FOR THE PROJECT TITLED:

FCPS NEW MIDDLE SCHOOL – POLO CLUB KDE BG # 21-176 FCPS BID # 48-22 JRA Project No. 202078 Fayette County Public Schools Lexington, Kentucky

To: Prospective Bidders

From: JRA Architects

3225 Summit Square Place, Suite 200

Lexington, KY 40509

Project Contact: D. Robert Deal, AIA, LEED AP

The Addendum will form a part of the Contract Documents and modifies the original Bidding Documents dated June 2022.

Bidders must acknowledge receipt of this Addendum in the space provided on the Form of Proposal. Failure to do so may subject the bidder to disqualification.

Bidding Documents, including the Drawings and Specifications, are amended as described herein.

ADDENDUM ITEMS:

ITEM NO. 1.01

Refer to the Specification 08 3490 – Tornado Resistant Steel Doors & Frame Assemblies. Add acceptable alternate to Part 2.1.C.2

e. Stala Integrated Assemblies, LLC.

ITEM NO. 1.02

Refer to the Specification 05 4000 – Cold Formed Metal Framing. SFS Nvelope NV1 Thermally Broken Cladding Attachment system can be used as a contractor option for the exterior furring at metal panel wall types for the large cavity.

ITEM NO. 1.03

Reissue Specification 00 4113-03 – FCPS Supplier Diversity Program Contract Forms Packet Construction.

ITEM NO. 1.04

Reissue Specification 00 4113-02 - FCPS Bid Document Submittal Schedule Checklist.

ITEM NO. 1.05

Refer to the Specification 11 6001 – Music Suite Acoustical Wall and Ceiling Panels. G&S Acoustics as an acceptable equal.

ITEM NO. 1.06

Refer to the Specification 12 3583 – Instrument Storage Cabinet Systems. Add acceptable alternate to Part 2.1.A

3. Stevens Industries

ITEM NO. 1.07

Refer to the Specification 07 4113.19 – Batten-Seam Metal Roof Panels. Add acceptable alternates to Part 2.2.C.2

- g. Dynaclad (system must provide everything required to meet the warranty listed in specs)
- h. Bemo USA Corporation

ITEM NO. 1.08

Refer to the Specification 07 4243 – Metal Composite Material Wall Panels. Add acceptable alternates to Part 2.2.A.1

- h. Fairview Architectural North America Vitrabond FR ACM and Arrowhead Panel System
- i. Bemo USA Corporation

ITEM NO. 1.09

Refer to the Specification 08 1416 – Flush Wood Doors. Add acceptable alternate to Part 2.4.A c. Oshkosh Door Company

ITEM NO. 1.10

Refer to the Specification 11 6653 – Gymnasium Dividers. Add acceptable alternate to Part 2.4.A 3. ADP Lemco Inc.

ITEM NO. 1.11

Refer to the Specification 08 1113 – Hollow Metal Doors and Frames. Add acceptable alternate to Part 2.1.A 5. De La Fontaine

ITEM NO. 1.12

Refer to the Specification 08 9119 - Fixed Louvers. Add acceptable alternate to Part 2.3.A.1

d. Construction Specialties Drainable Louver and Storm Resistant Louver. (must meet requirements on drawings and in specs)

ITEM NO. 1.13

Refer to the Specification 01 1000 – Summary. Remove 1.9.A.4, 5, and 6. All casework is to be provided by the contractor. It is not Owner furnished.

ITEM NO. 1.14

Refer to the Specification 10 1100 – Visual Display Boards. Add acceptable alternate to Part 2.2.A 6. K-Pro Specialty Products/Educational Equipment

ITEM NO. 1.15

Refer to the Sheet G-103 – First Floor Life Safety Plans. Drinking Fountain total provided should be 24.

| PLUMBING FIXTURE COUNT | | | | | | | |
|------------------------|--|---|----|----|---|----|--|
| | REQUIRED @ 1,367 PROVIDED | | | | | | |
| TYPE | EDUCATION BUSINESS TOTAL EDUCATION BUSINESS TO | | | | | | |
| | | | | | | | |
| DRINKING FOUNTAINS | 19 | 1 | 20 | 22 | 0 | 24 | |
| LAVATORIES | 28 | 2 | 30 | 36 | 1 | 37 | |
| SERVICE SINKS | 4 | 0 | 4 | 10 | 0 | 11 | |
| TOILETS (FEMALE) | 19 | 1 | 20 | 27 | 4 | 31 | |
| TOILETS (MALE) | 8 | 1 | 9 | 9 | 4 | 13 | |
| URINALS (MALE) | 18 | 0 | 18 | 18 | 0 | 18 | |

ITEM NO. 1.16

Refer to the Sheet F-102 – Food Service Equipment Floor Plan. Revise detail 1/FS-100 (attached) to show ICF wall construction.

ITEM NO. 1.17

Refer to the Specification 10 7300 – Protective Covers. Add acceptable alternate to Part 2.1.A 10. Ceas+

ITEM NO. 1.18

Refer to Drawing C-300 Contextual Grading Plan – Delete Grading Note Number 6 in its entirety.

ITEM NO. 1.19

Refer to the Specification 08 3413.13 – Multipanel Folding Aluminum Framed Glass Doors. Add acceptable alternate to Part 2.1.A

4. Sunflex

ITEM NO. 1.20

Refer to the Specification 22 3100 - DOMESTIC WATER SOFTENERS. Add CustomCare Water Treatment (division of AO Smith) to the acceptable contractors and manufacturers to Part 2.1A.

ITEM NO. 1.21

Refer to the Specification SECTION 22 1119 - DOMESTIC WATER PIPING SPECIALTIES Add Lawler to the acceptable contractors and manufacturers to Part 4.7A.

ITEM NO. 1.22

See added Specification 22 1123.21 Inline, Domestic-Water Pumps.

ITEM NO. 1.23

Refer to the Specification 23 0900 – Instrumentation and Control for HVAC. Add Siemens to the acceptable Contractors and Manufacturers in Part 1.05.A.

ITEM NO. 1.24

Refer to the Specification 23 7223 – Packaged Indoor Heat Recovery Units. Add AAON to the acceptable manufacturers. A split-system DOAS with energy recovery, hot-gas reheat, and capable of meeting performance requirements in the schedule is an acceptable alternative to the packaged Alpha Aire unit.

ITEM NO. 1.25

Refer to the Specification 23 7433 – Water Source Dedicated Outdoor-Air Units. Add AAON to the acceptable manufacturers list in Part 2.1.A.

ITEM NO. 1.26

Refer to the Specification 23 8126 – Split System Air Conditioners. Add LG to the acceptable manufacturers in Part 2.1.A.

ITEM NO. 1.27

Refer to the Specification 23 8146 – Water-Source Unitary Heat Pumps. Add Climatemaster to the acceptable manufacturers list in Part 2.2.A and 2.3.A.

ITEM NO. 1.28

Refer to the Sheet H-400 HVAC Schedules – Add the following remark to Packaged Air-Source Dedicated Outdoor Air Systems schedule: 4. As an alternate to the packaged Alpha-Aire unit, a split-system DOAS with energy recovery, hot-gas reheat, and capable of meeting performance requirements will be acceptable. Unit must fit in space with all maintenance and code-required clearances. The condensing unit can be located adjacent to the condensing units for the A-wing IT room condensing units. The contractor will be responsible for the additional electrical circuit to the condensing unit, which can be pulled from Panel 2L3.

ITEM NO. 1.29

Refer to sheet E-130 Light Fixture Schedule & Sequence of Operations – Light fixture LF-1C is to be changed to Lumax fixture LGWLED as indicated on drawings.

ITEM NO. 1.30

Refer to sheet A-602 - Door Schedule. Door E100B-L is to be the door frame opening on the mockup. Door/Hardware not required. Just the Frame.

ITEM NO. 1.31

Reissue Specification 08 7100 - Door Hardware.

ITEM NO. 1.32

Refer to sheet A-602 - Door Schedule. Change Doors A113-A and A113-B to WD Elevation N3.

ITEM NO. 1.33

Attached is the Pre-Bid Sign-in Sheet.

END OF ADDENDUM NO. 1.00

FCPS BID DOCUMENT SUBMITTAL SCHEDULE CHECKLIST

| 1. | 7-10 (TBD by architect) calendar days prior to Bid Date: Written Request for Information submitted to Architect Written Requests for Substitution |
|-----|--|
| 2. | 4 calendar days prior to Bid Date: Last Addendum issued (Unless postponing Bid Date) |
| 3. | Bid Date (due at time of Bid) Bidder provides: Bid Bond (AIA A310 – 2010) FCPS Supplier Diversity Program Contract Forms • MWVBE Good Faith Effort Summary Sheet (top portion completed & signed) • MWVBE Good Faith Effort Supplemental Sheet • Waiver for Participation of MWVBE (if applicable) Form of Proposal, includes List of Major Subcontractors [2 nd Tier] |
| 4. | Bid Date (due one [1] hour after receipt of bids), Apparent Low Bidder provides: List of Suppliers and Manufacturers (Form of Proposal) Schedule of Values Includes Kitchen Equipment Unit Prices (Form of Proposal) |
| 5. | 24 hours after receipt of bids, Apparent Low Bidder provides: FCPS Supplier Diversity Program Contract Forms • MWVBE Participation Form • MWVBE Subcontractor / Material Supplier Utilization Form Accurate Total of ALL Direct Purchase Orders (With MWVBE Supplier Value Broken Out) Accurate Total of General Contract (No change to Bid Amount!) List of Sub-subcontractors (3rd Tier) List of Additional Suppliers and Manufacturers |
| 6. | 48 hours after receipt of bids, Apparent Low Bidder provides: On-Site Project Superintendent Form (identify Superintendent via resume) Any additional contractor or subcontractor qualification data as requested by the Architect following the bid opening |
| 7. | 4 calendar days after receipt of bids, Apparent Low Bidder provides: List of Direct Material Purchases (Form of Proposal) [Maximum 60 DPOs, including base bid and alternates] Major Subcontractors [2 nd tier] Bonding Company Commitment Letters |
| 8. | 7 calendar days after receipt of bids, Apparent Low Bidder provides: Affidavit of Assurance – Contractor Affidavit of Assurance – Subcontractors |
| 9. | 14 business days after receipt of bids, Apparent Low Bidder provides: Completed/Executed FCPS Direct Purchase Order Detail Sheets |
| 10. | 30 calendar days after Bid Date, Apparent Low Bidder provides: More detailed and complete list of Materials & Equipment as required |
| | NOTE: All bid document submittals shall be simultaneously copied to FCPS Facility Design & Construction and the Architect. |

(Non-evaluated Bid Checklist) 6/30/22



SUPPLIER DIVERSITY PROGRAM CONTRACT FORMS

Sarah A. Gaines, Manager
Economic Development
Fayette County Public Schools
1126 Russell Cave Road
Lexington, Kentucky 40505
859-381-3817
sarah.gaines@fayette.kyschools.us

NOTICE OF EXPECTATION TO SUPPORT EQUAL OPPORTUNITIES FOR MINORITY, WOMEN, AND VETERAN-OWNED BUSINESS ENTERPRISES (MWVBE) CONTRACT PARTICIPATION

The mission of the Fayette County Public Schools (FCPS) is to create a collaborative community that ensures all students achieve at high levels and graduate prepared to excel in a global society.

As one of the largest employers in Fayette County, we know the impact of how we spend the money entrusted to us by taxpayers has a far-reaching effect on the greater economic development of the entire community. FCPS values diversity, inclusion, and equity and encourages the participation of minority, women, and veteran-owned business enterprises (MWVBE) as its vendors and construction contractors. Our goal is to spend 12% of the value of the total contract with MBEs, WBEs, and VBEs, and all potential contractors/vendors are to engage in good faith efforts to include MWVBE as subcontractors and suppliers.

All construction bids and RFPs will be reviewed in detail by the Departments of Economic Development (ED), Purchasing (PD), and Facility Design & Construction (FDC) prior to awards being submitted to the Board for approval. FCPS reserves the right to work with the most responsible and responsive bidder. That means the District may need to move to the next lowest bidder if the proposed winning bidder is unwilling and unable to demonstrate documented good faith efforts to comply with this goal. However, nothing about the terms of this notice, nor any related policy or procedure, shall be construed to mean the District will not comply with applicable provisions of procurement law, including but not necessarily limited to applicable provisions of KRS Chapter 45A, nor shall it be construed to mean the District will award contracts to bidders, contractors, and subcontractors who are not qualified to perform a given contract or project.

For assistance in locating possible minority, women, and veteran (MWVBE) subcontractors, please follow this link to the FCPS Economic Development MWVBE website: fcps.net/mwvb or contact Sarah Gaines, Manager of Economic Development.

The Board's commitment extends to all providers of goods and services, which are broken down into the following categories:

- 1. Construction Contractors
- 2. Professional Service Providers
- 3. Vendors/Suppliers of Tangible Goods and Commodities

Fayette County Public Schools MWVBE Participation Goals

A. **DEFINITIONS**

- 1) Minority-Owned Business Enterprise (MBE): a business which is certified as being at least 51% owned, operated, and managed by persons who are Black or African-American, Hispanic-American, Asian-American, or Native American.
- 2) Women-Owned Business Enterprise (WBE): a business which is certified as being at least 51% owned, operated, and managed by a woman or group of women.
- 3) Veteran-Owned Business Enterprise (VBE): a business which is certified as being at least 51% owned, operated, and managed by a U.S. military veteran.
- 4) Good Faith Efforts: efforts that, given all relevant circumstances, a bidder or proposer actively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts (See D. below) will be considered, along with any other relevant factors (See Good Faith Effort Summary Sheet).
- 5) Certification: Certification provides a clear way to demonstrate a business entity meets the definition of an MBE, WBE, or VBE as stated above. The District accepts certifications from third-party certifying agencies like the Tri-State Minority Supplier Development Council (TSMSDC), National Minority Supplier Development Council (NMSDC), Women's Business Enterprise National Council (WBENC), National Women Business Owners Corporation (NWBOC), Kentucky Finance and Administration Cabinet (KY MWVBE/KY SDVOSB), National Veteran Owned Business Association (NaVOBA), and any of the various certifications from the Small Business Administration (SBA). FCPS will rely on certifying agencies to verify certification of any businesses claiming to be certified. Additionally, District staff may classify businesses that are not certified by the above entities if a business demonstrates that it meets the certifying entities' definition of a MWVBE.

B. **GENERAL**

- 1) FCPS expects all potential contractors to make a good faith effort to include MBE, WBE, and VBE as subcontractors or suppliers in their bids.
- 2) Toward that end, FCPS has established 12% of the value of the total contract as a goal for participation of MWVBE on this contract.
- 3) It is therefore an expectation that each Bidder include in its bid, the same goal for MWVBE participation and other requirements as outlined in this section. Furthermore, the expectation is that the 12% will include equal participation from MBEs and WBEs.

C. PROCEDURES

- The successful bidder will be required to report to FCPS the dollar amounts of all payments submitted to MWVBE subcontractors and suppliers for work done or materials purchased for this contract. (See Section D.3.e below.)
- 2) Replacement of a MWVBE subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor/supplier with another MWVBE; this is subject to approval by FCPS. (See FCPS MWVBE Substitution Form.)
- 3) For assistance in identifying qualified certified MWVBE businesses to solicit for potential contracting opportunities, follow this link to the FCPS Economic Development MWVBE

- website: <u>fcps.net/mwvb</u> or contact the Department of Economic Development at (859) 381-3817.
- 4) FCPS will make every effort to notify interested MWVBE subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid due date, and all other pertinent information regarding the project.

D. OBLIGATIONS OF BIDDER FOR GOOD FAITH EFFORTS

- 1) The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWVBE subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written detailed documentation of their Good Faith Efforts to do so.
- 2) Award of contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal (Bid Documents) includes the forms set out below. These forms must be completed and submitted as described:
 - a. Good Faith Effort Summary Sheet: This form will be used to substantiate your efforts in identifying and including MWVBE. *To be submitted with Bid Documents*.
 - b. MWVBE Good Faith Effort Supplemental Sheet: This form will be used to capture information regarding solicitation of MWVBE for this contract. *To be submitted with Bid Documents*.
 - c. MWVBE Participation Form: This form verifies the MWVBE subcontractors and material suppliers to be used on this project. *To be submitted within 24 hours of Bid opening.*
 - d. MWVBE Utilization Form: This form is intended to capture the MWVBE subcontractor's and material supplier's understanding of the work/material to be performed and the price as agreed with the Bidder/Contractor. This form must be completed and signed by the Bidder/Contractor AND the MWVBE subcontractor or material supplier. *To be submitted within 24 hours of Bid opening*.
 - e. Electronic MWVBE Subcontractor Payments: If awarded this contract, the prime contractor is obligated to submit a monthly report of all payments made to any MWVBE subcontractors or suppliers working on this project. MWVBE subcontractors are obligated to acknowledge receipt of payments made to them by prime contractors. These electronic reports will be made and acknowledged on a monthly basis in the FCPS Diversity Compliance portal at https://fcps.diversitycompliance.com
 - The Manager of Economic Development will contact the prime contractor and MWVBE subcontractors to schedule <u>mandatory</u> online training. *To be processed monthly by the awarded bidder.*
 - f. MWVBE Subcontractor Substitution Form: If a MWVBE contractor selected for this project is not able to meet the obligations as assigned, the prime contractor is obligated to replace that MWVBE subcontractor through the Good Faith Effort steps outlined in this document and to secure another MWVBE with like skills at a comparable contract price. All required forms and documentation for this substitution should be returned to the Manager of Economic Development. *To be submitted by the awarded bidder if MWVBE substitutions are made.*

g. Waiver Form: Contact the Purchasing Department or the Department of Economic Development to discuss bids you believe have no opportunity for the utilization of any subcontractors. *By prior FCPS approval only*.

4) Failure to submit this information as requested may be cause for rejection of bid.

Contractors shall use good faith efforts as set forth herein to achieve the MWVBE goals. However, FCPS shall not be required to pay any amounts in excess of the lowest responsible and responsive price or best evaluated bid to procure any goods or services, or to delay design, development, or construction activities in order to achieve the MWVBE goals.

FCPS agrees the bid requirements shall obligate a contractor to agree to execute a contract by which it is contractually obligated to use good faith efforts as set forth herein, and that for a bid or price to be responsible and responsive, it must have been prepared by a contractor that agrees to be so contractually obligated. In the event that the lowest price or best evaluated bid is not responsible and responsive because the contractor does not agree to be contractually obligated to use good faith efforts as set forth herein, then that bid will be considered non-responsive and FCPS may re-bid that contract or select the next lowest responsive price or best evaluated bid, if permitted by applicable law.

GOOD FAITH EFFORT SCORING SYSTEM

Bidders who utilize subcontractors shall make good faith efforts to meet the District's MWVBE goals for each project on which they bid. Bidders who do not meet the goals shall submit documentation of their good faith efforts in soliciting pricing. Award of contract shall be conditional upon the bidder's satisfaction of these good faith effort requirements.

Bidders who do not utilize subcontractors in the performance of their work are not required to be awarded points on the Good Faith Effort Summary Sheet but must complete the waiver form.

Bidders who self-perform work with their own forces in excess of 80% of the awarded contract value and not meeting the goals of MWVBE participation shall, at a minimum, have a total score 70 points on the MWVBE Summary Sheet to be considered meeting these requirements.

Bidders who self-perform 80% or less of the awarded contract value and not meeting the goals of MWVBE participation shall, at a minimum, have a total score of 80 points on the MWVBE Summary Sheet to be considered meeting these requirements.

Points are awarded based on seven (7) bidder actions as described on the Summary Sheet. **These points are awarded on a pass-fail basis and not on a subjective range.** To receive the point value for a given action, appropriate and complete backup must be submitted and labeled. Bind (staple, paperclip, etc.) together the backup for each Action met and label the top page with the number of the Action. Actions 1, 2, and 3 can be addressed by completing the Good Faith Effort Supplemental Sheet in full and providing the appropriate backup. For Actions 4, 5, 6, and 7, appropriate backup must be attached to show evidence that the action was completed.

GOOD FAITH EFFORT SUMMARY SHEET

| | THIS DOCUMENT MUST BE COMPLETED, SIGNED, AND SUBMITTED WITH THE BID OR PROPOSAL, IF YOU HAVE NOT MET THE GOALS. | | | |
|----------------------------|--|----------|------------|--------------------|
| Project Name: | | Project | Bid #: | |
| Contractor | | Date Su | ıbmitted | : |
| Signature: Contact Person: | | | | |
| Address: | | Phone # | 4. | |
| Email: | | r none 7 | <i>†</i> • | |
| Points | Bidder Action(s) | Poi | ints Awa | rded |
| Tomes | Good faith efforts are efforts that, given all relevant circumstances, a bidder or | Econ. | Purch. | Facility |
| | proposer actively seeking to meet the goals can reasonably be expected to make. | Dev. | | Design & Const. |
| 50 Points | Action 1. Solicitations, Written Notices, etc.: Solicited through reasonable and available means including, but not limited to the following examples: 1) attendance at pre-bid meeting, 2) requested assistance from the Manager of Economic Development at sarah.gaines@fayette.kyschools.us and/or the FCPS Economic Development website, 3) sent written notices of proposal by certified mail or e-mail to qualified, certified MWVBE soliciting their participation in the contract. To be considered reasonable, the bidder should solicit this interest at least seven (7) days before the FCPS bid due date to allow MWVBE sufficient time to respond to the solicitation. (Complete attached sheet.) | | | Comm |
| 10 points | Action 2. Follow-up: Followed up initial solicitations of interest by contacting MWVBE to determine their level of interest, conferred with qualified, certified MWVBE and explained the scope and requirements of the work for which their bids or proposals were solicited, and attempted to identify portions of the work for qualified, certified MWVBE's participation in order to increase the likelihood of meeting the goals, including breaking down contracts into economically feasible units. (Complete attached sheet.) | | | |
| 10 points | Action 3. Evidence of Justification for Bid Rejection: If participation of specific MWVBE was considered, the bidder did not reject MWVBE as being unqualified without sound reasons based on a thorough investigation of their capabilities. An MWVBE subcontractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations [i.e. union vs. non-union employee status] are not legitimate causes for the rejection of or no solicitation of MWVBE subcontractor proposals when considering the contractor's efforts to meet the project goal. Pricing is an acceptable justification to reject a bid. (Complete attached sheet.) | | | |
| 10 points | Action 4. Advertisement: Advertised opportunities to participate in the contract in general circulation media, trade and professional association publications, small and minority business media, and/or publications of minority, women, and veteran business organizations at least 10 days prior to the deadline for submission of bids. (Attach copies or examples of advertisements.) | | | |
| 10 points | Action 5. Community and Other Organizational Services Support: Effectively used the services available to minority, women, and veteran community organizations, minority, women, and veteran contractor groups, local, state and federal minority, women, and veteran business assistance offices, and other organizations that work with minority, women and veterans and/or provide assistance in the recruitment and placement of MWVBE (i.e. KYPTAC, Commerce Lexington, etc.). (Attach proof of use or contact.) | | | |
| 5 points | Action 6. Ongoing Mentor/Protégé Relationships: The bidder is actively participating in an ongoing mentor/protégé relationship with an MWVBE in the assistance of their business growth and development (Attach proof of program.). | | | |
| 5 points | Action 7. Attendance at a FCPS sponsored MWVBE Event: The bidder attended a "Doing Business with FCPS" session, a "Meet the Primes" event, or another FCPS MWVBE session within 6 months of the time of the bid. (Attach evidence of attendance.). | | | |
| | Total Points | | | |
| | otal points and the supporting documentation, I determine that adequate Good et was demonstrated by the bidder. (Initial and Date – For FCPS Use Only) | | | |

Fayette County Public Schools MWVBE GOOD FAITH EFFORT SUPPLEMENTAL SHEET

(Form to be submitted with Bid Document)

This sheet or similar contractor provided form must be completed to receive the Bidder Action Points 1, 2 and 3.

