207

 Door Controls International 3267X

3) DOORSTOP, Type III: Wall Mounted, Rubber-Tipped Post:

a) Material: Cast Brass or Bronze

b) Post Base (Wall Unit) 2-1/4” Diameter

c) Base / Post 3-5/8” Projection (Minimum)

d) Finish: US26D

e) Installation Type: Model

Approved Manufacturers:

 Mfg. (Hollow Wall) Model III-A (Solid Wall) Model III-B

Hager 255S 255W

Rockwood 474 475

Ives FS443 FS443

Trimco 1205 1205

Door Controls International 3260X 3260X

4) DOORSTOP, Type IV: Door-Mounted, Rubber Roller-Bumper Tipped Post

a) Material: Cast Brass or Bronze

b) Finish: US26D

c) Configurations: Model IV-A Model IV-B

 Post Shape: Straight Curved

 Post Base Shape: 2” Diameter Minimum 2”-1/4” x 1-5/8” Minimum

 Post Projection: 4-1/2” Minimum 2-5/8” Minimum

Approved Manufacturers:

 Mfg. Model IV-A Model IV-B

Rockwood 456 455

Ives WS447 WS447

Trimco 1244 1245

5) DOORSTOP, Type V: Wall Mounted, Concealed Fastener, Concave Rubber Bumper Dome

a) Base Material/Diameter: Wrought Brass or Bronze / 2-7/16” minimum

b) Dome Material/Projection Hard Gray Rubber, 5/8” Minimum

c) Base Material Finish: US26D

d) Installation Types: Model

 Hollow Wall Wood Surface Solid Wall

 V-A V-B V-C

Approved Manufacturers:

 Mfg. Model V-A Model V-B Model V-C

 Hager 236W 236W 236W

 Rockwood 409 409 411

 Ives WS406 WS406 WS406

 Trimco W1276CCS W1276CCS W1276CCS

6) DOORSTOP AND HOLDER, Type VI, OVERHEAD TYPE,
(For Time-Out Room Metal Doors):

 Concealed Mounted, Heavy Duty, templated, single member arm and selective hold-open mechanism, adjustable opening range, reversible, non-handed, single or double acting doors, compatible with door closers

 Location Material Finish

 Interior Brass or Bronze US26D

Approved Manufacturers:

 Mfg. Model Use Area

 Glynn Johnson 100F-ADJ Series Interior

Architectural Builders Hardware 1000 ADJ Series Interior

 Mfg. Inc.

7) DOORSTOP AND HOLDER, Type VII, OVERHEAD TYPE,
(For Metal and Wood Doors):

 Surface Mounted, Heavy Duty, templated, single member arm and selective hold-open mechanism, adjustable opening range, reversible, non-handed, single or double acting doors, compatible with door closers (Student Occupied Areas and High Wind Conditions)

 Location Material Finish

 Exterior Stainless Steel US32D

 Interior Brass or Bronze US26D

Approved Manufacturers:

 Mfg. Model Use Area

 Glynn Johnson 90F Series Exterior

 Glynn Johnson 90F Series Interior

8) DOORSTOP AND HOLDER, Type VIII, OVERHEAD TYPE,
(For Metal and Wood Doors):

 Surface Mounted, Medium Duty, templated, single member arm and selective hold-open mechanism, adjustable opening range, reversible, non-handed, single acting doors, compatible with door closers. (Use only in non-Student Occupied Areas)

 Location Material Finish

 Exterior Stainless Steel US32D

 Interior Brass or Bronze US26D

Approved Manufacturers:

 Mfg. Model Use Area

Glynn Johnson 450F Series Exterior

Glynn Johnson 450F Series Interior

Architectural Builders Hardware 4400 Series Interior

 Mfg. Inc.

9) DOOR HOLDERS, TYPE IX, ELECTROMAGNETIC:

General

Individual door installation conditions will have direct impact on the selection of the proper type of Electromagnetic Door Holder.

a) Is the door pocketed so as to provide full clearance in the corridor?

b) Are there shielding devices constructed or installed to inhibit unauthorized manual disconnection between the EDHA magnet device and connection plate devices? (i.e., stub walls or wall recesses)

c) Projection dimensions of applied hardware on face of door that are adjacent to the wall in the open position (i.e.: door lock lever handles, pull handles on pull plates, or panic devices and push bars on panic devices)

d) Is the work New Construction (rough electrical work built-into the wall)?

e) Is the work Remodeling where the new electrical supply conduit and wiring must be surface mounted?

f) Improper consideration and/or poor coordination of these clearances may result in physical injury and/or damage to the doors, other hardware and poor connections between the EDHA Magnets and Armature Units.

###### (1) DOOR HOLDERS, ELECTROMAGNETIC, IX-I: FLOOR / SOFFIT MOUNTED:

######

(a) UL listed For Use on Fire Doors

(b) Voltage Requirements 24 Volt AC or DC, 60 Hz

(c) Handing: Non-Handed

(d) Operation: Fail - Safe: power Failure or interruption

 releases door

(e) Possible Methods of Release Smoke-sensitive device, Fire Alarm

 System, Thermal Circuit Breaker, Manual

 Pull on Door, Heat Detector, Time Signal

 clock, Manual switch (local or remote), and

 General Power Failure

(f) Holding Power: 25 minimum to 40 pounds maximum

(g) Door-Mounted Armature: Single-axle swivel connection plate

 assembly to ensure positive contact with

 magnet device.

 (Short Catch Plate): Standard Base Connection Plate

 1-3/4” Wide x 2-3/8” x 1-7/8” Diameter

 1-5/8” High

(h) Installation Types:

 Type IX-IA Door/Floor Mounted Type (Single Door):

 Type IX-IB Door/Floor Mounted Type (Double Door) Approved Manufacturers:

 Mfg. Type Model

 Dorma IX-1A EM 501

 LCN IX-1A SEM 7820 MAGNET

 Edwards IX-IA 1501 Series

 Dorma IX-1B EM 502

 \_\_\_\_\_\_\_\_\_ IX-1B \_\_\_\_\_\_\_\_\_\_\_\_\_

 Edwards IX-1B 1502 Series

(2) DOOR HOLDERS, ELECTROMAGNETIC, Type IX-II, WALL MOUNTED:

(a) UL listed: For Use on Fire Doors

(b) Voltage Requirements: 24Volt AC or DC, 60 Hz

(c) Handing: Non-Handed

(d) Operation: Fail-Safe: power failure or interruption releases

 door

(e) Possible Methods of Smoke-sensitive device, Fire Alarm System,

 Release: Thermal Circuit Breaker, Manual Pull-on Door, Heat Detector, Time Signal clock, Manual switch (local or remote), and General Power Failure

(f) Holding Power: 25 minimum to 40 pounds maximum

(g) Door-Mounted Armature: Single - axle swivel connection plate to ensure

 positive contact with magnet device.

