

Addendum No. 3

Owner: City of Unalaska

Project: **LIBRARY EXPANSION PROJECT**
DPW Project No. 15105

Date: **November 12, 2021**

Please acknowledge receipt of this Addendum in the appropriate blanks on the bid form. The following corrections, changes, additions, deletions, revisions, and/or clarifications are hereby made a part of the contract documents for the subject project. In case of conflicts between this Addendum and previously issued documents, this Addendum shall take precedence.

Item 1

Question: Set #01 & #02 – 2 Motorized Electric panic devices are called out, but there are the following discrepancies:

- There is only 1 electrified hinge and 1 **EPT-5 (see below)** power transfer shown – 2 each will be required for if both leaves are to be electrified. Please confirm whether both leaves are to be electrified and activated with the ADA operator.
- The panic bars both have Motorized electric latch retraction (MLR), as well as electrified trims. Electrified trim is not required, the MLR already allows ingress when providing the proper credentials. Please confirm trims do not need to be electrified, or clarify the intended operation of these doors.
- **EPT-5 power transfers** are called out, but these are not UL listed and I do not recommend them for this application, as they (1) – only open to 120°, which could damage them at the RHR leaves and (2) are not heavy duty enough for this application. I recommend the Precision EPT-12/ Securitron CEPT / Von Duprin EPT-10.

Response: See revised specification **Section 08 7100 DOOR HARDWARE** and new specification **Section 08 7113 Automatic Door Openers** addressing comments.

Item 2

Question: Hardware Schedule / spec – Set 04.2 – Opening “107A” – I cannot find this opening on the Architectural drawings, and it is not listed on the door schedule. Please advise.

Response: See revised specification **Section 08 7100 DOOR HARDWARE**. Door 107A was deleted from the door schedule and the hardware specification. The door does not exist.

Item 3

Question: Borrowed Lite @ W7N-COMPUTERS – Please confirm if this is to be aluminum or hollow metal.

Response: W7n is a hollow metal relite frame.

Item 4

Question: Set #16.1 Indicates Door #E114A. E114A is not in the door & frame schedule A12.3. Should this be door #114A? Also please confirm new door and hardware with existing frame.

Response: Hardware set 16.1 should refer to door 114A. See corrected specification **Section 08 7100 DOOR HARDWARE**.

Revise Door Schedule on Sheet A12.3 to include new KD HM frame for door 114A.

Item 5

Question: Set #16 Indicates Door #E124. E124 is not in the door & frame schedule A12.3. Should this be door #124A? Also please confirm new door and hardware with existing frame.

Response: Hardware set 16 should refer to door 124A. See corrected specification **Section 08 7100 DOOR HARDWARE**.

Revise Door Schedule on sheet A12.3 to include new KD HM frame for door 124A.

Item 6

Question: In the Specifications Part 1 of 5 table of contents, it references 00310 – Bidder Qualifications but I cannot find that section.

Response: Please delete the reference to specification 00310 Bidder Qualifications. This section does not exist.

Item 7

REVISE specification **Section 08 7100 Door Hardware** by replacement with the attached revised copy with added changes in red and deletions in grey with strikethrough

Item 8

ADD to specifications **Section 08 7113 Automatic Door Openers** (this section applies to the exterior door operators)

Attachments

Specification **Section 08 7100 DOOR HARDWARE**, 15-Pages

Specification **Section 08 7113 AUTOMATIC DOOR OPENERS**, 9-Pages

End of Addendum No. 3

SECTION 08 7100

DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY:

- A. Section Includes: Finish Hardware for door openings, except as otherwise specified herein.
1. Door hardware for steel (hollow metal) doors.
 2. Door hardware for aluminum doors.
 3. Door hardware for wood doors.
 4. Door hardware for other doors indicated.
 5. Keyed cylinders as indicated.
 6. Door openers for interior doors.
- B. Related Sections:
1. Division 6: Rough Carpentry.
 2. Division 8: Aluminum Doors and Frames
 3. Division 8: Hollow Metal Doors and Frames.
 4. Division 8: Wood Doors.
 5. Division 8: Automatic Door Operators for exterior doors.
 6. Division 26 Electrical
 7. Division 28: Electronic Security
- C. References: Comply with applicable requirements of the following standards. Where these standards conflict with other specific requirements, the most restrictive shall govern.
1. Builders Hardware Manufacturing Association (BHMA)
 2. NFPA 101 Life Safety Code
 3. NFPA 80 -Fire Doors and Windows
 4. ANSI-A156.xx- Various Performance Standards for Finish Hardware
 5. UL10C – Positive Pressure Fire Test of Door Assemblies
 6. ANSI-A117.1 – Accessible and Usable Buildings and Facilities
 7. DHI /ANSI A115.IG – Installation Guide for Doors and Hardware
 8. ICC – International Building Code
- D. Intent of Hardware Groups
1. Should items of hardware not definitely specified be required for completion of the Work, furnish such items of type and quality comparable to adjacent hardware and appropriate for service required.
 2. Where items of hardware aren't definitely or correctly specified, are required for completion of the Work, a written statement of such omission, error, or other discrepancy to be submitted to Architect, prior to date specified for receipt of bids for clarification by addendum; or, furnish such items in the type and quality established by this specification, and appropriate to the service intended.
- E. Allowances
1. Refer to Division 1 for allowance amount and procedures.
- F. Alternates

1. Refer to Division 1 for Alternates and procedures.

1.2 SUBSTITUTIONS:

- A. Comply with Division 1.

1.3 SUBMITTALS:

- A. Comply with Division 1.

- B. Special Submittal Requirements: Combine submittals of this Section with Sections listed below to ensure the "design intent" of the system/assembly is understood and can be reviewed together.

- C. Product Data: Manufacturer's specifications and technical data including the following:

1. Detailed specification of construction and fabrication.
2. Manufacturer's installation instructions.
3. Wiring diagrams for each electric product specified. Coordinate voltage with electrical before submitting.
4. Submit 6 copies of catalog cuts with hardware schedule.
5. Provide 9001-Quality Management and 14001-Environmental Management for products listed in Materials Section 2.2

- D. Shop Drawings - Hardware Schedule: Submit 6 complete reproducible copy of detailed hardware schedule in a vertical format.

