

ADDENDUM 02

USM Brooks Center eSports Improvements

Date: February 8, 2024

To: Prospective Bidders

*From: University of Maine System
by and through
University of Southern Maine
PO Box 9300
Portland, ME 04104*

This Addendum forms a part of the Contract Documents and modifies the original Bid Documents and Specifications dated January 23, 2024. Portions of the bid and contract documents not altered by this Addendum remain in full force.

Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum may consist of the following:

- Questions with Response*
- Specification Changes*
- Drawing Changes*

QUESTIONS with RESPONSE:

RFI response list is attached

SPECIFICATION CHANGES

Section 000010 – Revised to remove section 002213

Section 001113 – Add second walkthrough option for contractors

Section 002213 – Remove section in its entirety

Section 087100 – Revised to remove acceptable manufacturers listed under 2.15 DOOR CLOSERS

DRAWING CHANGES

No changes to the Drawings

END OF ADDENDUM 02

PROJECT: USM eSports Improvements								
TYPE: Bidder RFIs and Responses								
DATE: 2/8/2024 Addendum 2								
23101								
ID #	Spec/Dwg Reference	Discipline	Date Issued	Question	Response	From	Date Responded	Issued In
1		Owner	1/30/24	Do we know who the existing fire alarm vendor is? Also would like to know the control unit manufacturer & model #	Minuteman is USM's Service Provider. Manufacturer: Notifier by Honeywell. Network Control Annunciator Model: NCA-2	Caleb Morton (SMRT)	2/1/24	Addendum 01
2		Architectural	1/30/24	Would you please provide a cost estimate/budget and current plan holder list for the subject solicitation? In addition, what is the construction timeline including start and end dates?	A budget will not be provided. Timeline is provided in 011000	Caleb Morton (SMRT)	1/30/24	Addendum 01
3	AD101	Architectural / Structural	1/30/24	Could you please advise on the following RFI for the above referenced Project; 1.Dwg AD101 notes the following "GENERAL CONTRACTOR SHALL CARRY SCOPE OF DELEGATED DESIGN FOR STRUCTURAL ENGINEERING AND STRUCTURAL WALL OPENING FRAME, AS REQUIRED TO ACCOMODATE. SUBMIT SIGNED AND SEALED SHOP DRAWINGS IN ACCORDANCE WITH 014000." Could the University please provide an allowance amount for all general contractors to include for this provision?	An allowance will not be provided. Scope is to be included in awarded contractor's bid	Matt McCammon (SMRT)	2/1/24	Addendum 01
4		Owner	1/30/24	Could the bid date and RFI period please be extended 2 wks?	Bid and RFI extension has been approved. See revised specification sections in Addendum 01	Matt McCammon (SMRT)	2/1/24	Addendum 01
5		Owner	2/2/24	002213 Supplemental Instructions says that we have to use the bid depository and have subs file their bids separate? Is this bid just a regular bid where we submit a lump sum on the bid sheet and our bond?	Omit Section 00 22 13 Supplemental Instructions to Bidders from requirements. It is not applicable	Tom Blanchard (USM)	2/2/24	Addendum 02
6		Owner	2/2/24	Please confirm that Contractor shall be entitled to an equitable adjustment to the Contract Time and Price if exiting hazardous materials are found on site and must be rendered harmless by Owner.	Yes, this is beyond the expected scope of work needed for this project	Tom Blanchard (USM)	2/2/24	Addendum 02
7		Owner	2/2/24	1. Can you please send us the list of General Contractor bidders for the USM Brooks project? 2. Do we need to make an appointment to view the project or is the building open to the public?	1. See Addendum 01 2. The building is open to the Public. An additional site walk through is being provided on 2/13 at 1pm. See revised section 001133 via Addendum 02	Tom Blanchard (USM)	2/5/24	Addendum 02
8	Specs	Mechanical	2/5/24	The specified Renewaire ERV model DN currently has a 40 week lead time. I am concerned that this will negatively impact the job schedule. Renewaire offers a different model – the RD Series which is similar (fixed plate core, VRF coil, dampers, double wall) which currently has a lead time of 10 weeks.	Please provide documentation showing comparison of the proposed product in accordance with 012500 for consideration	Matt McCammon (SMRT)	2/8/24	Addendum 02
9		Interior	2/6/24	Carpet 1 and 2 are to be glued down or four corner tabs?	Glued	Matt McCammon (SMRT)	2/8/24	Addendum 02
10		Interior	2/6/24	Looking for a drawing for the CPT 1 set on Herringbone	Question unclear. CPT 1 is a product. See drawings	Matt McCammon (SMRT)	2/8/24	Addendum 02
11		Owner	2/7/24	Are filed sub bids required for this project. If so, when do they need to be in by?	No. 002213 has been removed via Addendum 01	Matt McCammon (SMRT)	2/8/24	Addendum 02
12		Owner	2/7/24	Please clarify when this project will be awarded to a contractor.	Refer to dates in 011000 via Addendum 01	Matt McCammon (SMRT)	2/8/24	Addendum 02
13		Electrical	2/7/24	Please confirm the owner is responsible for network and security.	As noted in the Low Voltage Responsibility Matrix on plan E-001, the GC is responsible for Electrical Contractor. The remaining listed 3rd parties are the responsibility of the Owner.	Tom Blanchard (USM)	2/8/24	Addendum 02
14		Demo	2/7/24	Page AD101 says "demolish extents of rail and railing system and prepare for patching of flooring". Please clarify what this ramp is made of.	Existing drawings indicate cast in place concrete	Matt McCammon (SMRT)	2/8/24	Addendum 02
15		Owner	2/7/24	Can you please include the sign in sheet from the site walkthrough.	See Addendum 01	Matt McCammon (SMRT)	2/8/24	Addendum 02
16			2/7/24	Specifications mention a security fence. Is this going to be required for this job?	Required if intent is to utilize exterior area for construction methods. Contractor is also required to maintain safe and secure job site at interior.	Matt McCammon (SMRT)	2/8/24	Addendum 02
17		61000	2/7/24	Spec section 061000 mentions equipment backing panels. Where is this located on the plans?	This section provides information on the blocking/backing panels for the project as a whole. The design drawings do not itemize every location this is required however blocking is to be installed in accordance with the "Execution" portion of the section as well as notes and details on drawings throughout to provide substrate for installation of equipment, etc throughout.	Matt McCammon (SMRT)	2/8/24	Addendum 02
18		Owner	2/7/24	Is Builders Risk required for this job?	No.	Tom Blanchard (USM)	2/8/24	Addendum 02
19		Owner	2/7/24	From the site walkthrough there appears to be water damage to some ACT. Can you provide a scope of what will need to be fixed or provide an allowance.	Provide an allowance of \$3,000.	Matt McCammon (SMRT)	2/8/24	Addendum 02
20			2/7/24	Can you please indicate what existing wall types are?	Existing drawings indicate Cast in Place concrete wall at exterior wall (plan north) to loading dock, CMU at corridor (plan west of PC Teams room). Remaining walls are understood to be typical framed interior walls.	Matt McCammon (SMRT)	2/8/24	Addendum 02
21		A501	2/7/24	Page A501 please confirm perforated metal screen, LED panel, and 1/2" frosted acrylic panel is by owner	No. By Contractor. See E401 and EL601 for lighting requirements	Matt McCammon (SMRT)	2/8/24	Addendum 02