For each MWVBE contacted, list the name, type of work, phone number, contact person, and additional information related to the Bidder's Actions. Please copy additional sheets if necessary.

| Company Name (Type of Work) | MBE WBE VBE | Phone Nu | ımber | Contact Person | How was business contacted? Attach phone/email records. |
|---|-------------------|-----------------------|---------|---|--|
| Date of First Solicitation: (Action #1) | | Follow-Up: ion #2) | Yes: Pl | mpany selected? (Action ease list \$ amount of cor ase list reason. | |
| Company Name (Type of Work) | MBE WBE VBE | Phone Nu | ımber | Contact Person | How was business contacted? Attach phone/email records. |
| Date of First Solicitation: (Action #1) | | Follow-Up: ion #2) | Yes: Pl | mpany selected? (Action ease list \$ amount of cor ase list reason. | |
| Company Name (Type of Work) | MBE WBE VBE | Phone Nu | ımber | Contact Person | How was business contacted? Attach phone/email records. |
| Date of First Solicitation: (Action #1) | | Follow-Up: ion #2) | Yes: Pl | mpany selected? (Action ease list \$ amount of cor ase list reason. | |

Fayette County Public Schools <u>MWVBE Participation Form</u>

(Form to be submitted within 24 Hours of Bid Opening)

If awarded this bid/proposal, the Bidder/Contractor will subcontract with the following MWVBE subcontractors/material suppliers:

| D:11 /G / | | | | | | |
|---|------------------------|--------------|----------------------|-------------------|----------------------|--|
| Total Bid/Estimate: | | | | | | |
| Total MBE \$ | | Total WBE \$ | | Total VBE | \$ | |
| Total MBE % | | Total WBE%_ | | Total VBE% | | |
| Service/Supply to be Subcontracted | MWVB | E Company | Phone Number | Contact Person | MBE/WBE/VBE Total \$ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| (For each MV I certify that the informat the event of a replaceme forth in the FCPS bid doc | ion containent of a MW | | it is true, accurate | , and complete. | I am aware that in | |
| Bidder/Contractor Sign | ature | | Date | | | |
| Title | | | | | | |

Fayette County Public Schools MWVBE Subcontractor/Material Supplier Utilization Form (Form to be submitted within 24 Hours of Bid Opening)

| Project Name: | |
|---|--|
| Project Bid/RFP#: | |
| Bidder/Contractor: | |
| Contact Person: | |
| This form is intended to capture the MW understanding of the work to be performed and This form must be completed and signed b subcontractor and material suppliers and submitted | the price as agreed with the Bidder/Contractor. y the Bidder/Contractor AND the MWVBE |
| MWVBE Company: | |
| Contact Person: | |
| Address: | |
| Phone: | |
| Email: | |
| MWVBE Subcontractor/Material Supplier Price | Agreed: \$ |
| Description of Work: | |
| Additional Notes: | |
| I hereby certify that the above information is corn | rect. |
| MWVBE Signature Date | Bidder/Contractor Signature Date |
| Title | Title |

Submit Separate Form per MWVBE Subcontractor/Material Supplier to be Utilized

Attach MWVBE Certification

Fayette County Schools MWVBE Subcontractor Substitution Form (Form to be utilized by Awarded General Contractor, as necessary)

| Date: | |
|---|---|
| Bid/RFP/Quote Reference | re # |
| Prime Total Contract Av | varded \$ |
| this Bid/RFP/Quote. These substitutions were made for a Economic Development for understand that Good Faith Edocumentation was submitted. | bcontractor listed below has been contacted and has agreed to participate of substitutions were made prior to or after the job was in progress. These reasons stated below and are now being submitted to the FCPS Department of approval. By the authorized signature of a representative of our company, we afforts procedures were followed in soliciting and retaining this contractor and with this substitution form. This information will be entered into FCPS file both the prime and the MWVBE subcontractor is required below. |
| Reason for Substitution | |
| MWVBE Company being replaced (Include contact name/address/phone and email address) | |
| New MWVBE Company (Include contact name/address/phone and email address) | |
| Please attach MBE, WBE or VBE certification for new company | |
| Work to be Performed | |
| MWVBE Subcontractor Total Contract \$ | |
| MWVBE % of Total Contract | |
| | this document is correct. By reporting this substitution, my company is adhering to t forth in the FCPS purchasing documents. |
| Prime Contractor/Title | MWVBE Subcontractor/Title |
| Date | |

Fayette County Public Schools <u>Waiver for Participation</u> of Minority, Women, and Veteran-Owned Business Enterprises

(Form to be submitted with Bid Document)

| Project Name: | |
|---|--|
| Project Bid#: | |
| Bidder/Contractor: | |
| Contact Person: | |
| Address: | |
| Phone: | |
| Email: | |
| The above-named bidder cannot fulfill its combusiness enterprises' participation due to the following | nmitment to minority, women, and veteran-owned llowing reasons: |
| Items being bid are not applicable for so | ubcontracting. |
| Other (Provide detailed explanation.) _ | |
| | |
| | |
| | |
| | |
| | |
| | |
| • | pove information is true, accurate, and complete and ity, women, and veteran-owned business enterprise |
| Bidder/Contractor Signature | Date |
| Title | |

SECTION 087100 - DOOR HARDWARE

PART 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. This Section includes the following:
 - 1. Commercial door hardware for the following doors:
 - a. Aluminum.
 - b. Hollow metal.
 - c. Flush wood.
 - d. FRP.
 - e. Gates.
 - f. Overhead doors and shutters.
 - g. Windstorm.
 - 2. Extra materials to be turned over (retainage issue) to FCPS Electronics Foreman at Preinstallation conference.
 - 3. Field painting of removable mullions to match aluminum frames. See Door Hardware Sets for field painting information.
 - 4. Electrified Door Hardware. See Note 1 at the beginning of 087100-3.7 and electrical specifications for more information. Electrified door hardware includes:
 - a. Access control hardware.
 - b. Power supplies requiring 120VAC service.
 - c. Magnetic door holders requiring fire alarm work and materials.
 - d. Door position switches at all exterior doors and some interior doors as indicated in the Hardware Sets.
 - e. Low-energy ADA automatic door operators requiring AAADM certified provision and installation.
 - f. Riser and point-to-point wiring diagrams.

1.3 ALLOWANCES

- A. <u>Allowance for Door Hardware Inspection</u>: Include an Allowance of \$12.00 per opening x (419) openings = \$5,028.00 to provide Door Hardware Inspection Services and Field Quality Report as indicated in paragraph B below.
- B. Door Hardware Inspection Services
 - 1. Scope:
 - a. Door Hardware Inspection Services for the project shall be performed by the Inspector as a sub-consultant of the Architect.
 - b. Inspection of all swinging pedestrian doors and door hardware immediately following substantial completion of all hardware in entire project.

c. Inspector to furnish a Field Inspection Report, itemized per each individual opening, to the Architect, to FCPS Facility Design & Construction and FCPS Electronics Foreman within 7 days of the inspection, including:

- 1) deficiencies in workmanship and standard industry practices,
- 2) use of allowable products,
- 3) use of manufacturer recommended fasteners,
- 4) compliance with the ADA,
- 5) proper door/frame/hardware clearances,
- 6) problems related to function, security, aesthetics or maintenance.
- 2. Inspector: Calvert Independent Hardware Specifications, LLC. (Calvert IHS, LLC.) shall perform all inspections and re-inspections required by this specification. Contact info: Joseph D. (Joe) Calvert CSI CDT AHC SCIP, 307 Oakwood Circle, Vine Grove, KY 40175, 502-930-2039, joe@hardware-specs.com, www.hardware-specs.com.
- 3. Initial Inspection and Re-inspections:
 - a. An initial inspection shall be performed as directed by the Architect when notified by the contractor.
 - b. Re-inspections are required until all items listed in the initial inspection report are approved by the Inspector as corrected.
 - 1) If there are 30 or more items in the initial or subsequent inspection reports, then the re-inspection will be paid for by the Contractor (via a deductive change order to the contract).
 - 2) If there are less than 30 items to correct in the initial inspection report, then a first re-inspection will be by the Inspector at no additional expense. If it is found during this re-inspection that all items in the initial inspection report have not been corrected, then subsequent re-inspections will be paid for by the Contractor (via a deductive change order to the contract).
- 4. Fees and Payment:
 - The cost of the initial inspection at substantial completion shall be included in the Allowance.
 - b. Re-inspections by the Inspector as indicated in paragraph C.3.b above shall be paid by the Contractor (via a deductive change order to the contract) at the rate of \$125.00 per hour.

1.4 SUBMITTALS

- A. Number of Submittals: All items listed in this section are to be included in one submittal prepared by one Supplier.
- B. Product Data: Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- C. Shop Drawings: Details of electrified door hardware, indicating the following:
 - 1. Wiring Diagrams: Factory drawn; power, signal, and control wiring. Hardware submittals not including these diagrams will be rejected without review. Include the following:
 - a. Riser including mounting locations of electrified hardware, wire gages and number of conductors required.
 - b. Point-to-point wiring diagram including all terminations.
 - c. Elevation of each door including references to door and hardware set
 - 2. Detail interface between electrified door hardware and access control system.
 - 3. Operation Narrative: Describe the operation of doors controlled by electrified door hardware.

4. Deliver a copy of the wiring diagrams to the FCPS Electronics Foreman at the preinstallation conference (retainage issue). See 087100-1.6.H.

D. Qualification Data:

- 1. Finish Hardware Installers: Company specializing in the installation of commercial door hardware with minimum of five years documented experience in commercial hardware installation.
- 2. Hardware Supplier
 - Established contract hardware firm which maintains and operates an office, display, and stock in project area and which is a factory authorized distributor of the lock being furnished.
 - b. Hardware detailed, scheduled and furnished by or under direct supervision an Architectural Hardware Consultant.
 - c. All schedules submitted to the Architect for approval and job use must carry the signature and certified seal of this Architectural Hardware Consultant.
- 3. Architectural Hardware Consultant
 - a. Currently certified by the Door and Hardware Institute.
 - b. Full-time employee of the Hardware Supplier or an individual having no contractual ties to any supplier/manufacturer entity.
 - Available at reasonable times to Architect, Owner, and Contractor during course of work.
- 4. Automatic Door Operator Supplier
 - a. Established automatic operator distribution and installation firm which maintains and operates an office, display, and stock in project area and which is a factory authorized distributor of the automatic operator being furnished.
 - b. Currently certified by AAADM to install both high and low energy automatic door operators.
 - c. All schedules submitted to the Architect for approval and job use must include copies of the distributors factory authorization to distribute and install their operators and AAADM certification to install both high and low energy automatic door operators.
- E. Maintenance Data Submittal: For each type of door hardware. Include final hardware schedule, keying schedule, product data sheets for each item, manufacturers' published warranties, riser diagrams, and point-to-point wiring diagrams. **Deliver to Electronics Foreman of the Fayette County Public Schools no more than 30 days after approval of the keying schedule.**
- F. Warranty: Special warranty specified in this Section.
- G. Other Action Submittals:
 - Door Hardware Sets: Prepared by or under the supervision of a DHI certified Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final door hardware sets with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule"; other formats will be rejected without review. Double space entries, and number and date each page.
 - b. Provide index sorted by door number linking door numbers to hardware set numbers and hardware heading numbers.
 - c. Numerical Sequence of Sets and Headings: Submittal headings shall be in exact order as hardware sets in specification: one heading only per set. Submittal set numbers shall relate to specification set numbers, ie. if three

headings are required for Set 12 due to door width differences, then the heading numbers should be 12.1, 12.2, and 12.3 or employing similar linking logic.

- d. Door Numbers: Identical to those used in the contract documents.
- e. Number of Copies: (5).
- f. Content: Include the following information:
 - Identification number, location, hand, fire rating, and material of each door and frame.
 - 2) Type, style, function, size, quantity, and finish of each door hardware item.
 - 3) Complete designations of every item required for each door or opening including name and manufacturer.
 - 4) Degree of opening for closer and overhead stop and holder installation.
 - 5) Keying information.
 - 6) Fastenings and other pertinent information.
 - 7) Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - 8) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 9) Mounting locations for door hardware.
 - 10) Notes included with specification hardware sets <u>transcribed verbatim</u> into submittal hardware sets and headings.
 - 11) Door and frame sizes and materials.
 - 12) Items referenced but not furnished.
 - 13) System function description for each hardware set with electrified hardware.
 - 14) List of related door devices specified in other Sections for each door and frame.
- g. Submittal Sequence: Submit the final door hardware sets at earliest possible date, particularly where approval of the door hardware sets must precede fabrication of other work that is critical in Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the door hardware sets.
- 2. Keying Schedule: Prepared by or under the supervision of Architectural Hardware Consultant, detailing Owner's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.

1.5 QUALITY ASSURANCE

- A. Furnish proper hardware types and quantities for proper door function, hardware mounting and clearances, aesthetics, and to meet applicable codes. Bring discrepancies to the attention of the Architect a minimum of (10) days prior to bid date so that an addendum may be issued and costs included in the bid. No additional compensation will be allowed after bidding for hardware changes required for proper function, hardware mounting or clearances, aesthetics or to meet codes. The specification is not a detail from which products should be ordered; detailing the project is the responsibility of the Contract Hardware Supplier.
- B. 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.
- C. Source Limitations: All items listed in hardware sets are to be furnished by one supplier. Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

 Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

- D. Regulatory Requirements: Comply with NFPA 70, NFPA 80, NFPA 101 and ANSI A117.1 requirements and guidelines as directed in the model building code including, but not limited to, the following:
 - 1. NFPA 70 "National Electrical Code", including electrical components, devices, and accessories listed and labeled as defined in Article 100 by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
 - 2. Where indicated to comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1 as follows:
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
 - 1) Interior Hinged Doors: 5 lbf applied perpendicular to door.
 - 2) Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
 - c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
 - 3. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, Locks, and Exit Devices: Not more than 15 lbf to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Thresholds: Not more than 1/2 inch high.
 - 4. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 (neutral pressure at 40" above sill) or UL-10C.
 - a. Test Pressure: Positive pressure labeling.
- E. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- F. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Conference is to include representatives of the Owner, Architect, Contractor, CM if applicable, Hardware Supplier's Architectural Hardware Consultant, Manufacturer of Key Cylinders, and FCPS Electronics Foreman. Keying conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.
 - 2. Plans for existing and future key system expansion.
 - 3. Requirements for key control storage and software.
 - 4. Installation of permanent keys, cylinder cores and software.
 - 5. Address and requirements for delivery of keys.
- G. Access Control Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Conference is to include representatives of the Owner, Architect, Contractor, CM if applicable, and Access Control (or Security) Supplier. Access control conference to incorporate the following criteria into the final keying schedule document:
 - 1. Function of building, purpose of each area and degree of security required.

- 2. Plans for existing and future access control system expansion.
- 3. Requirements for access control storage of credentials and software.
- 4. Assignment and distribution of permanent access control credentials, badging equipment, and software.
- 5. Access control privilege assignments including doors, time schedules, users, user groups, special credential functions, etc.
- H. Pre-Installation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." In addition to Owner, Contractor, and Architect, conference participants shall also include Certified Installer, Hardware Supplier's Architectural Hardware Consultant, Architect's Hardware Consultant and Inspector, FCPS Electronics Foreman and Security Supplier. Extra materials (see 087100-1.10) and wiring diagrams (see 087100-1.4.C) are to be delivered to the FCPS Electronics Foreman at this meeting (retainage issue). Review methods and procedures related to electrified door hardware including, but not limited to, the following
 - 1. Coordinate electrical roughing-in and other preparatory work to be performed by other trades.
 - 2. Review sequence of operation for each type of electrified door hardware.
 - 3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review required testing, inspecting, and certifying procedures.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Deliver hardware for aluminum and FRP doors to GC in timely manner so as not to delay fabrication of aluminum and FRP doors and frames. Balance of hardware may be delivered to GC at same time, packaged separately from aluminum and FRP door hardware, and may be billed as stored materials.
- C. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.
- D. Deliver cores and keys to Owner by registered mail or overnight package service. Obtain Owner's contact name and address from Architect.

1.7 COORDINATION

- A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Distribute templates in a timely manner so as not to delay suppliers. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Electrical System Roughing-in: Coordinate layout and installation of electrified door hardware with connections to power supplies, fire alarm system and detection devices, access control system, and security system.

1.8 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: Two years from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods:
 - 1. Ten years for mortise locks and latches.
 - 2. Five years for panic/exit hardware.
 - 3. Twenty years for manual door closers.
 - 4. Five years for motorized electric latch retraction exit devices.
 - 5. One year for automatic door operators.

1.9 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- B. Maintenance Service: Beginning at Substantial Completion, provide (6) months' full maintenance by skilled employees of door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door hardware operation. Provide parts and supplies same as those used in the manufacture and installation of original products.

1.10 EXTRA MATERIALS

- A. Furnish full-size units of door hardware described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Door Hardware:
 - a. (2) mortised DPDT door position switch
 - b. (2) concealed electric power transfer
 - c. (2) storeroom function locksets
 - d. (2) office function locksets
 - e. (2) classroom function locksets

- f. (10) mortise key cylinder housings
- g. (10) rim key cylinder housings
- h. (10) uncombinated permanent key cylinder cores
- 2. Deliver above materials to FCPS Electronics Foreman at pre-installation conference (see 087100-1.6.H).

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this and door hardware sets indicated in Part 3 "Door Hardware Sets" Article.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
- B. Designations: Requirements for design, grade, function, material, finish, size and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products listed by model number establish a basis of design for that product genre. Other products manufactured by available manufacturers listed in other Part 2 articles may be provided as long as they are equal in all aspects to the basis of design product listed for that particular product genre.
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Schedule" Article.
 - 2. References to BHMA Standards: In addition to other requirements in this section, provide products complying with or exceeding these standards and requirements for description, quality, and function.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electrified access control door hardware, in compliance with specifications, must be submitted in writing prior to the bid date and in accordance with the procedures and time frames outlined in Division 01 "Substitution Procedures". Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 BUTT HINGES, GENERAL

- A. Quantity: Provide the following, unless otherwise indicated:
 - 1. Two Hinges: For doors with heights up to 60 inches (1524 mm).
 - 2. Three Hinges: For doors with heights 61 to 90 inches (1549 to 2286 mm).
 - 3. Four Hinges: For doors with heights 91 to 120 inches (2311 to 3048 mm).
 - 4. For doors with heights more than 120 inches (3048 mm), provide 4 hinges, plus 1 hinge for every 30 inches (750 mm) of door height greater than 120 inches (3048 mm).
- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Hinge Height, Width, and Weight: Unless otherwise indicated, provide the following:
 - 1. Doors with panic/exit devices or 3'6" or more in width: 5" high, heavy-weight hinges.

- 2. Doors less than 3'6" in width: 4-1/2" high, standard-weight hinges.
- 3. Width: 4-1/2" heavy-weight, 4-1/2" standard-weight, unless proper clearance requires a different width.
- 4. Doors with Closers: Ball-bearing hinges.
- D. Hinge Base Metal: Unless otherwise indicated, provide the following:
 - 1. Exterior and in-swinging restroom door hinges: Stainless steel, with stainless-steel pin.
 - 2. Balance of hinges: Steel, with steel pin.
- E. Hinge Options: Provide the following:
 - 1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for reverse bevel lockable doors.
 - 2. Corners: Square.
 - 3. Number of knuckles: Five.
- F. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - 2. Wood Screws: For wood doors and frames.
 - 3. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.
 - 4. Screws: Phillips flat-head. Finish screw heads to match surface of hinges.
- G. Template Hinge Dimensions: BHMA A156.7.
- H. Available Manufacturers:
 - 1. Hager Companies (HAG).
 - 2. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 - 3. Stanley; Div. of DormaKaba (STA).
- 2.3 SPRING HINGES
 - A. Self-Closing Hinges: BHMA A156.17
 - B. Available Manufacturers:
 - 1. Hager Companies (HAG).
 - 2. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 - 3. Stanley; Div. of DormaKaba (STA).

2.4 CONTINUOUS HINGES

- A. Provide hinge of general series as indicated in hardware sets and of proper shape and model to suit door and frame configuration. Factory-cut hinges 2" less than door height; mount hinges 2" from bottom edge of door.
- B. Continuous, Pinless-Type Hinges: Extruded-aluminum, pinless, hinge leaves; with concealed, self-lubricating thrust bearings.
 - 1. Available Manufacturers:

- a. Hager Companies (HAG).
- b. Select Products Limited (SEL).
- c. Stanley; Div. of DormaKaba (STA).

2.5 ELECTRONIC ACCESSORIES

- A. Push-Button Switches: Industrial grade momentary or alternate contact, back-lighted push buttons with aluminum under-the-desk-mount switch enclosures. 12/24 VDC bi-color illumination.
 - 1. Acceptable Manufacturers:
 - a. Security Door Controls (SDC).
 - b. Securitron Door Controls (SEC).
 - c. Dortronics (DTR).
- B. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. Rectangular mortised; screwed into place; DPDT contacts.
 - 1. Acceptable Manufacturers:
 - a. Architectural Control Systems, Inc.; (ACS).
 - b. Equal approved prior to bid.
- C. Electronic Power Transfers:
 - 1. Concealed: For new doors and frames, concealed when door is closed. All metal construction, cast housing with steel backboxes, two universal joints and rigid tubing. Acceptable Manufacturers:
 - a. Securitron Door Controls (SEC).
 - b. Hager (HAG).
 - c. Von Duprin (VON).

2.6 LOCKS AND LATCHES, GENERAL

- A. Accessibility Requirements: Where indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
 - 1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).
- B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101. Latches shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.
- C. Electrified Locking Devices: BHMA A156.25. Equal in all characteristics to model specified.
 - 1. Available Manufacturers:
 - a. Best; Div. of DormaKaba (BES).
 - b. Hager (HAG).
 - c. Schlage Commercial Lock Division; an Allegion Company (SCH).

- D. Lock Trim:
 - 1. Levers: Cast.
 - a. Hager ARC model with full smooth return.
 - 2. Roses: Forged.
 - a. Hager Sectional (SECT) model.
 - 3. Lockset Designs: Provide design indicated in hardware sets, or, if sets are provided by another manufacturer, provide designs that match those designated.
- E. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
 - 1. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.
- F. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- G. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended as needed to protect frame, finished to match door hardware set, and as follows:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.

2.7 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:
 - 1. Mortise Locks: BHMA A156.13.
- B. Mortise Locks: Stamped steel case with steel or brass parts; BHMA A156.13 Grade 1.
 - 1. Available Manufacturers:
 - a. Best; Div. of DormaKaba (BES).
 - b. Hager (HAG).
 - c. Schlage Commercial Lock Division; an Allegion Company (SCH).
- C. Compatibility with Key Cylinders: fully warranted for use with key cylinder furnished.

2.8 DOOR BOLTS

- A. Bolt Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
 - 1. Mortise Flush Bolts: Minimum 3/4-inch (19-mm) throw.
- B. Manual Flush Bolts: BHMA A156.16, Grade 1; designed for mortising into door edge.
 - 1. Available Manufacturers:
 - a. Door Controls International (DCI).
 - b. Glynn-Johnson; an Allegion Company (GLY).
 - c. Hager Companies (HAG).
 - d. IVES Hardware; an Allegion Company (IVE).

- e. McKinney Products Company; an ASSA ABLOY Group company (MCK).
- f. Rockwood Manufacturing Company (ROC).
- g. Trimco (TRI).

2.9 EXIT DEVICES

- A. Exit Devices: BHMA A156.3, Grade 1.
- B. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
 - 1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).
- C. Exit Devices for Means of Egress Doors: Comply with NFPA 101. Exit devices shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.
- D. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- E. Fire Exit Devices: Devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.
- F. Removable Mullions
 - 1. BHMA A156.3.
 - 2. Key removable.
 - Provide head cap spacers, angle brackets, and other mounting accessories as needed for proper mounting, and anchoring and support of screws, as needed for top jamb configuration.
 - 4. Provide mullion stabilizer sets for mullions at exterior openings.
- G. Outside Trim: As specified in hardware sets; material and finish to match locksets, unless otherwise indicated.
 - Match design for locksets and latchsets, unless otherwise indicated.
- H. Fasteners. Manufacturer's standard, except furnish sex bolts for attachments to doors. Provide escutcheon or pull plate type trims (blank or with pulls/levers as indicated by model number in hardware sets) so that the active case of every exit device (except on FRP doors) is through-bolted to a trim.
- I. Shims: Provide shims if needed for clearance.
- J. Available Manufacturers:
 - 1. Detex, Inc. (DTX)
 - 2. Hager (HAG).
 - 3. Von Duprin; an Allegion Company (VON).

2.10 KEY CYLINDERS

A. Standard Lock Cylinders: BHMA A156.5, Grade 1. Provide key cylinders for all hardware requiring key cylinders to function properly.

- B. Cylinders: Constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - 1. Number of Pins: Seven.
 - 2. Mortise Type: Threaded cylinders with rings and straight- or clover-type cam.
 - 3. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 - **4.** Keyway: Best Cormax, as directed by Owner.
 - 5. Length and Cam: As required for locking device.
- C. Permanent Cores: SFIC.
- D. Construction Keying: Comply with the following:
 - 1. Construction Cores: Provide keyed brass construction cores that are replaceable by permanent cores for exterior doors and with 10 extra cores for Contractor's use and 10 extra cores for Owner's use. Provide 6 construction master keys.
 - Owner will install the permanent cores. Contractor to remove construction cores as directed by Owner.
- E. Available Manufacturers for Key Cylinders:
 - Best Access Systems; Div. of DormaKaba (BES).

2.11 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference, and as follows:
 - 1. Combinate cores as directed by Owner.
- B. Keys: Nickel silver.
 - 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: "DO NOT DUPLICATE."
 - 2. Quantity: Provide the following:
 - a. Cylinder Change Keys: Three per cylinder.
 - b. Master Keys: Six per master.
 - c. Blanks: Fifty.