(h) (Short Catch Plate): Standard Base Connection Plate

 1-3/4” Wide x 2-3/8” x 1-7/8” Diameter

 1-5/8” High

(i) (Long Catch Plate): Deep Base Connection Plate

 1-3/4” Wide x 2-3/8” x 1-7/8” Diameter

 2-5/8” High

(j) Installation Types Location Door / Wall Clearance Notes

 IX-IIA Flush Wall-Mounted 3-7/16” 1

 IX-IIB Flush Wall-Mounted 2-7/16” 2

IX-IIC Surface Wall Mounted 4-1/16” 3

 IX-IID Completely Flush 1-27/32” 2

 Wall Mounted

Approved Manufacturers:

 Mfg. Type Model

 Dorma Type IX- IIA EM 504

 LCN Type IX- IIA 7850 MAGNET

 Edwards Type IX-IIA 1504 Series

 Dorma Type IX-IIB EM 505

 LCN Type IX-IIB 7840 MAGNET

 Edwards Type IX-IIB 1505 Series

 Dorma Type IX-IIC EM 508

 LCN Type IX-IIC 7830 MAGNET

 Edwards Type IX-IIC 1508 Series

 Dorma Type IX-IID EM 509

 \_\_\_\_\_\_\_\_\_\_\_\_ Type IX-IID \_\_\_\_\_\_\_\_\_\_\_\_\_

 Edwards Type IX-IID 1509 Series

NOTES:

1) This Electromagnetic Door Holder Assembly (EDHA) Set appears to be a reasonable selection for most installations

2) Due to the door/wall clearance of this EDHA Set it is doubtful that this EDHA Set can be used in most cases due to the external dimensions of most finish hardware items used on these doors

3) This EDHA Set should be only used for Remodeling and Renovation conditions where electrical roughing cannot be recessed into the wall/floor structure assembly

### K. SEAL, DOOR FRAME, TYPE I:

1) SEAL, Door Frame, Continuous, Pressure Sensitive, Self-Adhesive, Compression Bulb:

a) Material: Silicone with adhesive strip on one side of bulb.

b) Width: 1/2”

c) Height: 1/4”

d) Length: As required to continuously seal each side of door frame

 (jambs and head), i.e. 3º x 7º door opening. [(2 x 7’) + 3’= 17’]

e) UL Labels: Approved Manufactures:

 Hager NG Pemko Reese Ultra

 Fire X X X X X

 Smoke X X

 Air X X

f) Finish: Solid Integral Color(s):

Note: Color availability varies with each manufacture as noted by

suffixes of model numbers indicated below:

 Manufacturer’s Abbreviations

 B or D\* Brown

 C or S Charcoal

 D Dark Bronze

 Bl Black

 B\*\* Black

 Tan Tan

 W White

Approved Manufacturers:

 Mfg. Model Colors Suffix

 Pemko S88— (D, Tan, W)

 Ultra WS108 (Bl, D\*, W)

 Hager 726S (S, W)

 NG 5050 (B, C, W)

 Reese 797 (B\*\*, W)

L. SEAL, DOOR SHOE, TYPE II:

SEAL, Door Shoe, Surface Mounted, Wrap-Around Aluminum Channel with Vinyl Gasket Insert

a) Material: Body: Extruded Aluminum

b) Size: Height: 1-7/16” Overall

Thickness: 1/16” (Approximate Not specified in Catalog)

Length: As Required to continuously seal door bottom to threshold (Jamb to Jamb)

 Gasket: Molded Vinyl Compression Bulb Strip with ribs

c) Finish: Aluminum (AL)

d) UL Labels:

 Manufacturers

 Hager NG Pemko Reese Ultra

 Fire X X X X X

 Smoke X

 Air X

 Acoustic X

 Approved Manufacturers

 Mfg. Model

 Pemko 217AV

 Ultra/MD DB 021 A

 National Guard Products 36VA

 Hager 779SVX

 Reese DS594A

### M. SEAL, DOOR SWEEP, TYPE III:

1) SEAL, Door Sweep, Aluminum, With Neoprene Blade Insert. (Use With Dutch Doors)

a) Material: Extruded Aluminum,

b) Size: Length: As Required to continuously seal door bottom Jamb to Jamb.

 Thickness: 1/8” Alum. (1/4” Overall)

 Height: 1-1/4”-1/34” Overall

 Gasket: Molded Neoprene\* Compression Strip (Continuous), \*Silicone= Alternate Material

 Size: Width: 1/8” (Approximate Not specified in Catalog)

c) Finish: US28

d) UL Labels:

 Manufacturers

 Hager NG Pemko Reese Ultra

 Fire X X X X X

 Smoke X

 Air X

 Acoustic X

 Approved Manufactures

 Mfg. Model

 Pemko 315CN

 National Guard Product 200NA

 Ultra DB 006C

 Hager 875SX\*

 Reese DS78A

### N. SILENCERS, FRAME:

 a) Shape: Flat Ring with Diamond Cone-shaped Anchor Base

 b) Material: Gray Rubber

 c) Diameter: 1/2”

 d) Length: Varies: 1/2” to 1-1/6” (exposed portion projection 1/8”)

Approved Manufacturers:

 Mfg. Model

 Ives SR64

 Rockwood 608

### O. THRESHOLDS:

1) Threshold, Type I: Exterior Panic, Exit Type:

a) Height: Two (2) one quarter inch (1/4”) high 1:2 sloped increment risers transitioning to one-half inch (1/2”) high overall to meet ADA Guideline configuration requirements

 b) Width: 5” Overall

c) Length: Continuous to match the width of Door Frame Opening including appropriate notches at each end to match the door frame configuration(s)

 d) Material: Extruded Aluminum (one piece)

 e) Thickness: Varies with multiple extrusion configurations

f) Gasket Seal: Continuous vinyl bulb with integral “tee-anchor” extrusion to match slot in aluminum threshold

 g) U. L. Listing Fire Smoke

 h) Finish: Mill-Finish Aluminum

 i) Templated Pre-Drilled to Receive Fasteners

#####  Approved Manufacturers:

 Mfg. Type Model

 Hager I 520SVA

 Pemko I 2005AV

 Ultra I TH040

 Reese I S483AV

 Hager 307D

 Trimco 1229A

 Door Controls International 8S

2) THRESHOLD, TYPE II: Interior Saddle Type:

a) Height: Tapered risers at each edge transitioning to one-quarter inch (1/4”) overall longitudinally grooved top) to meet ADA Guideline configuration requirements

b) Width: 5” Overall

c) Length: Continuous to match the width of Door Frame Opening including appropriate notches at each end to match the door frame configuration(s)

d) Material: Extruded Aluminum (one piece)

e) Thickness: Varies…. (Main Body is approximately 0.1/8”)

f) U. L. Listing Fire

g) Finish Mill-Finish Aluminum

h) Templated Pre-drilled To Receive Fasteners (And Dust-Proof Strikes And Removable Mullions When Applicable)

Approved Manufacturers:

 Mfg. Type Model

 National Guard Products, Inc. II 513

 Pemko II 271A

 Ultra II TH042A

 Hager II 413S-A

 Reese II S405A

3) THRESHOLD, TYPE III: Half Saddle Type, Interior and Exterior Doors
(Use with Toweled-in-Place Floors)

a) Height: (1/4”) overall with tapered riser at entering edge transitioning to vertical rear square edge

b) Width: 4” Overall

c) Length: Continuous to match the width of Door Frame Opening including appropriate notches at each end to match the door frame configuration(s)

d) Material: Extruded Aluminum (one piece) longitudinally grooved top to meet ADA Guideline configuration requirements

e) Thickness: Varies…. (Main Body is approximately 0.1/8”)

f) U. L. Listing Fire/ Air Infiltration (Applied Stop Member)

g) Finish Mill-Finish Aluminum

h) Templated Pre-Drilled to Receive Fasteners (And When Applicable: Applied Stop Member for exterior door openings, Dust-Proof Strikes, and Removable Mullions)

i) Applied Stop Member 1/8” thick (Mill Finish), aluminum extrusion ¼” High x 1-1/2”-1-3/4” Wide with continuous vinyl bulb with integral “Tee Anchor” to match slot in aluminum extrusion. Applied stop member shall be pre-drilled for attachment to threshold