ID #	Spec/Dwg Reference	Discipline	Date Issued	Question	Response	From	Date Responded	Issued In
22		M501	2/7/24	Page M501 detail 11 6" exterior equipment slab section. Please confirm this is new and is the responsibility of the contractor.	<p>New and by Contractor for mounting of CU-1 and CU-2.</p> <p>Note 7 under to CU-1 on M-601 to read, "CONDENSING UNIT TO BE MOUNTED ON 24" STANDS PROVIDED BY MECHANICAL CONTRACTOR AND TO BE SET ON NEW CONCRETE EQUIPMENT PAD, BY CONTRACTOR, PER DETAIL 11/M-501. PROVIDE WITH SPRING ISOLATORS.</p> <p>Note 2 under to CU-2 on M-601 to read, "CONDENSING UNIT TO BE MOUNTED ON 24" STANDS PROVIDED BY MECHANICAL CONTRACTOR AND TO BE SET ON NEW CONCRETE EQUIPMENT PAD, BY CONTRACTOR, PER DETAIL 11/M-501. PROVIDE WITH SPRING ISOLATORS.</p>	Matt McCammon (SMRT)	2/8/24	Addendum 02
23		101423.16	2/7/24	Spec 101423.16 Room Identification Panel Signage. There is no signage identified in the plans. Can you please provide a signage schedule.	Spec indicates Contractor to provide one sign per room per 1.2, A, 2 to meet USM signage standards	Matt McCammon (SMRT)	2/8/24	Addendum 02
24			2/7/24	AWI licensure and FSC certification going to be required for this job?	FSC is required. AWI licensure is preferred but if not provided, AWI guidelines and standards are to be followed.	Matt McCammon (SMRT)	2/8/24	Addendum 02
25			2/7/24	Spec sections 211313, 220000, 230000, 260010 call for coordinated ceilings and system drawings. Please confirm this is a requirement.	Yes. See also Section 013100 and drawings A121, FP101, PL101, MH101, MP101, EL101, EP101 and EY101 which also note this requirement.	Matt McCammon (SMRT)	2/8/24	Addendum 02
26		002213	2/7/24	Spec section 002213 says "Subcontractors for trades, as listed in the General Contractor's Bid Form, Section 00 41 13.01 and the Advertisement for Bids, Section 00 11 13.10, are required to deliver (or mail at their own risk) their Bids to the Maine Construction Bid Depository". Please clarify which trades are required for sub bids as there is no indication on the Bid Form. Can you please also provide the forms that are required for subcontractors to file out for the depository.	002213 has been removed via Addendum 02	Matt McCammon (SMRT)	2/8/24	Addendum 02
27		002213	2/7/24	Spec section 002213 says "The fee for each use of the Depository shall be Two Hundred and Fifty Dollars (\$250.00), payable by the Designer to the Maine Construction Bid Depository". Please clarify if this is supposed to be the architect.	002213 has been removed via Addendum 02	Matt McCammon (SMRT)	2/8/24	Addendum 02
28		002213	2/7/24	Please clarify if all subcontractors who submit bids to the Depository must include a bid bond.	002213 has been removed via Addendum 02	Matt McCammon (SMRT)	2/8/24	Addendum 02
29		002213	2/7/24	Spec section 002213 says "Any bid submitted by a general contractor with an incomplete list of subcontractors... shall be considered informal and as such will not be considered a valid bid" Please provide form for this list of subcontractors.	002213 has been removed via Addendum 02	Matt McCammon (SMRT)	2/8/24	Addendum 02