1. List groups and suffixes in proper sequence.
2. Completely describe door and list architectural door number.
3. Manufacturer, product name, and catalog number.
4. Function, type, and style.
5. Size and finish of each item.
6. Mounting heights.
7. Explanation of abbreviations and symbols used within schedule.
8. Detailed wiring diagrams, specially developed for each opening, indicating all electric hardware, security equipment and access control equipment, and door and frame rough-ins required for specific opening.

- E. Templates: Submit templates and "reviewed Hardware Schedule" to door and frame supplier and others as applicable to enable proper and accurate sizing and locations of cutouts and reinforcing.

1. Templates, wiring diagrams and "reviewed Hardware Schedule" of electrical terms to electrical for coordination and verification of voltages and locations.

- F. Samples: (If requested by the Architect)

1. 1 sample of Lever and Rose/Escutcheon design, (pair).
2. 3 samples of metal finishes

- G. Contract Closeout Submittals: Comply with Division 1 including specific requirements indicated.

1. Operating and maintenance manuals: Submit 3 sets containing the following.
 - a. Complete information in care, maintenance, and adjustment, and data on repair and replacement parts, and information on preservation of finishes.

- b. Catalog pages for each product.
 - c. Name, address, and phone number of local representative for each manufacturer.
 - d. Parts list for each product.
- 2. Copy of final hardware schedule, edited to reflect, "As installed".
 - 3. Copy of final keying schedule
 - 4. As installed "Wiring Diagrams" for each piece of hardware connected to power, both low voltage and 110 volts.
 - 5. One set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

1.4 QUALITY ASSURANCE

A. Comply with Division 1.

- 1. Statement of qualification for distributor and installers.
- 2. Statement of compliance with regulatory requirements and single source responsibility.
- 3. Distributor's Qualifications: Firm with 3 years experience in the distribution of commercial hardware.
 - a. Distributor to employ full time Architectural Hardware Consultants (AHC) for the purpose of scheduling and coordinating hardware and establishing keying schedule.
 - b. Hardware Schedule shall be prepared and signed by an AHC.
- 4. Installer's Qualifications: Firm with 3 years experienced in installation of similar hardware to that required for this Project, including specific requirements indicated.
- 5. Regulatory Label Requirements: Provide testing agency label or stamp on hardware for labeled openings.
 - a. Provide UL listed hardware for labeled and 20 minute openings in conformance with requirements for class of opening scheduled.
 - b. Underwriters Laboratories requirements have precedence over this specification where conflict exists.
- 6. Single Source Responsibility: Except where specified in hardware schedule, furnish products of only one manufacturer for each type of hardware.

- B. Review Project for extent of finish hardware required to complete the Work. Where there is a conflict between these Specifications and the existing hardware, notify the Architect in writing and furnish hardware in compliance with the Specification unless otherwise directed in writing by the Architect.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Comply with Division 1.

- 1. Deliver products in original unopened packaging with legible manufacturer's identification.
- 2. Package hardware to prevent damage during transit and storage.
- 3. Mark hardware to correspond with "reviewed hardware schedule".
- 4. Deliver hardware to door and frame manufacturer upon request.

- B. Storage and Protection: Comply with manufacturer's recommendations.

1.6 PROJECT CONDITIONS:

- A. Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for the proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents.
- B. Review Shop Drawings for doors and entrances to confirm that adequate provisions will be made for the proper installation of hardware.

1.7 WARRANTY:

- A. Refer to Conditions of the Contract
- B. Manufacturer's Warranty:
 - 1. Closers: Ten years
 - 2. Exit Devices: Five Years
 - 3. Locksets & Cylinders: Lifetime
 - 4. All other Hardware: Two years.

1.8 OWNER'S INSTRUCTION:

- A. Instruct Owner's personnel in operation and maintenance of hardware units.

1.9 MAINTENANCE:

- A. Extra Service Materials: Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals Section.
 - 1. Special Tools: Provide special wrenches and tools applicable to each different or special hardware component.
 - 2. Maintenance Tools: Provide maintenance tools and accessories supplied by hardware component manufacturer.
 - 3. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra service materials.
- B. Maintenance Service: Submit for Owner's consideration maintenance service agreement for electronic products installed.

1.10 MATERIALS:

- A. Hinges: Shall be Five Knuckle Ball bearing hinges
 - 1. Template screw hole locations
 - 2. Bearings are to be fully hardened.
 - 3. Bearing shell is to be consistent shape with barrel.
 - 4. Minimum of 2 permanently lubricated non-detachable bearings on standard weight hinge and 4 permanently lubricated bearing on heavy weight hinges.
 - 5. Equip with easily seated, non-rising pins.
 - 6. Non Removable Pin screws shall be slotted stainless steel screws.
 - 7. Hinges shall be full polished, front, back and barrel.
 - 8. Hinge pin is to be fully plated.
 - 9. Bearing assembly is to be installed after plating.

10. Sufficient size to allow 180-degree swing of door
11. Furnish five knuckles with flush ball bearings
12. Provide hinge type as listed in schedule.
13. Furnish 3 hinges per leaf to 7 foot 6 inch height. Add one for each additional 30 inches in height or fraction thereof.
14. Tested and approved by BHMA for all applicable ANSI Standards for type, size, function and finish
15. UL10C listed for Fire rated doors.

B. Geared Continuous Hinges:

1. Tested and approved by BHMA for ANSI A156.26-1996 Grade 1
2. Anti-spinning through fastener
3. UL10C listed for 3 hour Fire rating
4. Non-handed
5. Lifetime warranty
6. Provide Fire Pins for 3-hour fire ratings
7. Sufficient size to permit door to swing 180 degrees

C. Mortise Type Locks and Latches:

1. Tested and approved by BHMA for ANSI A156.13, Series 1000, Operational Grade 1, Extra-Heavy Duty, Security Grade 2 and be UL10C.
2. Furnish UL or recognized independent laboratory certified mechanical operational testing to 4 million cycles minimum.
3. Provide 9001-Quality Management and 14001-Environmental Management.
4. Fit ANSI A115.1 door preparation
5. Functions and design as indicated in the hardware groups
6. Solid, one-piece, 3/4-inch (19mm) throw, anti-friction latchbolt made of self-lubricating stainless steel
7. Deadbolt functions shall have 1 inch (25mm) throw bolt made of hardened stainless steel
8. Latchbolt and Deadbolt are to extend into the case a minimum of 3/8 inch (9.5mm) when fully extended
9. Auxiliary deadlatch to be made of one piece stainless steel, permanently lubricated
10. Provide sufficient curved strike lip to protect door trim
11. Lever handles must be of forged or cast brass, bronze or stainless steel construction and conform to ANSI A117.1. Levers that contain a hollow cavity are not acceptable
12. Lock shall have self-aligning, thru-bolted trim
13. Levers to operate a roller bearing spindle hub mechanism
14. Mortise cylinders of lock shall have a concealed internal setscrew for securing the cylinder to the lockset. The internal setscrew will be accessible only by removing the core, with the control key, from the cylinder body.
15. Spindle to be designed to prevent forced entry from attacking of lever
16. Provide locksets with 7-pin removable and interchangeable core cylinders
17. Each lever to have independent spring mechanism controlling it
18. Core face must be the same finish as the lockset.

