To: Prospective Bidders

Issued: October 6, 2023

Re: ADDENDUM NUMBER (3) TO THE BIDDING DOCUMENTS FOR

McHenry County College
University Center at MCC
Architect’s Project Number: 22-050

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents dated September 19, 2023. Acknowledge receipt of this addendum in the space provided on Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

ADDENDA TO THE PROJECT MANUAL

1. 00 41 13 – Bid Form
   A. REVISE bid form to include reference to additional allowances noted below. Spec Section Re-issued in its entirety for inclusion in the bid submittal.

2. 01 21 00 – Allowances
   A. REVISE list of allowances included in the project scope to the following…
      "A. Allowance No. 1: Include an allowance of $50,000.00 for unforeseen conditions.
      B. Allowance No. 2: Include an allowance of $10,000.00 for security systems at existing main entrance doors.
      C. Allowance No. 3: Include an allowance of $125,000.00 for renovation of existing toilet rooms."
   B. Note that the section will not re-issued during bidding but will be included in the Issued for Construction Specifications sent out post bid. Refer to the bid form for updated allowance language.

3. 06 41 16 – Plastic Laminate-Faced Architectural Cabinets
   A. REVISE section 2.4 Cabinet Hardware and Accessories to the following…
      "D. Wire Pulls: Rockler; Back mounted, solid metal, 4 1/2 inches long, Urban Cabinet Pulls, Polished Nickel."
   B. Note that the section will not re-issued during bidding but will be included in the Issued for Construction Specifications sent out post bid.

4. 08 71 00 – Door Hardware
   A. ADD door attached section in its entirety.

5. 09 51 13 – Acoustical Panel Ceilings
   A. REVISE section 2.3-B to “Ceiling Type 2C” in lieu of “Ceiling Type 2C and 4”.
   B. REVISE section 2.3-D to “Ceiling Type 4” in lieu of “Ceiling Type 5”.
   C. REVISE section 2.3-D-1 to “Modular Size: 36 inches by 72 inches by 3/4 inches.”
   D. Note that the section will not re-issued during bidding but will be included in the Issued for Construction Specifications sent out post bid.
6. 09 64 33 – Wood Flooring
   A. **REVISE** references of flooring type to “WF-X” in lieu of “WD-X”.
   B. Note that the section will not be re-issued during bidding but will be included in the Issued for Construction Specifications sent out post bid.

7. 10 26 00 – Wall and Door Protection
   A. **ADD** specification section in its entirety.

8. 27 41 16 – Audiovisual System
   A. **ADD** specification section in its entirety.

**ADDENDA TO THE DRAWINGS**

**ARCHITECTURE**

1. All Sheets – Note that clarifications listed below are now clouded for clarity and will be issued post bid in the “Issued for Construction” drawings.
   A. Exterior wall thickness / make-up revised to match existing conditions. Any impacts to the design layouts have been indicated below. All other changes are minor in nature and do not change the scope of work.

2. AD1.10
   A. **REVISE** scope notes for salvage requirements as indicated.
   B. **REVISE** scope notes for removal of misc. items and FF&E as indicated.
   C. **ADD** note M1 for additional millwork to be removed as indicated.
   D. **ADD** note M13 for removal of blinds from windows indicated.
   E. **ADD** note M12 for removal of existing window film complete as indicated.
   F. **ADD** note W7 for removal of metal panel wall system as indicated.
   G. **ADD** note F7 for removal of metal plate flooring as indicated.

3. AD2.10
   A. **REVISE** scope notes for salvage requirements as indicated.
   B. **REVISE** scope notes for removal of misc. items and FF&E as indicated.
   C. **DELETE** note 7. Contractor to complete work required for new mechanical layout in circular classroom without modification to existing curved ceiling.
   D. **REVISE** note S3A and SAT ceiling demo symbol description as indicated to include complete removal of batt insulation on top of all SAT ceiling systems.

4. A1.11
   A. **ADD** note 2 as indicated.
   B. **ADD** note 4 to room 149 as indicated.
   C. **ADD** note 7 to room 102 as indicated.
   D. **ADD** note 12 to room 102 as indicated.
   E. **ADD** wall section through window elevation A.