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SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Bids for: USM Brooks Center eSports Improvements

Shall be submitted electronically to cppmquestions@maine.edu
With the following Email Subject Line: [USM Brooks Center eSports Improvements](#)

Bids will be received until **2:00pm** (EST) on **Thursday, February 15, 2024** at which time Bids will be opened and read aloud via Zoom.

Bid opening attendance is available via PC, Mac, Linux, iOS or Android: [Zoom](#) Link
<https://maine.zoom.us/j/86587821076?pwd=cStlTmRmaTZQNzBISFgrVUdWZ2p5UT09>
Meeting ID: **86587821076**
Passcode: **290288**
Or via telephone US: [\(US\) +1 309-205-3325](tel:+13092053325)
Passcode: **290288**

Bids received after the stated time will not be considered and will be returned unopened.

Electronic bid submission must be accompanied by a copy of a satisfactory Bid Bond for 5% of the Bid (checks will not be accepted) which shall be in conformity with the form of Bond contained in Section 00 43 13 of the Specifications. Upon determination of the apparent low bidder, the University will contact the low bidder and request an original hard copy of the bid bond be delivered within 72 hours. The University reserves the right to waive all formalities and reject any or all bids or to accept any bids. Scholarships, donations or gifts to the University will not be considered in the evaluation of responses.

Electronic Bid Submission Requirements:

A **SIGNED** virus-free electronic bid form must be submitted as follows:

- The bid and bid bond must be submitted electronically as a single PDF file to the email address shown above.
- Electronic submission must be received by the required **Date/Time** reflected above.

The successful Bidder will be required to furnish a 100% Performance Bond and a 100% Payment Bond to cover the execution of the Contract which shall be in conformity with the form of Bonds contained in Sections 00 61 13.13 and 00 61 13.16, respectively, of the Specifications and shall be for the Contract amount.

Bidders may attend a non-mandatory pre-bid meeting on **Tuesday, January 30, 2024, 9:00am or Tuesday, February 13, 1:00pm**. Attendees are to meet in **Brooks Center, Lower Level - 32 Campus Ave, Gorham ME**. Copies of plans and specifications will not be available at the pre-bid meeting. Acquiring or reviewing plans and specifications prior to the meeting is advised.

Project Summary: See section 01 11 00

The electronic documents (.pdf) may be examined and downloaded at the following site:

<https://usm.maine.edu/facilities-management/current-projects/>

Any questions related to the plans and specifications must be submitted prior to **2:00pm** on **Friday, February 16, 2024**, via email addressed to Thomas Blanchard, Assistant Director of Capital Planning and Project Management, University of Maine System; cppmquestions@maine.edu and must include the following Email Subject Line: [USM Brooks Center eSports Improvements](#)

The University of Maine System is an EEO/AA institution and does not discriminate on the grounds of race, color, religion, sex, sexual orientation, transgender status, gender expression, national origin, citizenship status, age, disability, genetic information or veteran's status in employment, education, and all other programs and

activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Director of Equal Opportunity, 101 Boudreau Hall, University of Maine, Orono, ME 04469-5754, 207.581.1226, TTY 711 (Maine Relay System). The University provides reasonable accommodations to qualified individuals with disabilities upon request. General contractors, subcontractors, and product suppliers bidding on this project must subscribe and adhere to same.