Approved Manufacturers:

 Interior Exterior

 Applied

 Mfg. Type Threshold Stop Member

 Pemko III 274A 290AV STOP

 Ultra III TH162A WS052AV

 Reese III S439A 854AV

### P. WARDROBE HOOK, SINGLE HOOK TYPE: @Faculty and Staff Only

a) Material: Polished Cast Brass or Bronze

b) Finish US26D

Approved Manufacturers:

 Mfg. Model

 Ives 582

 Rockwood 596

## FINISHES

### A. GENERAL:

1) Provide the finishes on all Finish Hardware Items as indicated In the Part 2.0, MATERIALS of this Project Specification Manual.

2 ) All Finish Hardware for Aluminum Storefront shall be furnished as part of this Section 08710 in this Project Specification Manual.

3 ) Finishes for Cabinet Hardware items shall be as indicated in Section 12305 PCSB Standard Casework and 12B Science Casework in this Project Specifications Manual.

1. See Part 4, Paragraph 4.02 Product Installation for Finish Hardware Item Fastener Finishes.

# PART 3 - EXECUTION

## 3.01 PROCEDURES

A. The Finish Hardware Supplier shall closely examine the Drawings and Specifications and further coordinate the Finish Hardware

1) Provide and install Finish Hardware that meets all necessary requirements to maintain “Labeled Integrity” on any doors and or frames shown on the Drawings to be “Fire Labeled”.

2) Furnish the Manufacturers of the Aluminum Doors and Frames and Metal Doors and Frames with an “adequate number “of approved hardware schedules and proper templates to ensure that such doors and frames shall be constructed to include factory built-in blocking materials to properly support the finish hardware items as indicated in these specifications for this project.

3) Inspect all such doors and frames for the inclusion of these built-in finish hardware support items upon the Contractors/Construction Manager’s receipt of these Doors and Frames.

4) Notify the Project Architect if the required internal support blocking is missing from these doors and frames.

5) Inspect all existing conditions regarding the installation of the new Finish Hardware Items. If door frames are not plumb and square, the Finish Hardware Installer shall not begin the installation process until such corrections have been made and / or clear directions have been issued from the Project Architect and the Finish Hardware Supplier’s representative(s) regarding any special procedures as how to proceed with these Finish Hardware Devices.

B. The Finish Hardware Manufacturers shall provide factory trained Finish Hardware Representatives on all job site(s) of all projects to provide initial instruction, to the Finish Hardware Installer regarding the proper installation techniques. No Finish Hardware Items shall be installed on the Project until this pre-installation class has been held.

C. All Finish Hardware Items and Accessories shall be installed in accordance with the approved Shop Drawings, Manufacturer’s Data and as specified herein:

1) Without specific written approval of the Project Architect field drilling and cutting of doors and frames shall not be allowed where hardware templates were supplied for factory preparation of such specific Finish Hardware items.

2) Doors leading to areas which might prove dangerous to a blind person or poorly sighted person shall be made quickly identifiable to the touch by providing “Knurled” or “Textured” door handles or levers. The “Textured” or “Knurled” Surfaces shall be permanent in nature. Such category of areas to be so considered: i.e., storage areas, both chemical and general types, electrical and mechanical rooms, etc. Ref.: SREF Chapter 5, Section 5 (9)(c) 11, b, Chapter 7(3) and ADA.

D. Fasteners:

1) Fastener “Quantities” represented in the following paragraphs describing the installation of the individual Finish Hardware Items are taken from the manufacturers of the principal (First) Product listed in each Finish Hardware Item Category. Approved related manufacturers’ products fastener quantities may vary.

2) Installation of Finish Hardware Items shall be made with the fasteners packaged with the Finish Hardware Items by the manufacturer subject to compliance with the fasteners specified in this Project Specification Section.

NOTE. Certain specified types of fasteners indicated in the following Finish Hardware Installation Schedules vary from the manufacturer’s standard supplied fasteners. PROVIDE and install all such specified fasteners so indicated. Fasteners shall be so used and shall not be reduced for any item.

The Finish Hardware Installer shall not use any screws and /or other fasteners to install the approved Finish Hardware Devices other than the specifically approved fasteners described in this specification section.

3) Unless specifically noted sex bolts (through bolts) typically shall be 3/8” x 1-11/16” Truss-Head Type with ¼”-20 Machine Screws (length of which may vary) so as to insure against crushing of the door facing surfaces. Types of Machine Screw Heads may vary due to shape of fastener receiving hole(s) in the individual Finish Hardware Device(s) or accompanying accessory(ies).

4) All exposed fasteners shall have a finish matching the Finish Hardware Item unless otherwise specified herein.

E. Anchorage Conditions:

1) Typically, the building’s finish surface materials must bear the stresses caused by the installation of the Finish Hardware devices. Selection of the Finish Hardware devices are made with the intent to preserve these finish surfaces.

2) The term “hollow wall” is intended to represent hollow metal stud-type walls and partitions. Internal support/anchoring blocking for the Finish Hardware Devices shall be placed within the cavities of these hollow walls. Provision of and installation of all such internal support blocking shall be made under Division Six, Section “Rough Carpentry” of this Specification Manual. The Project Architect will consider these stresses placed upon the finish wall surface materials by the Finish Hardware Devices and will specify the type and extent of this internal support blocking. The Finish Hardware Installer SHALL confirm the installation of all such required support blocking prior to the installation of the Finish Hardware.

3) The term “solid wall” is intended to include such types of mounting surfaces as exposed concrete masonry units, cast-in-place concrete, stucco directly applied to cast-in-place concrete or concrete masonry units, and furred-type wall materials, i.e., lath and applied finishes (plaster, stucco, and ceramic tile), or furred gypsum board, etc.

Typically, all specified screws shall be of such length so as to provide for the specified anchors to fully penetrate into the “solid wall structure” and NOT just into the furred finish surface material. i.e.

” The furred finish wall materials Shall Not bear the stress of these Finish Hardware Device(s)”

4) The hardware installer shall not use plastic, fiber, or wood type anchors as part of the work described in this specification.