2.12 KEY CONTROL SYSTEM

A. Key Control Cabinet: BHMA A156.5, Grade 1; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, 2 sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks. Basis of design: Telkee Aristocrat AWC-450-S.

1. Recessed Wall-Mounted Cabinet: Cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.

- 2. Locate and recess-mount into wall in Records Room.
- B. Cross-Index System: Multiple-index system for recording key information. Include three receipt forms for each key-holding hook.
 - 1. Available Manufacturers:
 - a. Telkee; a division of Sunroc Corporation (TEL).
 - b. Approved equal.

2.13 FIRE DEPARTMENT KEY BOX

- A. Furnish (1) fully recessed hinged fire department key box with dual locks, tamper switch, and recessed mounting kit.
 - 1. Basis of specification: Knox-Box Model 4446 x 4470; dark bronze.
 - 2. Available Manufacturers:
 - a. Knox Company.
 - b. Approved equal.
- B. Locate in exterior wall, recessed, within 10' of main entry, 6' above grade, as directed by Architect.

2.14 OPERATING TRIM

- A. Materials: Fabricate from stainless steel, unless otherwise indicated.
- B. Dimensions: All dimensions, shapes, fasteners, and other properties identical to models specified in hardware sets.
- C. Push Plates:
 - 1. 0.125" thick, Type 304 solid stainless steel, 4" or 8" wide as indicated by model number in hardware sets, 16" high (unless stile width requires different width), heavy bevel all (4) edges, 3/8" radius rounded corners, factory prepped for key cylinders and thumb-turns as required, countersunk for flush bevel-headed screws.
 - 2. Dimensions:
 - a. Top of plate to horizontal centerline of key cylinder: 5".
 - b. Horizontal centerline of key cylinder to horizontal centerline of thumb-turn: as required per dimension of lock model.
 - c. Lock-side edge of plate to vertical centerline of key cylinder: 2".

D. Pull Plates:

- 1. Plate: 0.050" thick, 4" wide x 16" high (unless stile width requires different width), bevel all (4) edges, 3/8" radius rounded corners, factory prepped for key cylinders and thumb-turns as required, countersunk for flush bevel-headed screws.
- 2. Grip: 1" wide, 8" CTC, Type 304 solid stainless steel, half-moon profile.
- 3. Dimensions:
 - a. Top of plate to horizontal centerline of key cylinder: 2".

- b. Horizontal centerline of key cylinder to horizontal centerline of thumb-turn: as required per dimension of lock model.
- c. Edge of plate to vertical centerline of key cylinder and grip: 2".
- d. Top of plate to horizontal centerline of grip: 10".

E. Available Manufacturers:

- 1. Hager Companies (HAG).
- 2. Hiawatha (HIW).
- 3. Burns (BRN).
- 4. IVES Hardware; an Allegion Company (IVE).
- 5. Rockwood Manufacturing Company (ROC).
- 6. Trimco (TRI).

2.15 SURFACE CLOSERS

- A. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
 - 1. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 - b. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
- B. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
- C. Fasteners: Manufacturer's standard for arms, shoes and brackets. Sex bolts for fastening closers to doors, unless doors have sufficient hardwood or other blocking to properly secure all required screws.
- D. Mounting Accessories: Provide shoes, brackets, drop plates, spacers, etc., as needed for proper mounting of closers and arms to door and frame.
- E. Spring Size of Units: Provide field-sizable closers, adjustable for spring sizes 1-6, plus 50% extra spring power at spring size 6, to meet field conditions and requirements for opening force.
- F. Cylinders: 1-1/2" minimum diameter; cast iron.
- G. Mounting Configuration: Unless otherwise indicated by model number in the hardware sets:
 - 1. Do not furnish closers capable of being mounted on the corridor side of doors.
 - 2. If tri-pack closers are furnished for regular arm applications, remove parallel arm shoe from closer box before delivering to job.
 - 3. Parallel Arm closers are to be manufacturer's double forged rigid models.
- H. Available Manufacturers and Series for Rack and Pinion Surface Closers:
 - 1. Hager (HAG): 5100 series.
 - 2. LCN Closers; an Allegion Company (LCN): 4040XP series.
 - 3. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SAR): 281 series.

2.16 AUTOMATIC DOOR OPERATORS

- A. Standard: Comply with BHMA A156.19.
- B. Performance Requirements:
 - 1. Not more than 15 lbf (67 N applied)1 inch (25 mm) from latch edge of door to prevent stopped door from opening or closing.
 - 2. If power fails, not more than 30 lbf (133 N applied)1 inch (25 mm) from latch edge of door to manually set door in motion.
- C. Operation: Power opening and spring closing. When not in automatic mode, door operator shall function as manual door closer, with or without electrical power.
- D. Operating System: Electromechanical.
- E. Microprocessor Control Unit: Solid-state controls.
- F. Features:
 - 1. Adjustable opening and closing speed.
 - 2. Adjustable opening and closing force.
 - 3. Adjustable backcheck.
 - 4. Adjustable latch speed.
 - 5. Adjustable hold-open time of not less than 0 to 30 seconds.
 - 6. Adjustable time delay.
 - 7. Adjustable acceleration.
 - 8. Obstruction recycle.
- G. Mounting: Surface mounted to top jamb.
- H. Mounting Accessories: Provide shoes, brackets, drop plates, spacers, etc., as needed for proper mounting of operators and arms to door and frame.
- I. Activation Devices
 - Wall Push-Plate Switch: Semiflush, wall or jamb mounted, door control switch; of material, size, and shape indicated; and actuator mounted in recessed junction box. Provide engraved message as indicated.
 - 2. Material: Stainless steel.
 - 3. Message: International symbol of accessibility and "Push to Open."
 - 4. Available Manufacturers for Activation Devices
 - a. BEA (BEA).
 - b. LCN Closers; an Allegion Company (LCN).
 - c. Wikk Industries (WIK).
- J. Automatic Door Operator Signage:
 - 1. Comply with BHMA A156.19.
 - 2. Consult Architect before applying signage to door.
- K. Available manufacturers for Automatic Door Operators:
 - 1. LCN Closers; an Allegion Company (LCN); Senior Swing.

2.17 PROTECTIVE TRIM UNITS

- A. Size:
 - 1. Width
 - Singles, and pairs with removable mullions or surface applied astragals: 2 inches (38 mm) less than door width on push side and 1 inch (13 mm) less than door width on pull side
 - b. Other pairs: 1 inch (13 mm) less than door width
 - 2. Height: as specified in door hardware sets; or, if constrained by door bottom rail height, 1" less bottom rail height.
- B. Fasteners: Manufacturer's machine or self-tapping countersunk bevel head screws. Plates countersunk for bevel head screws.
- C. Metal Protective Trim Units: BHMA A156.6; beveled 4 sides; fabricated from 0.050-inch- (1.3-mm-) thick stainless steel.
- D. Available Manufacturers:
 - 1. Hager Companies (HAG).
 - 2. IVES Hardware; an Allegion Company (IVE).
 - 3. Rockwood Manufacturing Company (ROC).
 - 4. Trimco (TRI).

2.18 MECHANICAL WALL AND FLOOR STOPS AND HOLDERS

- A. Stops and Bumpers: BHMA A156.16, Grade 1.
 - 1. Provide wall stops for doors unless floor, overhead, or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Provide floor stops (and spacers if needed) of proper height and configuration to accommodate floor condition. Where floor or wall stops are not appropriate, provide overhead holders.
 - 2. Properties. Cast construction with fastener suitable for wall or floor condition.
 - 3. Available Manufacturers:
 - a. Hager Companies (HAG).
 - b. IVES Hardware; an Allegion Company (IVE).
 - c. Rockwood Manufacturing Company (ROC).
 - d. Trimco (TRI).
- B. Wall and Floor mounted Combination Door Stops and Holders: BHMA A156.16, Grade 1.
 - 1. Properties: Heavy cast with adjustable holding force, self-compensating for changes up to 1/4" in vertical door position. Provide flush spacers finished to match adjoining substrates for clearance as needed.
 - 2. Manufacturer and Model: Hager 327W or approved equal.

2.19 OVERHEAD STOPS AND HOLDERS

- A. BHMA A156.8, Grade 1. Template for maximum degree of opening before encountering obstruction.
- B. Available Manufacturers:

- 1. Architectural Builders Hardware Mfg., Inc. (ABH).
- 2. Glynn-Johnson; an Allegion Company (GLY).
- 3. Hager (HAG).
- 4. Rixson Specialty Door Controls; an ASSA ABLOY Group company (RIX).
- 5. SARGENT Manufacturing Company; an ASSA ABLOY Group company (SAR).

2.20 ELECTROMAGNETIC DOOR HOLDERS

- A. Electromagnetic Door Holders: Certified ANSI A156.15 electromagnetic door holder/releases with a minimum 20 to 40 pounds holding power and single coil construction able to accommodate.12VDC, 24VAC, 24VDC and 120VAC. Coils to be independently wound, employing an integral fuse and armatures to include a positive release button. **All metal covers**.
- B. Accessories: Provide holders of proper configuration for wall and clearance conditions. Provide factory extension rods as required for proper clearance and engagement.
- C. Available Manufacturers:
 - 1. Hager (HAG).

2.21 SILENCERS

- A. Though not listed in the hardware sets, provide silencers for Hollow Metal and Wood Door Frames: BHMA A156.16, Grade 1; neoprene or rubber, minimum diameter 1/2 inch (13 mm); fabricated for drilled-in application to frame; three for single doors, two for paired openings.
- B. Available Manufacturers:
 - 1. Glynn-Johnson; an Allegion Company (GLY).
 - 2. Hager Companies (HAG).
 - 3. IVES Hardware; an Allegion Company (IVE).
 - 4. McKinney Products Company; an ASSA ABLOY Group company (MCK).
 - 5. Rockwood Manufacturing Company (ROC).
 - 6. Trimco (TRI).

2.22 DOOR GASKETING

- A. General: Provide continuous weather-strip gasketing on exterior hollow metal doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners as indicated by models in hardware sets.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame. If hardware is to be attached to the frame and would interfere with the gasketing, then provide hardware compatible gasketing that does not need to be cut for the mounting of hardware.
 - 2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
 - 3. Mullion Gasketing: Fasten to mullions, forming seal when doors are closed.
 - 4. Sweeps: Apply to bottom of in-swinging exterior hollow metal doors, or as required for sound attenuation, forming seal with threshold or floor when door is closed.
 - 5. Seals integral to threshold at out-swinging exterior hollow metal doors.
- B. Requirements per type of rated door provided (these requirements supersede models indicated in hardware sets):

- 1. Category A wood doors: provide models indicated in hardware sets.
- 2. Category B wood doors: provide Category G&H seals at jambs and meeting edges. If Category H seals are indicated in hardware sets, provide Cat G seals in addition to the Category H seals.
- 3. Category A and B hollow metal doors: provide models indicated in hardware sets.
- C. Air Leakage: Not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283.
- D. Smoke-Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke-control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke-labeled gasketing on 20-minute-rated doors and on smoke-labeled doors.
- E. Fire-Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 or UBC Standard 7-2.
 - 1. Test Pressure: After 5 minutes into the test, neutral pressure level in furnace shall be established at 40 inches (1016 mm) or less above the sill.
- F. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.
- G. Mullion Gasketing: Sealing up to 1/4" gaps, 4 vanes, adhesive backed, collapsible to 1/32", black. Basis of Design: DHSI (DHS) Model MS-SA/75 x BK.
- H. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- I. Jamb Gasketing Materials:
 - 1. Adhesive Seals. As specified in hardware sets or approved equal.
 - 2. Screwed-on weatherstrip and sweeps. Neoprene.
 - 3. Panic type thresholds. Neoprene.
- J. Available Manufacturers for Jamb Gaskets (provided they provide items with neoprene inserts):
 - 1. Hager Companies (HAG).
 - 2. National Guard Products (NGP).
 - 3. Pemko Manufacturing Co. (PEM).
 - 4. Reese Enterprises (REE).
 - 5. Zero International (ZER).

2.23 THRESHOLDS

- A. Standard: BHMA A156.21
- B. Accessibility Requirements: Where thresholds are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."

1. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.

- C. Thresholds for Means of Egress Doors: Comply with NFPA 101. Maximum 1/2 inch (13 mm) high.
- D. Fasteners: 1/4-20 machine screws and expansion anchors.
- E. Gasketing material: At panic-type thresholds: neoprene.
- F. Available Manufacturers (provided they provide items with neoprene inserts):
 - 1. Hager Companies (HAG).
 - 2. National Guard Products (NGP).
 - 3. Pemko Manufacturing Co. (PEM).
 - 4. Reese Enterprises (REE).
 - 5. Zero International (ZRO).

2.24 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
 - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- C. Fasteners: Manufacturer's standard, except as noted in product sections of this specification.

2.25 FINISHES

- A. Standard: BHMA A156.18, as indicated in door hardware sets.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION PRIOR TO INSTALLATION OF DOORS AND HARDWARE

A. Prior to installing doors, examine frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance. Verify frames are plumb, level, square and dimensioned properly for the installation of doors.

- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 Series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.

3.3 INSTALLATION

- A. Low-energy Automatic Door Operators:
 - 1. Installer is to have current AAADM certification to install automatic door operators and actuating systems.
- B. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
 - 3. Pulls: locate pulls as directed by Architect.
 - 4. Push Plates: Top edge of plate: 53"AFF.
 - 5. Pull Plates: Top edge of plate: 50" AFF. Centerline of Grip: 40" AFF.

C. Mounting Locations:

- 1. Continuous Hinges: Locate flush with top of door and 2" higher than the bottom of the door.
- 2. Wall Stops: Locate so that lockset spindle and wall stop share horizontal and vertical centerlines.
- 3. Wall Stop/Holders: Locate 4" down and in from top lock-edge corner of door w/holder slot at bottom of unit.
- 4. Closers and Overhead Stop/Holders: Template and mount closers and overhead stops for maximum degree of opening before door encounters obstruction or so as to interface with specified wall stops and holders. When used with closers, template

and locate overhead stops so that closer arm does not fully extend and bottom out. These functionality requirements override any degree of opening information in the specifications or submittals.

- D. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
 - 1. Set units level, plumb, and true to line and location. Hardware designed for mortised installation shall be mortised in flush with adjoining surfaces. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- E. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule. Document cross-indexing per manufacturer's instructions.
- F. Boxed Power Supplies: Locate power supplies as directed by FCPS Electronics Foreman.
- G. Weatherstrip and Gasketing with Metal Retainers: Fit up as needed for neat appearance with no gaps between retainers or bulbs. Mitre cut weatherstrip for flush fitup in corners.
- **H.** Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants." **Position for complete seal with bottom of doors with no penetration of air or daylight.**

3.4 FIELD QUALITY CONTROL

A. See 087100-1.4.B for Allowance for Door Hardware Inspection Services.

3.5 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.
- B. Overhead Stops/Holders: Set adjustable stops for maximum degree of opening before door encounters obstruction. Adjust friction to control door.
- C. Wall and Floor Mounted Stop/Holders: Adjust holding force with spanner head wrench so that door is held securely yet is easy to pull out of hold open.

D. Door Closers:

- 1. Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- 2. Adjust latch period so that door does not slam nor injure fingers.

3. Adjust spring power so that door properly latches. Per the ADA, 5 lbf is the maximum allowed on an interior non-rated door; 8.5 lbf is the maximum allowed on a non-rated exterior door. On smoke or fire rated doors, adjust the closer to the minimum spring power needed to reliably latch the door. If the Installer is having difficultly properly adjusting the closer due to improper door-frame clearances or air pressure differentials, they are to immediately notify the Contractor so that corrections may be quickly made.

- 4. Adjust backcheck to not be noticeable when door is moving slowly, but to slow door down when accelerating due to human force or wind before hitting stop point so as to prevent damage to closer, arm, door, frame, and fasteners.
- E. Occupancy Adjustment: Approximately six months after date of Substantial Completion, Installer shall examine and readjust, including adjusting operating forces, each item of door hardware as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 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 that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DOOR HARDWARE SCHEDULE

Set Prefixes:

- A Indicates Electronic Exit Alarms
- C Indicates Electronic Hardware interfaced with Card Reader.
- D Monitored for door position only.
- E Indicates Electronic Hardware not interfaced with Card Reader.
- F Indicates FRP door.
- M Indicates magnetic door holders.
- W Indicates windstorm door.

No prefix indicates mechanical hardware only.

Hardware Set ACF01

| | Non-electrified Items Furnished by FRP Door Manufacturer: | | | | | |
|-----|---|------------------------------------|-------|------|--|--|
| (1) | Continuous Hinge | | 628 | | | |
| (2) | Flush Pull | | 628 | | | |
| (2) | Adjustable Door Bottom Seal | | 628 | | | |
| (1) | Meeting Edge Seal Set | | 628 | | | |
| | Non-electrified Items Furnis | hed by Contract Hardware Supplier: | | | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG | | |
| | Note: Field paint mullion to match frame color. | | | | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG | | |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES | | |
| (1) | Mortise Cylinder Housing (for ex | it alarm) | 626 | BES | | |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES | | |
| (2) | Closer, w/Spring Stop | 5100 x 5955 x 5111 x 5113 | 689 | HAG | | |
| (1) | Cat H Adhesive Mullion Seal/Mu | te MS-SA/75 | Black | DHSI | | |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG | | |

Non-electrified Items by Aluminum Frame Supplier:

(1) Jamb Seal Set

Electrified Items Furnished by FRP Door Manufacturer:

(1) Continuous Hinge (2)EPT Prep (LHRB door) 628

(1) Concealed Card Reader Prep (LHRB door)

Electrified Items Furnished by Contract Hardware Supplier:

(2) Jamb-to-Door Power Transfer 2-679-0623 (10 Wire) 628 HAG

Note: (1) power transfer in to get wires to the electrified exit devices. The top EPT is to get wires to the cardreader.

(1)Panic Device, Rim, 014501-RIM x MLRX x Flush Endcap (LHRB) 630HAG(1)Power Supply2903HAG(1)Hard-wired Exit Alarm KitEAX-2520F x SIWhiteDTX(2)Door Position Switch, DPDT1335-1-DPDT630ACS

Electrified Items Furnished by Security Supplier:

(1) Card Reader, narrow jamb-mount By Security Supplier.

Note: Locate inside LHRB door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 4' of LHRB (RHRB at Door G100B1-B) side jamb, 44" AFF. Provide conduit with pull strings from power supply to (2) power transfers in LHRB side jamb, to the door contacts on the top jamb, and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When exit alarm is enabled, free egress with audible alarm; ingress by card which retracts latch on LHRB panic device and shunts alarm; door relocks and exit alarm resets after time delay. When exit alarm is disabled, free egress without audible alarm; ingress by card. Opening is monitored for door position and request to exit signal from LHRB panic device.

Hardware Set ACF01A

| | Non-electrified Items Furnish | hed by FRP Door Manufacturer: | | |
|------|---------------------------------------|--|--------------|-----------------------|
| (1) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnish | hed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES |
| (2) | Mortise Cylinder Housing (for ex | it alarm and dogging) | 626 | BES |
| (3) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 x 5955 x 5111 x 5113 | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | te MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished I | oy FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | (2)EPT Prep (LHRB door) | 628 | |
| (1) | Concealed Card Reader Prep | (LHRB door) | | |
| | Electrified Items Furnished I | oy Contract Hardware Supplier: | | |
| (2) | Jamb-to-Door Power Transfer | 2-679-0623 (10 Wire) | 628 | HAG |
| Note | e: (1) power transfer in to get wires | to the electrified exit devices. The top EPT i | s to get wir | es to the cardreader. |
| (1) | Panic Device, Rim, 01 | 4501-RIM x MLRX x Flush Endcap (LHRE | 3) 630 | HAG |
| (1) | Power Supply | 2903 | | HAG |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Electrified Items Furnished I | by Security Supplier: | | |

(1) Card Reader, narrow jamb-mount By Security Supplier. Note: Locate inside LHRB door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 4' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to (2) power transfers in LHRB side jamb, to the door contacts on the top jambs of Doors G100A1-C and G100A1-D, and to exit alarm. **System Function:**

Exit alarm is enabled/disabled by key and is shared by Doors G100A1-C and G100A1-D. When exit alarm is enabled, free egress with audible alarm; ingress by card which retracts latch on LHRB panic device and shunts alarm; door relocks and exit alarm resets after time delay. When exit alarm is disabled, free egress without audible alarm; ingress by card. Opening is monitored for door position and request to exit signal from LHRB panic device.

Hardware Set ACF02

| Ha | IUWAIE SELACIUZ | | | |
|------|---------------------------------------|--|--------------|------------------------|
| | Non-electrified Items Furnis | hed by FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnis | hed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES |
| (1) | Mortise Cylinder Housing (for ex | it alarm) | 626 | BES |
| (3) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 x 5955 x 5111 x 5113 | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | te MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | (2)EPT Prep (LHRB door) | 628 | |
| (1) | Concealed Card Reader Prep | (LHRB door) | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (2) | Jamb-to-Door Power Transfer | | 628 | HAG |
| Note | e: (1) power transfer in to get wires | to the electrified exit devices. The top EPT | is to get wi | res to the cardreader. |
| (1) | Panic Device, Rim, 01 | 4501-RIM x MLRX x Flush Endcap (LHRI | | HAG |
| (1) | Elect Automatic Door Operator | Senior Swing (LHRB) | 628 | LCN |
| Note | | all mount and wire the keyswitch below onto | the top pan | el of the operator |
| hous | sing to control and indicate by LED | the 110V service to the operator. Enable Pu | ısh-n-Go fe | ature. |
| (1) | Power Supply | 2903 | | HAG |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Electrified Items Furnished | by Security Supplier: | | |
| (1) | Card Reader, narrow jamb-mount | | | |

(1) Card Reader, narrow jamb-mount By Security Supplier.

Note: Locate inside LHRB door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 4' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to (2) power transfers in LHRB side jamb, to the door contacts on the top jamb, and to exit alarm. Provide a 110V common On/Off light switch to control the 120VAC power to the automatic door operator; mount this switch on the top of the housing of the automatic door operator.

System Function:

Exit alarm is enabled/disabled by key. When exit alarm is enabled, free egress with audible alarm; pushing on door triggers Push-N-Go feature so that door automatically opens for ADA egress; ingress by card which retracts latch on LHRB panic device, shunts alarm, and signals operator to open the LHRB door leaf; door closes and relocks and exit alarm resets after time delay. When exit alarm is disabled, free egress without audible alarm; pushing on door triggers Push-N-Go feature so that door automatically opens for ADA egress; ingress by card which retracts latch on LHRB panic device and signals operator to open the LHRB door leaf; door closes and relocks and exit alarm resets after time delay. Opening is monitored for door position and request to exit signal from LHRB panic device.

Hardware Set ACF03

Non-electrified Items Furnished by FRP Door Manufacturer:

| (1) | Flush Pull | 628 |
|-----|--|-----|
| (1) | Adjustable Door Bottom Seal | 628 |
| | Non-electrified Items Furnished by Contract Hardware Supplier: | |
| (1) | Mortise Cylinder Housing (for exit alarm) | 626 |

(1) Mortise Cylinder Housing (for exit alarm) 626 BES
(1) Key Cylinder Core SFIC, 7-pin Cormax 626 BES
(1) Closer, w/Spring Stop/HO 5100 1-6 ALM HDHOCS FC x 5110 x 5111 x 5113
689 HAG
(1) 1/4" Saddle Threshold 413S x RCE 628 HAG

Non-electrified Items by Aluminum Frame Supplier:

(1) Jamb Seal Set

Electrified Items Furnished by FRP Door Manufacturer:

(1) Continuous Hinge (2)EPT Prep 628

(1) Concealed Card Reader Prep

Electrified Items Furnished by Contract Hardware Supplier:

(2) Jamb-to-Door Power Transfer 2-679-0623 (10 Wire) 628 HAG

Note: (1) power transfer in to get wires to the electrified exit devices. The top EPT is to get wires to the cardreader.

| (1) | Panic Device, Rim, 01 | 4501-RIM x MLRX x Flush Endcap | 630 | HAG |
|-----|----------------------------|--------------------------------|-------|-----|
| (1) | Power Supply | 2903 | | HAG |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |

Electrified Items Furnished by Security Supplier:

(1) Card Reader, narrow jamb-mount By Security Supplier.

Note: Locate inside door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 2' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to (2) power transfers in hinge side jamb, to the door contact on the top jamb, and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When exit alarm is enabled, free egress with audible alarm; ingress by card which retracts latch on panic device and shunts alarm; door relocks and exit alarm resets after time delay. When exit alarm is disabled, free egress without audible alarm; ingress by card. Opening is monitored for door position and request to exit signal from panic device.

Hardware Set AE01

Electrified Items Furnished by Contract Hardware Supplier:

(1) Door Contact, Exterior OHD QS 911MA QSW

Note: Balance of non-electrified and electrified items by overhead door supplier.