UNIVERSITY OF MAINE SYSTEM
by and through
UNIVERSITY OF SOUTHERN MAINE
Justin Swift
Chief Business Officer and Vice President of Finance and Administration for
University of Maine System Board of Trustees

END OF SECTION 00 11 13

SECTION 08 71 00 – DOOR HARDWARE

1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Mechanical and electrified door hardware for:
 - a. Swinging doors.
2. Electronic access control system components, including:
 - ~~a. Biometric access control reader.~~
 - b-a. Electronic access control devices.
3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.
4. Lead-lining door hardware items required for radiation protection at door openings.
5. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

- B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

- C. Related Sections:

1. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
2. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
3. Division 26 sections for connections to electrical power system and for low-voltage wiring.
4. Division 28 sections for coordination with other components of electronic access control system.

1.3 REFERENCES

- A. UL - Underwriters Laboratories
 - 1. UL 10B - Fire Test of Door Assemblies
 - 2. UL 10C - Positive Pressure Test of Fire Door Assemblies
 - 3. UL 1784 - Air Leakage Tests of Door Assemblies
 - 4. UL 305 - Panic Hardware
- B. DHI - Door and Hardware Institute
 - 1. Sequence and Format for the Hardware Schedule
 - 2. Recommended Locations for Builders Hardware
 - 3. Key Systems and Nomenclature
- C. ANSI - American National Standards Institute
 - 1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.4 SUBMITTALS

- A. General:
 - 1. Submit in accordance with Conditions of Contract and Division 01 requirements.
 - 2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
 - 3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.
- B. Action Submittals:
 - 1. Product Data: Technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
 - 2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
 - a. Wiring Diagrams: For power, signal, and control wiring and including:
 - 1) Details of interface of electrified door hardware and building safety and security systems.
 - 2) Schematic diagram of systems that interface with electrified door hardware.
 - 3) Point-to-point wiring.
 - 4) Risers.
 - 3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
 - a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
 - a. Door Index; include door number, heading number, and Architects hardware set number.
 - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
 - c. Quantity, type, style, function, size, and finish of each hardware item.
 - d. Name and manufacturer of each item.
 - e. Fastenings and other pertinent information.
 - f. Location of each hardware set cross-referenced to indications on Drawings.
 - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
 - h. Mounting locations for hardware.
 - i. Door and frame sizes and materials.
 - j. Name and phone number for local manufacturer's representative for each product.
 - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include operational descriptions for: egress, ingress (access), and fire/smoke alarm connections.
 - 1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.
5. Key Schedule:
 - a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
 - b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
 - c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
 - d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
 - e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
 - 1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
 - f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory or shop prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
2. Product data for electrified door hardware:

- a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
 3. Certificates of Compliance:
 - a. UL listings for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
 - b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in "QUALITY ASSURANCE" article, herein.
 - c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.
 4. Warranty: Special warranty specified in this Section.
- D. Closeout Submittals:
1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
 - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
 - b. Catalog pages for each product.
 - c. Factory order acknowledgement numbers (for warranty and service)
 - d. Name, address, and phone number of local a representative for each manufacturer.
 - e. Parts list for each product.
 - f. Final approved hardware schedule edited to reflect conditions as-installed.
 - g. Final keying schedule
 - h. Copies of floor plans with keying nomenclature
 - i. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
 - j. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.5 QUALITY ASSURANCE

- A. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
1. Warehousing Facilities: In Project's vicinity.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 4. Coordination Responsibility: Assist in coordinating installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
- a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

- B. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
 - 1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
 - 2. Can provide installation and technical data to Architect and other related subcontractors.
 - 3. Can inspect and verify components are in working order upon completion of installation.
 - 4. Capable of producing wiring diagrams.
 - 5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
- C. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
- D. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.
- E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
- F. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in "REFERENCES" article, herein.
- G. Keying Conference
 - 1. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
 - a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
 - b. Preliminary key system schematic diagram.
 - c. Requirements for key control system.
 - d. Requirements for access control.
 - e. Address for delivery of keys.
- H. Pre-installation Conference
 - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 2. Inspect and discuss preparatory work performed by other trades.
 - 3. Inspect and discuss electrical roughing-in for electrified door hardware.
 - 4. Review sequence of operation for each type of electrified door hardware.
 - 5. Review required testing, inspecting, and certifying procedures.
- I. Coordination Conferences:
 - 1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.

2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
 1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
 1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
 2. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- D. Protection and Damage:
 1. Promptly replace products damaged during shipping.
 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.
- E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- F. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.8 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
1. Warranty Period: Beginning from date of Substantial Completion, for durations indicated.
 - a. Closers:
 - 1) Mechanical: LCN 4000 series, 30 years.
 - 2) Electrified: 2 years.
 - b. Exit Devices:
 - 1) Mechanical: 3 years.
 - 2) Electrified: 1 year.
 - c. Locksets:
 - 1) Mechanical: Schlage ND series, 10 years.
 - 2) Electrified: 1 year.
 - d. Continuous Hinges: Lifetime warranty.
 - e. Key Blanks: Lifetime
 2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.9 MAINTENANCE

- A. Maintenance Tools: Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

2 PRODUCTS

2.1 MANUFACTURERS

- A. The Owner requires use of certain products for their unique characteristics and project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."
1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.
- B. Approval of manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

- D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

- B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.