D. Exit Devices:

1. Exit devices to meet or exceed BHMA for ANSI 156.3, Grade 1.
2. Exit devices to be tested and certified by UL or by a recognized independent laboratory for mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.
3. Exit devices chassis to be investment cast steel, zinc dichromate.
4. Exit devices to have stainless steel deadlocking 3/4" through latch bolt.
5. Exit devices to be equipped with sound dampening on touchbar.
6. Non-fire rated exit devices to have cylinder dogging.
7. Non-fire rated exit devices to have 1/4" minimum turn hex key dogging.

8. Touchpad to be "T" style constructed of architectural metal with matching metal end caps.
 9. Touchbar assembly on wide style exit devices to have a ¼" clearance to allow for vision frames.
 10. All exposed exit device components to be of architectural metals and "true" architectural finishes.
 11. Provide strikes as required by application.
 12. Fire exit hardware to conform to UL10C and UBC 7-2. UL tested for Accident Hazard.
 13. The strike is to be black powder coated finish.
 14. Exit devices to have field reversible handing.
 15. Provide heavy duty vandal resistant lever trim with heavy duty investment cast stainless steel components and extra strength shock absorbing overload springs. Lever shall not require resetting. Lever design to match locksets and latchsets.
 16. Provide 9001-Quality Management and 14001-Environmental Management.
 17. Vertical Latch Assemblies to have gravity operation, no springs.
- E. Door Closers shall:
1. Tested and approved by BHMA for ANSI 156.4, Grade 1
 2. UL10C certified
 3. Provide 9001-Quality Management and 14001-Environmental Management.
 4. Closer shall have extra-duty arms and knuckles
 5. Conform to ANSI 117.1
 6. Maximum 2 7/16 inch case projection with non-ferrous cover
 7. Separate adjusting valves for closing and latching speed, and backcheck
 8. Provide adapter plates, shim spacers and blade stop spacers as required by frame and door conditions
 9. Full rack and pinion type closer with 1½" minimum bore
 10. Mount closers on non-public side of door, unless otherwise noted in specification
 11. Closers shall be non-handed, non-sized and multi-sized.
- F. Low Energy Operators shall:
1. Conform to ANSI/BHMA A156.19 as a low energy power opening device.
 2. Be listed under UL228, UL325, UL10B, UL10C, UBC 7.2 and FCC listed.
 3. Shall be non-handed.
 4. Be rated for door panels weighing up to 350 lbs (160 kg).
 5. The manual door closer within the Low Energy Operator shall be adjusted to meet Americans with Disabilities Act (ADA) 5 lbs opening force [Push-Side applications only]
 6. Operator shall be isolated from mounting plate with rubber mounts to mitigate the transmission of forces between the door and the operator.
 7. Shall have a position encoder to communicate with microprocessor.
 8. Incorporate a resettable powered operation counter that tracks both powered and non-powered cycling of the Operator.
 9. Incorporate the following adjustable settings:
 - i. Hold Open Timer, to 28 seconds
 - ii. Open Speed
 - iii. Backcheck Speed
 - iv. Vestibule Sequence Timer
 10. Include DIP switch controls for:
 - i. On board diagnostics
 - ii. Power close
 - iii. Push and Go operation
 - iv. Time delay logic for electrified hardware components
 11. Include terminals for auxiliary controls including:
 - i. Activation devices; provide two discrete inputs
 - ii. Vestibule sequencing
 12. Control switches including:

- i. Day/Night open (illuminated)
 - ii. Power On-Off
 - 13. Includes adhesive Low Energy Operator mounting templates.
 - 14. R-14 Aluminum Allow Materials
 - 15. For non-powered operation, the unit shall function as a standard door closer with adjustable spring force size 1 thru 6.
- G. Door Stops: Provide a dome floor or wall stop for every opening as listed in the hardware sets.
- 1. Wall stop and floor stop shall be wrought bronze, brass or stainless steel.
 - 2. Provide fastener suitable for wall construction.
 - 3. Coordinate reinforcement of walls where wall stop is specified.
 - 4. Provide dome stops where wall stops are not practical. Provide spacers or carpet riser for floor conditions encountered
- H. Over Head Stops: Provide a Surface mounted or concealed overhead when a floor or wall stop cannot be used or when listed in the hardware set.
- 1. Concealed overhead stops shall be heavy duty bronze or stainless steel.
 - 2. Surface overhead stops shall be heavy duty bronze or stainless steel.
- I. Push Plates: Provide with four beveled edges ANSI J301, .050 thickness, size as indicated in hardware set. Furnish oval-head countersunk screws to match finish.
- J. Pulls with plates: Provide with four beveled edges ANSI J301, .050 thickness Plate s with ANSI J401 Pull as listed in hardware set. Provide proper fasteners for door construction.
- K. Push Pull Bars: Provide ANSI J504, .1" Dia. Pull and push bar model and series as listed in hardware set. Provide proper fasteners for door construction.
- L. Kickplates: Provide with four beveled edges ANSI J102, 10 inches high by width less 2 inches on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.
- M. Mop plates: Provide with four beveled edges ANSI J103, 4 inches high by width less 1 inch on single doors and 1 inch on pairs of doors. Furnish oval-head countersunk screws to match finish.
- N. Door Bolts: Flush bolts for wood or metal doors.
- 1. Provide a set of Automatic bolts, Certified ANSI/BHMA 156.3 Type 25 for hollow metal label doors.
 - 2. Provide a set of Automatic bolts, Certified ANSI/BHMA 156.3 Type 27 at wood label doors.
 - 3. Manual flush bolts, Certified ANSI/BHMA 156.16 at openings where allowed local authority.
 - 4. Provide Dust Proof Strike, Certified ANSI/BHMA 156.16 at doors with flush bolts without thresholds.
- O. Coordinator and Brackets: Provide a surface mounted coordinator when automatic bolts are used in the hardware set.
- 1. Coordinator, Certified ANSI/BHMA A1156.3 Type 21A for full width of the opening.
 - 2. Provide mounting brackets for soffit applied hardware.
 - 3. Provide hardware preparation (cutouts) for latches as necessary.
- P. Power Transfer: Power transfer device shall be a steel housing and flexible tube. Secure and inconspicuous channel is to bring power from the frame to the door.
- 1. Precision EPT-5
 - 2. Tube shall accept up to 5/16" wire bundle and accommodate a door swing of 120 Deg.