F. TYPICAL ANCHOR INSTALLATION CONSIDERATIONS:

1) Accurately locate the positions for the new Finish Hardware Devices

2) Drill accurately sized holes in structural materials for proper installation of anchor arrangements

3) Clean dust and debris from anchor holes to properly to receive anchoring devices and to allow for maximum anchor-grip capability

G. All Finish Hardware shall be removed from the doors and frames prior to the painting of the doors and frames and reinstalled after the paint has cured properly. This work shall be accomplished by the Finished Hardware Installer …. NOT the Painting Sub-Contractor

H. Clean installed Finish Hardware Items to remove dirt, debris, and marks incidental to installation work

# PART 4 – INSTALLATION

## PRODUCTS AND PROCEDURES

### A. ASTRAGALS TYPE I AND II:

1) Mount the astragal (Types I and II) on the face of “active” door leaf in such a manner so as to create a continuous overlapping seal between the meeting (latching) edges of the pair of door leaf’s when closed

2) Install astragal on door with eleven\* (11) fasteners. Locate end fasteners two (2) inches from the top and bottom edges of the door. Space fasteners eight (8) inches on center between end fasteners. This fastener pattern should miss the lockset installation)

 \*(Based upon a standard (84” high door)

3) Install a one-piece continuous (full length of door) fire-rated, self-adhesive closed bulb type silicone gasket on the latch edge of the active door leaf. Position the bulb-edge of gasket adjacent to the astragal surface. See Paragraph 2.01, A., Astragal (Seal, Frame and Door - (Type II)

4) The clearance between the door and the frame and between the meeting edges of the doors swinging in pairs shall be:

Steel Doors: 1/8” ± 1/16”

Wood Doors: Shall not exceed 1/8”

5) FASTENERS: (Type I and Type II)

 Door: 1/4” x 20 Machine Screw and 3/8” x 1-11/16” Truss-Head Sex Bolt

### B. COORDINATORS

1) GENERAL:

 Mount coordinator housing unit and appropriate filler unit on the bottom of the stop (soffit) member of the door frame in the manner recommended by the coordinator manufacturer. Provide the appropriate quantity of fasteners per the manufacturer’s requirements to properly support the coordinator to the door frame.

 #10 x 1-1/2” Oval Head Machine Screws and as per this following schedule

2) MOUNTING BRACKETS (Pairs):

 POSITIONING:

Provide and install appropriate type and quantity of mounting brackets to suit frame configuration and width. Position mounting brackets in pattern recommended by manufacturer.

a) Mounting brackets installed shall be from the same manufacturer as the installed Coordinator

b) Provide and install the appropriate quantity of fasteners per the manufacturer’s requirements to properly support the mounting brackets to the door frame

c) 10 x 1-1/2” Oval-Head Machine Screws. Finishes to match supplied Coordinator

3) CARRY BAR:

 GENERAL:

a) Only use Cary Bars only as required on doors in openings with astragals except when the in active door is equipped with automatic flush bolts

b) Mount Carry Bar on face of Inactive Door leaf in location recommended by manufacturer

c) Provide the appropriate quantity of fasteners per the manufacturer’s requirements to properly support the carry bar to the door

d) Door: #12-24 Machine Screws and Sex Bolts. Finishes to match supplied Carry Bar

### C. DOOR CLOSERS, TYPE I AND TYPE II:

POSITIONING:

a) Installation of the Door Closers shall be in accordance with the Door Closer Manufacturer recommendations and per any specific requirements indicated in this Section

b) Install a Door Closer on all exterior doors

c) Where no transom bar exists, flush mount transom brackets shall be furnished where required. In no event shall brackets protrude into the door opening space

d) Furnish and install Type I (parallel arm) Door Closers throughout in student occupied areas except where impractical (i.e., conditions where mounted inside in-swinging doors such as closets and mechanical rooms\*). In these cases, use Type II (regular arm) Door Closers

e) The Door Closer Manufacturer’s Representative shall make all final adjustments to all new Door Closers installed at Substantial Completion

f) Fasteners: Install Door Closers with manufacturer’s standard Screw pack containing Through-bolts (SNB) and Machine screws 1-3/4” doors

g) Field template each opening for degree for opening. If a door can swing 180°, allow to swing to wall

h) Provide fifth screw at all parallel arm (PA) locations

### D. EXIT DEVICES:

1) LABELING:

 The Underwriter's Laboratories (UL) list exit Devices as "Panic Exit Hardware" or "Fire Exit Hardware" as established where applicable. Where fire exit devices are used on labeled fire doors, each exit device shall carry an authorized UL Numerical Label

2) POSITIONING:

 Center-line mountings of the Exit Device Controls above the finish floor:

 Push Bar Exterior Lever Handle Pull Handle

 39-13/16” 39-13/16” 33-7/8”

3) MULLIONS

a) General:

 Install mullions at all pair-of-door conditions where panic/fire exit devices are required so as to eliminate the need for vertical rod type panic/fire exit devices. (See Applicable Types following)

b) New Installations:

 (1) Type IA: See Part 2. Paragraph D., 4. a.

 All new Exterior Doors installed requiring exit hardware devices and mullions shall be equipped with Type IA mullions

 (2) Type IB & IC: See Part 2. Paragraphs D., 4. b. and c.

 All new Interior Doors installed requiring exit hardware devices and mullions shall be equipped with keyed-cylinder mullions Type IB or IC as appropriate

c) Remodeling and Renovations:

(1) All doors shall be inspected for reuse. Where existing exit hardware devices and mullions are not of the types currently specified in this specification section such existing equipment shall be removed and replaced with new exit hardware devices and mullions of the currently specified type(s)

(2) All existing exterior doors equipped with keyed removable mullions shall be modified. Such existing mullions shall be removed and replaced with new Type IA mullions

4) SECURITY ACCESSORIES:

a) Mullion Installations:

Mount Stabilizer Sets No 154 (Two (2) piece interlocking units):

The “Mullion (larger size) Part(s)” are fastened onto the latch-sides of removable mullions with top mounting hole(s) positioned 5-13/16” below the centerline of the strike. “Hook” side of the device faces the door side of the mullion. The “Door (smaller) Part(s)” mounts onto the door face surface(s) opposite the “Mullion Part(s)”. Hook side of this unit interlocks with hook of the “Mullion Unit”

b) Single Door, Hollow Metal / Aluminum Frame Installations:

Mount Stabilizer Sets No. 154(Two (2) piece interlocking units):

The “Larger size Part” is fastened onto the wide face of door frame stop member at the latch jamb side of the frame with top mounting hole(s) positioned 5-13/16” below the centerline of the strike. “Hook” side of the device faces the door side of the door frame stop member. The “Door (smaller) Part(s)” mount onto the door face surface(s) opposite the “Larger Size Part(s)”. Hook side of this unit interlocks with hook of the “Larger half of the Unit Set”

c) Typical: Install all shims required to assure proper interlocking of stabilizer set components.

Notes: (A) Install new replacement mullion (Type as per Part 2. D., 4.)

 (B) Part 4, I-1, Paragraphs 5 and 6

5) FASTENERS:

a) All panic/fire exit hardware devices. Manufacturers standard set(s) of Sex Bolts and Machine screws: #425 for metal and #825 for wood doors

b) Stabilizer Sets: Manufacturers standard fasteners for mullions and for metal and wood doors. Provide shims as required

c) All Trim Items: Manufacturers standard set(s) of #425 Sex Bolts

Quantities: Typically, two (2) sex bolts per trim item (99NL, 99DT, 996L Series)
except six (6) sex bolts for No. 99OE trim

d) Mullions: Manufacturers standard fasteners and anchors for each type (IA, IB and IC) mullions installed

e) Typical: DO NOT use (Tapcon Type) screw-anchors to fasten mullion fittings to concrete floor slabs or door frames, unless approved, and provided/supplied as proper fastener by manufacturer of mullion bars

E. FLUSH BOLTS:

 1) METHOD:

a) Accurately locate position of Dust-Proof Strike in doorway opening.