5. A2.11 / A2.51
   A. **DELETE** note 3 in classroom 102. Contractor to complete work required for new mechanical layout in circular classroom without modification to existing curved ceiling.
   B. **REVISE** ceiling types in rooms 105A / 105B as indicated.
   C. **REVISE** layout of sprinkler heads / devices in room 105A as indicated.
   D. **REVISE** layout of interior / exterior cameras and wireless access points as indicated. Refer to electrical for additional scope details and coordinate final locations with owner / architect prior to installation.
   E. **REVISE** layout of vestibule V001 as indicated.
6. A5.01
   A. **REVISE** section 1 as indicated to reflect section condition and sim conditions.
   B. **REVISE** detail 11 as indicated.
   C. **ADD** section 12 as indicated through window elevation A.

7. A9.51 / A11.01
   A. **REVISE** WD-1, WD-2, WD-3, WD-4, and CP-1 as indicated.

8. A10.00
   A. **REVISE** door and frame schedule as indicated.
   B. **REVISE** detail numbering for numerical order. Clouds not indicated for clarity.
   C. **REVISE** glass type indicated for window elevation A to GL-02 as indicated.

**FIRE PROTECTION**

1. FP1.00
   A. **ADD** note in Corridor C001.

**ELECTRICAL**

1. ED1.10
   A. **ADD** note to disconnect existing mechanical equipment in restrooms and storage room.
   B. **ADD** note to keep existing fiber-optic lights in round classroom.
   C. **ADD** note to relocate existing telecommunication service in existing IT room.
   D. **ADD** photo of existing IT room.

2. E1.10
   A. **REVISE** locations of exterior and interior security cameras.
   B. **ADD** locations of exterior wireless access points.
   C. **DELETE** work door operator and card reader work in Vestibule V001.
   D. **ADD** locations of duct smoke detectors and associated test switches.
   E. **DELETE** locations of ‘AV-B’ devices.

3. E2.10
   A. **REVISE** switchleg designation in Classroom 102.
   B. **ADD** note to keep existing fiber-optic lighting in Classroom 102.
   C. **ADD** switch to control existing fiber-optic lighting in Classroom 102.

4. E3.00
   A. **ADD** note to show new location od telecommunication equipment in IT / Electrical 146.

5. E6.00
   A. **REVISE** luminaire types “F3A” and “F7”.

6. E7.20
   A. **REVISE** ‘ACCESS CONTROL / SECURITY DEVICE DETAIL’.

7. E7.30
   A. **REVISE** ‘CLASSROOMS A/V SCHEMATIC DIAGRAM’.

8. E7.40
   A. **ADD** ‘CREDENTIAL READER DETAIL’.
CLARIFICATIONS

1. Refer to attached for pre-bid RFI and their associated responses submitted to date. Any outstanding pre-bid RFI will be answered by the final addendum.

2. Note that the final addendum will be issued on Thursday, October 12, 2023 by 5:00 PM.

This addendum consists of 4 pages, excluding attachments.

END 00 90 03.

Attachments:
1. 2023.10.06 – Addendum #3 – Pre-bid RFI
2. Switchgear Alternate Diagram
3. 00 41 13 – Bid Form
4. 08 71 00 – Door Hardware
5. 10 26 00 – Wall and Door Protection
6. 27 41 16 - Audiovisual System
7. AD1.10, AD2.10, A1.11, A2.11, A2.51, A5.01, A9.51, A10.00, A11.01
8. FP1.00
9. ED1.10, E1.10, E2.10, E3.00, E6.00, E7.20, E7.30, E7.40
**Pre-Bid RFI - Addendum 3**