3. Wires as required by others

- Q. Seals: All seals shall be finished to match adjacent frame color. Seals shall be furnished as listed in schedule. Material shall be UL listed for labeled openings.
- R. Weatherstripping: Provide at head and jambs only those units where resilient or flexible seal strip is easily replaceable. Where bar-type weatherstrip is used with parallel arm mounted closers install weatherstrip first.
 - 1. Weatherstrip shall be resilient seal of (Neoprene, Polyurethane, Vinyl, Pile, Nylon Brush, Silicone)
 - 2. UL10C Positive Pressure rated seal set when required.
- S. Door Bottoms/Sweeps: Surface mounted or concealed door bottom where listed in the hardware sets.
 - 1. Door seal shall be resilient seal of (Neoprene, Polyurethane, Nylon Brush, Silicone)
 - 2. UL10C Positive Pressure rated seal set when required.
- T. Thresholds: Thresholds shall be aluminum beveled type with maximum height of 1/2" for conformance with ADA requirements. Furnish as specified and per details. Provide fasteners and screws suitable for floor conditions.
- U. Silencers: Furnish silencers on all interior frames, 3 for single doors, 2 for pairs. Omit where any type of seals occur.

1.11 FINISH:

- A. Designations used in Schedule of Finish Hardware - 3.05, and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 including coordination with traditional U.S. finishes shown by certain manufacturers for their products
- B. Powder coat door closers to match other hardware, unless otherwise noted.
- C. Aluminum items shall be finished to match predominant adjacent material. Seals to coordinate with frame color.

1.12 KEYS AND KEYING:

- A. Provide keyed brass construction cores and keys during the construction period. Construction control and operating keys and core shall not be part of the Owner's permanent keying system or furnished in the same keyway (or key section) as the Owner's permanent keying system. Permanent cores and keys (prepared according to the accepted keying schedule) will be furnished to the Owner.
- B. Cylinders, removable and interchangeable core system: Best CORMAX™ Patented 7-pin.
- C. Permanent keys and cores: Stamped with the applicable key mark for identification. These visual key control marks or codes will not include the actual key cuts. Permanent keys will also be stamped "Do Not Duplicate."
- D. Transmit Grand Masterkeys, Masterkeys and other Security keys to Owner by Registered Mail, return receipt requested.
- E. Furnish keys in the following quantities:
 - 1. 1 each Grand Masterkeys

2. 4 each Masterkeys
 3. 2 each Change keys each keyed core
 4. 15 each Construction masterkeys
 5. 1 each Control keys
- F. The Owner, or the Owner's agent, will install permanent cores and return the construction cores to the Hardware Supplier. Construction cores and keys remain the property of the Hardware Supplier.
- G. Keying Schedule: Arrange for a keying meeting, and programming meeting with Architect Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying and programming complies with project requirements. Furnish 3 typed copies of keying and programming schedule to Architect.

PART 2 - EXECUTION

2.1 EXAMINATION

- A. Verification of conditions: Examine doors, frames, related items and conditions under which Work is to be performed and identify conditions detrimental to proper and or timely completion.
1. Do not proceed until unsatisfactory conditions have been corrected.

2.2 HARDWARE LOCATIONS:

- A. Mount hardware units at heights indicated in the following publications except as specifically indicated or required to comply with the governing regulations.
1. Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames, by the Door and Hardware Institute (DHI).
 2. Recommended locations for Architectural Hardware for flush wood doors (DHI).
 3. WDMA Industry Standard I.S.-1A-04, Industry Standard for Architectural wood flush doors.

2.3 INSTALLATION:

- A. Install each hardware item per manufacturer's instructions and recommendations. Do not install surface mounted items until finishes have been completed on the substrate. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- B. Conform to local governing agency security ordinance.
- C. Install Conforming to ICC/ANSI A117.1 Accessible and Usable Building and Facilities.
1. Adjust door closer sweep periods so that from the open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the landing side of the door.
- D. Installed hardware using the manufacturers fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.

2.4 FIELD QUALITY CONTROL AND FINAL ADJUSTMENT

- A. Contractor/Installers, Field Services: After installation is complete, contractor shall inspect the completed door openings on site to verify installation of hardware is complete and properly adjusted, in accordance with both the Contract Documents and final shop drawings.
1. Check and adjust closers to ensure proper operation.
 2. Check latchset, lockset, and exit devices are properly installed and adjusted to ensure proper operation.
 - a. Verify levers are free from binding.
 - b. Ensure latchbolts and dead bolts are engaged into strike and hardware is functioning.
 3. Report findings, in writing, to architect indicating that all hardware is installed and functioning properly. Include recommendations outlining corrective actions for improperly functioning hardware if required.