Drill hole in floor structure to receive barrel of Dust-Proof Strike. Diameter and depth of hole to be dependent upon size of strike barrel

b) Installation of Dust-proof Strike into an aluminum threshold:

The threshold shall be factory-template-drilled and tapped to receive the dust-proof strike. Insert dust-proof strike barrel into prepared hole in threshold. Fasten strike barrel and threshold together securely. Spanner wrench shall be provided for attachment of the Dust-Proof Strike Cylinder to the aluminum threshold

c) Install Flush Bolts into factory-templated prepared doors and frames.

2) FASTENERS:

a) (Door): (Provide shims as required)

(Type I) # 8 x 1” Flat Head Combination Screws

(Type II) # 8 x 3/4” Flat Head Tapping Screws

(Type III) # 8 x3/4” Flat Head Tapping Screws

(Floor) See Paragraph 4.01, O-I for Threshold Installation to coordinate the drilling of the hole for the Dust Proof Strike

F. HINGES:

1) Typical Quantities of Full Mortise, Single Pin, Hinges:

a) Door(s) shall have the following minimum number of Hinges:

(1) Door Height: Number of Hinges:

 Up to and including 60” 2 Hinges

 Over 60” up to and including 89” 3 Hinges

 90” up to and including 120” 4 Hinges

(2) Door Width: Number of Hinges:

 Up to and including 48”” 3 Hinges

(3) Doors beyond these parameters shall be analyzed independently for the proper quantities of hinges

(4) Dutch Doors shall have two (2) hinges per leaf

B. Hinge Location on Doors and Frames:

Bottom Hinge: Allow 10” from bottom of hinge to finish floor

Top Hinge: Allow 5” from top of hinge to underside of frame head rabbet

 Intermediate Hinge or Hinges: Center equal distance between top and bottom hinges

1. Type I and II Hinges for High Frequency Use
2. Type I through IV Hinges for use with Door Closers
3. Type I and II Hinges for use with Heavy Weight Doors
4. Type I and III Hinges for Interior Use Only
5. Type II and IV Hinges for Exterior Use Only
6. Type III and IV Hinges for Low and Medium Frequency Use
7. Type III and IV Hinges for use with Standard Weight Doors

8) Type I and II Hinges for use on Doors up to and including 48” wide

C. Typical Hinge Fasteners:

Hinge Type Metal Door Wood Door Fastener No. / Hinge

 Type:/Finish

1) I and III X 1/2” x # 12-24 8

 Flat Head Machine

 Screws (Steel) (US26D)

2) II and IV X 1/2” x # 12-24 8
 Flat Head Machine Screws

 (Stainless Steel) (US32D)

3) I, II, III and IV X 1/2” x # 12-24 4/4
 Flat Head Machine Screws\*/

 1-1/4” x #12 Flat Head Wood Screws.

 (Screw material to match hinge material.)

### G. KEY CABINET:

1) Install a new Key Control Cabinet in location as indicated by District Maintenance lock shop

2) Position Key Cabinet with long dimension axis vertical and with door lock cylinder center-lined 4’-0” maximum above finish floor

3) Install hinged add-on internal key panels

4) Package all components, (key tag, markers, etc.) for proper permanent key arrangement set up. Place package inside key cabinet.

5) FASTENERS: (Cabinet shipping weight 60 pounds)

 Install Key Control Cabinet using appropriate type and quantity of fasteners and anchors as indicated below for the type of wall cabinet is supported from:

a) Masonry Wall:

Four (4) 1/4” x 1-3/8” Acorn Head, steel, sleeve anchors.

Finish: US2G (Equal to ITT Phillips Drill Co. No.AN-1413)

b) Hollow Wall: (Anchor Key Cabinet to deadwood support blocking within hollow

 partition/wall)

 Four (4) 1/4” x 1-1/2” Phillips, Pan Head, steel, sheet metal screws.
Finish: US2G.

H. DOORPLATES:

1) TYPE I KICKPLATES and TYPE II ARMOR PLATES\*:

a) Method:

(1) Install new Type I Kickplates on the “Push-Side” of the door unless the drawings illustrates otherwise

(2) Install new Type II Armor Plates on both sides of the door

(3) Modify shapes of Type II Armor Plates coordinate with the installation of the other applied Finish Hardware Items on the door. i.e., Notch corner of Armor Plates to allow space for the installation of the Cylindrical Lockset.

b) Fasteners\* \*\*:

Door Plate Type Metal Door Wood Door Fastener Type:

 I X 1” x # 10 SS Truss Head

 Self-Threading MS

 I X 1” x # 10 SS Truss Head

 Sheet-Metal Screws

II X X #10-24 SS Sex bolts and

 Truss-head MS

2) TYPE III PUSH PLATES and TYPE IV PULL PLATES:

METHOD

Plate/Type Plate Distance from Plate Long Axis Plate Short Axis Remarks
 Latch Edge of Door Vertical Horizontal
 C/L Location C/L Location C/L Location

Push/III 2” 6” from Dr Edge 50” AFF Min. 12” Latch Stile

 Width

Push/IV 2” 4” from Dr Edge 50” AFF Min. 8” up to 12”

 Latch Stile Width

Pull/V 2” 4” from Dr Edge 42” AFF Min. 8” up to 12”

 Latch Stile Width

3) Additional Notes for Pull Plate Type V:

a) Install plates first, independent of pull handle \*\* + \*\*\*

Plates shall include two (2) holes for “anchor fasteners” for pull handles.

Install “anchor fasteners” for pull handles. (Metal doors require factory built-in reinforcing to receive pull handle” anchor fasteners”). \*\* + \*\*\*

Install Pull Handles on anchor fasteners using two (2) setscrews. \*\* + \*\*\*

b) FASTENERS:

(1) Plates to Door \* Fastener Types and Quantity

 Wood Doors (6) #6 x 5/8” SS, OH Comb. Screws, US32D

 Metal Doors (6) #6 x 5/8” SS, OH, SM tapping screws,

 US32D

(2) Pull Handle to Door
through Pull Plate: Fastener Types and Quantity

 Wood Doors (2) #12 x 1-1/2” Cone Head WS with SS Flat-

 Flush Head Set Screws\*\*\* through inside of

 handle

Metal Doors (2) 1/4”-20 x 1-1/4” Cone-Head MS with SS Flat-

 Flush Head Set Screws\*\*\* through inside of

 handle

\* Typical: Door: Provide SS (US32D) Finish Washers at each screw if Plates are not depressed around screw holes to receive screws

\*\* Method described is excerpted from The Rockwood Manufacturing Co. Catalog. “Installation Methods: No. 6 Metal Door and No. 8 Wood Door.” Similar acceptable methods by alternate approved manufacturers:

1. Ives Co., Type H and Type I
2. Schlage Co., Type 5

(c) Trimco, Type J

\*\*\* Hardware manufacturer’s standard size set screw to suit condition

### I. LOCKS:

 1) METHODS:

a) Install all Locksets in doors with levers (spindle) positioned per template above the finish floor except “Exit Locks” in the upper leaves of the Dutch doors. Exit Locks on upper leaves of Dutch doors shall be installed with the spindle at 48” centerline above the finish floor

b) Install all Locks in the factory prepared doors and frames, Cylinders for Specialty Doors, Mullions, and Rim Lock Cylinders (for Panic and Fire Exit Devices) installed in this project in full accordance with the manufacturer’s templates and instructions

c) Each latching device, locking device, and/or lockset shall be provided with appropriate recessed/flush strike in matching finish with suitable wrought box strike to trim out holes in wood doors

d) No strikes or catches shall be surface mounted, protruding-lug, or rim-type except for panic exit device hardware.