**10/6/2023**

<table>
<thead>
<tr>
<th>RFI #</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Who is to install Access Control Cables and Security wires?</td>
<td>Contractor is responsible for installing access control cables and security wires. Refer to Addendum #3 for clarifications on the scope requirements.</td>
</tr>
<tr>
<td>002</td>
<td>See attached Voluntary Alternate Request – Can we use 1200 a C/T/ Meter</td>
<td>The proposed alternate is acceptable. Refer to attachments for submitted alternate for reference.</td>
</tr>
<tr>
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<td>with a 1200 a Distribution Panelboard Inside in lieu of switchboard?</td>
<td></td>
</tr>
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<td>(Refer to attached email document)</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>Who is responsible for removal of existing furniture (pictures, white</td>
<td>The contractor will be responsible for removing all loose / misc items remaining on-site once demolition starts unless otherwise noted. The owner will remove all items or tag them as existing to remain if they intend to keep them prior to the start of demolition.</td>
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<td></td>
<td>boards, signage etc.)?</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>Do current window blinds stay or to be removed?</td>
<td>Existing blinds are to be removed and openings prepped for installation of new blinds.</td>
</tr>
<tr>
<td>005</td>
<td>Who is responsible for the new Security system?</td>
<td>New security system will be by owner's vendor. Refer to clarifications to the Elec/Tech drawings E7.30 for additional clarification on contractor scope vs others and other equipment requirements / details.</td>
</tr>
<tr>
<td>006</td>
<td>Please provide a sealed concrete spec.</td>
<td>Product requirements are noted in 09 91 23 Interior Painting, Section 3.6-A-1 Water-Based Concrete Floor Sealer System, MPI INT 3.2G.</td>
</tr>
<tr>
<td>007</td>
<td>Do any of the existing RTU units need to be serviced?</td>
<td>Units to be provided with new filters, see specifications on HV4.0.</td>
</tr>
<tr>
<td>008</td>
<td>The spec book is missing a HVAC section, please provide.</td>
<td>See specifications on HV4.0. Book format specifications have not been issued for this project.</td>
</tr>
<tr>
<td></td>
<td>Question</td>
<td>Answer</td>
</tr>
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<td>-------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>09</td>
<td>Ceramic tile - Restrooms are calling for WT-1 on A11.01. However, when you go to A8.01 (Interior Elevations) The tag is T2 which is not listed on A11.01. Please clarify on what to use.</td>
<td>WT-1 is the correct tag for the wall tile in the toilet rooms.</td>
</tr>
<tr>
<td>10</td>
<td>Provide a spec indicating the products for the acoustical panel ceiling.</td>
<td>Refer to spec 09 51 13 issued in Addendum #2 and clarified in Addendum #3</td>
</tr>
<tr>
<td>11</td>
<td>I believe the ceiling below in conference 150B is tagged wrong. Can you verify if its supposed to be 2 x 2 ceiling or something else?</td>
<td>Conference Room 150A / 150B should be type 2C, 2x4 tiles with scored surface pattern. Refer to Addendum #3 for more information.</td>
</tr>
<tr>
<td>12</td>
<td>Can you please provide door hardware specs?</td>
<td>Specs will be issued as part of Addendum #3.</td>
</tr>
<tr>
<td>13</td>
<td>When filling in the face brick on the back of the building, the detail calls for paint to match. Are we to paint the entire back exterior wall to match the infill or just paint the infill?</td>
<td>Paint areas of infill only to match the existing painted brick finish.</td>
</tr>
<tr>
<td>14</td>
<td>We can’t request sheet metal quotes from vendors without mechanical specifications. After reviewing the provided documents, we didn’t see any specs for this. Could you please request mechanical specifications for this project?</td>
<td>Refer to HV4.00, General Notes - HVAC Work notes 6-12 for duct requirements. If there are specific questions from those specified items, please submit an additional RFI for clarification.</td>
</tr>
<tr>
<td>15</td>
<td>I have looked through the bid documents but cannot find the Standard Warranty for the University Center at MCC. Can you please provide?</td>
<td>General project warranty is covered under 12.2.2.1 in the A201 General Conditions provided in the specification section 00 72 13.</td>
</tr>
<tr>
<td>16</td>
<td>Who is responsible for relocating the phone/fiber service? Also, where is the existing to go? The middle closet (current) or the new IT closet?</td>
<td>Contractor will be responsible for relocating the existing phone/fiber services to the new IT closet in IT/Electrical 146. This will be addressed in an upcoming addendum.</td>
</tr>
<tr>
<td>17</td>
<td>I don’t see a schedule for the existing RTU units. Do all 8 units require duct smoke detection devices? RTU’s 1-8 shown on pg E1.20</td>
<td>All existing RTU units will require duct smoke detectors. This will be addressed in an upcoming addendum.</td>
</tr>
<tr>
<td>18</td>
<td>Frame Elevation#A on A10.00 is tagged with infill GL-01. Elevation for frame on A9.01 and schedule tag infill as GL-02. Please clarify.</td>
<td>GL-02 is is the correct type for this window.</td>
</tr>
</tbody>
</table>
Can we use a 1200A CT/meter outside with 1200A Distribution Panel Board inside?
SECTION 00 41 13 - BID FORM