2.5 SCHEDULE OF FINISH HARDWARE:

Option List

| <u>Code</u> | <u>Description</u> |
|----------------|---|
| CD | CYLINDER DOGGING |
| ALK | ALARM, BATTERY OPERATED |
| CSK | COUNTER SINKING OF KICK and MOP PLATES |
| LBR | LESS BOTTOM ROD |
| MLR | MOTORIZED LATCH RETRACTION |
| VIN | Visual Indicator |
| EPT Prep | EPT Prep (full mortise) |
| B4E-HEAVY-KP | BEVELED 4 EDGES - KICK PLATES |
| 1/4-20 SSMS/EA | STAINLESS MACHINE SCREWS/EXPANSION ANC. |

Finish List

| <u>Code</u> | <u>Description</u> |
|-------------|-----------------------|
| AL | Aluminum |
| 626 | Satin Chromium Plated |
| 630 | Satin Stainless Steel |
| 689 | Aluminum Painted |
| GREY | Grey |
| US26D | Chromium Plated, Dull |
| US32D | Stainless Steel, Dull |

Manufacturer List

| <u>Code</u> | <u>Name</u> |
|-------------|---------------------|
| BE | Best Access Systems |

| | |
|------|----------------------|
| BEST | BEST |
| DM | Dorma Door Controls |
| NA | National Guard |
| PE | Pemko |
| PR | Precision |
| SD | Stanley Door Closers |
| ST | Stanley |
| TR | Trimco |

Hardware Sets

SET #01

Doors: 101A

| | | | | |
|--------------|-----------------------------|---------------------------|----------------|---------------|
| 1 | Continuous Hinge | 661HD UL 83" | AL | ST |
| 2 | Continuous Hinge | 661HD UL 83" EPT Prep | AL | ST |
| 2 | Keypad/Prox Reader | HID-5355 | 626 | BEST |
| 2 | Exit Device | MLR E2803 X V4908A CD LBR | 630 | PR |
| 2 | Mortise Cylinder | 1E-74 PATD | 626 | BE |
| 1 | Rim Cylinder | 12E-72 PATD | 626 | BE |
| 1 | Set of Operators | See Specification 08 7113 | | |
| 2 | Power Transfer | EPT-12 | | PR |
| 1 | Power Supply | RPSMLR2 | | PR |
| 1 | Wireless Access Controller | WQX-WAC-C-B | | BE |
| Deleted 2 | Jamb Actuator | CL2055 | 630 | SD |
| 1 | Threshold | As per details | AL | NA |

NOTE: Operation: During Business hours doors are dogged open, after hours card reader will momentary unlock door. Free egress from inside at all times. Weatherstripping, door bottom and meeting stiles by door supplier.

SET #02

Doors: 101B

| | | | | |
|---|---------------------------|---------------------------|-----|------|
| 1 | Continuous Hinge | 661HD UL 83" | AL | ST |
| 1 | Continuous Hinge | 661HD UL 83" EPT Prep | AL | ST |
| 2 | Keypad/Prox Reader | HID-5355 | 626 | BEST |
| 1 | Exit Device | E2814 X V4908A CD LBR | 630 | PR |
| 1 | Exit Device | MLR E2814 X V4908A CD LBR | 630 | PR |
| 1 | Set of Operators | ED 900PR CMP J8 | 689 | DM |
| 1 | Wall Bumper | 1270CX | 626 | TR |
| 1 | Power Transfer | EPT-12 | | PR |
| 1 | Power Supply | RPSMLR2 | | PR |
| 1 | Radio Control Transmitter | CL4490 | | SD |
| 1 | Radio Control Receiver | CL4485 | | SD |
| 1 | Jamb Actuator | CL2055 | 630 | SD |

NOTE: Gasketing by Door supplier

SET #03

Doors: 102

| | | | |
|--------------|----------------------------|-------|----|
| 3 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Closer | TS9315 SPT | 689 | DM |
| 2 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Smoke Seal | S88 D (HEAD AND JAMBS) | | PE |

SET #04

Doors: 131A

| | | | |
|------------------|----------------------------|-------|----|
| 3 Hinges | FBB168 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 3 Door Silencers | 1229A | GREY | TR |

SET #05

Doors: 127

| | | | |
|--------------------|--------------|-----|----|
| 2 Continuous Hinge | 661HD UL 83" | AL | ST |
| 1 Exit Device | 2601 CD LBR | 630 | PR |
| 1 Exit Device | 2603 CD LBR | 630 | PR |
| 2 Mortise Cylinder | 1E-74 PATD | 626 | BE |
| 1 Rim Cylinder | 12E-72 PATD | 626 | BE |
| 2 Door Pull | 1191-5 | 630 | TR |
| 2 Closer | TS9315 SPT | 689 | DM |
| 2 Overhead Stop | 910 Series | 626 | DM |

NOTE: Meeting Stiles by Door supplier

SET #06

Doors: 131, 133

| | | | |
|--------------------|------------------------|-----|----|
| 2 Continuous Hinge | 661HD UL 83" | AL | ST |
| 2 Push/Pull Set | 1747 Size | 630 | TR |
| 2 Closer | TS9315 STH | 689 | DM |
| 1 Gasketing | S773 BL Head and Jambs | | PE |

NOTE: Meeting stiles by door supplier

SET #07

Doors: 131B, 140C

| | | | |
|----------|--------------------------|-------|----|
| 3 Hinges | FBB191 4 1/2 X 4 1/2 NRP | US32D | ST |
|----------|--------------------------|-------|----|

| | | | |
|----------------------|------------------------|-----|----|
| 1 Exit Device | 2103 X 4903A ALK | 630 | PR |
| 1 Rim Cylinder | 12E-72 PATD | 626 | BE |
| 1 Closer | TS9315 SPT | 689 | DM |
| 1 Wall or Floor Stop | 1201 or 1205 | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |
| 1 Door Bottom | 315 CN | | PE |
| 1 Threshold | As per details | AL | NA |

SET #08

Doors: 135

| | | | |
|---------------|----------------------------|-------|----|
| 3 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Privacy Set | 45H-0LT15H VIN | 630 | BE |
| 1 Closer | TS9315 SPT | 689 | DM |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |

SET #09

Doors: 136

| | | | |
|---------------|----------------------------|-------|----|
| 3 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Privacy Set | 45H-0LT15H VIN | 630 | BE |
| 1 Closer | TS9315 SPT | 689 | DM |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |

SET #10

Doors: 140

| | | | |
|----------------------|-----------------------|-----|------|
| 1 Continuous Hinge | 661HD UL 83" | AL | ST |
| 1 Continuous Hinge | 661HD UL 83" EPT Prep | AL | ST |
| 1 Keypad/Prox Reader | HID-5355 | 626 | BEST |
| 1 Exit Device | MLR 2603 CD LBR | 630 | PR |
| 1 Exit Device | 2601 CD LBR | 630 | PR |
| 2 Mortise Cylinder | 1E-74 PATD | 626 | BE |
| 1 Rim Cylinder | 12E-72 PATD | 626 | BE |
| 2 Door Pull | 1191-5 | 630 | TR |
| 2 Closer | TS9315 SPT | 689 | DM |
| 1 Power Transfer | EPT-5 | | PR |
| 1 Power Supply | RPSMLR2 | | PR |