2) STRIKE FASTENERS:

a) Metal Door: (2) 1/2” x 12-24 Flat Head Machine Screws

b) Wood Door (2) 1-1/2” x 12 Flat Head Wood Screws

 Finish: Typical US26D

3) PROVIDE NEW PADLOCKS manufactured by one single manufacturer as specified in the “Products” Section I, Paragraph 3 of this Specification Section

a) All padlocks shall be” keyed-a-like” and into the School or Facilities Grand Master Keying System

b) Provide the following quantities of padlocks for the School or Facility

 School/Facility Type Type I Padlock Type II Padlock

 Elementary 24 6

 Middle 42 6

 High 54 6

 Vocational Center 54 6

 4) REQUIRED KEYING ARRANGEMENTS:

 Table K-1

 Item Key Types Qty

 (1) Grand Master (cut) 6

 (2) Zone Master (cut) 6

 (3) Change Keys (cut) (per key set) \*

 \* Final Quantity to be established by Maintenance Department Locksmith at keying meeting for project.

 KEYING MEETING TO BE SETUP BY PCSB PROJECT COORDINATOR PRIOR TO THE ORDERING OF LOCK HARDWARE

a) It is critical for the security and convenience of each School and Facility owned by the Pinellas County School District maintain a complete central keying system

 The Pinellas County School Board’s (PCSB) Maintenance Department Locksmith Technician shall provide, to the Contractor/Construction Manager’s Finish Hardware Supplier, a computer print-out “Bitting List” of the key combinations to be provided for new facilities and major additions. The Contractor/Construction Manager’s, Finish Hardware Supplier shall formally receipt for the Bitting List. New construction Bitting list provided by Schlage manufacturer

b) Locks shall be factory Grand Master Keyed in accordance with the (PCSB) Maintenance Department Locksmith Technician’s Bitting List

c) The Finish Hardware Supplier shall, prior to substantial completion:

(1) Inspect all keys to ensure that the keys have been properly prepared:

(a) Ensure that all Keys and Key Blanks have been manufactured from the Lock Manufacturer’s Original Key and Key Blank Material Stock such as available only through legitimate Finish Hardware Suppliers or Ethical Locksmiths and not of such standard variety as found in Common Retail outlets

(b) Schlage Keyway Cylinders and Keys shall be furnished and installed in all New Construction Facilities within the scope of this project

(c) Schlage Keyway Cylinders and Keys shall be furnished and installed in ALL remaining portions of the Existing Facilities at this site. Where existing locks are "not compatible" for proper conversion to the Schlage Keyway Cylinder System, such existing locks shall be replaced with new Schlage locks of the proper currently specified type equipped with Schlage Keyway Cylinders and Keys

(d) Ensure that all keys are stamped with the “Key Set Number” found on the Bitting List. (i.e., “AA-1”, etc.)

(e) The first cut off the key bow SHALL NOT be a deep cut

(f) Ensure that all keys are cut into sets according to the Bitting List

(g) Ensure that all cut keys are arranged into sets according to the Bitting List and are so identified and packaged in small envelopes

(h) Ensure that all key blanks are included and of the proper type and quantity

(i) Add twelve (12) additional “Dogging Wrenches” (same tool as normally supplied with the Panic Devices) to the key package

(j) Package all keys into a single container and sealed securely and neat.

(k) Clearly mark this key package as to contents, addressing it to the PCSB

Locksmith Technician.

(l) Hand deliver such sealed package of keys and dogging wrenches to the PCSB Lock Shop, 11111 Walter Pownall Service Center, Largo, Florida 33773

(m) Obtain written receipt for this package of keys from the Secretary of the PCSB Lock Shop.

(n) Transmit a copy of this receipt to the Contractor/Construction Manager and to the Project Architect

5) CONSTRUCTION KEYING:

a) Construction Keying in New Facilities shall be provided so The Contractor/Construction Manager Shall Retain Responsible Control of the Project (and/or Portions of the Project) until The Project or Portions Are Certified by The Project Architect as Substantially Completed

b) All new doors installed requiring exit hardware devices shall be temporarily equipped with removable core cylinders and be "construction keyed" during the Construction Phase of this Project

c) All new keyed removable mullions (Types IB and IC) installed shall be temporarily equipped with removable core cylinders and be "construction keyed" during the Construction Phase of this Project

d) All remaining new locks shall be "construction keyed" with the new Schlage Keyway Cylinders and Keys

e) Existing Conforming Hardware

(1) All existing exterior doors equipped with exit hardware devices shall be temporarily equipped with removable core cylinders and be "construction-keyed" during the Construction Phase of this Project

(2) All existing interior doors equipped with keyed removable mullions shall be re-equipped with temporary removable core cylinders and be "construction keyed" during the Construction Phase of this Project

(3) All existing locks shall be "construction keyed" with the new Schlage Keyway Cylinders and Keys

f) Existing Non-conforming Hardware

(1) Where existing exit hardware devices and/or mullions are "not compatible" for proper permanent conversion to the new Schlage Keyway Cylinder System, in the manner described in these specifications, such existing exit hardware devices, and/ or mullions shall be replaced with new Exit Hardware Devices and new Mullions of the proper currently specified type. Such new equipment shall be equipped with removable core cylinders and be "construction keyed" during the Construction Phase of this Project.

(2) Where existing locks are "not compatible" for proper permanent conversion to the new Schlage Keyway Cylinder System, such existing locks shall be removed and replaced with new locks of the proper currently specified type described in these specifications. These new locks shall be "construction keyed" and be equipped with new Schlage Keyway Cylinders and Keys.

g) Permanent lock cylinders for the exit devices and keyed removable mullions shall be Schlage Keyway Cylinders.

6) SUBSTANTIAL COMPLETION

a) At the Time of the Substantial Completion, the PCSB Maintenance Department Locksmith Technician will change-out the removable construction core cylinders, install the new Permanent Core Cylinders and remove the "construction key" inserts. The PCSB Maintenance Department Locksmith Technician will send all construction core cylinders back to the Finish Hardware Supplier.

b) The PSCB Maintenance Department Locksmith Technician will set up the Permanent Key Arrangement for the School/Facility. He will notify the PCSB Construction Inspector for this Project when this Permanent Key Arrangement Set Up at the School/Facility thereof is completed and functioning.

c) The PCSB will control access to the Project or any Portion (Building) thereof after Substantial Completion of such construction. The Contractor/Construction Manager’s keys and his Sub-contractor’s keys for such part of this project shall not operate such locks.