Furnished by Electrical Contractor:

(1) Lot: Provide an electrical junction box up high out of reach for use of Security Supplier and a single-gang box near the door contact on the floor; join the flex conduit whip that comes with the door contact to the single-gang box. Provide conduit with pull string from door contact on floor to electrical junction box. Provide conduit with pull string from door contact to exit alarm specified for Door C118-D; see Hardware Set AEF03.

System Function:

See System Function for Hardware Set AEF03.

Hardware Set AE02

| (3) | Butt Hinges | BB1191 4.5 x 4.5 | 630 | HAG |
|-----|-----------------------|----------------------|-----|-----|
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder | Cormax | 626 | BES |
| (2) | SFIC Cylinder Core | Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Overhead Rain Drip | 810S | 628 | HAG |
| (1) | Cat H Jamb Seal Set | 769C | 628 | REE |

Note 1: Apply jamb seals to all four sides of four-sided frame.

Electrified Items Furnished by Contract Hardware Supplier:

| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
|-----|----------------------------|----------------|-------|-----|
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 2' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to door contact on top jamb and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress from roof into building with audible alarm; ingress with alarm by key from building onto roof. When disabled, free egress from roof into building; ingress by key from building onto roof Opening is monitored for door position.

Hardware Set AEF01

| | Non-electrified Items Furnis | shed by FRP Door Manufacturer: | | |
|-----|------------------------------------|-------------------------------------|--------|------|
| (2) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnis | shed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mat | ch frame color. | | |
| (2) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for mulli | on) | 626 | BES |
| (1) | Mortise Cylinder Housing (for ex | kit alarm) | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 5111 | x 5113 | |
| | | | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | •• | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |
| | | | | |

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 6' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to door contacts on top jamb and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress with audible alarm; no ingress. When disabled, free egress without audible alarm; no ingress. Opening is monitored for door position.

Hardware Set AEF01A

| | Non-electrified Items Furni | shed by FRP Door Manufacturer: | | |
|-----|------------------------------------|----------------------------------|------------|------|
| (2) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furni | shed by Contract Hardware Suppl | ier: | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to ma | tch frame color. | | |
| (2) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for mull | ion) | 626 | BES |
| (3) | Mortise Cylinder Housing (for e | xit alarm and dogging) | 626 | BES |
| (4) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 51 | 111 x 5113 | |
| | | | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/M | ute MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Al | uminum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |
| | Furnished by Electrical Con | ntractor: | | |

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 4' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to door contacts on top jamb and to exit alarm.

System Function:

Exit alarm shared by Doors G103-C and G103-D is enabled/disabled by key. When enabled, free egress with audible alarm; no ingress unless panic devices are dogged down. When disabled, free egress without audible alarm; no ingress unless panic devices are dogged down. Openings are monitored for door position.

Hardware Set AEF01B

| | Non-electrified Items Furnis | shed by FRP Door Manufacturer: | | |
|-----|------------------------------------|--------------------------------------|-------|------|
| (2) | Continuous Hinge | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnis | shed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mat | tch frame color. | | |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45PPN | 630 | HAG |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG |
| (2) | Rim Cylinder Housing (for mull | ion and exit trim) | 626 | BES |
| (1) | Mortise Cylinder Housing (for ex | xit alarm) | 626 | BES |
| (3) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 5111 x | 5113 | |
| | | | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/M | ute MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | ıminum Frame Supplier: | | |
| (1) | Jamb Seal Set | •• | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |
| | Furnished by Electrical Con | tractor: | | |

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 6' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to door contacts on top jamb and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress with audible alarm; ingress by key. When disabled, free egress without audible alarm; ingress by key. Opening is monitored for door position.

Hardware Set AEF02

| | Non-electrified Items Furnis | shed by FRP Door Manufacturer: | | |
|-----|------------------------------------|----------------------------------|-----------|-----|
| (1) | Continuous Hinge | | 628 | |
| (1) | Flush Pull | | 628 | |
| (1) | Adjustable Door Bottom Seal | | 628 | |
| | Non-electrified Items Furnis | shed by Contract Hardware Suppli | er: | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG |
| (1) | Mortise Cylinder Housing (for ex | xit alarm) | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 51 | 11 x 5113 | |
| | | | 689 | HAG |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | ıminum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |
| | El. 4.26. 1 I4 E | 1 X7° 1 C 1° | | |

Electrified Items Furnished by Video-intercom Supplier:

(1) Video-intercom system with monitor stations at desk in Office B115A.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 2' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to door contact on top jamb and to exit alarm. Provide doorbell system with chime in ceiling in middle of FRC B115.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress with audible alarm; no ingress. When disabled, free egress without audible alarm; no ingress. Opening is monitored for door position. Video-intercom and doorbell systems notify tenants to go to door for client.

Hardware Set AEF03

| | Non-electrified Items Furnis | hed by FRP Door Manufacturer: | | |
|-----|--------------------------------------|--------------------------------------|-------|-----|
| (1) | Continuous Hinge | | 628 | |
| (1) | Flush Pull | | 628 | |
| (1) | Adjustable Door Bottom Seal | | 628 | |
| | Non-electrified Items Furnish | hed by Contract Hardware Supplier: | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap | 630 | HAG |
| (1) | Mortise Cylinder Housing (for ex | it alarm) | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 5111 x | 5113 | |
| | | | 689 | HAG |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished I | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 3' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to door contact on top jamb and to exit alarm and to door contact for Door C118-C.

System Function:

Exit alarm is enabled/disabled by key and is shared by Doors C118-C and C118-D. When enabled, free egress through Door C118-D with audible alarm; no ingress. When disabled, free egress through Door C118-D without audible alarm and Overhead Door C118-C can be opened without audible alarm; no ingress. Openings are monitored for door position.

Hardware Set AEF03A

| | Non-electrified Items Furnis | shed by FRP Door Manufacturer: | | |
|-----|------------------------------------|-----------------------------------|----------|-----|
| (1) | Continuous Hinge | | 628 | |
| (1) | Flush Pull | | 628 | |
| (1) | Adjustable Door Bottom Seal | | 628 | |
| | Non-electrified Items Furnis | shed by Contract Hardware Supplie | er: | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (2) | Mortise Cylinder Housing (for ex | xit alarm and dogging) | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 511 | 1 x 5113 | |
| | | | 689 | HAG |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | uminum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| (1) | Power Supply | 2903 | | HAG |
| | | 4 | | |

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 1' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to door contact on top jamb and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress with audible alarm; no ingress unless panic device is dogged down. When disabled, free egress without audible alarm; no ingress unless panic device is dogged down. Opening is monitored for door position.

Hardware Set AEF04

| | Non-electrified Items Furnis | hed by FRP Door Manufacturer: | | |
|---------------|--|------------------------------------|-------|-------|
| (2) | Continuous Hinge | • | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnis | hed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (2) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES |
| (2) | Mortise Cylinder Housing (for dogging) | | 626 | BES |
| (3) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 x 5955 x 5111 x 5113 | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Furnished by Electrical Con | tractor: | | |
| 3. F . | 1 0 11 1 0 1000110 | D G10011 D /II 1 G 1 1 EE011 C | D 61 | 00 D) |

Note 1: See Hardware Set ACF01A for Door G100A1-D (Hardware Set AEF01A for Door G103-D).

System Function:

See Hardware Set ACF01A for exit alarm shared with Door G100A1-D (Hardware Set AEF01A for exit alarm shared with Door G103-D). When exit alarm is enabled, free egress with audible alarm; no ingress. When exit alarm is disabled, free egress without audible alarm; free ingress if panic devices are dogged down. Opening is monitored for door position.

Hardware Set AEW01

| Non-electrified Items | s Furnished by | Contract | Hardware Supplier: |
|------------------------|-----------------|----------|--------------------|
| 11011-CICCH HICH ICHIS | s r urmismuu by | Contract | maru Supplici. |

| (2) | Continuous Hinges | 224HD x UL | 628 | IVE |
|-----|----------------------------------|--------------------------|-----|-----|
| (2) | Panic Device, SVR, 01 | WS-9927EO x 990EO x 304L | 626 | VON |
| (1) | Mortise Cylinder Housing (for ex | it alarm) | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 4040XP SCUSH | 689 | LCN |
| (2) | Kick Plate/Latch Guard | WS-LGO x 2" LDW | 630 | VON |
| (1) | Cat H Astragal Set | 8195 | 628 | ZER |
| (1) | Cat H Jamb Seal Set | 8803AA | 628 | ZER |
| (2) | Door Bottom Seal | 111 | 628 | ZER |
| (1) | 1/4" Saddle Threshold | 545B x RCE | 628 | ZER |

Note 1: Coordinate proper door undercut for threshold, bottom latch and Von Duprin 304L bottom strike.

Note 2: This hardware set includes products listed for use as part of a complete tested assembly using Allegion Steelcraft windstorm doors and frame. If using doors and frames by another manufacturer, then the hardware must be part of a complete tested assembly for use with those doors and frames.

Note 3: Contractor to notch threshold and grout in 304L bottom strikes for exit device latches.

Electrified Items Furnished by Contract Hardware Supplier:

| (1) | Hard-wired Exit Alarm Kit | EAX-2520F x SI | White | DTX |
|-----|----------------------------|----------------|-------|---------|
| (2) | Door Position Switch, DPDT | 2757D | 630 | Sentrol |
| (1) | Power Supply | 2903 | | HAG |

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 4' of LHRB side jamb, 44" AFF. Provide conduit with pull strings from power supply to the door contacts on the top jamb and to exit alarm.

System Function:

Exit alarm is enabled/disabled by key. When enabled, free egress with audible alarm; no ingress. When disabled, free egress without audible alarm; no ingress. Opening is monitored for door position.

Hardware Set C01

| | Non-electrified Items Furnis | shed by Contract Hardware Supplier: | | |
|-----|------------------------------------|-------------------------------------|------|-----|
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Stop | 5100 1-6 ALM HDS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Jamb-to-Door Power Transfer | 2-679-0623 | US28 | HAG |
| (1) | Electric Mortise Lockset | 3880EU-RX-SECT-ARC | 626 | HAG |
| | Note: Electric mortise lock has | on-board REX monitoring contacts. | | |
| (1) | Power Supply | 2908 | | HAG |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Electrified Items Furnished | by Security Supplier: | | |
| (1) | Card Reader single-gang | By Security Supplier | | |

(1) Card Reader, single-gang By Security Supplier.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide single-gang flush mounting box on pull side of opening within 12" of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to card reader and to door contact on top jamb.

System Function:

Free egress. Ingress by card or key. Opening is monitored for request-to-exit of inside lever and door position.

Hardware Set C01A

| Non-electrified Items Furnished by Contract Hardware Supplier: | | |
|---|------|-----|
| (3) Butt Hinges BB1168 4.5 x 4.5 | 652 | HAG |
| (1) Mortise Cylinder Housing | 626 | BES |
| (1) Key Cylinder Core SFIC, 7-pin Cormax | 626 | BES |
| (1) Closer, w/Stop 5100 1-6 ALM HDS FC | 689 | HAG |
| (1) Kick Plate 194S 12 x 2LDW x CS | 630 | HAG |
| (1) Kick Plate 194S 12 x 1LDW x CS | 630 | HAG |
| Electrified Items Furnished by Contract Hardware Supplier: | | |
| (1) Jamb-to-Door Power Transfer 2-679-0623 | US28 | HAG |
| (1) Electric Mortise Lockset 3880EU-RX-SECT-ARC | 626 | HAG |
| Note: Electric mortise lock has on-board REX monitoring contacts. | | |
| (1) Power Supply 2908 | | HAG |
| (1) Door Position Switch, DPDT 1335-1-DPDT | 630 | ACS |

Electrified Items Furnished by Security Supplier:

(1) Card Reader, narrow jamb-mount By Security Supplier.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide conduit with pull strings from power supply to card reader on pull side of strike jamb, 44" AFF and to door contact on top jamb.

System Function:

Free egress. Ingress by card or key. Opening is monitored for request-to-exit of inside lever and door position.

Hardware Set C02

| | Non-electrified Items Furnis | shed by Contract Hardware Supplie | er: | |
|-------|------------------------------------|-----------------------------------|----------|--------|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 511 | 1 x 5113 | |
| | | | 689 | HAG |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Jamb-to-Door Power Transfer | 2-679-0623 | US28 | HAG |
| (1) | Electric Mortise Lockset | 3880EU-RX-SECT-ARC | 626 | HAG |
| | Note: Electric mortise lock has o | on-board REX monitoring contacts. | | |
| (1) | Power Supply | 2908 | | HAG |
| (3) | Pushbutton Station | 5236 x 2P25 x 2L | 628 | DTR |
| 3 T . | TT 1 .1 1 1 . TS 11 . | 1 (A) DDDE | 11 1/6 | 4 \ 1/ |

Note: Under-the-desk-mount Pushbutton Station has (2) DPDT momentary pushbutton and (21) red/green LED's. Locate (2) pushbutton stations under desk in Reception B103 and (1) under desk in Attendance B104: all as directed by Architect.

(1) Door Position Switch, DPDT 1335-1-DPDT 630 ACS

Electrified Items Furnished by Security Supplier:

(1) Card Reader, narrow jamb-mount By Security Supplier.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide conduit with pull strings from power supply to card reader, to power transfer in sidejamb, to door contact on top jamb, to power supply listed for Door B100A1-B (Hardware Set EF01), and to all (3) pushbutton stations listed in this hardware set.

System Function:

Free egress. Ingress by card or key or by any one of the (3) pushbutton stations (pushbutton on left side of each station) listed in this hardware set. Opening is monitored for request-to-exit of inside lockset lever and door position. LED associated with pushbutton on left side of station indicates Red for locked and Green for unlocked. See System Function description in Hardware Set E01 for function of pushbuttons and LED's on right side of the (3) pushbutton stations listed in this hardware set.

Hardware Set CF01

| | Non-electrified Items Furnis | hed by FRP Door Manufacturer: | | |
|------|---------------------------------------|--|-------------|-------------------------|
| (1) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnis | hed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES |
| (1) | Mortise Cylinder Housing (for do | ogging) | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 x 5955 x 5111 x 5113 | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished | by FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | (2)EPT Prep (LHRB door) | 628 | |
| (1) | Concealed Card Reader Prep | (LHRB door) | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (2) | Jamb-to-Door Power Transfer | 2-679-0623 (10 Wire) | 628 | HAG |
| Note | e: (1) power transfer in to get wires | to the electrified exit devices. The top EPT | is to get w | ires to the cardreader. |
| (1) | Panic Device, Rim, 01 | 4501-RIM x MLRX x Flush Endcap (LHR | B) 630 | HAG |
| (1) | Power Supply | 2903 | | HAG |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Electrified Items Furnished | by Security Supplier: | | |
| | | ·· | | |

(1) Card Reader, narrow jamb-mount By Security Supplier.

Note: Locate inside LHRB door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide conduit with pull strings from power supply to (2) power transfers in LHRB side jamb, and to the door contacts on the top jamb.

System Function:

System Function: Free egress at all times. Ingress by card, which retract latch on LHRB panic device; door relocks after time delay.

Hardware Set CF02

| | Non-electrified Items Furni | shed by FRP Door Manufacturer: | | | |
|-----|--------------------------------------|---|---------------|--------------------|--------|
| (1) | Flush Pull | • | 628 | | |
| (1) | Adjustable Door Bottom Seal | | 628 | | |
| | Non-electrified Items Furni | shed by Contract Hardware Supplier | : | | |
| (1) | Mortise Cylinder Housing (for e | xit alarm) | 626 | BES | |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES | |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC x 5113 | 689 | HAG | |
| (1) | Wall Stop/Holder | 327W | 626 | HAG | |
| | Note: Locate approx. 4" down as | nd in from top lock corner of door. | | | |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG | |
| | Non-electrified Items by Al | uminum Frame Supplier: | | | |
| (1) | Jamb Seal Set | | | | |
| | Electrified Items Furnished | by FRP Door Manufacturer: | | | |
| (1) | Continuous Hinge | (2)EPT Prep | 628 | | |
| (1) | Concealed Card Reader Prep | | | | |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | | |
| (2) | Jamb-to-Door Power Transfer | 2-679-0623 (10 Wire) | 628 | HAG | |
| Not | e: (1) power transfer in to get wire | s to the electrified exit devices. The top EF | T is to get v | wires to the cardr | eader. |
| (1) | Panic Device, Rim, 01 | 4501-RIM x MLRX x Flush Endcap | 630 | HAG | |
| (1) | Power Supply | 2903 | | HAG | |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS | |
| | Electrified Items Furnished | by Security Supplier: | | | |
| (1) | Card Reader, narrow jamb-mour | nt By Security Supplier. | | | |

Note: Locate inside door leaf.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide 4x4 flush box for exit alarm; locate on wall on push side of opening within 2' of strike jamb, 44" AFF. Provide conduit with pull strings from power supply to (2) power transfers in hinge side jamb and to the door contact on the top jamb. Provide doorbell system with chimes in ceiling in middle of Kitchen F103 and Office F103A.

System Function:

Free egress; ingress by card. Opening is monitored for door position and request to exit signal from panic device.

Hardware Set D01

| | Non-electrified Items Furni | shed by Contract Hardware Supplier: | | |
|-----|------------------------------------|-------------------------------------|-----|-----|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, Regular Arm | 5100 MLT 1-6 ALM FC | 689 | HAG |
| | Note: Discard parallel arm brac | ket. | | |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | Electrified Items Furnished | by Contract Hardware Supplier: | | |
| (1) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Furnished by Flectrical Co | ntractor. | | |

(1) Lot: Provide conduit stub-up with pull string from door contact to concealed accessible space above opening. **System Function:**

Free egress. Free ingress or by key if door is locked. Opening is monitored for door position.

Hardware Set D01A

| | Non-electrified Items Furn | ished by Contract Hardware Supplier: | | |
|-----|----------------------------|--------------------------------------|-----|-----|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |

Electrified Items Furnished by Contract Hardware Supplier:

(1) Door Position Switch, DPDT 1335-1-DPDT 630 ACS

230W (non-latex insert)

Furnished by Electrical Contractor:

(1) Lot: Provide conduit stub-up with pull string from door contact to concealed accessible space above opening. **System Function:**

626

HAG

Free egress. Free ingress or by key if door is locked. Opening is monitored for door position.

Hardware Set D01B

(1) Wall Stop, Convex

| | Non-electrified Items Furn | nished by Contract Hardware Su | upplier: | |
|-----|----------------------------|--------------------------------|-----------------|-----|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 |) x 5111 x 5113 | |
| | | | 689 | HAG |

Electrified Items Furnished by Contract Hardware Supplier:

(1) Door Position Switch, DPDT 1335-1-DPDT 630 ACS

Furnished by Electrical Contractor:

(1) Lot: Provide conduit stub-up with pull string from door contact to concealed accessible space above opening. **System Function:**

Free egress. Free ingress or by key if door is locked. Opening is monitored for door position.

Hardware Set EF01

| Ha | uwaic Sci Ervi | | | |
|------|--------------------------------------|--|------------|---------------------|
| | Non-electrified Items Furnis | hed by FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | | 628 | |
| (2) | Flush Pull | | 628 | |
| (2) | Adjustable Door Bottom Seal | | 628 | |
| (1) | Meeting Edge Seal Set | | 628 | |
| | Non-electrified Items Furnish | hed by Contract Hardware Supplier: | | |
| (1) | Key Removable Mullion | 4900T x 4953 | 601 | HAG |
| ` ′ | Note: Field paint mullion to mate | ch frame color. | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-CD x Flush Endcap | 630 | HAG |
| (1) | Rim Cylinder Housing (for key re | emovable mullion) | 626 | BES |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| | Note: For dogging. | | | |
| (3) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 5111 x | 5113 | |
| | | | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | te MS-SA/75 | Black | DHSI |
| (1) | 1/4" Saddle Threshold | 413S x RCE | 628 | HAG |
| | Non-electrified Items by Alu | minum Frame Supplier: | | |
| (1) | Jamb Seal Set | | | |
| | Electrified Items Furnished I | by FRP Door Manufacturer: | | |
| (1) | Continuous Hinge | (1)EPT Prep (RHRB door) | 628 | |
| | Electrified Items Furnished I | by Contract Hardware Supplier: | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM x ML x Flush Endcap (RHRB) | 630 | HAG |
| (1) | Power Supply | 2904 | | HAG |
| (1) | Elect Automatic Door Operator | Senior Swing (RHRB) | 628 | LCN |
| Note | e 1: Operator Supplier/Installer sha | ll mount and wire the keyswitch below onto | the top pa | nel of the operator |
| hous | sing to control and indicate by LED | the 110V service to the operator. Enable P | ush-n-Go f | eature. |
| (2) | Door Position Switch, DPDT | 1335-1-DPDT | 630 | ACS |
| | Electrified Items Furnished I | by Video-intercom Supplier: | | |
| (1) | | nonitor stations at desk in Reception B103 a | nd one mo | nitor station in |

(1) Video-intercom system with (2) monitor stations at desk in Reception B103 and one monitor station in Attendance B104.

Furnished by Electrical Contractor:

(1) Lot: Provide 120VAC, 60Hz, 5A service to automatic door operator on top jamb. Provide 120VAC, 60Hz, 1A service to power supply located in concealed accessible space above ceiling near opening. Provide conduit with pull strings from power supply to automatic door operator, to power transfer in RHRB side jamb, to the door contacts on the top jamb, to the power supplies listed in this hardware set and in Hardware Set C02 for Door B103-B, and to all (3) pushbutton stations listed in Hardware set C02. Provide rough-ins as required for video-intercom system between Door B100A1-B and the VIC monitor stations at Reception B103 and Attendance B104 and the power supply listed in this hardware set. Provide a 110V common On/Off light switch to control the 120VAC power to the automatic door operator; mount this switch on the top of the housing of the automatic door operator.

System Function:

System Function: Free egress at all times; pushing on door triggers Push-N-Go feature so that door automatically opens for ADA egress. Ingress by pushbuttons on right side of all (3) Pushbutton Stations listed in Hardware Set C02, which retract latch on RHRB panic device and signal operator to open the door; door closes and relocks after time delay.

Hardware Set M01

| | Non-electrified Items Furnis | hed by Contract Hardware Supplier: | | | | |
|-----|--|--------------------------------------|-------|------|--|--|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG | | |
| (1) | FR Key Removable Mullion | 4900T-F | 601 | HAG | | |
| | Note: Field paint mullion to mate | ch frame color. | | | | |
| (1) | Fire Exit Device, Rim, 08 | 4501-RIM-F x 45CE-ARC x Flush Endcap | 630 | HAG | | |
| (1) | Fire Exit Device, Rim, 02 | 4501-RIM-F x 45DT-ARC x Flush Endcap | 630 | HAG | | |
| (1) | Rim Cylinder Housing (for mulli | on) | 626 | BES | | |
| (1) | Mortise Cylinder Housing | | 626 | BES | | |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES | | |
| (2) | Closer, HD Parallel Arm | 5100 MLT 1-6 ALM HD FC | 689 | HAG | | |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG | | |
| (2) | Kick Plate | 194S 12 x LDW x CS | 630 | HAG | | |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI | | |
| (1) | Cat H Jamb Seal Set | 769C | 628 | REE | | |
| | Electrified Items Furnished by Contract Hardware Supplier: | | | | | |
| (2) | Magnetic Holder | 380F | 652 | HAG | | |
| (2) | Mag Holder Mounting Box | 381B | | HAG | | |
| | | | | | | |

Note: Magnetic holder is single-gang, multi-voltage. Utilize these mounting boxes for proper installation.

Furnished by Electrical Contractor:

 Lot: Install magnetic holder utilizing flush boxes specified above. Provide 12/24VDC or 24/120VAC power and fire alarm control.

System Function:

Magnetic holders are normally enabled to hold doors open; holders release upon fire alarm so that doors close and latch. Free egress at all times. Lever trim on RHRB exit device can be left in locked or unlocked condition by key.

Hardware Set MW01

Non-electrified Items Furnished by Contract Hardware Supplier:

| (2) | Continuous Hinges | 224HD x UL | 628 | IVE |
|-----|---------------------------|-----------------------------------|-----|-----|
| (1) | Fire Exit Device, SVR, 08 | WS-9927DT-F x 990DT x 374T x 304L | 626 | VON |
| (1) | Fire Exit Device, SVR, 01 | WS-9927EO-F x 990EO x 304L | 626 | VON |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 4040XP EDA | 689 | LCN |
| (2) | Kick Plate/Latch Guard | WS-LGO x 2" LDW | 630 | VON |
| (1) | Cat H Astragal Set | 8195 | 628 | ZER |
| (1) | Cat H Jamb Seal Set | 8803AA | 628 | ZER |
| | | | | |

Note 1: 3/4" maximum door undercut.