NOTE: Operation: Presenting proper card at cardreader will unlock door, dogging the exit device down with the cylinder will leave door in unlocked position always free egress

SET #11

Doors: 140A

| | | | |
|-----------------|--------------------------|-------|----|
| 6 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Flush Bolt | 3999SE | 626 | TR |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Overhead Stop | 700 Series | 626 | DM |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |
| 1 Astragal | 300 CP 84" | | PE |

SET #12

Doors: 140B

| | | | |
|-----------------|--------------------------|-------|----|
| 6 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Flush Bolt | 3999SE | 626 | TR |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Overhead Stop | 700 Series | 626 | DM |
| 1 Gasketing | S773 BL Head and Jambs | | PE |
| 1 Astragal | 300 CP 84" | | PE |

SET #13

Doors: E103, E104, E108A, E108B, E109, E111, E113, E114B, E115B, E120

NOTE: All hardware existing

SET #14

Doors: E105, E106

| | | | |
|----------|------------|-----|----|
| 1 Closer | TS9315 STH | 689 | DM |
|----------|------------|-----|----|

NOTE: Balance of hardware existing

SET #15

Doors: E110

| | | | |
|----------------------|--------------|-----|------|
| 1 Keypad/Prox Reader | HID-5355 | 626 | BEST |
| 1 Exit Device | 2103 X 4903A | 630 | PR |
| 1 Rim Cylinder | 12E-72 PATD | 626 | BE |
| 1 Electric Strike | BES-0563 | | BE |
| 1 Closer | TS9315 SPT | 689 | DM |

NOTE: Verify existing lock type, balance existing.

SET #16

Doors: ~~E124~~ Door 124A

| | | | |
|-----------------|----------------------------|-------|----|
| 3 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Overhead Stop | 910 Series | 626 | DM |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |

NOTE: Balance of hardware existing

SET #04.1

Doors: 122, 132

| | | | |
|--------------------|----------------------------|-----|----|
| 1 Continuous Hinge | 661HD UL 83" | AL | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |
| 1 Auto Door Bottom | 411 ANBL | | PE |

~~SET #04.2 set Deleted~~

~~Doors: 107A~~

| | | | |
|-----------------------------|---------------------------------------|------------------|---------------|
| 4 Hinges | FBB168 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 3 Door Silencers | 1229A | GREY | TR |

SET #16.1

Doors: ~~E114A~~ Door 114A

| | | | |
|---------------|----------------------------|-------|----|
| 3 Hinges | FBB179 4 1/2 X 4 1/2 NRP | US26D | ST |
| 1 Lockset | 45H-7R15H PATD | 630 | BE |
| 1 Kick Plate | K0050 10" x 2" LDW B4E CSK | 630 | TR |
| 1 Wall Bumper | 1270CX | 626 | TR |
| 1 Gasketing | S773 BL Head and Jambs | | PE |

SECTION 08 7113
AUTOMATIC DOOR OPERATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following types of automatic door operators:
 - 1. Exterior and interior, automatic door operators, low energy, with visible header mounting.
 - 2. Automatic door operators shall be configured for doors as follows:
 - a. Single leaf of paired doors.
- B. Related Sections:
 - 1. Division 8 Section "Aluminum-Framed Entrances and Storefronts" for entrances furnished and installed separately in Division 8 Section.
 - 2. Division 8 Section "Door Hardware" for hardware to the extent not specified in this Section.
 - 3. Division 26 Sections for electrical connections provided separately including conduit and wiring for power to, and control of, automatic door operators.

1.3 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. Underwriters Laboratories (UL):
 - 1. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
 - 2. UL 10C – Positive Pressure Fire Tests of Door Assemblies
- C. American National Standards Institute (ANSI)/Builders' Hardware Manufacturers Association (BHMA):
 - 1. ANSI/BHMA A156.10: Standard for Power Operated Pedestrian Doors.
 - 2. ANSI/BHMA A156.19: Standard for Power Assist and Low Energy Power Operated Doors.
- D. American Society for Testing and Materials (ASTM):
 - 1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- E. American Association of Automatic Door Manufacturers (AAADM):
- F. National Fire Protection Association (NFPA):
 - 1. NFPA 101 – Life Safety Code.

2. NFPA 70 – National Electric Code.
 - G. International Code Council (ICC):
 1. IBC: International Building Code
 - H. Building Officials and Code Administrators International (BOCA), 1999:
 - I. International Standards Organization (ISO):
 1. ISO 9001 - Standard for Manufacturing Quality Management Systems
 2. ISO 14025 – Environmental Labels and Declarations -- Type III Environmental Declarations -- Principles and Procedures
 3. ISO14040 – Environmental Management -- Life Cycle Assessment -- Principles and Framework
 4. ISO 14044 – Environmental Management -- Life Cycle Assessment -- Requirements and Guidelines
 5. ISO 21930 – Sustainability in Buildings and Civil Engineering Works -- Core Rules For Environmental Product Declarations Of Construction Products And Services
 - J. National Association of Architectural Metal Manufacturers (NAAMM):
 1. Metal Finishes Manual for Architectural and Metal Products.
 - K. American Architectural Manufacturers Association (AAMA):
 1. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
 - L. United Nations Central Product Classification (UNCPC):
 1. UNCPC 4212 - Product Category Rules for Preparing an Environmental Product Declaration for Power-Operated Pedestrian Doors and Revolving Doors
- 1.4 DEFINITIONS
- A. Activation Device: Device that, when actuated, sends an electrical signal to the door operator to open the door.
 - B. Knowing act: Consciously initiating the opening of a power operated door using acceptable methods including wall mounted switches such as push plates and controlled access devices such as keypads, card readers and key switches.
- 1.5 PERFORMANCE REQUIREMENTS
- A. General: Provide automatic door operators capable of withstanding loads and thermal movements based on testing manufacturer's standard units in assemblies similar to those indicated for this Project.
 - B. Operating Range: Minus 30 deg F (Minus 34 deg C) to 130 deg F (54 deg C).
 - C. Opening-Force Requirements for Egress Doors: In the event power failure to the operator, swinging automatic entrance doors shall open with a manual force, not to exceed 30 lbf (133 N) to set door in motion, and not more than 15 lbf to fully open the door. Forces shall be applied at 1" (25 mm) from the latch edge of the door.