### J. DOOR STOPS AND HOLDERS:

1) General:

a) Install appropriate specific model Door Stop and Holders in the positions(s) to suit existing field conditions

b) Provide the appropriate quantity of fasteners per the manufacturer’s requirements to properly support the Door Stops and Holders to the doors, frames and walls

c) See Part 3.01

2) Type I Automatic, Door/Wall Mounted:

FASTENERS:

a) Strike Unit (Hook) Solid wall (2) to (4) (1-1/4”) to (2-3/4”) x 12-24

 Oval Head Machine Screws and Lead Tamp-in Shields (as applicable)

b) Strike Unit Hollow Wall (2) to (4) #14 x (-1/2” flat head dual-

 purpose screws)

c) Holder Unit Doors: (3), or (4) (as applicable)

 Metal and Wood #10-24 x 1-1/2” Oval-Head Machine

 Screws and Sex Bolts

3) TYPE II, (Door / Wall Mounted) Post with Rubber Bumper with Hook and Keeper (for use with Dutch Doors):

 FASTENERS:

a) Stop Unit (Wall Post) (Hollow Walls) (3) 1-1/2” x #10 Oval Head Dual

 Purpose Screws

b) Stop Unit (Wall Post) (Solid Walls) 5/16”x 18 x 2” Machine Screw Stud and

 Lead Tamp-in Shield, with (1) 1” x #10

 Surface-mounted Oval-Head Wood Screw and Lead Expansion Shield

c) Keeper Unit, (Doors) (Wood and Metal) (2) 1-1/2” x # 10-24 Oval-Head Machine Screws and Sex Bolts

4) TYPE IV: Post with Rubber Roller-Bumper, (Door Mounted):

a) These Door Stop Devices are designed to eliminate the possibility of interfering doors (usually occurring in a corner) striking each other or interlocking their knobs

b) Typical: Mount Door Stop Device(s) along the top rail of the door(s), below top edge of door and adjacent to the latch edge of door, on the outside door surface

 Final positioning of these Stop Devices on the doors per the AHC and the Stop Device Manufacturer’s recommendations to suit the job conditions

c) Door Stop Type III-A, (Straight arm type) where doors occur in corner and are of opposite hand

d) Door Stop Type III-B, (Curved arm type) where two adjacent doors are either both right-handed or are both left-handed

e) Fasteners:

Type IV-A & IV-B Units (3) 1-1/2” x #10-24 Oval head Machine Screws

 and Sex Bolt Anchors

5) TYPE V: Brass with Concave Rubber Dome Type:

 Model Mounting Base Anchor

a) V-A Hollow Wall Mounted (1) #10 x 1-1/2” Oval Head Dual Purpose Screws

b) V-B Wood Surface (1) #10 x 3/4”” Oval-Head Dual Purpose Screw

c) V-C Solid Wall (1) #10-24 x 2-1/2” Oval-Head Machine Screw
 and Lead Tamp-in Shield

6) TYPE VI: (Overhead Type), Concealed, Metal Door:

1. Mount holder into templated holes into prepared recess in top of door
2. Make final adjustments after installation to suit individual surrounding conditions

c) FASTENERS: \*

DOOR: (2) 5/16” – 18 x 1-1/2” FRAME: (4) 1/4”- 20 x 3/4” Flat Head

 Pan Head Machine Screws Machine Screws

7) TYPE VII: (Overhead Type), Surface Mounted, Wood Door:

1. Mount holder into templated holes onto prepared surface of top of door
2. Make final adjustments after installation to suit individual surrounding conditions

c) FASTENERS: \*

DOOR: (2) 5/16” – 18 x 1-1/2” FRAME: (4) 1/4”- 20 x 3/4” Flat Head
 Pan Head Machine Screws and Machine Screws
 (2) 5/16” - 18 X 1-9/16” sex bolts.

8.) TYPE VIII: (Overhead Type), Surface Mounted, Wood Door:

1. Mount holder into templated holes onto prepared surface of top of door
2. Make final adjustments after installation to suit individual surrounding conditions

c) FASTENERS: \*

DOOR: (2) #10-32 x 1-1/2” FRAME: (4) #10- 32 x 1/2” Flat Head
 Pan Head Machine Screws and Machine Screws
 (2) #10-32 x 1-9/16” Sex Bolts.

\* Fastener sizes and quantities indicated for Types VI, VII, and VIII per Ives. Requirements alternate and Manufacturers requirements may vary

9) DOOR HOLDER, Type IX, ELECTROMAGNETIC:

a) TYPE IX-IA, FLOOR-MOUNTED UNITS:

 Locate units in such a manner so as to not create a tripping hazard

b) TYPE IX-IB, WALL-MOUNTED UNITS:

(1) Install the electromagnetic holder units into position

The Fire Alarm Sub Contractor shall make the final connections with their appropriate circuits on the supply side at the electromagnetic magnet units.

These connections shall be made at the same time in concert with the Finish Hardware Electromagnetic Holder installer to ensure that both systems are functioning properly upon completion of all such connections.

(a) Coordinate and ensure that any required support blocking is installed in hollow walls to properly install these EDHA Holder Magnet units

(2) Fasteners: Fastener Packs by the EDHA Manufactures

 Type IX-I a. Wood: Pan head Phillips head, #10 x 1-

 1/2” wood screw

 Floor Units: b. Concrete: ¼” x 20 machine bolts with tapped

 lead shield anchors

 Types IX-II
Wall Units: Screws as appropriate into electrical box

 Typical Door Magnet Units: Two (2) sex bolts with 1/4”-20 Phillips head machine

 screws

 Typical Finish: US26D

### K. SEAL, DOOR FRAME, TYPE I:

1) General:

 The self-adhesive, silicone bulb Seal Material is manufactured in standard colors.
Such colors shall be selected to match the door frame colors

2) Seals for Door Frames:

a) Install Seal Material to all exterior door frames except:

1. Doors with louvers

(2) Doors into rooms that are permanently vented to the exterior, or similar spaces that are not air-conditioned or heated (i.e., utility rooms, mechanical/electrical rooms, storage rooms, etc.)

b) Install Seal Material to all applicable interior door frames that require specific

acoustic, fire, and smoke protection

c) Installation procedures

(1) Install in continuous one-piece sections of Seal Material extending the full length of each door frame section (jambs and head)

(2) Partial sections or lengths of this Seal Material pieced-together SHALL NOT be acceptable. Such “pieced” installations SHALL BE removed and replaced with a single one-piece section of Seal Material to form a continuous gasket

(3) Position Seal Material (adhesive strip on main jamb body section) on the hinge side of door frame with bulb edge abutting the stop member of door frame

(4) Position Seal Material (adhesive strip on the stop member of frame) on latch-side and head-member of door frame with bulb-edge abutting the main body of door frame member

3) Seals for Astragals:

a) Fire and Smoke-Rated Seal (and acoustical) arrangements are formed by installing a single continuous (one-piece) section of Seal Material to the latch edge of the active door leaf

b) Position adhesive side of the Seal Material on the latch edge of the door with the bulb firmly abutting the rear side of the astragal

 4) Seals for Removable Mullions:

a) Apply two (2) continuous single piece sections of Seal Material on the exterior (door) face of each removable mullion at all exterior and applicable interior (smoke/fire and acoustic) door openings

b) Position the Seal Material on the exterior (door) face of the mullion parallel, back-to back, in such a manner where the outer edge of each bulb is continually flush with each latch-edge of the mullion

 5) Coordination:

a) Coordinate the installation of the Seal Material with Painting Sub-contractor

1. Seal Material shall be installed by the Finish Hardware Installer AFTER the doors and frames have received their final coats of paint