1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
2. Use materials which match materials of adjacent modified areas.
3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.

- C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

- D. Cable and Connectors: Hardwired Electronic Access Control Lockset and Exit Device Trim:

1. Data: 24AWG, 4 conductor shielded, Belden 9843, 9841 or comparable.
2. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.
3. Provide type of data and DC power cabling required by access control device manufacturer for this installation.
4. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with sufficient number and wire gauge with standardized Molex plug connectors to accommodate electric function of specified hardware. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.3 HINGES

- A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Ives 5BB series.
2. Acceptable Manufacturers and Products: Hager BB Series, Stanley FBB Series.

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
 - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
 - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
 - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
4. 2 inches or thicker doors:
 - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - a. Steel Hinges: Steel pins
 - b. Non-Ferrous Hinges: Stainless steel pins
 - c. Out-Swinging Exterior Doors: Non-removable pins
 - d. Out-Swinging Interior Lockable Doors: Non-removable pins
 - e. Interior Non-lockable Doors: Non-rising pins
8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
10. Provide mortar guard for each electrified hinge specified.
11. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

2.4 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:
 - a. Scheduled Manufacturer: Ives.
 - b. Acceptable Manufacturers: Select, Stanley.
2. Requirements:

- a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
- b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
- c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
- d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
- e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
- f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
- g. Install hinges with fasteners supplied by manufacturer.
- h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.5 ELECTRIC POWER TRANSFER

A. Manufacturers:

- a. Scheduled Manufacturer: Von Duprin EPT-10.
- b. Acceptable Manufacturers: ABH PT1000, Securitron CEPT-10.

B. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.

C. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.6 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.7 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.8 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage ND series.
2. Acceptable Manufacturers and Products: No Substitution.

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3 hour fire doors.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets.
8. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
 - a. Lever Design: Schlage Sparta.
 - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

C. Deadbolts:

1. Manufacturers and Products:
 - a. Scheduled Manufacturer and Product: Schlage B600 Series.
 - b. Acceptable Manufacturers and Products: Best T Series, Sargent 480 Series.
2. Requirements:
 - a. Provide deadbolt series conforming to ANSI/BHMA A156 and function as specified.
 - b. Cylinders: Refer to “KEYING” article, herein.
 - c. Provide deadbolts with standard 2-3/4 inches (70 mm) backset. Provide 2-3/8 inches (60 mm) where noted or if door or frame detail requires. Provide deadbolt with full 1 inch (25 mm) throw, constructed of steel alloy.
 - d. Provide manufacturer’s standard strike.

2.9 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 99/33A series.
2. Acceptable Manufacturers and Products: No Substitution.

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with dead latching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide flush end caps for exit devices.
7. Provide exit devices with manufacturer's approved strikes.
8. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
10. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
11. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.
14. Provide delayed egress devices, where scheduled, that are UL 294 listed, meet National Fire Protection Association (NFPA) and International Building Code (IBC) governing delayed egress, and/or other local and national fire codes acceptable to authority having jurisdiction as required.
 - a. Provide non-handed and field sizable device with 3/4 (19mm) throw deadlocking latch bolt. Device incorporates an internal RX switch that detects attempt to exit from applying less than 15lbs to the push pad, which causes this switch to start an irreversible alarm cycle. Key switch in device is capable of arming, disarming, or resetting the device; and indicator lamp determines status of the device
 - b. Provide devices capable of standard 15 second release delay and indefinite release delay as required by code, when tied into fire alarm system will release immediately when an alarm condition exists.
 - c. Provide devices with all control inputs – door position input, external inhibit input, fire alarm input; auxiliary locking; nuisance alarm and internal horn; and, remote signaling output self-contained in the device assembly.
15. Rim Exit Devices: provide devices with non-tapered smart latchbolt with 90° latchbolt to strike engagement under stress and Static Load Resistance of 2000 pounds.
16. Rim Exit Devices: provide devices with damper controlled re-latching to reduce operational noise. Where lever trim is specified, provide damper controlled lever return.
17. Concealed Vertical Cable Exit Devices: provide cable-actuated concealed vertical latch system in two-point for non-rated or fire rated wood doors up to a 90 minute rating and

less bottom latch (LBL) configuration for non-rated or fire rated wood doors up to 20 minute rating. Vertical rods not permitted.