1.6 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 submittal procedures.
- B. Shop Drawings: Include project specific layouts, plans, elevations, sections, details, hardware mounting heights, and attachments to other work. Indicate wiring for electrical supply. Indicate items needing coordination for a complete and operational system that are supplied by others.
- C. Color Samples for selection of factory-applied color finishes.
- D. Closeout Submittals: Provide the following with project close-out documents.
 - 1. Owner's Manual.
 - 2. Warranties.
- E. Reports: Based on evaluation performed by a qualified agency, for automatic door operators.
 - 1. Evaluation Report for compliance with IBC.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project.
- B. Manufacturer Qualifications: A qualified manufacturer with a manufacturing facility certified under ISO 9001.
- C. Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service.
- D. Certifications: Automatic door operators shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards:
 - 1. ANSI/BHMA A156.10 and A156.19.
 - 2. NFPA 101.
 - 3. UL 325 Listed.
 - 4. UL 10C Listed.
 - 5. IBC 2018.
 - 6. BOCA.
- E. Source Limitations: Obtain automatic door operators through one source from a single manufacturer.
- F. Product Options: Drawings indicate sizes, profiles, and dimensional requirements of swinging doors equipped with automatic door operators and are based on the specific system indicated. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- G. Power Operated Door Standard: ANSI/BHMA A156.19.
- H. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- I. Emergency-Exit Door Requirements: Comply with requirements of authorities having jurisdiction for swinging automatic entrance doors serving as a required means of egress.

1.8 PROJECT CONDITIONS

- A. Field Measurements: General Contractor shall verify openings to receive automatic door operators by field measurements before fabrication and indicate measurements on Shop Drawings.
- B. Mounting Surfaces: General Contractor shall verify all surfaces to be plumb, straight and secure; substrates to be of proper dimension and material.
- C. Other trades: General Contractor Advise of any inadequate conditions or equipment.

1.9 COORDINATION

- A. Templates: Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing automatic door operators to comply with indicated requirements.
- B. Electrical System Roughing-in: Coordinate layout and installation of automatic door operators with connections to, power supplies, remote activation devices, and electric door latching hardware.
- C. System Integration: Integrate automatic door operators with other systems as required for a complete working installation. Where required for proper operation, provide a time delay relay to signal automatic door operator to activate only after electric lock system is released.

1.10 WARRANTY

- A. Automatic door operators shall be free of defects in material and workmanship for a period of one (1) year from the date of substantial completion.
- B. During the warranty period the contractor shall engage a factory-trained technician to perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner.
- C. During the warranty period all warranty work, including but not limited to emergency service, shall be performed during normal working hours.
- D. Warranty shall cover cost of travel for required technicians.

PART 2 - PRODUCTS

2.1 AUTOMATIC DOOR OPERATORS

- A. Basis of Design Manufacturer: Stanley Access Technologies; M-Force Series automatic door operator.

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 1. Headers: 6063-T6.
 - 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
 - 3. Sheet and Plate: ASTM B 209.

2.3 COMPONENTS

- A. Header Case: Header case shall not exceed 6" (152 mm) square in section and shall be fabricated from extruded aluminum with structurally integrated end caps, designed to conceal door operators and controls. The operator shall be sealed against dust, dirt, and corrosion within the header case. Access to the operator and electronic control box shall be provided by a full-length removable cover, edge rabbetted to the header to ensure a flush fit. Removable cover shall be secured to prevent unauthorized access.
- B. Door Arms: A combination of door arms and linkage shall provide positive control of door through entire swing; units shall permit use of butt hung, center pivot, and offset pivot-hung doors.
- C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
- D. Signage: Provide signage in accordance with ANSI/BHMA A156.19.

2.4 SWINGING DOOR OPERATORS

- A. General: Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated.
- B. Electromechanical Operators: Self-contained unit powered by a minimum 3/16 horsepower, permanent-magnet DC motor; through a high torque reduction gear system.
 - 1. Operation: Power opening and spring closing.
 - 2. Operator Type: Low energy; readily convertible to full energy; no tools required to change type.
 - 3. Handing: Non-handed; no tools required to change handing.
 - 4. Capacity: Rated for door panels weighing up to 700 lb (318 kg).
 - 5. Mounting: Visible
 - 6. Features:
 - a. Adjustable opening and closing speeds.
 - b. Adjustable opening and closing force.
 - c. Adjustable back-check.
 - d. Adjustable hold-open time between 0 and 30 seconds.
 - e. Reverse on obstruction.
 - f. Time delay for electric lock integration.
 - g. Force compensation and closed loop speed control with active braking and acceleration.
 - h. Power Close.
 - i. Slam Protection.
 - j. Power Assist.
 - k. Lock Release.
 - l. Stall Sensor Ignore.
 - m. Electronic Coordination.
 - n. Optional Switch to open/Switch to close operation.
 - o. Optional push to activate operation.
 - p. Fire alarm interface, configurable to safely open or close doors on signal from fire alarm system.
- C. Field Adjustable Spring Closing Operation: The operator shall close the door by spring energy employing the motor, as a dynamic brake to provide closing speed control. The closing spring shall be a helical compression spring, adjustable for positive closing action. The spring shall be adjustable, without removing the operator from the header, to accommodate a wide range of field conditions.

- D. Independent Adjustable Closing and Latching Speed Control: The operator shall employ a rheostat module to allow for independent field adjustment of closing and latching speeds using the motor as a dynamic brake.
- E. Field Adjustable Open Stop: The operator shall provide a field adjustable open stop to accommodate opening angles from 80 to 135 degrees without the need for additional components.
- F. Consistent Cycle: The operator shall deliver an even, consistent open manual push force across the entire transition from door fully closed to door fully open. Additionally, the force shall be field adjustable to accommodate a wide range of on-site conditions.
- G. Quiet Performance: The operator shall be designed to output audible noise ratios less than or equal to 50dba.
- H. Manual Use: The operator shall function as a manual door closer in the direction of swing with or without electrical power. The operator shall deliver an even, consistent open force across the entire transition from door fully closed to door fully open.
- I. Electrical service to door operators shall be provided under Division 26 Electrical. Minimum service to be 120 VAC, 5 amps.