Note 2: This hardware set includes products listed for use as part of a complete tested assembly using Allegion Steelcraft windstorm doors and frame. If using doors and frames by another manufacturer, then the hardware must be part of a complete tested assembly for use with those doors and frames.

Note 3: Contractor to grout in 304L bottom strikes for exit device latches.

Note 4: Install NL cam into 374T exit trim in field to enable nightlatch 03 exit device function.

Electrified Items Furnished by Contract Hardware Supplier:

(2) Magnetic Door Holder SEM7800 689 LCN

Electrical Note 1: Provide holders with 12/24VDC or 120VAC service and fire alarm control.

System Function:

Free egress; ingress by key. Free egress by pushing on either exit device touchbar. Magnetic holders are normally enabled to hold doors open; holders release upon fire alarm or power failure so that doors close and latch. Doors may also be manually pulled away from holders at which point they will automatically close and latch.

Hardware Set W01

Note 1: All hardware by Storm Shelter Coiling Door Supplier.

| Ha | rdware Set 01 | | | |
|------------|------------------------------------|-------------------------|------------|------------|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| На | rdware Set 01A | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 2000 2201 11110 | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| Ша | udayana Ca4 01D | | | |
| | rdware Set 01B | DD1270 4.5 4.5 | (50 | TIAC |
| (3) | Butt Hinges Storeroom Lock | BB1279 4.5 x 4.5 | 652 626 | HAG HAG |
| (1) | Mortise Cylinder Housing | 3880-SECT-ARC | 626 626 | BES |
| (1) (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| | Armor Plate | 194S 20 x 2LDW x CS | 630 | HAG |
| (1) | | | | |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| Ha | rdware Set 01C | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Surface | 7016-SRF (stop only) | 630 | HAG |
| Note | e 1: Mount kick plate on pull side | of door. | | |
| На | rdware Set 01D | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Surface | 7016-SRF (stop only) | 630 | HAG |

| Hai | rdware Set 01E | | | |
|-----|---------------------------------|------------------------------------|-------|-----|
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 5000 SECT THE | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Наз | rdware Set 01F | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 5000 SECT THE | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| Hai | rdware Set 01G | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Cat H Adhesive Jamb Seal Set | 797B | Black | REE |
| | Note: Apply to top jamb only. | | | |
| (1) | Cat H Jamb Seal Set | 769C | 628 | REE |
| | Note: Apply to side jambs only. | | | |
| Hai | rdware Set 01H | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Hai | rdware Set 01 <u>J</u> | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Surface | 7016-SRF (stop only) | 630 | HAG |

| Hai | rdware Set 01K | | | |
|------------|--|------------------------------------|------------|------------|
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Hai | rdware Set 01L | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Lock Guard, Mortise Lock | 5000T | 626 | TRI |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| Hai | rdware Set 01M | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Stop | 5100 1-6 ALM HDS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Cat H Adhesive Jamb Seal Set | 797B | Black | REE |
| | Note: Apply to top jamb only. | | | |
| (1) | Cat H Jamb Seal Set | 769C | 628 | REE |
| () | Note: Apply to side jambs only. | | | |
| Наг | rdware Set 01N | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 3000 SECT THE | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| II.a. | udavana Ca4 01D | | | |
| | rdware Set 01P | DD1270 4.5 v. 4.5 | 650 | HAC |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 626 | HAG |
| (1) | Storeroom Lock Mortise Cylinder Housing | 3880-SECT-ARC | 626 626 | HAG BES |
| (1) (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | e 1: Mount kick plate on push side | | | |
| | 1 F 5100 | | | |

| Нат | rdware Set 01Q | | | |
|------------|----------------------------------|--|------------|------------|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 2000 2201 11110 | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Concealed | 7016-CON (stop only) | 630 | HAG |
| Hai | rdware Set 01R | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 2000 2201 11110 | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| (1) | = | id in from top lock corner of door. | 020 | 11110 |
| Цал | rdware Set 01S | | | |
| | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (3) (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 3660-SEC1-ARC | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Armor Plate | 194S 20 x 2LDW x CS | 630 | HAG |
| | Kick Plate | | | |
| (1) (1) | Wall Stop, Convex | 194S 12 x 1LDW x CS 230W (non-latex insert) | 630 626 | HAG HAG |
| (1) | wan stop, convex | 250 W (Holf-latex Hisert) | 020 | IIAG |
| | rdware Set 01T | DD11(0.45.45 | (50 | TT . C |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| _ | rdware Set 01U | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | ~~~~ - · ~ | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, Regular Arm | 5100 MLT 1-6 ALM FC | 689 | HAG |
| | Note: Discard parallel arm brack | | | |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |

| III | rdware Set 01V | | | |
|--|---|--|---|---|
| (1) | Continuous Hinge | 780-224HD | 628 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | Jood SECT THE | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, Regular Arm | 5100 MLT 1-6 ALM FC | 689 | HAG |
| () | Note: Discard parallel arm brack | | | |
| (1) | Armor Plate | 194S 34 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | wan stop, convex | 250 W (non latex insert) | 020 | 11110 |
| Hai | rdware Set 01W | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, Regular Arm | 5100 MLT 1-6 ALM FC | 689 | HAG |
| | Note: Discard parallel arm brack | et. | | |
| (1) | Closer Drop Plate | 5114 | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Concealed | 7016-CON (stop only) | 630 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| Note | e 1: Use 5114 drop plate, rotated 18 | 80 degrees, to avoid spatial conflict with over | erhead stop. | |
| Ша | 1 6 4 0 1 3 7 | | | |
| | | | | |
| | rdware Set 01X | DD1169 45 - 45 | 650 | HAC |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (3) (1) | Butt Hinges Storeroom Lock | BB1168 4.5 x 4.5 3880-SECT-ARC | 626 | HAG |
| (3) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing | 3880-SECT-ARC | 626 626 | HAG BES |
| (3) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core | 3880-SECT-ARC SFIC, 7-pin Cormax | 626 626 626 | HAG BES BES |
| (3) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC | 626 626 | HAG BES |
| (3) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC eet. | 626 626 626 689 | HAG BES BES HAG |
| (3) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS | 626 626 626 689 | HAG BES BES HAG |
| (3) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 626 626 626 689 630 630 | HAG BES BES HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) | 626 626 626 689 630 630 626 | HAG BES BES HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA | 626 626 626 689 630 630 626 628 | HAG BES BES HAG HAG HAG NGP |
| (3) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) | 626 626 626 689 630 630 626 | HAG BES BES HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA | 626 626 626 689 630 630 626 628 | HAG BES BES HAG HAG HAG NGP |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA | 626 626 626 689 630 630 626 628 | HAG BES BES HAG HAG HAG NGP |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 | 626 626 626 689 630 630 626 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 | 626 626 626 689 630 630 626 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC | 626 626 626 689 630 630 626 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (3) (1) (1) | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC eet. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC | 626 626 626 689 630 630 626 628 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Kick Plate Kick Plate | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC eet. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS | 626 626 626 689 630 630 626 628 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Kick Plate Kick Plate Kick Plate | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 626 626 626 689 630 630 626 628 628 628 630 630 630 | HAG BES BES HAG HAG HAG NGP DHS HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Kick Plate Kick Plate Kick Plate Tdware Set 02A Butt Hinges | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 626 626 626 689 630 630 626 628 628 628 630 630 | HAG BES BES HAG HAG HAG NGP DHS HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Kick Plate Kick Plate Kick Plate Kick Plate Frivacy Set 02A Butt Hinges Privacy Set w/Indicator | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC eet. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS BB1279 4.5 x 4.5 3896-SECT-ARC | 626 626 626 689 630 630 626 628 628 628 630 630 630 | HAG BES BES HAG HAG HAG HAG HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Privacy Set w/Indicator Kick Plate Rough Stop Rick Plate Rough Set 02A Butt Hinges Privacy Set w/Indicator Kick Plate | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC et. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS BB1279 4.5 x 4.5 3896-SECT-ARC 194S 12 x 2LDW x CS | 626 626 626 689 630 630 626 628 628 628 630 630 | HAG BES BES HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Storeroom Lock Mortise Cylinder Housing Key Cylinder Core Closer, Regular Arm Note: Discard parallel arm brack Kick Plate Kick Plate Wall Stop, Convex Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 02 Butt Hinges Privacy Set w/Indicator Closer, w/Spring Stop Kick Plate Kick Plate Kick Plate Kick Plate Kick Plate Frivacy Set 02A Butt Hinges Privacy Set w/Indicator | 3880-SECT-ARC SFIC, 7-pin Cormax 5100 MLT 1-6 ALM FC eet. 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 230W (non-latex insert) 107NA SSDB3 BB1279 4.5 x 4.5 3896-SECT-ARC 5100 1-6 ALM HDCS FC 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS BB1279 4.5 x 4.5 3896-SECT-ARC | 626 626 626 689 630 630 626 628 628 628 630 630 630 | HAG BES BES HAG HAG HAG HAG HAG HAG HAG |

| Hai | rdware Set 02B | | | |
|----------------------------|---------------------------------------|--|-----|------------|
| (3) | Butt Hinges | BB1191 4.5 x 4.5 | 630 | HAG |
| (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Closer, Regular Arm | 5100 MLT 1-6 ALM FC | 689 | HAG |
| ` / | Note: Discard parallel arm brack | tet. | | |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Ца | ndryana Sat 02C | | | |
| $\frac{\mathbf{11a}}{(1)}$ | rdware Set 02C Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (2) | Spring Hinges | 1250 4.5 x 4.5 | 652 | HAG |
| | | | 626 | |
| (1) | Privacy Set w/Indicator Kick Plate | 3896-SECT-ARC 194S 12 x 2LDW x CS | 630 | HAG HAG |
| (1) (1) | Kick Plate | 194S 12 X 2LDW X CS 194S 12 X 1LDW X CS | 630 | HAG |
| (1) | Overhead Stop, HD, Surface | 7016-SRF (stop only) | 630 | HAG |
| | e 1: Adjust spring hinges to pull do | | 050 | 11/10 |
| 1,00 | o ir irajast spring innges te pan a | | | |
| Ha | rdware Set 02D | | | |
| (3) | Butt Hinges | BB1199 4.5 x 4.5 | 630 | HAG |
| (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Concealed | 7016-CON (stop only) | 630 | HAG |
| Hai | rdware Set 02E | | | |
| (3) | Butt Hinges | BB1199 4.5 x 4.5 | 630 | HAG |
| (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Наз | rdware Set 02F | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Наз | rdware Set 02G | | | |
| $\frac{11a}{(1)}$ | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (2) | Spring Hinges | 1250 4.5 x 4.5 | 652 | HAG |
| (2) (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | e 1: Adjust spring hinges to pull do | | | |
| | | | | |

| Наз | rdware Set 02H | | | |
|-------------------|-------------------------------------|--|------------|------------|
| $\frac{11a}{(3)}$ | Butt Hinges | BB1191 4.5 x 4.5 | 630 | HAG |
| (1) | Privacy Set w/Indicator | 3896-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | wan stop, convex | 250 W (non latex insert) | 020 | mio |
| Ha | rdware Set 03 | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Rim, 03, LD | 4501-RIM-LD x Flush Endcap x 45NL-AR | | HAG |
| (1) | Rim Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| <u>Ha</u> i | rdware Set 03A | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Rim, 03, LD | 4501-RIM-LD x Flush Endcap x 45NL-ARG | C 630 | HAG |
| (1) | Rim Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| Hai | rdware Set 03B | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Rim, 01, LD | 4501-RIM-LD x Flush Endcap x 45DT-ARG | C 630 | HAG |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| Hai | rdware Set 03C | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Rim, 01, LD | 4501-RIM-LD x Flush Endcap x 45DT-ARG | | HAG |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | - | | | |
| | rdware Set 03D | DD11/0 45 - 45 | (52 | 1140 |
| (3) | Butt Hinges Paris Daviss Pim 14 I D | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Rim, 14, LD | 4501-RIM-LD x Flush Endcap x 45BE-ARC | | HAG |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) (1) | Wall Stop/Holder | 194S 12 x 1LDW x CS 327W | 630 626 | HAG HAG |
| (1) | _ | d in from top lock corner of door. | 020 | HAU |
| | riole. Locale approx. 4 down an | a in nom top lock corner of door. | | |

| Har | dware Set 04 | | | |
|-----|------------------------------|----------------------------|-----|--------|
| | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Office Lock | 3850-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| ` / | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | 1: Door B112-B is Left Hand. | , | | |
| | | | | |
| | dware Set 04A | DD1050 4.5 4.5 | 650 | TT . C |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Office Lock | 3850-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Concealed | 7016-CON (stop only) | 630 | HAG |
| Har | dware Set 04B | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Office Lock | 3850-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | 3030 SECT TIRE | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Surface | 7016-SRF (stop only) | 630 | HAG |
| (-) | 5 | (out only) | 020 | 11110 |
| Har | dware Set 05 | | | |
| | Barn Door System | Krownlab, Oden, Face-mount | 630 | KLB |
| | Barn Door Lock | 7200ADA.9100BDL-3.6 | 626 | ACC |
| | Dummy Mortise Cylinder | | 626 | BES |
| (1) | Straight Pull, 12" | RM5702 | 626 | ROC |

Note 1: Door is not a required exit in either direction. Detail lock so that thumbturn is on the side opposite the Workroom side centered at 48" AFF and so the dummy cylinder is on the Workroom side. Mount pull on same centerline as barn door lock thumbturn and on the same side as the thumbturn, so that the top pull screw is ½" below the mortise lock pocket cutout. No pull on the Workroom side.

Hardware Set 06

| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
|-----|----------------------------|----------------------|-----|-----|
| (2) | Push Bar | 140S | 630 | HAG |
| (2) | Straight Pull, 1"D, 12"CTC | 4L | 630 | HAG |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (2) | Kick Plate | 194S 8 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 8 x 1LDW x CS | 630 | HAG |
| (1) | Cat H Astragal Set | 788C (2 pieces) | 628 | REE |

| Ha | rdware Set 06A | | | |
|-------------------|---------------------------------------|--|------------|------------|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (2) | Push Bar | 140S | 630 | HAG |
| (2) | Straight Pull, 1"D, 12"CTC | 4L | 630 | HAG |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 8 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 8 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| | | nd in from top lock corner of door. | | |
| (1) | Cat H Astragal Set | 788C (2 pieces) | 628 | REE |
| TT - | | | | |
| | rdware Set 06B | 700 110110 | (20 | HAC |
| (2) | Continuous Hinge | 780-112HD | 628 | HAG |
| (2) | Push Bar | 140S | 630 | HAG |
| (2) | Straight Pull, 1"D, 12"CTC | 4L | 630 | HAG |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC x 5110 x 5111 | | |
| | | | 689 | HAG |
| Note | e 1: Jamb and meeting edge seals | by aluminum door supplier. | | |
| Ца | rdware Set 07 | | | |
| $\frac{11a}{(3)}$ | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Passage Set | 3810-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| TT - | | | | |
| | rdware Set 07A | DD1270 4.5 4.5 | (50 | шас |
| (3) (1) | Butt Hinges Passage Set | BB1279 4.5 x 4.5 3810-SECT-ARC | 652 626 | HAG HAG |
| | _ | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Closer, HD Parallel Arm Kick Plate | 194S 12 x 2LDW x CS | | |
| (1) (1) | Kick Plate Kick Plate | 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 630 630 | HAG HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | wan stop, convex | 250 W (Holl latex history) | 020 | 11110 |
| Ha | rdware Set 07B | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Passage Set | 3810-SECT-ARC | 626 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Ha | rdware Set 07C | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Passage Set | 3810-SECT-ARC | 626 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | | | | |

| Ha | rdware Set 07D | | | |
|------|---------------------------------|--|---------------|------------------------|
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Passage Set | 3810-SECT-ARC | 626 | HAG |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| (1) | Closer Mounting Bracket | 7ASL | 689 | NGP |
| | | er arm bracket. Mount closer arm bracket | s to 7ASL clo | oser mounting bracket; |
| low | er the closer accordingly. | | | |
| Ha | rdware Set 07E | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Passage Set | 3810-SECT-ARC | 626 | HAG |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| | | | | |
| | rdware Set 08 | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Ha | rdware Set 08A | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| | Surface Sound Sweep | SSDB3 | 628 | DHS |
| Note | e 1: Door C120-B is Right Hand. | | | |
| Ha | rdware Set 08B | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |

Note 1: Doors G105-B, G105 A are Left Hand. Door G105B is Right Hand Reverse Bevel. Doors G105C, G108-B, G108A are Right Hand. Door G108B is Left Hand Reverse Bevel. Door G108C is Left Hand.

| TT | lware | α | OOL |
|------|-------------|----------|-------|
| Hara | IWARA | SAT | HXH |
| 1141 | . * * 4 \ | ., | 17(71 |

| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
|-----|------------------------------|----------------------|-----|-----|
| (1) | Classroom Security Lock | 3871-SECT-ARC | 626 | HAG |
| (2) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Overhead Stop, HD, Concealed | 7016-CON (stop only) | 630 | HAG |
| | | | | |
| TT. | udruana Ca4 00 | | | |

| Hai | <u>rdware Set 09</u> | | | |
|-----|----------------------------------|------------------------------------|-----------|------|
| (2) | Continuous Hinge | 780-112HD | 628 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| | Note: Field paint mullion to mat | ch frame color. | | |
| (2) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45PD | 630 | HAG |
| (1) | Rim Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop/HO | 5100 1-6 ALM HDHOCS FC x 5110 x 51 | 11 x 5113 | |
| | | | 689 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI |

| Ha | rdware Set 09A | | | |
|-----|----------------------------------|--|-------|-------|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| (1) | Note: Field paint mullion to mat | | 001 | 1110 |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45NL-AR | C 630 | HAG |
| (1) | Note: Mount on RHRB door lea: | * | .000 | 11110 |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AR | C 630 | HAG |
| (2) | Rim Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| (2) | _ | ad in from top lock corner of door. | 020 | 11/10 |
| (1) | Cat H Adhesive Mullion Seal/Mu | | Black | DHSI |
| (1) | Cat II Addlesive Mullion Seal/Mi | ite MS-SA//3 | Diack | DHSI |
| Hai | rdware Set 09B | | | |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| (1) | Note: Field paint mullion to mat | | 001 | 11/10 |
| (1) | Panic Device, Rim, 08 | 4501-RIM-LD x Flush Endcap x 45CE-AR | C 630 | HAG |
| (1) | Note: Mount on RHRB door lead | | .000 | 1110 |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AR | C 630 | HAG |
| (1) | Rim Cylinder Housing | OUT TOUT DE TITUES DANGER IN 102 I III | 626 | BES |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| (2) | _ | ad in from top lock corner of door. | 020 | 11110 |
| (1) | Cat H Adhesive Mullion Seal/Mu | | Black | DHSI |
| (1) | Cat II Addiesive Wallon Scal/Wit | ate M5-5A1/5 | Diack | DIISI |
| Hai | rdware Set 09C | | | |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| (1) | Note: Field paint mullion to mat | | 001 | 11110 |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45NL-AR | C 630 | HAG |
| (1) | Note: Mount on RHRB door lead | - | 050 | 1110 |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AR | C 630 | HAG |
| (2) | Rim Cylinder Housing | The state of the s | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop/HO | 5100 1-6 ALM HDHOCS FC | 689 | HAG |
| (2) | Kick Plate | 194S 8 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 8 x 1LDW x CS | 630 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | | Black | DHSI |
| (1) | | TO LIE OID IO | DIMON | 21101 |

| Hai | rdware Set 09D | | | |
|------------|--|--|------------|-------------|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| () | Note: Field paint mullion to mate | | | |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45NL-AR | C 630 | HAG |
| (1) | Note: Mount on RHRB door leaf. | | C (20 | IIAC |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AR | | HAG |
| (2) | Rim Cylinder Housing | SFIC, 7-pin Cormax | 626 626 | BES BES |
| (2) (2) | Key Cylinder Core Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| | Kick Plate | | | |
| (2) | Kick Plate | 194S 8 x 2LDW x CS 194S 8 x 1LDW x CS | 630 630 | HAG |
| (2) (1) | Cat H Adhesive Mullion Seal/Mu | | Black | HAG DHSI |
| (1) | Cat if Adhesive Mullion Scal/Mu | te 1v13-3A/73 | Diack | ризі |
| Hai | rdware Set 09E | | | |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | FR Key Removable Mullion | 4900T-F | 601 | HAG |
| | Note: Field paint mullion to mate | h frame color. | | |
| (1) | Fire Exit Device, Rim, 03 | 4501-RIM-F x Flush Endcap x 45NL-ARC | 630 | HAG |
| | Note: Mount on RHRB door leaf. | | | |
| (1) | Fire Exit Device, Rim, 01 | 4501-RIM-F x Flush Endcap x 45DT-ARC | 630 | HAG |
| (2) | Rim Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (2) | Kick Plate | 194S 8 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 8 x 1LDW x CS | 630 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | | Black | DHSI |
| (1) | Cat H Adhesive Jamb Seal Set | 797B | Black | REE |
| | Note: Apply to top jamb only. | | | |
| (1) | Cat H Jamb Seal Set | 769C | 628 | REE |
| | Note: Apply to side jambs only. | | | |
| TT a. | udavana Cat OOE | | | |
| | rdware Set 09F | DD1160.45 45 | (50 | HAG |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| (1) | Note: Field paint mullion to mate Panic Device, Rim, 03 | | C 620 | нлс |
| (1) | Note: Mount on RHRB door leaf. | 4501-RIM-LD x Flush Endcap x 45NL-AR | C 030 | HAG |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AR | C 630 | HAG |
| (2) | Rim Cylinder Housing | ovi imi 22 minus 2maap maga ma | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| () | Note: Locate approx. 4" down and | l in from top lock corner of door. | | |
| (1) | Cat H Adhesive Mullion Seal/Mu | * | Black | DHSI |
| (1) | Cat H Adhesive Jamb Seal Set | 797B | Black | REE |
| ` / | Note: Apply to top jamb only. | | | |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Note: Apply to side jambs only. | 10/11/1 | 020 | 1101 |
| (2) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| (-) | Surface Sound Sweep | 2220 | 320 | 2110 |

| Hai | rdware Set 09G | | | |
|-----|-----------------------------------|--------------------------------------|--------|-------|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| (1) | Note: Field paint mullion to mate | | 001 | 11110 |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45NL-AI | RC 630 | HAG |
| (-) | Note: Mount on RHRB door leaf | | | 11110 |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45DT-AI | RC 630 | HAG |
| (2) | Rim Cylinder Housing | • | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | Cat H Adhesive Mullion Seal/Mu | | Black | DHSI |
| | | | | |
| Hai | rdware Set 09H | | | |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (1) | Panic Device, Rim, 03 | 4501-RIM-LD x Flush Endcap x 45PN | 630 | HAG |
| | Note: Mount on RHRB door leaf | | | |
| (1) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45PD | 630 | HAG |
| (2) | Rim Cylinder Housing | | 626 | BES |
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| (1) | Cat H Adhesive Mullion Seal/Mu | ite MS-SA/75 | Black | DHSI |
| | | | | |
| Hai | rdware Set 09J | | | |
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Key Removable Mullion | 4900T | 601 | HAG |
| | Note: Field paint mullion to mate | ch frame color. | | |
| (2) | Panic Device, Rim, 01 | 4501-RIM-LD x Flush Endcap x 45EO | 630 | HAG |
| (1) | Rim Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (2) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (2) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (2) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| (1) | Cat H Adhesive Mullion Seal/Mu | te MS-SA/ $\overline{75}$ | Black | DHSI |

| Hai | rdware Set 10 | | | |
|--|---|--|---|--|
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Lock | 3870-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| Hai | rdware Set 10A | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| (1) | Classroom Lock | 3870-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| Наз | rdware Set 10B | | | |
| <u> 11a</u> | iuwaic Sci Iud | | | |
| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
| | | BB1279 4.5 x 4.5 3870-SECT-ARC | 652 626 | HAG HAG |
| (3) | Butt Hinges | | 626 626 | |
| (3) (1) | Butt Hinges Classroom Lock | | 626 | HAG |
| (3) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate | 3870-SECT-ARC | 626 626 626 630 | HAG BES BES HAG |
| (3) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 626 626 626 630 630 | HAG BES BES HAG HAG |
| (3) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS | 626 626 626 630 | HAG BES BES HAG |
| (3) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS | 626 626 626 630 630 630 | HAG BES BES HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) | 626 626 626 630 630 | HAG BES BES HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA | 626 626 626 630 630 630 | HAG BES BES HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA | 626 626 626 630 630 630 | HAG BES BES HAG HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA SSDB3 | 626 626 626 630 630 630 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (3) (1) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 10C Butt Hinges Classroom Lock | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA SSDB3 BB1168 4.5 x 4.5 | 626 626 626 630 630 630 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (2) (3) | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 10C Butt Hinges | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA SSDB3 BB1168 4.5 x 4.5 | 626 626 626 630 630 630 628 628 | HAG BES BES HAG HAG HAG NGP DHS |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 10C Butt Hinges Classroom Lock Mortise Cylinder Housing | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA SSDB3 BB1168 4.5 x 4.5 3870-SECT-ARC | 626 626 626 630 630 630 628 628 | HAG BES BES HAG HAG HAG NGP DHS HAG HAG |
| (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1 | Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core Kick Plate Kick Plate Overhead Stop, HD, Concealed Adjustable Jamb Seal Set Surface Sound Sweep rdware Set 10C Butt Hinges Classroom Lock Mortise Cylinder Housing Key Cylinder Core | 3870-SECT-ARC SFIC, 7-pin Cormax 194S 12 x 2LDW x CS 194S 12 x 1LDW x CS 7016-CON (stop only) 107NA SSDB3 BB1168 4.5 x 4.5 3870-SECT-ARC SFIC, 7-pin Cormax | 626 626 626 630 630 630 628 628 628 | HAG BES BES HAG HAG HAG NGP DHS HAG HAG BES BES |

Hardware Set 11

Note 1: Cased opening. No hardware required.