### L. SEAL, DOOR SHOE, TYPE II:

1) Mounting:

a) Install the vinyl gasket into the prepared channel extrusions in the bottom of the aluminum door shoe extrusion

b) Install aluminum door shoe onto bottom of door

c) Adjust door shoe vertically and horizontally to ensure a continuous seal between the door shoe (vinyl gasket) and the threshold

d) Install fasteners through the aluminum door shoe horizontally into the door at 8” on-center maximum along the full width of the door

e) Fasten door shoe to door along both sides of the door

2) Fasteners:

a) Wood Doors: 1”x #8, Phillips Pan-head, Stainless Steel, Dual-Purpose Screws

b) Metal Doors: 1” x #10-24 Phillips Pan Head, Stainless Steel, Self-Threading, Machine Screws

### M. SEALS, DOOR SWEEP TYPE III:

1) MOUNTING:

a) Rabbet bottom of interior (room side) of upper Dutch Door leaf to mortise-in the aluminum /vinyl gasket strip

b) Depth of rabbet to match the overall thickness of the door sweep member

c) Height of rabbet to allow for final vertical adjustment of door sweep unit vinyl strip to seat against the top shelf of the lower leaf of the Dutch door (utilize vertical-slotted-type fastener holes in aluminum extrusion where possible)

d) Fasten Door Sweep Unit onto bottom of upper door leaf of Dutch Door with single entry fasteners at 8 “center to center

2) FASTENERS:

a) Wood Doors: 3/4” x #6, Pan-head, Stainless Steel, Dual-Purpose Screws

b) Metal Doors: 1-1/4” x #10-24 Pan Head, Stainless Steel, Self-Threading Machine

 Screws

### N. SILENCERS, DOOR / FRAME:

 1) Install Door Frame Silencers in templated factory-drilled holes in the door frames

a) Standard Quantities Required:

(1) Standard Single Door Frame: Three (3) Door Frame Silencers in latch-side of door jamb stop member, spaced equally along height of door frame jamb

(2) Standard Double Door Frame: Two (2) Door Frame Silencers in center of latch-side of door frame header stop member

b) Install the Door Frame Silencers into the prepared holes in the door frames AFTER the doors and frames have received their final finish coat of paint

Coordinate these installations with the Painting Sub-contractor

c) Install the Door Frame Silencers with a special installation tool as furnished by the Door Frame Silencer Manufacturer

d) At Substantial Completion, provide to the Owner, the quantity of Door Frame Silencers equal to ten percent (10%) of the total quantity of Door Frame Silencers installed in the project and four (4) new Door Frame Silencer Installation Tools

### O. THRESHOLDS:

1) TYPE I, PANIC TYPE:

a) Mounting:

1. Install Threshold at all exterior door openings
2. Notch ends of Threshold to conform to door jamb configuration
3. Properly align Threshold stop member with “receiving face” of door frame stop member
4. Set Threshold exterior edges in a continuous bed of approved sealant

(5) Install vinyl bulb gasket in locking slot of Threshold

(6) Threshold fastener/anchors maximum 12” on - center maximum (i.e., minimum three (3) fastener/anchors per 3’ door opening)

(7) See Paragraph 4.01, E-I for coordination for possible installation of Dust-Proof Strike in Threshold

b) Fasteners / Anchors

 1/4”- 20 x 2” “Threshold” - Flat-Head Combination Machine Screw and Expansion Anchor similar to:

 Phillips Redhead Anchor, No. TH-1420

 Powers Fastening, Inc. (RAWL) No. 5500

2) TYPE II, FLAT SADDLE TYPE:

a) Mounting:

1. Install Threshold at interior door openings where indicated on drawings
2. Notch ends of Threshold to conform to the door frame configuration
3. Install Threshold at door openings between fire-rated and non-fire-rated areas
4. Install Threshold at door openings where changes of floor finish materials occur
5. Space Threshold Fastener/ Anchors maximum 12” on center (i.e., three (3) Fastener/Anchors per 3’ Door Opening)

(6) See Paragraph 4.01, E-I for coordination for possible installation of Dust-Proof Strike in Threshold

b) Fasteners / Anchors

1. 1/4”- 20 x 2” “Threshold” Flat-Head Combination Machine Screw and Expansion Anchor. (Similar to Phillips Redhead Anchor No. TH-1420)

3) TYPE III, HALF SADDLE TYPE:

a) Mounting:

1. Install Threshold at door openings where finish floor materials surfaces on either side of door differ by ¼ inch occur (i.e., troweled in- place flooring (Dexotex) to achieve an ADA Approved transition condition)
2. Add Threshold Stop Strip member with vinyl bulb weatherstrip at exterior door conditions or acoustical conditions
3. Properly align Threshold stop member with “receiving face” of door frame stop member
4. Set Threshold exterior edges in a continuous bed of approved sealant at exterior conditions
5. Notch ends of Threshold to conform to the door frame configuration
6. Install Threshold at door openings between fire-rated and non-fire-rated areas
7. Space Threshold Fastener/Anchors maximum 12” on center (i.e., three (3) Fastener/Anchors per 3’ Door Opening)

(8) See Paragraph 4.01, E-I for coordination for possible installation of Dust-Proof Strike in Threshold

b) Fasteners / Anchors

(1) 1/4”- 20 x 2” “Threshold” Flat-Head Combination Machine Screw and Expansion Anchor. (Similar to Phillips Redhead Anchor No. TH-1420)

(2) ¼’ –20 x ½” Phillips Flat Head Machine Screws to attach stop member to half saddle threshold member

P. WARDROBE HOOOK, SINGLE HOOK TYPE:

1) Mount wardrobe hook on vertical centerline of door, on the interior side of

 the door.

a) Pre-Kindergarten Centerline Wardrobe Hook Horizontal:

 through Grade 3: 36” Above Finish Floor

b) Grade 4 through Centerline Wardrobe Hook Horizontal:

 Grade 12 and Adult: 44” Above Finish Floor

c) Fasteners (2) #10-24 Oval-Head Machine Screws and

 Sex Nuts, US26D

# 4.02 FINAL ADJUSTMENTS:

1) Factory-trained representatives for the installed Finish Hardware Items and the AHC shall visit the Project Job site and inspect the final installation of the Finish Hardware Items.

2) Finish Hardware Installer shall check and re-adjust operating and non-operating Finish Hardware Items and Accessories, leaving doors and frames and Finish Hardware items undamaged and in complete and proper operating conditions.

# PART 5 - HARDWARE SCHEDULE

# SPECIAL NOTE:

\*Or other finish hardware manufacturer’s items of similar nature approved in this specification.

Provide the following Finish Hardware groups. Such are intended to be scheduled in keeping with the prior paragraphs. Where conflicts between the above requirements and the following detailed groups, the greater quality and quantity shall govern, as determined by the Project Architect.

Furnish Finish Hardware for any openings missed in the following group similarly to other groups, at this Contractor/Construction Manager’s expense. All openings shall be equipped with all required items of Finish Hardware.

Example:

Project Name. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Building No. \_\_\_\_\_\_\_\_\_\_ Room No.\_\_\_\_\_\_\_\_\_\_

Hardware Set No.\_\_\_\_\_\_\_\_ Door No.\_\_\_\_\_\_\_\_\_

The Architect will provide the hardware schedule after the DD package is approved and before 50% CD submittal.

END OF SECTION