- a. Cable: Stainless steel with abrasive resistant coating. Conduit and core wire ends snap into latch and center slides without use of tools.
 - b. Wood Door Prep: Maximum 1 inch x 1.1875 inch x 3.875 inches top latch pocket and 1 inch x 1.1875 inch x 5 inches bottom latch pocket which does not require the use of a metal wrap or edge for non-rated or fire rated wood doors up to a 45 minute rating.
 - c. Latchbolts and Blocking Cams: Manufactured from sintered metal low carbon copper- infiltrated steel, with molybdenum disulfide low friction coating.
 - d. Top Latchbolt: Minimum 0.38 inch (10 mm) and greater than 90 degree engagement with strike to prevent door and frame separation under high static load.
 - e. Bottom Latchbolt: Minimum of 0.44 inch (11 mm) engagement with strike.
 - f. Product Cycle Life: 1,000,000 cycles.
 - g. Latch Operation: Top and bottom latch operate independently of each other. Top latch fully engages top strike even when bottom latch is compromised. Separate trigger mechanisms not permitted.
 - h. Latch release does not require separate trigger mechanism.
 - i. Cable and latching system characteristics:
 - 1) Installed independently of exit device installation, and capable of functioning on door prior to device and trim installation.
 - 2) Connected to exit device at single point in steel and aluminum doors, and two points for top and bottom latches in wood doors.
 - 3) Bottom latch height adjusted, from single point for steel and aluminum doors and two points for wood doors, after system is installed and connected to exit device, while door is hanging
 - 4) Bottom latch position altered up and down minimum of 2 inches (51 mm) in steel and aluminum doors without additional adjustment. Bottom latch deadlocks in every adjustment position in wood doors.
 - 5) Top and bottom latches in steel and aluminum doors and top latch in wood doors may be removed while door is hanging.
18. Top latch mounting: double or single tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
19. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
- a. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.10 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage/Von Duprin PS900 series.
2. Acceptable Manufacturers and Products: Precision ELR series, Sargent 3500 series.

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking

components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.

3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
 - a. 12/24 VDC Output, field selectable.
 - b. Class 2 Rated power limited output.
 - c. Universal 120-240 VAC input.
 - d. Low voltage DC regulated and filtered.
 - e. Polarized connector for distribution boards.
 - f. Fused primary input.
 - g. AC input and DC output monitoring circuit w/LED indicators.
 - h. Cover mounted AC Input indication.
 - i. Tested and certified to meet UL294.
 - j. NEMA 1 enclosure.
 - k. Hinged cover w/lock down screws.
 - l. High voltage protective cover.

2.11 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage Everest 29 Primus XP.
2. Acceptable Manufacturers and Products: No Substitution.

B. Requirements:

1. Provide full size interchangeable cores from the same manufacturer of locksets, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. High Security: dual-locking cylinder with permanent core requiring geographically exclusive, restricted, patented keyway. Dual-locking mechanism with interlocking finger pin(s) to check for patented features on keys.
3. Patent Protection: Full size interchangeable cores requiring use of restricted, patented keys, patent-protected until the year, 2029.
4. Nickel silver bottom pins.

C. Construction Keying:

1. Replaceable Construction Cores.
 - a. Provide temporary construction cores replaceable by permanent full size interchangeable cores, furnished in accordance with the following requirements.
 - 1) 3 construction control keys
 - 2) 12 construction change (day) keys.
 - b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2.12 KEYING

- A. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- B. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
- C. Requirements:
 - 1. Provide permanent full size interchangeable cores keyed by the manufacturer according to the following key system.
 - a. Master Keying system as directed by the Owner.
 - 2. Forward biting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
 - 3. Provide keys with the following features:
 - a. **Serialization to resume at the next sequential number as provided by the owner.**
 - b. **Serialization to be stamped in the location as provided by the owner.**
 - c. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
 - d. Patent Protection: Keys and blanks protected by one or more utility patent(s) until the year, 2029.
 - e. Geographically Exclusive: Where High Security or Security cylinders/cores are indicated, provide nationwide, geographically exclusive key system complying with the following restrictions.
 - 4. Identification:
 - a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Do not provide blind code marks with actual key cuts.
 - b. Identification stamping provisions must be approved by the Architect and Owner.
 - c. Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
 - d. Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
 - e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
 - 5. Quantity: Furnish in the following quantities.
 - a. Change (Day) Keys: 3 per cylinder/core.
 - b. Permanent Control Keys: 3.
 - c. Master Keys: 6.

2.13 KEY CONTROL SYSTEM

- A. Manufacturers:
 - 1. Scheduled Manufacturer: Telkee.

2. Acceptable Manufacturers: HPC, Lund.

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
 - a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
 - b. Provide hinged-panel type cabinet for wall mounting.

2.14 ELECTRO-MECHANICAL AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN Senior Swing.
2. Acceptable Manufacturers and Products: Besam Swingmaster MP, Horton 4000LE series.

B. Requirements:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI/BHMA A156.19.
 - a. Opening: Powered by DC motor working through reduction gears.
 - b. Closing: Spring force.
 - c. Manual, hydraulic, or chain drive closers: Not permitted.
 - d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
 - e. Cover: Aluminum.
2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, or adapters for arms as required to suit details.
4. Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.
5. Provide key switches, with LED's, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
7. Provide units with inputs for smoke evacuation doors, where specified, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset, presence detector input, which prevents closed door from opening or door that is fully opened from closing, hold open toggle input, which allows remote activation for indefinite hold open and close second time input is activated, vestibule

inputs, which allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.