Hardware Set 11A

Note 1: All hardware, including non-keyed locking devices, by overhead door supplier.

Hardware Set 11B

| (2) | Mortise Cylinder Housing | | 626 | BES |
|-----|--------------------------|--------------------|-----|-----|
| (2) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |

Note 1: Balance of hardware, including locking devices compatible with standard key cylinder on building masterkey system, by overhead door supplier. Contractor to coordinate cylinder type and cam required.

Hardware Set 11C

Note 1: All hardware, including non-keyed locking devices, by folding glass door supplier.

| Hardware | Set | 11 D |
|----------|-----|-------------|
|----------|-----|-------------|

| (1) | Permanent Key Cylinder Core | 7-pin, Cormax | 626 | BES |
|------|------------------------------------|---|------------|---------------|
| (1) | Wire Partition Lockset | SF-1 x SB-4 x "Best Cylinder Less Core" | Wirecraft | ters |
| Mate | 1. The Wire Dortition I coleget on | d "Post Culindar I ass Cara" are to be provid | ad by mira | nortition aun |

Note 1: The Wire Partition Lockset and "Best Cylinder Less Core" are to be provided by wire partition supplier. The Permanent Key Cylinder Core is furnished by the Contract Hardware Supplier and installed by Contractor. Contractor to coordinate. Balance of hardware by door partition supplier.

Hardware Set 11E

| (1) | Gate Exit Bar Kit | 6045-B36 | Black | DAC |
|------|------------------------------------|---|--------------------|------------------|
| | Note: Order kit less lock box and | d less key cylinder and keys. | | |
| (1) | Gate Latch Protector Kit | 6015-B | Black | DAC |
| Note | e: Basis of design manufacturer is | DAC Industries, Inc., www.dacindustries.com | <u>n</u> , 800-888 | -9768. Equals by |
| Dete | ov. | | | |

Hardware Set 12

| | <u> </u> | | | |
|-----|--------------------------|-------------------------|-----|-----|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Manual Flush Bolt | 282R-25 (top) | 626 | HAG |
| (1) | Manual Flush Bolt | 282D | 626 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |

Hardware Set 12A

| (6) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
|-----|--------------------------|-------------------------|-----|-----|
| (1) | Manual Flush Bolt | 282R-25 (top) | 626 | HAG |
| (1) | Manual Flush Bolt | 282D | 626 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| | | | | |

| Ha | rdware Set 12B | | | |
|-----|---------------------------------|-------------------------------------|-----|-----|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Manual Flush Bolt | 282R-25 (top) | 626 | HAG |
| (1) | Manual Flush Bolt | 282D | 626 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down ar | nd in from top lock corner of door. | | |
| (1) | Overhead Holder, HD, Surface | 7017-SRF (hold open) | 630 | HAG |

| Ha | rdware Set 12C | | | |
|-----|-------------------------------------|---|----------|-------------|
| (6) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Manual Flush Bolt | 282R-25 (top) | 626 | HAG |
| (1) | Manual Flush Bolt | 282D | 626 | HAG |
| (1) | Storeroom Lock | 3880-SECT-ARC x Less Outside Trim | 626 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Flush Ring Pull | 1068 | 626 | TRI |
| | Note: Supplier to detail flush ring | g pull for spindle thickness and orientation. | | |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (2) | Overhead Holder, HD, Surface | 7017-SRF (hold open) | 630 | HAG |
| | | | | |
| Ha | rdware Set 13 | | | |
| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
| (1) | Panic Device, Mortise, 01, LD | 4501-MRT-LD x Flush Endcap x 45MD-A | RC 630 | HAG |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop, Convex | 230W (non-latex insert) | 626 | HAG |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| (1) | Closer Mounting Bracket | 7ASL | 689 | NGP |
| | | er arm brackets. Mount closer arm brackets to | 7ASL clo | ser mountii |
| | kets; lower the closers accordingly | | | |

ting

Hardware Set 13A

| (3) | Butt Hinges | BB1168 4.5 x 4.5 | 652 | HAG |
|-----|---------------------------------|-------------------------------------|---------|-----|
| (1) | Panic Device, Mortise, 03, LD | 4501-MRTN-LD x Flush Endcap x 45MN- | ARC 630 | HAG |
| (1) | Mortise Cylinder Housing | | 626 | BES |
| (1) | Key Cylinder Core | SFIC, 7-pin Cormax | 626 | BES |
| (1) | Closer, HD Parallel Arm | 5100 1-6 ALM HD FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |
| (1) | Wall Stop/Holder | 327W | 626 | HAG |
| | Note: Locate approx. 4" down an | d in from top lock corner of door. | | |
| (1) | Adjustable Jamb Seal Set | 107NA | 628 | NGP |
| (1) | Surface Sound Sweep | SSDB3 | 628 | DHS |
| (1) | Closer Mounting Bracket | 7ASL | 689 | NGP |

Note 1: Do not cut jamb seals for closer arm brackets. Mount closer arm brackets to 7ASL closer mounting brackets; lower the closers accordingly.

Hardware Set 14

| (3) | Butt Hinges | BB1279 4.5 x 4.5 | 652 | HAG |
|-----|-----------------------|----------------------|-----|-----|
| (1) | Push Plate | 90R | 630 | HAG |
| (1) | Pull Plate | A40R x 1G | 630 | HAG |
| (1) | Closer, w/Spring Stop | 5100 1-6 ALM HDCS FC | 689 | HAG |
| (1) | Kick Plate | 194S 12 x 2LDW x CS | 630 | HAG |
| (1) | Kick Plate | 194S 12 x 1LDW x CS | 630 | HAG |

END OF SECTION 087100

087100 - 59 **DOOR HARDWARE**

SECTION 221123.21 - INLINE, DOMESTIC-WATER PUMPS

PART 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. In-line, sealless centrifugal pumps.
- 2. Horizontally mounted, in-line, close-coupled centrifugal pumps.
- 3. Vertically mounted, in-line, close-coupled centrifugal pumps.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include construction materials, rated capacities, certified performance curves with operating points plotted on curves, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For inline, domestic-water pumps to include in operation and maintenance manuals.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.
- B. Protect bearings and couplings against damage.
- C. Comply with pump manufacturer's written instructions for handling.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. UL Compliance: UL 778 for motor-operated water pumps.
- C. Drinking Water System Components Health Effects and Drinking Water System Components Lead Content Compliance: NSF 61 and NSF 372.

2.2 IN-LINE, SEALLESS CENTRIFUGAL PUMPS

- A. Description: Factory-assembled and -tested, in-line, close-coupled, canned-motor, sealless, overhung-impeller centrifugal pumps.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Grundfos Pumps Corp.
 - 2. TACO Comfort Solutions, Inc.
 - 3. Weil Pumps
 - 4. Armstrong
 - 5. Gould

C. Pump Construction:

- 1. Pump and Motor Assembly: Hermetically sealed, replaceable-cartridge type with motor and impeller on common shaft and designed for installation with pump and motor shaft horizontal.
- 2. Minimum Working Pressure: 125 psig (860 kPa).
- 3. Maximum Continuous Operating Temperature: 220 deg F (104 deg C).
- 4. Casing: Cast iron, with threaded or companion-flange connections.
- 5. Impeller: stainless steel.
- 6. Motor: Single speed.

2.3 HORIZONTALLY MOUNTED, IN-LINE, CLOSE-COUPLED CENTRIFUGAL PUMPS

- A. Description: Factory-assembled and -tested, in-line, single-stage, close-coupled, overhung-impeller centrifugal pumps designed for installation with pump and motor shaft mounted horizontal.
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Bell & Gossett; a Xylem brand.
 - 2. TACO Comfort Solutions, Inc.
 - 3. Weil Pumps
 - 4. Armstrong
 - 5. Gould

C. Pump Construction:

1. Casing:

- a. Radially split bronze, brass or cast iron with threaded companion-flange connections for pumps with NPS 2 (DN 50) pipe connections and flanged connections for pumps with NPS 2-1/2 (DN 65) pipe connections.
- b. Built to permit servicing of pump internals without disturbing the casing or the suction and discharge piping.
- c. Gauge port tappings at suction and discharge nozzles.
- 2. Impeller: Bronze or brass, statically and dynamically balanced, closed, and keyed to shaft.
- 3. Shaft and Shaft Sleeve: Steel shaft with deflector, with copper-alloy shaft sleeve. Include water slinger on shaft between motor and seal.
- 4. Shaft Coupling: Flexible, capable of absorbing torsional vibration and shaft misalignment.
- 5. Seal: Mechanical, with carbon-steel rotating ring, stainless-steel spring, ceramic seat, and rubber bellows and gasket.
- 6. Bearings: Grease-lubricated or permanently lubricated ball type.
- 7. Minimum Working Pressure: 175 psig (1200 kPa).
- 8. Continuous Operating Temperature: 225 deg F (107 deg C).
- D. Motor: Single speed, with grease-lubricated ball bearings; resiliently or rigidly mounted to pump casing.

2.4 MOTORS

- A. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 220513 "Common Motor Requirements for Plumbing Equipment."
 - 1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

2.5 CONTROLS

1. Aquastat – wire to pump per manufacturer's requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for domestic-water-piping system to verify actual locations of piping connections before pump installation.

3.2 PUMP INSTALLATION

- A. Mount pumps in orientation complying with manufacturer's written instructions.
- B. Install continuous-thread hanger rods and vibration isolation of size required to support pump weight.

- 1. Comply with requirements for vibration isolation devices specified Fabricate brackets or supports as required.
- 2. Comply with requirements for hangers and supports specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
- C. Install timers on wall in mechanical room.

3.3 PIPING CONNECTIONS

- A. Comply with requirements for piping specified in Section 221116 "Domestic Water Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Where installing piping adjacent to inline, domestic-water pumps, allow space for service and maintenance.
- C. Connect domestic-water piping to pumps. Install suction and discharge piping equal to or greater than size of pump nozzles.
 - 1. Install flexible connectors adjacent to pumps in suction and discharge piping of the following pumps:
 - a. Horizontally mounted, in-line, close-coupled centrifugal pumps.
 - b. Comply with requirements for flexible connectors specified in Section 221116 "Domestic Water Piping."
- D. Install shutoff valve and strainer on suction side of each pump, and check, shutoff, and throttling valves on discharge side of each pump. Install valves same size as connected piping. Comply with requirements for strainers specified in Section 221119 "Domestic Water Piping Specialties."
- E. Install pressure gauge and snubber at suction of each pump and pressure gauge and snubber at discharge of each pump. Install at integral pressure-gauge tappings where provided or install pressure-gauge connectors in suction and discharge piping around pumps. Comply with requirements for pressure gauges and snubbers specified in Section 220519 "Meters and Gages for Plumbing Piping."

3.4 CONTROL CONNECTIONS

- A. Install control and electrical power wiring to field-mounted control devices.
- B. Connect control wiring between temperature controllers and devices.

3.5 IDENTIFICATION

A. Identify system components. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment" for identification of pumps.

3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections with the assistance of a factory-authorized service representative.
- B. Tests and Inspections:

- 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
- 2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
- 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Inline, domestic-water pump will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.7 STARTUP SERVICE

- A. Perform startup service.
 - 1. Complete installation and startup checks according to manufacturer's written instructions.
 - 2. Check piping connections for tightness.
 - 3. Clean strainers on suction piping.
 - 4. Set controls for automatic starting and stopping operation of pumps.
 - 5. Perform the following startup checks for each pump before starting:
 - a. Verify bearing lubrication.
 - b. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
 - c. Verify that pump is rotating in the correct direction.
 - 6. Prime pump by opening suction valves and closing drains, and prepare pump for operation.
 - 7. Start motor.
 - 8. Open discharge valve slowly.
 - 9. Adjust temperature settings on thermostats.
 - 10. Adjust timer settings.

3.8 ADJUSTING

- A. Adjust inline, domestic-water pumps to function smoothly, and lubricate as recommended by manufacturer.
- B. Adjust initial temperature set points.
- C. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

END OF SECTION 221123.21

LF-17

OLF-1

OLF-1A

SHALL PROVIDE THE BMS WITH OCCUPANCY STATUS VIA AUXILIARY CONTACTS.

8. <u>TYPICAL CLASSROOM:</u> LIGHTING SHALL BE DIMMED. ENTRY STATION SHALL PROVIDE ON/OFF/DIM UP/DIM DOWN/PRESET. A VACANCY SENSOR SHALL SWITCH LIGHTING OFF AFTER 15 MINUTES IF OCCUPANT DOES NOT MANUALLY SWITCH OFF THE LIGHTING. THE VACANCY SENSOR SHALL PROVIDE THE BMS WITH OCCUPANCY STATUS VIA AUXILIARY CONTACTS.

9. STAIRS: LIGHTING SHALL REMAIN ON AT ALL TIMES. LIGHTING SHALL BE DIMMED TO 50% LEVEL UNTIL OCCUPANCY SENSOR SENSES OCCUPANCY AT WHICH TIME LIGHT LEVEL SHALL BE BROUGHT TO 100%. LIGHTS SHALL RETURN TO 50% LEVEL FIVE MINUTES AFTER LAST OCCUPANCY WAS SENSED.

4. **STORAGE ROOMS:** LIGHTING SHALL BE CONTROLLED VIA OCCUPANCY SENSOR.

• IN ALL CLASSROOMS, OFFICES, BREAK ROOMS, AND ADMINISTRATIVE SPACES, ENTRY CONTROL STATIONS SHALL TURN LIGHTS ON TO 80% OF FULL OUTPUT. DIM UP CONTROL AND/OR PRESETS SHALL ALLOW LIGHTS TO BE BROUGHT TO FULL OUTPUT.

• WHERE EMERGENCY TRANSFER RELAYS ARE SHOWN, CONNECTED LIGHT FIXTURES SHALL BE CONTROLLED ALONG WITH THE NORMAL FIXTURES IN THE SAME ZONE OF CONTROL. PROVIDE EMERGENCY, NORMAL, AND CONTROL CIRCUITS TO EMERGENCY

• WHERE DIMMING IS INDICATED TO BE PROVIDED, ADDITIONAL DIMMING CONDUCTORS MY BE REQUIRED FROM LIGHTING CONTROLLER TO FIXTURES. COORDINATE WITH LIGHTING CONTROL SYSTEM REQUIREMENTS AND PROVIDE AS REQUIRED. PROVIDE OCCUPANCY/VACANCY SENSORS, DIMMING BALLASTS/DRIVERS, CONTROLLERS, CONTROL STATIONS, ETC. AS REQUIRED FOR OPERATION AS DESCRIBED BY THE SEQUENCE OF OPERATION.

EXTERIOR LIGHTS:

• POLE-MOUNTED AND BUILDING-MOUNTED LIGHT FIXTURES, INCLUDING EMERGENCY EGRESS FIXTURES, ARE TO BE CONTROLLED

| | FIXTURE DESCRIPTION | VOLTAGE | WATTAGE | LAMP | LUMEN OUTPUT | RE SCHEDULE COLOR TEMPERATURE | COLOR RENDERING INDEX (CRI) | DRIVER | MANUFACTURER | MODEL | EQUIVALENT MANUFACTURERS |
|---|---|-------------------------|-------------------------|-------------------|-------------------------------------|--------------------------------|-----------------------------|--|----------------------------------|---|--|
| | 2' x 4' VOLUMETRIC TROFFER, STEEL HOUSING, PAINT AFTER FABRICATION, WHITE ACRYLIC DIFFUSER, INTEGRAL 277V DRIVER WITH 0-10V DIMMING TO 1%, AND 4800 LUMEN 4000K LED ENGINE WITH MINIMUM L80/60.000 HOURS. | 277 V | 38 W | LED | 4,800 LMS | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | LITHONIA | 2BLT4 48L ADSM 277 GZ1 LP840 GLR LATC | METALUX, LIGHTOLIER |
| | SAME AS LF-1 EXCEPT 4000 LUMENS | 277 V | 32W | LED | 4,000 LMS | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | LITHONIA | 2BLT4 40L ADSM 277 GZ1 LP840 GLR LATC | METALUX, LIGHTOLIER |
| | SAME AS LF-1 EXCEPT 6000 LUMENS 2' x 4' RECESSED TROFFER, STEEL HOUSING, PAINT AFTER FABRICATION, ACRYLIC DIFFUSER, INTEGRAL 277V | 277 V | 48 W | LED | 6,000 LMS | 4000 K | >80 | 0-10V DIMMING, DIMS TO 1% 0-10V DIMMING. | LITHONIA | 2BLT4 60L ADSM-277 GZ1 LR840 GLR LATC | METALUX LIGHTOLIER |
| | DRIVER WITH 0-10V DIMMING TO 1%, AND FLANGE KIT. BOTTOM ACCESSIBLE AND 3800 LUMEN 4000K LED ENGINE WITH MINIMUM L85/65,000 HOURS, WET LOCATION LISTED. 2'x 2'VOLUMETRIC TROFFER, STEEL HOUSING, PAINT AFTER FABRICATION, WHITE ACRYLIC DIFFUSER, | 277 V | 29 W | LED | 3,803 LMS | 4000 K | > 80 | DIMS TO 1% | LUMAX | LGWLED 36L 4K, 24, 4, FB ALUM 34476 | METALUX, LIGHTOLIER |
| | INTEGRAL 277V DRIVER WITH 0-10V-DIMMING TO 1%, AND 4800 LUMEN 4000K-LED ENGINE WITH MINIMUM L80/60,000 HOURS. 2' x 4' GRID TROFFER WITH STEEL HOUSING, INVERTED A19. 156" LENS, TRIPLE GASKETING, INTERGAL 277V | 277. | 32 W | LED | 4,000 LMS | 4000 K | >80 | DIMS TO 1% 0-10V DIMMING, | LITHONIA | 2BLT2 40L ADSM 277 6Z1 LP849 GLR LATC | METALUX, LIGHTOLIER |
| | DRIVER WITH 0-10V DIMMING, AND 4800 LUMEN 4000K LED ENGINE. 4' LED STRIPLIGHT, STEEL CHANNEL WITH TOOL-LESS CHANNEL COVER, DIFFUSE LENS, SUSPENDED OR SURFACE MOUNTED, CHAIN HANGING KIT, INTEGRAL 277V DRIVER, AND 5000 LUMEN 4000K LED ENGINE. | 277 V 277 V | 36 W 39 W | LED | 4,800 LMS 5,000 LMS | 4000 K 4000 K | > 80 > 80 | DIMS TO 1% LED DRIVER | LITHONIA LITHONIA | 2GTL 4 48L A19 277 GZ1 LP840 GLR LATC PAF ZL1N L48 SMR 5000LM FST 277 40K 80CRI WH HC36 | METALUX, LIGHTOLIER METALUX, LIGHTOLIER |
| | SAME AS LF-4 BUT WITH WALL MOUNT SAME AS LF-4 EXCEPT TO BE PROVIDED WITH INTEGRAL EMERGENCY BATTERY PACK WITH 10 WATTS OUTPUT POWER. 290 MA MAXIMUM AC INPUT, 3.3 WATTS, 7-10 YEAR RATED LIFE SEALED MAINTENANCE-FREE | 277 V | 34 W | LED | 5,000 LMS | 4000 K | > 80 | LED DRIVER | LITHONIA | ZL1N L48 SMR 5000LM FST 277 40K 80CRI WH SQ_ | METALUX, LIGHTOLIER |
| | HIGH-TEMPERATURE NICKEL CADMIUM BATTERIES, POLARIZED QUICK-CONNECT TEST SWITCH/PILOT LIGHT ASSEMBLY, BATTERIES FULLY RECHARGED WITHIN 24 HOURS AFTER A DISCHARGE, FLEXIBLE METAL CONDUIT ALLOWS FOR MOUNTING INSIDE OR OUTSIDE OF WIREWAY, PAINTED STEEL ENCLOSURE, UL LISTED FOR WET LOCATIONS, AND FIVE YEAR LIMITED WARRANTY. INVERTER IMMEDIATELY DRIVES THE LED LOAD AT A REDUCED LIGHT OUTPUT FOR A MINIMUM OF 90 MINUTES. | 277 V | 39 W | LED | 5,000 LMS | 4000 K | > 80 | LED DRIVER | LITHONIA | ZL1N L48 SMR 5000LM FST 277 40K 80CRI WH HC36 | METALUX, LIGHTOLIER |
| | 4" RECESSED LINEAR CONTINUOUS FIXTURE WITH EXTRUDED ALUMINUM SIDE RAILS WITH ALIGNMENT TABS, FLUSH FROSTED DIFFUSER, INTEGRAL DRIVER WITH 0-10V DIMMING TO 1%, AND 900 LUMEN PER FOOT 4000K LED ENGINE. PROVIDE IN LENGTH AND CONFIGURATION SHOWN ON DRAWINGS. SAME AS LF-5 BUT WITH 750 LUMEN / 7 WATT PER FOOT OUTPUT AND RECESSED IN GYPSUM CEILING. | 277 V 277 V | 10 W / FT | LED LED | 900 LMS / FT 750 LMS / FT | 4000 K | > 80 > 80 | 0-10V DIMMING, DIMS TO 1% 0-10V DIMMING, DIMS TO 1% | NULITE NULITE | RG4 09 L40 2 D 1 FRF WH XX GLR RR4 06 L40 277 D 11 FR F WH 4 GLR | LEDALITE, MARK, AXIS LEDALITE, MARK, AXIS |
| | RECESSED GRID 4" APERTURE LED WITH FORMED COLD ROLLED STEEL HOUSING, EXTRUDED ALUMINUM TRIM, FORMED STEEL REFLECTOR, 90% TRANSMISSIVE TEXTURED POLYCARBONATE LENS, MULTI-VOLT DIM TO BLACK DRIVER, 4000K LED LIGHT ENGINE PRODUCING 1036 DELIVERED LUMENS PER FOOT, 10 INPUT WATTS PER FOOT, L80 RATED LIFE OF 65,000 HOURS, LIGHTING FACTS LABEL, CSA LISTED FOR DRY LOCATIONS, AND FIVE-YEAR LIMITED WARRANTY. | 277 V | 10 W / FT | LED | 1036 LMS / FT | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | NULITE | RR4 10 L40 277 D 11 FR F WH 27 ASYM GLR | LEDALITE, MARK, AXIS |
| | SURFACE MOUNTED 3-1/2" WIDE X 4-3/8" DEEP LINEAR DIRECT LED WITH EXTRUDED ALUMINUM SIDE RAILS, FORMED COLD ROLLED STEEL BACK CHANNEL, HEAVY GAUGE END CAPS, SYMMETRIC DISTRIBUTION, 4000K 886 DELIVERED LUMENS PER FOOT LED ARRAY, CONSTANT CURRENT 0-10 VOLT 100-1% INTENSITY DIMMING DRIVER, EXTRUDED FROSTED ACRYLIC OR SATIN WHITE ACRYLIC SNAP-IN LENS, FIELD REPLACEABLE MODULE IS REPLACEABLE L90 ≥ 100,000 HOURS, ETL LISTED, POWDER COAT TEXTURED FINISH, FUSING, AND FIVE YEAR LIMITED WARRANTY. | 277 V | 10 W / FT | LED | 900 LMS / FT | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | NULITE | RG4 09 L40 2 D 1 FRF WH XX GLR | LEDALITE, MARK, AXIS |
| | LED HIGH BAY WITH DIE-CAST ALUMINUM HOUSING, GLASS LENS WITH WIREGUARD, INTEGRAL DRIVER, 65 DEGREE C RATING, AND 30,000 LUMEN 4000K LED ENGINE. PROVIDE WITH CORD/PLUG AS REQUIRED. ARCHITECT SHALL SELECT FIXTURE FINISH DURING SHOP DRAWING PHASE. | 277 V | 221 W | LED | 30,000 LMS | 4000 K | > 80 | 0-10V DIMMING DRIVER | LITHONIA | JHBL 30000LM ACL WD 277 GZ10 40K 80CRI WGX CS88 | COOPER, LIGHTOILER |
| | 6" RECESSED DOWNLIGHT, CLEAR TRIM, MEDIUM WIDE DISTRIBUTION, SEMI-SPECULAR FINISH, INTEGRAL 277V DRIVER, AND 1000 LUMEN 4000K LED ENGINE. 6" RECESSED LINEAR CONTINUOUS FIXTURE WITH EXTRUDED ALUMINUM FIXTURE WITH ALIGNMENT TABS. | 277 V | 10 W | LED | 1000 LMS | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 10% | GOTHAM | EVO6 40/10 AR MD LSS 277 GZ1 SF | LITHONIA, LIGHTOLIER |
| | FLUSH FROSTED DIFFUSER, INTEGRAL DRIVER WITH 0-10V DIMMING TO 1%, AND 882 LUMEN PER FOOT 4000K LED ENGINE. PROVIDE IN LENGTH AND CONFIGURATION SHOWN ON DRAWINGS. RECESSED INDIRECT 2X2 LED WITH 22 GUAGE STEEL HOUSING. LED ARRAY ON 4 SIDES OF HOUSING. LIGHT | 277 V | 8W/ FT | LED | 882 LMS / FT | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | NULITE | RG6 09 L40 277 DO 1C FR F 8' GLR | LEDALITE, MARK, AXIS |
| | EMIITING ANIDOLIC OPTICAL STRUCTURES COVERED BY EXTRUDED ACRYLIC LENSES ON 2 SIDES OF HOUSING, LIGHT HOUSING, HIGH REFLECTANCE WHITE TEXTURED POWDER COAT REFLECTOR, 4000 DELIVERED LUMENS, INTEGRAL ELDOLED 0-10 VOLT 1-100% DIMMABLE LED DRIVER, L90 RATED LIFE OF 60,000 HOURS, 4000K LED ARRAY BINNED TO 2 SDCM, UL LISITNG, AND FIVE YEAR LIMITED WARRANTY. RECESSED INDIRECT 2X4 LED WITH 22 GUAGE STEEL HOUSING, LED ARRAY ON 4 SIDES OF HOUSING, LIGHT | 277 V | 38 W | LED | 4000 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | FLUXWERK | NB2 22 C 40 F2 M | ZUMTOBEL, PHILIPS, CORELITE |
| | EMITING ANIDOLIC OPTICAL STRUCTURES COVERED BY EXTRUDED ACRYLIC LENSES ON 2 SIDES OF HOUSING, HIGH REFLECTANCE WHITE TEXTURED POWDER COAT REFLECTOR, 4000 DELIVERED LUMENS, INTEGRAL ELDOLED 0-10 VOLT 1-100% DIMMABLE LED DRIVER, L90 RATED LIFE OF 60,000 HOURS, 4000K LED ARRAY BINNED TO 2 SDCM, UL LISITNG, AND FIVE YEAR LIMITED WARRANTY. WALL MOUNTED 5-1/2" WIDE X 5-1/2" TALL LINEAR DIRECT/INDIRECT LED WITH EXTRUDED ALUMINUM SIDE | 277 V | 47 W | LED | 4000 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | FLUXWERK | NB2 24 C 40 F2 M | ZUMTOBEL, PHILIPS, CORELITE |
| | RAILS, FORMED COLD ROLLED STEEL BACK CHANNEL, HEAVY GAUGE END CAPS, ASYMMETRIC DISTRIBUTION UP/DOWN, 4000K 12747 DELIVERED LUMEN PER FOOT LED ARRAY, CONSTANT CURRENT ELECTRONIC DRIVER WITH 0-10V DIMMING INPUT, EXTRUDED FROSTED ACRYLIC OR SATIN WHITE ACRYLIC SNAP-IN LENS, FIELD REPLACEABLE MODULE IS REPLACEABLE L90 ≥ 100,000 HOURS, ETL LISTED, POWDER COAT TEXTURED FINISH, AND FIVE YEAR LIMITED WARRANTY. FIXTURE TO BE PROVIDED WITH INTEGRATED DAYLIGHT & OCCUPANCY SENSOR. | 277 V | 21 W / FT | LED | 1274 LM/FT | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | NULITE | RW6 B 13 L40 277 D 11 FRF ** ** ASYM DSOS | LEDALITE, MARK, AXIS |
| | PENDANT LINEAR LED FIXTURE WITH ROUND ENDCAPS, THREE ILLUMINATED SPOKES RUNNING THE LENGTH OF THE FIXTURE AND 120 DEGREES APART, INTEGRAL DRIVER WITH 0-10V DIMMING TO 1%, AND 600 LUMENS PER FOOT AT 4000K FROM EACH SPOKE. DURING SHOP DRAWING PHASE, ARCHITECT SHALL SELECT FIXTURE, HARDWARE, DRIVER, CANOPY, AND CORD FINISHES FROM CUSTOM FINISHES AND CANOPY SIZES. PROVIDE IN LENGTHS, CONFIGURATIONS, AND PENDANT LENGTHS AS REQUIRD BY DRAWINGS. TWO (2) CIRCUIT TRACK WITH EXTRUDED ALUMINUM HOUSING. THERMOPLASTIC INSULATORS. COPPER ROLL | 277 V | 23 W / FT | LED | 1985 LM / FT | 4000 K | >80 | 0-10V DIMMING, DIMS TO 1% | LUMIUM | Y3 CS ** 40K HO UNV 1D XX | FOCAL POINT, LIGHTOLIER |
| | FORMED BUSBARS, MODULAR JOINERS, STARTERS, AND ALL NECESSARY HARDWARE FOR FIXTURES INDICATED ON DRAWINGS. THE TRACK HEAD SHALL PROVIDE 975 DELIVERED LUMENS PER HEAD WITH 4 TRACK HEADS PER FIXTURE, SPOT DISTRIBUTION, SPUN ALUMINUM HOUSING, .125" THICK ALUMINUM BARSTOCK ADJUSTABLE YOKE, ACCESSORY HOLDER, AND 5 YEAR WARRARNY. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. | 277 V | 52 W PER HEAD | LED | 3900 LM | 4000 K | 90 | PHASE DIMMING | INTENSE LIGHTING | MB3G2 L3 419 DIM B 17 PS-27 | EDISON PRICE, LSI |
| | TWO (2) CIRCUIT TRACK WITH EXTRUDED ALUMINUM HOUSING, THERMOPLASTIC INSULATORS, COPPER ROLL FORMED BUSBARS, MODULAR JOINERS, STARTERS, AND ALL NECESSARY HARDWARE FOR FIXTURES INDICATED ON DRAWINGS. THE TRACK HEAD SHALL PROVIDE 975 DELIVERED LUMENS PER HEAD WITH 4 TRACK HEADS PER FIXTURE, WIDE FLOOD DISTRIBUTION, SPUN ALUMINUM HOUSING, .125" THICK ALUMINUM BARSTOCK ADJUSTABLE YOKE, ACCESSORY HOLDER, AND 5 YEAR WARRARNY. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. | 277 V | 52 W PER HEAD | LED | 3900 LM | 4000 K | 90 | PHASE DIMMING | INTENSE LIGHTING | MB3G2 L3 419 DIM B 55 PS-27 | EDISON PRICE, LSI |
| | 1.4" WIDE BY 0.4" DEEP SURFACE MOUNT LED FIXTURE WITH EXTRUDED ALUMINUM HOUSING, CLIP FOR MOUNTING TO UNISTRUT, REMOTE MULTVOLT DRIVER WITH 0-10V DIMMING TO 1%, AND 899 LUMENS PER FOOT 4000K 90CRI LED ENGINE. INSTALL REMOVE DRIVER ABOVE ADJACENT CORRIDOR LAY-IN CEILING AND | 277 V | 7 W / FT | LED | 899 LM / FT | 4000 K | >80 | 0-10V DIMMING, DIMS TO 1% | VODE LIGHTING | 707-Z2 ** C/CM** RP AE 2 0 Z SO 40 S3 0 | AXIS, LIGHTOLIER |
| | PROVIDE ALL INTERCONNECTIONS. COORDINATE QUANTITY OF DRIVER WITH MANUFACTURER. 1.4" WIDE BY 0.4" DEEP SURFACE MOUNT LED FIXTURE WITH EXTRUDED ALUMINUM HOUSING, CLIP FOR MOUNTING TO UNISTRUT, REMOTE MULTVOLT DRIVER WITH 0-10V DIMMING TO 1%, AND 1300 LUMENS PER | 277.1/ | 0.014/157 | LED | 4240 LM / FT | 4000 K | 00 | 0-10V DIMMING, | VODE LIGHTING | 707-Z2 ** C/CM** RP AE 2 0 Z HO 409 S3 0 | AVIC LIGHTOHER |
| | FOOT 4000K 90CRI LED ENGINE. INSTALL REMOVE DRIVER ABOVE ADJACENT CORRIDOR LAY-IN CEILING AND PROVIDE ALL INTERCONNECTIONS. COORDINATE QUANTITY OF DRIVERS WITH MANUFACTURER. 1.4" WIDE BY 0.4" DEEP SURFACE MOUNT LED FIXTURE WITH EXTRUDED ALUMINUM HOUSING, CLIP FOR | 277 V | 9.9 W / FT | LED | 1349 LM / FT | 4000 K | 90 | DIMS TO 1% | VODE LIGHTING | 707-22 *** C/CM*** RP AE 2 0 2 HO 409 53 0 | AXIS, LIGHTOLIER |
| | MOUNTING TO UNISTRUT, REMOTE MULTVOLT DRIVER WITH 0-10V DIMMING TO 1%, AND 250 LUMENS PER FOOT 4000K 90CRI LED ENGINE. INSTALL REMOVE DRIVER ABOVE ADJACENT CORRIDOR LAY-IN CEILING AND PROVIDE ALL INTERCONNECTIONS. COORDINATE QUANTITY OF DRIVERS WITH MANUFACTURER. SURFACE MOUNTED NON-METALLIC LED VAPOR PROOF FIXTURE WITH CORROSION RESISTANT GLASS REINFORCED POLYESTER THERMOPLASTIC HOUSING, HIGH IMPACT RESISTANT GLASS REINFORCED | 277 V | 3.8W / FT | LED | 248 LM / FT | 4000 K | 90 | 0-10V DIMMING, DIMS TO 1% | VODE LIGHTING | 707-Z2 SL ** C/CM** RP25 AE 2 0 Z LO 40 A1 0 | AXIS, LIGHTOLIER |
| | POLYMER ALLOY GUARD, BRASS SCREWS AND INSERTS, LONG-LIFE SILICONE GASKETS, GREY FINISH, UL 1570/1571 "WET LOCATION IN ANY ORIENTATION", UL 595 "MARINEOUTSIDE TYPE (SALTWATER)", 277 VOLT LED DRIVER, AND 50,000 HOUR L70 RATED LIFE LED ARRAY.WET LOCATION LISTED. | 277 V | 27 W | LED | 3,000 LM | 4000 K | > 80 | LED DRIVER | LITHONIA | DMW2 L24 3000LM ACL MD 277 GZ10 40K 80CRI | PARAMOUNT, KENALL |
| | PENDANT MOUNTED LED RING WITH 5" X 5" (IN PROFILE) RING WITH 10' OVERALL DIAMETER, MATTE OPAL ACRYLIC DIFFUSER, WHITE POWER CORD 82" OVERALL HEIGHT, INTEGRAL 277V ADRESSABLE DRIVER, EQUIVALENT TO ECOSYSTEM, TO ALLOW INDEPENDENT CONTROL AND ZONING OF LIGHT FIXTURE, AND 40,353 LUMEN 4000K LED ENGINE. DISK METAL INNER RING SHALL HAVE CUSTOM FINISH SELECTED BY ARCHITECT DURING SHOP DRAWING PHASE. | 277 V | 395 W | LED | 40,353 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 10% | SPI LIGHTING | AIP12099 L395W 120-277V 4000K H05 ** MIA ** | CORE-LITE, LIGHTOLIER, OCL |
| | PENDANT MOUNTED LED RING WITH 5" X 5" (IN PROFILE) RING WITH 6' OVERALL DIAMETER, MATTE OPAL ACRYLIC DIFFUSER, WHITE POWER CORD 82" OVERALL HEIGHT, INTEGRAL 277V ADRESSABLE DRIVER, EQUIVALENT TO ECOSYSTEM, TO ALLOW INDEPENDENT CONTROL AND ZONING OF LIGHT FIXTURE, AND 23,088 LUMEN 4000K LED ENGINE. DISK METAL INNER RING SHALL HAVE CUSTOM FINISH SELECTED BY ARCHITECT DURING SHOP DRAWING PHASE. PENDANT MOUNTED LED RING WITH 5" X 5" (IN PROFILE) RING WITH 8' OVERALL DIAMETER, MATTE OPAL | 277 V | 226 W | LED | 23,088 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 10% | SPI LIGHTING | AIP11997 L226W 120-277V 4000K H05 ** MIA ** | CORE-LITE, LIGHTOLIER, OCL |
| | ACRYLIC DIFFUSER, WHITE POWER CORD 82" OVERALL HEIGHT, INTEGRAL 277V ADRESSABLE DRIVER, EQUIVALENT TO ECOSYSTEM, TO ALLOW INDEPENDENT CONTROL AND ZONING OF LIGHT FIXTURE, AND 11,034 LUMEN 4000K LED ENGINE. DISK METAL INNER RING SHALL HAVE CUSTOM FINISH SELECTED BY ARCHITECT DURING SHOP DRAWING PHASE. SINGLE CIRCUIT TRACK WITH EXTRUDED ALUMINUM HOUSING. THERMOPLASTIC INSULATORS. COPPER ROLL | 277 V | 310 W | LED | 31,670 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 10% | SPI LIGHTING | AIP12084 L310W 120-277V 4000K H05 ** MIA ** | CORE-LITE, LIGHTOLIER, OCL |
| | FORMED BUSBARS, MODULAR JOINERS, STARTERS, AND ALL NECESSARY HARDWARE FOR FIXTURES INDICATED ON DRAWINGS. THE TRACK HEAD SHALL PROVIDE 975 DELIVERED LUMENS PER HEAD WITH 4 TRACK HEADS PER FIXTURE, SPOT DISTRIBUTION, CAST ALUMINUM HOUSING, CAST ALUMINUM ADJUSTABLE KNUCKLE, L70 OF 50,000 HOURS, AND 5 YEAR WARRANTY. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. | 277 V | 52 W PER HEAD | LED | 3900 LM | 4000 K | >90 | PHASE DIMMING | JUNO LIGHTING | TL252L 40K 90CRI SP WH | EDISON PRICE, LSI |
| | 4" RECESSED LINEAR CONTINUOUS FIXTURE WITH EXTRUDED ALUMINUM FIXTURE WITH ALIGNMENT TABS, FLUSH FROSTED DIFFUSER, INTEGRAL DRIVER WITH 0-10V DIMMING TO 1%, AND 724 LUMEN PER FOOT 4000K LED ENGINE. PROVIDE IN LENGTH AND CONFIGURATION SHOWN ON DRAWINGS. | 277 V | 7 W / FT | LED | 724 LMS / FT | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | NULITE | RG4 06 L40 2 D 1 FRF ** XX GLR | LEDALITE, MARK, AXIS |
| | PENDANT MOUNTED DIRECT/INDIRECT LED WITH HOLLOW CORE 19" DIAMETER X 11" TALL PROFILE, ROUND SPUN ALUMINUM UPPER HOUSING, DOUBLE LAYER POLYETHLENE LOWER DIFFUSER, 9731 DELIVERED LUMENS, L70 OF 60,000 HOURS, 0-10V DIMMABLE DRIVER FROM 100 TO 10%, STEM ASSEMBLY, ETL LISTING FOR DAMP LOCATIONS, AND FIVE YEAR FIXTURE WARRANTY. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. | 277 V | 108 W | LED | 9,731 LM | 4000K | > 80 | 0-10V DIMMING, DIMS TO 10% | LUMINIS | HC1600 L4L90 277 WHT FS | BETA CALCO, SIGNIFY |
| | DECORATIVE LED PENDANT WITH 12" DIAMETER X 8' TALL TRANSLUCENT ACRYLIC CYLINDER, 4000K LED LIGHT ENGINE ILLUMINATING BODY DELIVERING 25,200 LUMENS, WIDE DISTIBUTION LUMEN DOWNLIGHT DELIVERING 2800 LUMENS, OVEN CURED NO VOC ACRYLIC POWDER COAT FOR PAINTED FINISH, REMOTE 0-10V DIMMABLE LED DRIVER, ADJUSTABLE WHITE POWER/SUSPENSION CABLE, ROUND DECORATIVE CANOPY, ETL LISTED FOR INDOOR DAMP LOCATIONS, L70 RATED LIFE OF 50,000 HOURS, AND FIVE YEAR FIXTURE WARRANTY. THE REMOTE POWER SUPPLY SHALL BE LOCATED WHERE INDICATED ON DRAWINGS. LENGTH AND OVERALL HEIGHT AS INDICATED ON DRAWINGS. FINISH SHALL BE SELECTED BY ARCHITECT DURING SHOP DRAWING PHASE. | 277 V | 261 W | LED | 25200 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | VISA LIGHITNG | CP2062 L40K L40K WIDE ** | ORIGINAL CAST LIGHTING, INONA |
| | DECORATIVE LED PENDANT WITH 24" DIAMETER/36" DIAMETER/72" DIAMETER TIERED ILLUMINATED 5" DEEP ACRYLIC RINGS, 4000K LED ARRAYS WITH L70 RATED LIFE OF 50,000 HOURS, 58,000 DELIVERED LUMENS, REMOTE MOUNTED 0-10 VOLT DIMMABLE LED DRIVER(S), MULTI SUPPORT CABLES ENDING IN CENTER HUB, UL LISTING, AND FIVE YEAR WAARNTY. | 277 V | 581 W | LED | 59,262 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | SPI LIGHTING | AIP11987 L581 120-277V 4000K DF_PSS ** | BETA CALCO, SIGNIFY, OCL |
| | PENDANT MOUNTED DIRECT/INDIRECT LINEAR ILLUMINATED FORM WITH 5" SQUARE TRANSLUCENT MATTE ACRYLIC DIFFUSER, WHITE ENAMELED CENTER CHANNEL, MAGNETIC ALIGNMENT CONNECTORS, 4000K LED ARRAYS WITH L70 RATED LIFE OF 50,000 HOURS, 8,400 DELIVERED LUMENS PER FOOT, REMOTE MOUNTED 0-10 VOLT DIMMABLE LED DRIVER(S), ADJUSTABLE AIRCRAFT SUPPORT CABLES, UL LISTING, AND FIVE YEAR WARRNTY. LENGTH AND CONFIGURATION AS SHOWN ON DRAWINGS. | 277 V | 81 W | LED | 8,432 LM | 4000 K | >80 | 0-10V DIMMING, DIMS TO 1% | SPI LIGHTING | AIP12071 8FT-L81W 120-277V 4000K DF_AC ** ** | BETA CALCO, SIGNIFY, OCL |
| | PENDANT MOUNTED DIRECT/INDIRECT LINEAR ILLUMINATED FORM WITH 5" SQUARE TRANSLUCENT MATTE ACRYLIC DIFFUSER, WHITE ENAMELED CENTER CHANNEL, MAGNETIC ALIGNMENT CONNECTORS, 4000K LED ARRAYS WITH L70 RATED LIFE OF 50,000 HOURS, 2,000 DELIVERED LUMENS PER FOOT, REMOTE MOUNTED 0-10 VOLT DIMMABLE LED DRIVER(S), ADJUSTABLE AIRCRAFT SUPPORT CABLES, UL LISTING, AND FIVE YEAR WAARNTY. LENGTH AND CONFIGURATION AS SHOWN ON DRAWINGS. WALL MOUNTED LED SCONCE WITH 2.2" DIMATER SATIN ACRYLIC DIFFUSER, 5,900 DELIVERED LUMENS, 4000K | 277 V | 20 W | LED | 2,082 LM | 4000 K | >80 | 0-10V DIMMING, DIMS TO 1% | SPI LIGHTING | AIP12071 2FT-L20W 120-277V 4000K DF_AC ** ** | BETA CALCO, SIGNIFY, OCL |
| | LED ARRAY, MULTI-VOLT DRIVER, L70 OF 50,000 HOURS, UL LISTING FOR DAMP LOCATIONS, AND FIVE YEAR WARRANTY. WALL MOUNTED ARCHITECTURAL WALL SCONCE WITH VISUAL COMFORT FORWARD THROW DISTRIBUTION | 277 V | 48 W | LED | 5,944 LMS | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 1% | INTERLUX | MODEL 1740 W 120" M 840 U S SA ** ** | ORIGINAL CAST, VISA |
| | WITH BI-LEVEL MOTION SENSOR. WET LOCATION LISTED. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. WALL MOUNTED ARCHITECTURAL WALL SCONCE WITH VISUAL COMFORT FORWARD THROW DISTRIBUTION | 277 V | 71 W | LED | 10,054 LM | 4000 K | > 80 | LED DRIVER | LITHONIA | WDGE3 LED P3 40K 80CRI R3 MVOLT *** PIR | METALUX, LIGHTOLIER |
| | WITH BI-LEVEL MOTION SENSOR. WET LOCATION LISTED. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. LED AREA LIGHT WITH CAST-ALUMINUM HOUSING AND DOOR FRAME, ACRYLIC LENSES, TYPE 3 MEDIUM | 277 V | 32 W | LED | 3,216 LM | 4000 K | > 80 | LED DRIVER | LITHONIA | WDGE2 LED P3 40K 80 CRI T3M MVOLT SRM ** PIR | METALUX, LIGHTOLIER |
| | DISTRIBUTION, INTEGRAL DRIVER, AND 37,974 LUMEN 4000K LED ENGINE. INSTALL ON 25' SQUARE STRAIGHT STEEL POLE. ARCHITECT SHALL SELECT FINISH OF FIXTURE AND POLE FROM STANDARD FINISHES DURING SHOP DRAWING PHASE. | 480 V | 321 W | LED | 37,974 LM | 4000 K | > 80 | LED DRIVER | LITHONIA | DSX2 LED P5 40K T3M 480 SPA DF ** / SSS 25 5G VD ** | COOPER, LIGHTOILER |
| | SAME AS OLF-2 EXCEPT TYPE 5 WIDE DISTRIBUTION. SAME AS OLF-2 EXCEPT WITH TYPE 4 MEDIUM DISTRIBUTION. SAME AS OLF-2 EXCEPT WITH TYPE 2 MEDIUM DISTRIBUTION. | 480 V 480 V 480 V | 321 W 321 W 321 W | LED LED LED | 39,144 LM 37,149 LM 38,067 LM | 4000 K 4000 K 4000 K | > 80 > 80 > 80 | LED DRIVER LED DRIVER LED DRIVER | LITHONIA LITHONIA LITHONIA | DSX2 LED P5 40K T5W 480 SPA DF ** / SSS 25 5G VD ** DSX2 LED P5 40K T4M 480 SPA SF ** / SSS 25 5G VD ** DSX2 LED P5 40K T2M 480 SPA SF ** / SSS 25 5G VD ** | COOPER, LIGHTOILER |
| | PEDESTRIAN SCALE LED WITH 24" DIAMETER X 4" HIGH DIE-CAST ALUMINUM HOUSING, ACRYLIC WAVE GUIDE, 360 DEGREE LED BOARD, ALUMINUM HEAT SINK, INTEGRAL LED DRIVER, INTEGRAL SURGE PROTECTION, 5,000 DELIVERED LUMENS, TYPE 5 DISTRIBUTION, 78,000 HOURS RATED LIFE AT 100,000 HOURS, ETL LISTING FOR WET LOCATION, AND FIVE YEAR WARRANTY. FIXTURE TO BE MOUNTED TO A 12' STRAIGHT ROUND STEEL POLE. FINISH IS TO BE SELECTED BY ARCHITECT DURING SHOP DRAWING PHASE. | 480 V | 38 W | LED | 5,000 LM | 4000 K | > 80 | LED DRIVER | LITHONIA | RADPT LED P2 40K SYM MVOLT RADPT20 ** SF ** | WE-EF, BEGA |
| | RECESSED 4" APERTURE WET LOCATION LED WITH EXTRUDED ALUMINUM HOUSING, EXTRUDED ALUMINUM TRIM, FORMED STEEL REFLECTOR, 90% TRANSMISSIVE TEXTURED POLYCARBONATE LENS, 100-1% DIMMABLE DRIVER, 4000K LED LIGHT ENGINE PRODUCING 375 DELIVERED LUMENS PER FOOT, L90 RATED LIFE OF 61,000 HOURS, LIGHTING FACTS LABEL, UL LISTED FOR WET LOCATIONS, AND FIVE YEAR LIMITED WARRANTY. ARCHITECT SHALL SELECT FINISH DURING SHOP DRAWING PHASE. | 277 V | 36 W | LED | 1500 LM | 4000 K | >80 | LED DIMMING DRIVER | FOCAL POINT | FSM4LWL FL 375LF 40K 1C UNV L11 TF WH 4' | ZUMTOBEL, SELUX |
| | 6" RECESSED DOWNLIGHT, CLEAR TRIM, MEDIUM WIDE DISTRIBUTION, SEMI-SPECULAR FINISH, INTEGRAL 277V DRIVER, AND 1000 LUMEN 4000K LED ENGINE. WALL MOUNTED WET LOCATION LINEAR FLOOD LIGHT WITH 1.6" DIAMETER EXTRUDED ALUMINUM HOUSING, | 277 V | 10 W | LED | 1000 LM | 4000 K | > 80 | 0-10V DIMMING, DIMS TO 10% | GOTHAM | EVO6 40/10 AR MD LSS 277 GZ1 SF | LITHONIA, LIGHTOLIER |
| | ACRYLIC DIFFUSER, 60 DEGREE OPTICS, 2337 DELIVERED LUMENS PER NOMINAL 8' SECTION, ALUMINUM END CAPS, 18" WALL MOUNTING BRACKETS, MINI CANOPIES, REMOTE MOUNTED 24 VOLT LED POWER SUPPLY, THERMOSET POLYESTER POWDER COAT PAINT FINISH, ETL LISTED FOR USE IN WET LOCATIONS. LENGTH AS INDICATED ON DRAWINGS. NOTE FIXTURE MODEL IS PER 1 FOOT. PROVIDE FIXTURE IN LENGTH AND CONFIGURATION. | 277 V | 7W / FT W | LED | 712 LMS / FT | 4000 K | > 80 | LED DRIVER | SPI LIGHTING | 1FT-L7W 120-277V ** RUN** SMB | ELLIPTIPAR, INSIGHT |
| | UNIVERSAL MOUNTED STENCIL SINGLE FACE SELF DIAGNOSTIC LED EXIT SIGN WITH DIE-CAST ALUMINUM HOUSING, SINGLE CAST ALUMINUM HINGED FACEPLATE PER PLANS, WHITE FINISHED HOUSING, LOW ENERGY CONSUMPTION LONG-LIFE LED LAMPS, UL LABEL, FIVE YEAR FIXTURE WARRANTY | 277 V | 1 W | LED | N/A | N/A | N/A | LED DRIVER | LITHONIA | LES1R | DUALITE, EMERGILITE |
| _ | UNIVERSAL MOUNTED STENCIL DOUBLE FACE SELF DIAGNOSTIC LED EXIT SIGN WITH DIE-CAST ALUMINUM HOUSING, DUAL CAST ALUMINUM HINGED FACEPLATE PER PLANS, WHITE FINISHED HOUSING, LOW ENERGY CONSUMPTION LONG-LIFE LED LAMPS, UL LABEL, FIVE YEAR FIXTURE WARRANTY | 277 V | 1 W | LED | N/A | N/A | N/A | LED DRIVER | LITHONIA | LES2R | DUALITE, EMERGILITE |