2.5 ELECTRICAL CONTROLS

- A. Electrical Control System: Electrical control system shall include a microprocessor controller and a high-resolution position encoder. The encoder shall monitor revolutions of the operator shaft and send signals to microprocessor controller to define door position and speed.
 - 1. The high-resolution encoder shall have a resolution of not less than 1024 counts per revolution. Systems utilizing external magnets and magnetic switches are not acceptable.
 - 2. Electrical control system shall include a 24 VDC auxiliary output rated at 1 amp.
- B. Performance Data: The microprocessor shall collect, and store performance data as follows:
 - 1. Counter: A non-resettable counter to track operating cycles.
 - 2. Event Reporting: Unit shall include non-volatile event and error recording including number of occurrences of events and errors, and cycle count of most recent events and errors.
 - 3. LED Display: Display presenting the current operating state of the controller.
- C. Controller Protection: The microprocessor controller shall incorporate the following features to ensure trouble free operation:
 - 1. Automatic Reset Upon Power Up.
 - 2. Main Fuse Protection.
 - 3. Electronic Surge Protection.
 - 4. Internal Power Supply Protection.
 - 5. Resettable sensor supply fuse protection.
 - 6. Motor Protection, over-current protection.
- D. Power Close: When enabled, engages the operator to close a door that does not close completely at the end of a cycle.
- E. Force Compensation: Utilizing the closed loop speed control, the operator shall maintain constant opening and closing speeds when subjected to excessive outside forces, such as positive or negative stack pressures.

- F. Slam Protection: The operators speed control system prevents door from slamming at the full open or full closed position.
- G. Power Assist: Operator mode that lowers opening forces when the door is used manually. Power assist is active only while pushing or pulling the door. The door will close when an opening force is no longer applied.
- H. Lock Release: On doors with electric locking, operator shall include a closing function to release tension on a latch mechanism prior to opening the door.
- I. Stall Sensor Ignore: Adjustable setting to disable swing side safety sensors at a specific angle.
- J. Electronic Coordination: On pairs of doors, allows independent timing of opening and closing of each leaf as required for astragal coordination.
- K. Soft Start/Stop: A “soft-start” “soft-stop” motor driving circuit shall be provided for smooth normal opening and recycling.
- L. Obstruction Recycle: Provide system to recycle the swinging panels when an obstruction is encountered during the closing cycle.
- M. Programmable Controller: Microprocessor controller shall be field programmable.
 - 1. The following parameters may be adjusted:
 - a. Operating speeds and forces as required to meet specified ANSI/BHMA standard.
 - b. Adjustable and variable features specified.
 - 2. Manual programming shall be available through local interface which has a two-digit display with a selection control including three push buttons.
- N. Emergency Breakout Switch: A cam actuated emergency breakout switch shall be provided to disconnect power to the motor when an in-swinging door is manually pushed in the emergency out direction. The operator will then automatically reset, and power will be resumed.
- O. Control Switch: Automatic door operators shall be equipped with a three-position function switch to control the operation of the door. Control switch shall provide three modes of operation, Automatic, Off, and Hold-Open.
- P. Power Switch: Automatic door operators shall be equipped with a two position On/Off switch to control power to the door.

2.6 ACTIVATION DEVICES

- A. Push Plates: Provide 4 ½ inch (114 mm) round push plates with UL recognized SPDT switch. Face plates and mounting studs shall be stainless steel. Face plates shall be engraved with the international symbol for accessibility and “Push To Open”. Push plates shall be wall mounted in single or double gang electrical boxes and hardwired to door operator controls.

2.7 ALUMINUM FINISHES

- A. General: Comply with NAAMM Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designing finishes. Finish designations prefixed by AA comply with system established by Aluminum Association for designing finishes.
- B. Class II, Clear Anodic Finish: AA-M12C22A31 Mechanical Finish: as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.40 mils minimum complying with AAMA 611-98, and the following:

1. AAMA 607.1
2. Applicator must be fully compliant with all applicable environmental regulations and permits, including wastewater and heavy metal discharge.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances, header support, and other conditions affecting performance of swinging automatic entrance doors. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Do not install damaged components. Fit joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.
- B. Mounting: Install automatic door operators/headers plumb and true in alignment with established lines and grades. Anchor securely in place.
 1. Install surface-mounted hardware using concealed fasteners to greatest extent possible.
 2. Set headers, arms and linkages level and true to location with anchorage for permanent support.
- C. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.

3.3 FIELD QUALITY CONTROL

- A. Testing Services: Factory Trained Installer shall test and inspect each swinging automatic entrance door to determine compliance of installed systems with applicable ANSI standards.

3.4 ADJUSTING

- A. Adjust door operators, controls, and hardware for smooth and safe operation, for tight closure, and complying with requirements in ANSI/BHMA A156.19 by AAADM Certified Technician.

3.5 CLEANING AND PROTECTION

- A. Clean surfaces promptly after installation. Remove excess sealant compounds, dirt, and other substances. Repair damaged finish to match original finish.

END OF SECTION 08 71 13

Available options not specified in this document are summarized as follows:

1. Mounting options (Visible Specified)
 - a. Concealed; optional with center pivot doors by others.
 - b. Semi-Concealed; optional with butt hung doors by others.
2. Header options:
 - a. Bottom Load, with visible or concealed mounting.
3. Finish options (Standard Options Specified):
 - a. Color anodizing options; “Champagne” to “Black”
 - b. Multi-coat Fluoropolymer painted finishes.
 - c. Cladding.
4. Activation options (Standard Hard Wired Push Plates Specified) including:
 - a. Wireless push plates.
 - b. Wireless transmitters.
 - c. Push plate posts.
 - d. Push to operate.
5. Safety options (None Specified) including:
 - a. Overhead safety systems.
 - b. Door mounted safety systems.

Contact your local [Stanley Access Technologies](#) representative for more information on specifying the right sliding automatic entrance for your project.

These specifications represent a “sample” configuration and depict design features that are commonly used. These specifications do not reflect “standard” features and are provided for informational purposes only. Please note that there is no standard “off the shelf” product. Stanley custom manufactures each product to its customers’ specifications. It is the customer’s responsibility to validate that a particular configuration of Stanley’s products is suitable for a specific application. All specifications and designs contained herein are subject to change without notice or obligation.