2.15 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040XP series.
2. Acceptable Manufacturers and Products: ~~Stanley D4550 Series, Sargent 281 series.~~ No substitutions

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 3/4 inch (19 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.

3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.17 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges and countersunk screws (B-CS) as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:
 - a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less door width (LDW) on single doors, 1 inch (25 mm) less door width (LDW) on pairs
 - b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less door width (LDW) on single doors, 1 inch (25 mm) less door width (LDW) on pairs
 - c. Armor Plates: 34 inches (914 mm) high by 2 inches (51 mm) less door width (LDW) on single doors, 1 inch (25 mm) less door width (LDW) on pairs

2.18 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson.
2. Acceptable Manufacturers: ABH, Sargent.

B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

2.19 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.20 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer: Zero International.
2. Acceptable Manufacturers: National Guard, Reese.

B. Requirements:

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Size of thresholds:
 - a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
 - b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
4. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2.21 SILENACERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Burns, Trimco.

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.22 MAGNETIC HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: LCN.
2. Acceptable Manufacturers: ABH, Sargent.

B. Requirements:

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation.

2.23 DOOR POSITION SWITCHES

A. Manufacturers:

1. Scheduled Manufacturer: Schlage.
2. Acceptable Manufacturers: GE-Interlogix, Sargent.

B. Requirements:

1. Provide recessed or surface mounted type door position switches as specified.
2. Coordinate door and frame preparations with door and frame suppliers. If switches are being used with magnetic locking device, provide minimum of 4 inches (102 mm) between switch and magnetic locking device.

2.24 FINISHES

A. Finish: Satin Nickel BHMA 619/642 (US15); except:

1. Continuous Hinges: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Door Closers: Powder Coat to Match
6. Wall Stops: BHMA 630 (US32D)
7. Weatherstripping: Clear Anodized Aluminum
8. Thresholds: Mill Finish Aluminum

3 EXECUTION

3.1 EXAMINATION

- #### A.
- Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

- B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Custom Steel Doors and Frames: HMMA 831.
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
- E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
- G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- H. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).
- I. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Replace construction cores with permanent cores as indicated in keying section.
 - 2. Furnish permanent cores to Owner for installation.
- J. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
 - 1. Conduit, junction boxes and wire pulls.
 - 2. Connections to and from power supplies to electrified hardware.
 - 3. Connections to fire/smoke alarm system and smoke evacuation system.

4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
 5. Testing and labeling wires with Architect's opening number.
- K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.
- M. Closer/holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
- O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- S. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.3 FIELD QUALITY CONTROL

- A. Engage qualified manufacturer trained representative to perform inspections and to prepare inspection reports.
1. Representative will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door

hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DOOR HARDWARE SCHEDULE

- A. Hardware items are referenced in the following hardware. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.
- B. Hardware Sets:

Legend:








 Link to catalog cut sheet

Hardware Group No. 01

For use on Door #(s):

103 106 108

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 AS SPECIFIED	 IVE
1	EA	PASSAGE SET	ND10S SPA	 SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA	 LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	 IVE
1	EA	STOP	WS407CCV OR FS436/FS438	 IVE
1	EA	GASKETING	488SBK PSA	 ZER
1	EA	DOOR SWEEP	39A	 ZER

Hardware Group No. 02
For use on Door #(s):
101A

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONT. HINGE	112XY EPT	IVE
2	EA	POWER TRANSFER	EPT10	VON
2	EA	ELEC PANIC HARDWARE	RX-QEL-9927-L-NL-17 24 VDC	VON
2	EA	RIM OR MORTISE CYLINDER	SFIC W CONST CORE	SCH
2	EA	SFIC CORE	AS SPECIFIED	SCH
1	EA	SURFACE CLOSER	4040XP H	LCN
1	EA	SURF. AUTO OPERATOR	9542 MS AS REQ (120/240 VAC)	LCN
2	EA	ACTUATOR, TOUCHLESS	8310-813J	LCN
2	EA	MOUNT BOX	AS SPECIFIED	LCN
2	EA	STOP	WS407CCV OR FS436/FS438	IVE
1	EA	GASKETING	488SBK PSA	ZER
1	EA	MEETING STILE SEAL	8217SBK PSA	ZER
1	EA	WIRING DIAGRAM	WIRING DIAGRAM	BYO
1	EA	Seals by Manufacturer		IVE
1	EA	TRANSACT ONLINE ACCESS CONTROL SYSTEM	WALL MOUNTED HARD WIRED CARD READER BY OWNER	BYO
2	EA	DOOR CONTACT	679-05HM/WD	SCE
1	EA	POWER SUPPLY	PS902 900-4RL 120/240 VAC	VON

ALL WIRING AND CONNECTIONS BY DIVISION 26.