| ROOM NUMBER | ROOM NAME | NOTE NUMBER |
|-----------------------|--|-------------|
| A100A | CORRIDOR | 1 |
| A100B A100C | CORRIDOR CORRIDOR | 1 1 |
| A100D A100E | CORRIDOR CORRIDOR | 1 1 |
| A101 A102 | CUST. SCIENCE CLASSROOM | 8 |
| A102A A103 | SCIENCE STORAGE CHASE | 4 N/A |
| A104 A105 | STORAGE RESTROOMS | 4 2 |
| A105A A105B | RR RR | 2 2 |
| A105C A105D | RR RR | 2 2 |
| A105E A105F | RR RR | 2 2 |
| A106 A107 | CLASSROOM MDF | 8 5 |
| A108 | CLASSROOM | 8 |
| A109 A110 | WORKROOM CLASSROOM | 7 8 |
| A111 A112 | AP OFFICE CLASSROOM | 6 8 |
| A113 A114 | (COMPUTER) FLEX / MAKER CLASSROOM | 8 8 |
| A115 A115A | RESTROOMS RR | 2 2 |
| A115B A115C | RR RR | 2 2 |
| A115D A115E | RR RR | 2 2 |
| A115F | RR | 2 |
| A116 A117 | CLASSROOM CHASE | 8 N/A |
| A118A A118B | RESOURCE RESOURCE | 11 |
| A119 A120 | STAFF RESOURCE | 3 8 |
| A120 A121 | RESOURCE CUST. | 8 3 |
| A122 A123 | STORAGE GUIDANCE | 4 6 |
| A124 | SCIENCE CLASSROOM | 8 |
| A124A A125 | SCIENCE STORAGE ELECT. | 5 |
| A126 A127 | CLASSROOM STAFF | 8 3 |
| A128 A130 | CLASSROOM CLASSROOM | 8 8 |
| A132A A132B | RESOURCE RESOURCE | 11 11 |
| A134 A136 | STORAGE SCIENCE CLASSROOM | 4 8 |
| A136A A200A | SCIENCE CLASSROOM SCIENCE STORAGE CORRIDOR | 4 |
| A200B | CORRIDOR | 1 |
| A200C A200D | CORRIDOR CORRIDOR | 1 |
| A200E A201 | CUST. | 3 |
| A202 A202A | SCIENCE CLASSROOM SCIENCE STORAGE | 8 4 |
| A203 A204 | CHASE MECH ACCESS | N/A 5 |
| A205 A205A | RESTROOMS RR | 2 2 |
| A205B A205C | RR RR | 2 2 |
| A205D | RR | 2 |
| A205E A205F | RR RR | 2 2 |
| A206 A207 | CLASSROOM STOR | 8 4 |
| A208 A209 | CLASSROOM WORKROOM | 8 |
| A210 A211 | CLASSROOM AP OFFICE | 8 6 |
| A212 A213 | CLASSROOM (COMPUTER) FLEX / MAKER | 8 8 |
| A214 | CLASSROOM | 8 |
| A215A A215B | RESTROOMS RR | 2 2 |
| A215B A215C | RR RR | 2 2 |
| A215D A215E | RR RR | 2 2 |
| A215F A216 | RR CLASSROOM | 2 8 |
| A217 A218A | CHASE RESOURCE | N/A 11 |
| A218B A219 | RESOURCE STAFF | 11 3 |
| A220 A221 | RESOURCE CUST. | 8 3 |
| A222 A223 | MECH ACCESS GUIDANCE | 5 |
| A224 | SCIENCE CLASSROOM SCIENCE STORAGE | 8 |
| A224A A225 | STAFF | 3 |
| A226 A228 | CLASSROOM CLASSROOM | 8 8 |
| A230 A232A | CLASSROOM RESOURCE | 8 11 |
| A232B A234 | RESOURCE STORAGE | 11 4 |
| A236 A236A | SCIENCE CLASSROOM SCIENCE STORAGE | 8 4 |
| A301 A302 | MECH PLATFORM IDF | 5 |
| B100A | CORRIDOR | 1 |
| B100A1 B100A2 | VESTIBULE | 1 1 |
| B100B B101 | CORR. MD STOR. | 1 4 |
| B102 B103 | SRO RECEPTION | 6 |
| B104 B105 | ATTENDANCE FIRST AID | 6 |
| B105A B105B | EXAM EXAM | 6 |
| B105C B106 | TOILET MAIL | 3 6 |
| B107 B108 | RECORDS SBDM OFFICE (BOOKKEEPER) | 6 |
| B109 | GUIDANCE RECEPTION | 6 |
| B110 B111 | PRINCIPAL MENTAL HEALTH | 6 |
| B112 B113 | SBDM CONFERENCE WORKROOM | 7 |
| B114 B115 | GUIDANCE OFFICE FRC | 6 8 |
| B115A B115B | OFFICE TOILET | 6 3 |
| B116 B200A | STAFF CORRIDOR | 3 |
| B200A B201 B301 | MECH MECH | 5 |
| B302 | Space | N/A |
| C100A C100A1 | CORRIDOR VEST. | 1 |
| C100B C100C | CORRIDOR CORRIDOR | 1 |
| C100C C100D | CORRIDOR CORRIDOR | 1 1 |
| C100E C101 | CORRIDOR CUST. | 1 3 |
| C102 C103 | EMR CHASE | 5 N/A |
| C104 | CLASSROOM | 8 |
| C105 C105A | RESTROOMS RR | 2 2 |
| C105B C105C | RR RR | 2 2 |
| C105D C105E | RR RR | 2 2 |
| C105F C106 | RR CLASSROOM | 2 8 |
| C107 | CLASSROOM CLASSROOM | 8 |
| C108 C109 | IDF | 5 |
| C110 C111 | CLASSROOM HEALTH SCIENCE | 8 4 |
| C112 C112A | FMD TOILET | 8 3 |
| C113 C114 | RESOURCE (OCCUP. THERAPY) FMD | 8 8 |
| C114A C114B | TOILET STORAGE | 3 4 |
| C114B C115 | RESTROOMS | 2 |

LIGHTING SEQUENCE OF OPERATIONS SCHEDULE

ROOM NUMBER

| C115F | RR | 2 | D202 | P.T./FLEX | 6 |
|-------------|-------------------------------|-----|----------------|---------------------------|-----|
| 116 | CLASSROOM | 8 | D203 | P.T./FLEX | 6 |
| 117 | CHASE | N/A | D204 | COMMONS | 8 |
| 118 | VO-AG LAB | 8 | D205 | P.T./FLEX | 6 |
| 118A | VO-AG TOOLS | 4 | D206 | P.T./FLEX | 6 |
| 118B 119 | VO-STOR. STAFF | 3 | D207 E100A | MECH CORRIDOR | 5 |
| 120 | VO-AG CLASSROOM | 8 | E100A | CORRIDOR-2 | 1 |
| 121 | CUST. | 3 | E100A-2 | CORRIDOR-2 | 1 |
| 122 | CLASSROOM | 8 | E100B-2 | CORRIDOR-2 | 1 |
| 123 | ELECT. | 5 | E100B-2 | FAMILY CONSUMER SCIENCE | 4 |
| 124 | CLASSROOM | 8 | E101A | STORAGE | 4 |
| 125 | STAFF | 3 | E102 | CLASSROOM | 8 |
| 126 | ART (DIGITAL) | 8 | E103 | ORCHESTRA | 8 |
| 126A | OFFICE STOR | 4 | E103A | PRACTICE | 3 |
| 128 | ART (TRADITIONAL) | 8 | E103B | PRACTICE | 3 |
| 128A | KILN | 3 | E103C | OFFICE | 6 |
| 128B | ART DISPLAY | 5 | E103D | STAGE | 8 |
| 200A | CORRIDOR | 1 | E104 | BAND ROOM | 8 |
| 200B | CORRIDOR | 1 | E104A | OFFICE | 6 |
| 200C | CORRIDOR | 1 | E104B | PRACTICE | 3 |
| 200D | CORRIDOR | 1 | E104C | PRACTICE | 3 |
| 200E | CORRIDOR | 1 | E104D | PRACTICE | 3 |
| 201 | CUST. | 3 | E105 | HC TOILET | 3 |
| 202 | MOTHER'S | 8 | E106 | TOILET | 3 |
| 203 | CHASE | N/A | E107 | TOILET | 3 |
| 204A | RESOURCE | 11 | E108 | TOILET | 3 |
| 204B | RESOURCE | 11 | E110 | VOCAL ROOM | 8 |
| 205 | RESTROOMS | 2 | E111 | STORM MECHANICAL | 5 |
| 205A | RR | 2 | E111A | GENERATOR ROOM | 5 |
| 205B | RR | 2 | EL1 | ELEVATOR | N/A |
| 205C | RR | 2 | F100A | CORRIDOR | 1 |
| 205D | RR | 2 | F101 | CAFETERIA | 4 |
| 205E | RR | 2 | F101A | STORAGE | 4 |
| 205F | RR | 2 | F101B | CUST. | 3 |
| 206 | CLASSROOM | 8 | F101C | STORAGE | 4 |
| 207 | RESOURCE | 5 | F101D | IDF | 5 |
| 208 | CLASSROOM WORKROOM | 8 7 | F102B F102D | STAGE ACCESS STAGE ACCESS | 5 |
| 210 | CLASSROOM | 8 | F102D | KITCHEN | 6 |
| 211 | AP OFFICE | 6 | F103 F103A | OFFICE | 2 |
| 212 | SCIENCE CLASSROOM | 8 | F103B | STAFF LOCKERS | 3 |
| 212A | SCIENCE STORAGE | 4 | F103C | TOILET | 3 |
| 213 | STORAGE | 4 | F103D | DRY FOOD STORAGE | 4 |
| 214 | MECH ACCESS | 5 | F103E | DISH WASH | 6 |
| 215 | (COMPUTER) FLEX / MAKER | 9 | F103F | NON-FOOD STORAGE | 3 |
| 216 | CLASSROOM | 8 | F103G | COOLER | N/A |
| 217 | RESTROOMS | 2 | F103H | FREEZER | N/A |
| 217A | RR | 2 | F104 | CONCESS./ BOOKSTORE | 4 |
| 217B | RR | 2 | F105 | CUSTODIAL RECEIVING | 3 |
| 217C | RR | 2 | F106 | ICE | 3 |
| 217D | RR | 2 | F107 | MECHANICAL | 5 |
| 217E | RR | 2 | F108 | IDF | 5 |
| 217F | RR | 2 | G100A | GYM LOBBY | 1 |
| 218 | CLASSROOM | 8 | G100B | CORRIDOR | 1 |
| 219 | CHASE | N/A | G100B1 | VESTIBULE | 1 |
| 220 | RESOURCE | 8 | G101 | RESTROOMS | 2 |
| 221 | STAFF | 3 | G101A | FAMILY RR | 3 |
| 222 | CLASSROOM | 8 | G101B | CUSTODIAL | 3 |
| 223 | CUST. | 3 | G101C | RR | 2 |
| 224 | SCIENCE CLASSROOM | 8 | G101D | RR | 2 |
| 224A | SCIENCE STORAGE | 4 | G101E | RR | 2 |
| 225 | MECH ACCESS | 5 | G101F | RR | 2 |
| 226 | IT STOR / REPAIR | 4 | G101G | RR | 2 |
| 227 | GUIDANCE SCIENCE CLASSBOOM | 6 | G101H | HC RR | 2 |
| 228 | SCIENCE CLASSROOM STAFF | 8 | G101J G102 | CHASE MD STOR. | N/A |
| 230 | CLASSROOM | 3 8 | G102 G103 | GYMNASIUM | 8 |
| 232 | CLASSROOM | 8 | G103 G103A | PE STORAGE | 4 |
| 234A | RESOURCE | 11 | G103A G104 | CUST. | 3 |
| 234B | RESOURCE | 11 | G104 | LOCKER VEST | 1 |
| 236 | CLASSROOM | 8 | G105A | GIRLS LOCKER #2 | 8 |
| 301 | MECH PLATFORM | 5 | G105B | GIRLS TOILET | 2 |
| 302 | IDF | 5 | G105C | GIRLS LOCKER #1 | 8 |
| 100A | CORRIDOR | 1 | G106 | INCLUS. LOCKER | 4 |
| 101 | MEDIA CENTER | 8 | G106A | INCLUS. RR | 3 |
| 101A | BROADCAST STUDIO | 8 | G107 | OFFICE | 6 |
| 101B | MEDIA CENTER STORAGE | 4 | G107A | RR | 2 |
| 101G | RISER | N/A | G108 | LOCKER VEST | 1 |
| 101H | WORKROOM | 7 | G108A | BOYS LOCKER #2 | 8 |
| 102 | WORKROOM | 7 | G108B | BOYS TOILET | 2 |
| 102C | SMALL STUDY | 8 | G108C | BOYS LOCKER #1 | 8 |
| 102D | SMALL STUDY | 8 | G109 | SOUND | 5 |
| 102E | SMALL STUDY | 8 | G1001A1 | VESTIBULE | 1 |
| 102F | SMALL STUDY | 8 | R1 | STAGE RAMP | 5 |
| 103 | FLEX OFFICE | 6 | STA1 | STAIR | 10 |
| | CORRIDOR | 1 | STB1 | STAIR | 10 |
|)200A | | | | | |
| 200A 201 | MECH | 5 | STC1 | STAIR | 10 |

LIGHTING SEQUENCE OF OPERATIONS SCHEDULE

LIGHTING SEQUENCE OF OPERATIONS SCHEDULE

3. <u>SINGLE RESTROOMS/JANITOR/CUSTODIAL CLOSET:</u> LIGHTING SHALL BE CONTROLLED VIA OCCUPANCY SENSOR SWITCH.

5. MECHANICAL/ELECTRICAL/TELECOMMUNICATION ROOMS: LIGHTING SHALL BE CONTROL BY A WALL SWITCH. 6. TYPICAL OFFICE: LIGHTING SHALL BE DIMMED. ENTRY STATION SHALL PROVIDE ON/OFF/DIM UP/DIM DOWN/PRESET. A VACANCY SENSOR SWITCH SHALL SWITCH LIGHTING OFF AFTER 15 MINUTES IF OCCUPANT DOES NOT MANUALLY SWITCH OFF THE LIGHTING. INDICATED (SW) RECEPTACLES SHALL BE CONTROLLED ON/OFF BY THE LIGHTING CONTROL SCHEDULE. THE VACANCY SENSOR

7. <u>TYPICAL CONFERENCE/MEETING ROOM/WORKROOM:</u> LIGHTING SHALL BE DIMMED. ENTRY STATION SHALL PROVIDE ON/OFF/DIM UP/DIM DOWN/PRESET. A VACANCY SENSOR SHALL SWITCH LIGHTING OFF AFTER 15 MINUTES IF OCCUPANT DOES NOT MANUALLY SWITCH OFF THE LIGHTING. THE VACANCY SENSOR SHALL PROVIDE THE BMS WITH OCCUPANCY STATUS VIA AUXILIARY

10. DAY LIGHTING CONTROL BY PHOTOSENSOR.

11. ROOM PARTITION SENSORS TO COMBINE CONTROL OF MULTIPLE ROOMS WHEN PARTITION IS OPEN.

• A GREEN BUTTON (MOMENTARY CONTACT MUSHROOM-STYLE SWITCH) IS PROVIDED IN EACH CLASSROOM/INSTRUCTIONAL AREA TO ALLOW OCCUPANTS TO ELECT FOR AN "ECO FRIENDLY" ENERGY USE REDUCTION. THIS SWITCH SHALL PROVIDE A MOMENTARY CONTACT SIGNAL TO THE LIGHTING CONTROLS FOR THAT ROOM. WHEN THE BUTTON IS PRESSED, THE LIGHTING CONTROL SYSTEM SHALL DIM THE LIGHTS BY 20% FROM CURRENT SETTING AND MASK OUT TH EBUTTON FROM FURTHER LIGHTING CONTROL SYSTEM INPUTS FOR THE NEXT HOUR.

TRANSFER RELAY PER THE MANUFACTURER'S DIRECTIONS.

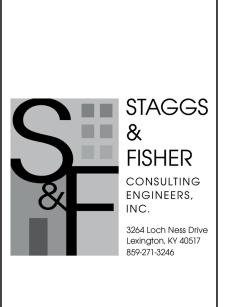
BY LIGHTING CONTACTORS. CONTACTORS SHALL BE CONTROLLED BY THE HVAC CONTROL SYSTEM. PROVIDE CONTACTOR WITH AN INTEGRAL MANUAL SWITCH TO ALLOW MANUAL CONTROL OF CIRCUIT FOR DIAGNOSTIC PURPOSES. CONTACTORS SHALL BE LOCATED ADJACENT TO PANELBOARDS. EMERGENCY EGRESS FIXTURES SHALL BE CONTROLLED WITH EMERGENCY TRANSFER RELAY(S) SUCH THAT FIXTURES WILL ENERGIZE WHEN GENERATOR RUNS DURING A POWER OUTAGE.



Lexington, Kentucky 40509

859.252.6781





| EL | ECTRIC | AL | | |
|---------|-------------|------------|--|--|
| PROJECT | 2019111 | | | |
| DATE | 06/14/22 | | | |
| F | REVISION | S | | |
| No. | Description | Date | | |
| 1 Adder | ndum 1 | 07/13/2022 | | |
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LIGHT FIXTURE SCHEDULE & LIGHTING **SEQUENCE OF OPERATIONS**

OR ANY OTHER FORMAT - IN WHOLE, OR IN

PART, FOR ANY PURPOSE OTHER THAN FOR

THE PROJECT. THE CLIENT AGREES NOT TO TRANSFER THESE ELECTRONIC FILES TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ARCHITECT. THE CLIENT FURTHER AGREES TO WAIVE ALL CLAIMS

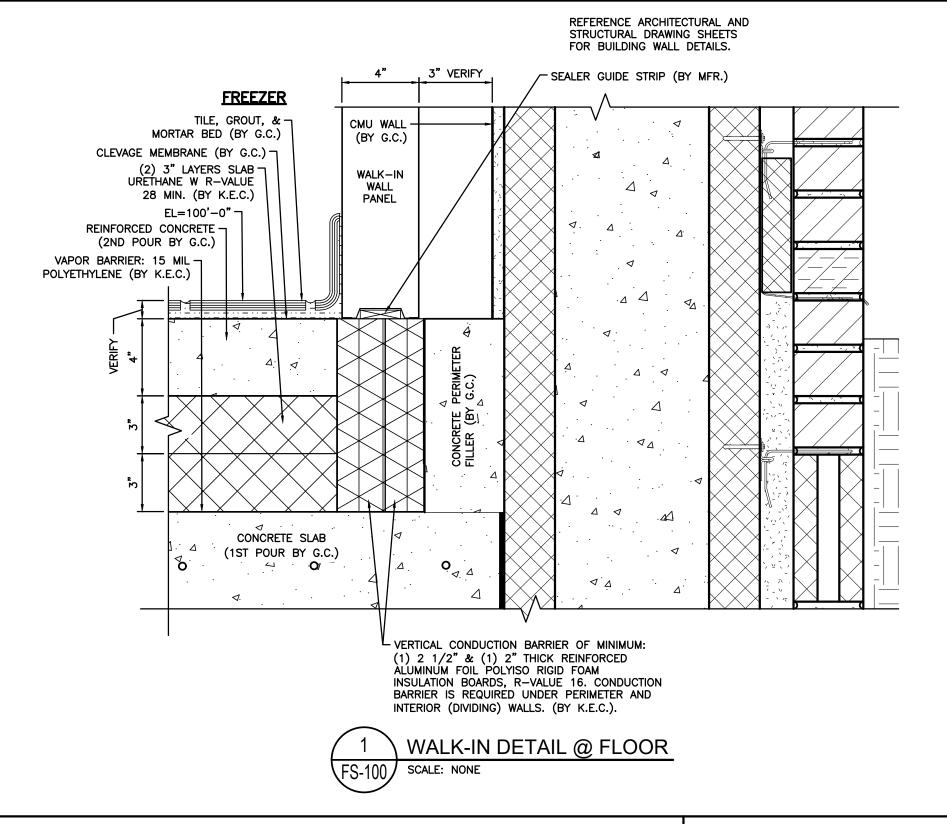
AGAINST THE ARCHITECT RESULTING IN ANY WAY FROM ANY UNAUTHORIZED CHANGES

TO OR REUSE OF THE ELECTRONIC FILES FOR ANY OTHER PROJECT BY ANYONE

OTHER THAN THE ARCHITECT.

E-130

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NOTES
WALK-IN FLOOR DETAIL
1 / FS-100 REVISED.

NEW MIDDLE SCHOOL - POLO CLUB FAYETTE COUNTY PUBLIC SCHOOLS

REFERENCE SHEET

FS-102 - FOOD SERVICE EQUIPMENT FLOOR PLAN



COMMERCIAL FOOD SERVICE CONSULTANTS
7 East Avenue · Monroe, Ohio 45050
Phone: 513-360-7264 Fax: 513-402-7109

KDE BG # 21-176

DATE 06/30/2022

PRODUCED BY J.S.A.

ADDENDUM NO. 1

FSSK-01



PRE-BID SIGN-IN SHEET

New Polo Club Middle School

KDE BG #21-176

FCPS Bid #48-22

Date: 7/15/2022

Time: 2:00PM

Location: 128 Walton Avenue

Attending: (please print) Name: Representing: Contact: (e-mail) _X_ Melinda Joseph-Dezarn **FCPS** melinda.josephdezarn@fayette.kyschools.us _X__ Rob Deal JRA Architects rdeal@jrarchitects.com _X__ Inga Hardman JRA Architects ihardman@jrarchitects.com CKLG ARMAN Brown + Kubican DWV 1 Siemens andrew boreing asiemens. com SJF 24 MASONIT

JRA Architects

3225 Summit Square Place, Suite 200 Lexington, KY 40509 Tel: 1-859 252-6781Fax: (859) 255-5483 www.jrarchitects.com