OPERATIONAL DESCRIPTION:

MULLION MOUNTED ACTUATORS AS LOCATED BY ARCHITECT. IMMEDIATE EGRESS ALWAYS ALLOWED. DOORS WITH ELECTRIC LATCH RETRACTION. OPENING TO BE LEFT DOGGED DURING UNSECURED ACCESS MODE. WHEN IN SECURED MODE DOORS CAN BE ACCESSED BY USE OF VALID TRANSACT CREDENTIAL OR KEY. DURING LOCKDOWN DOORS CAN BE SECURED REMOTELY. USE OF VALID CREDENTIAL TO UNLATCH ACTIVE DOOR ONLY AND ACTIVATE EXTERIOR ACTUATOR. USE OF EXTERIOR ACTUATOR TO OPEN ACTIVE DOOR LEAF. VESTIBULE MOUNTED ACTUATOR TO ALWAYS BE ACTIVE. OPENINGS NOT INTERCONNECTED WITH ANY OTHER OPENING.

Hardware Group No. 03
For use on Door #(s):
104

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	CONT. HINGE	112XY	IVE
2	EA	PUSH PLATE	8200 6" X 16"	IVE
2	EA	PULL PLATE	8302 10" 6" X 16"	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA	LCN
2	EA	STOP	WS407CCV OR FS436/FS438	IVE
1	EA	GASKETING	488SBK PSA	ZER
1	EA	MEETING STILE SEAL	8217SBK PSA	ZER

Hardware Group No. 04

For use on Door #(s):

102

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 AS SPECIFIED	IVE
1	EA	CLASSROOM SECURITY	ND75HD SPA	SCH
2	EA	SFIC CORE	AS SPECIFIED	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ	LCN
1	EA	STOP	WS407CCV OR FS436/FS438	IVE
1	EA	GASKETING	488SBK PSA	ZER
1	EA	DOOR SWEEP	39A	ZER

Hardware Group No. 05

For use on Door #(s):

107

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 AS SPECIFIED	IVE
1	EA	PASSAGE SET	ND10S SPA	SCH
1	EA	OH STOP	90S	GLY
1	EA	SURFACE CLOSER	4040XP REG OR PA	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	IVE
1	EA	GASKETING	488SBK PSA	ZER
1	EA	DOOR SWEEP	39A	ZER

OHS

Hardware Group No. 06

For use on Door #(s):

109

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	MFR
6	EA	CONT. HINGE	112XY	IVE
2	EA	ELEC PANIC HARDWARE	RX-9927-EO-LBR-ALK 9-VOLT BATTERY WITH HARDWIRED OPTION	VON
2	EA	RIM OR MORTISE CYLINDER	SFIC W CONST CORE	SCH
2	EA	SFIC CORE	AS SPECIFIED	SCH
2	EA	OH STOP	90S	GLY
2	EA	SURFACE CLOSER	4040XP REG OR PA	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW B-CS	IVE
1	EA	DRIP CAP	142	ZER
1	SET	GASKETING	429AA-S	ZER
1	EA	WIRING DIAGRAM	WIRING DIAGRAM	BYO
1	EA	MEETING STILE	155AA X 55AA	ZER
2	EA	DOOR SWEEP	39A	ZER
1	EA	THRESHOLD	655A-223	ZER
2	EA	DOOR CONTACT	679-05HM/WD	SCE

DOOR CONTACT CONNECTED TO BUILDING'S SECURITY SYSTEM

Hardware Group No. MISC

For use on Door #(s):

MISC

Provide each SGL door(s) with the following:

QTY	DESCRIPTION	CATALOG NUMBER	MFR
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PROVIDE KEYS WITH THE FOLLOWING FEATURES:

A. SERIALIZATION TO RESUME AT THE NEXT SEQUENTIAL NUMBER AS PROVIDED BY THE OWNER.

B. SERIALIZATION TO BE STAMPED IN THE LOCATION AS PROVIDED BY THE OWNER.

C. MATERIAL: NICKEL SILVER; MINIMUM THICKNESS OF .107-INCH (2.3MM)

D. PATENT PROTECTION: KEYS AND BLANKS PROTECTED BY ONE OR MORE UTILITY PATENT(S) UNTIL THE YEAR, 2029.

E. GEOGRAPHICALLY EXCLUSIVE: WHERE HIGH SECURITY OR SECURITY CYLINDERS/CORES ARE INDICATED, PROVIDE NATIONWIDE, GEOGRAPHICALLY EXCLUSIVE KEY SYSTEM COMPLYING WITH THE FOLLOWING RESTRICTIONS.

QUANTITY: FURNISH IN THE FOLLOWING QUANTITIES.

A. CHANGE (DAY) KEYS: 3 PER CYLINDER/CORE.

B. PERMANENT CONTROL KEYS: 3.

C. MASTER KEYS: 6.

END OF SECTION