To: McHenry County College
8900 US Hwy 14
Crystal Lake, IL 60012

Project: University Center at MCC

Date: ____________________________________________________________________

Submitted by: ____________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

(Full name and address)

PART 1 - OFFER

Having examined the site and having familiarized itself with the conditions affecting the cost of the work associated with the project and with the bidding documents, Bidder hereby proposes to perform everything required and to furnish all labor, materials, necessary tools, expendable equipment, and transportation services necessary to complete in a workmanlike manner the subdivision of work stated above in accordance with the bidding documents for the following sums:

Base Bid:

We have included, attached herewith, the Bid Bond as required by the Instructions to Bidders.

The Bidder agrees to perform the work for the lump sum amount of:

TOTAL BASE BID $__________________________________________________ (in figures)
_______________________________________________________________________________ (in words)

Allowances:

The undersigned hereby states that all allowance amounts, as described in Section 01 21 00, are included in the Total Base Bid proposal amount listed above.

ALLOWANCE NO. 1: Include an allowance of $50,000.00 for unforeseen conditions.

ALLOWANCE NO. 2: Include an allowance of $10,000.00 for security systems at existing main entrance doors.

ALLOWANCE NO. 3: Include an allowance of $125,000.00 for renovation of existing toilet rooms.

Alternate Bids:

The undersigned hereby states the net amount of decrease or increase to the Lump Sum Base Bid for the following Alternates as described in Section 01 23 00.
ALTERNATE No. 1: Deduct from the Lump Sum Base Bid to eliminate the Liquidated Damages Clause from the contract.

Total, Alternate No. 1: $______________________________

ALTERNATE No. 2: Add to the Lump Sum Base Bid to provide Trane BAC Controls in lieu of individual thermostat control for the air handling units. Refer to Mechanical Drawings / Specs for additional scope details.

Total, Alternate No. 2: $______________________________

ALTERNATE No. 3: Add / Deduct to the Lump Sum Base Bid to provide electrical switchboard equipment from additional vendors. Refer to specification 26 24 13 Switchboards for additional information.

Total, Alternate No. 3: $______________________________

PART 3 - ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for thirty (90) days from the Bid closing date.

If the bid is accepted by the Owner within the time period stated above, we will:

A. Execute the Agreement within ten (10) days of receipt of Notice of Award.
B. Furnish the required bonds within ten (10) days of receipt of Notice of Award in the form described in the Supplementary Conditions.
C. Furnish the required Certificate of Insurance within ten (10) days of receipt of Notice of Award in the form and amounts described in the Supplementary Conditions.
D. Commence work as established by the written Notice to Proceed.

If this Bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the Security Deposit shall be forfeited as damages to the Owner by reason of our failures.

In the event our Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

PART 4 - CONTRACT TIME

If the Bid is accepted, we will:

A. Complete the work in manner consistent to meet the requirements of the schedule.
B. Contractor has examined the Schedule included in these documents and takes no exception, or records the following exceptions:

_______________________________________________________________________________
_______________________________________________________________________________
PART 5 - CONTRACTOR’S FEES FOR CHANGES IN THE WORK

Lump Sum or Time and Materials Changes: We, the undersigned bidder, agree that the following percentages for overhead and profit shall be added to costs for the net amount of work added to, or deleted from, the contract by written lump sum or time and material change orders recommended by the Architect and approved by the Owner:

A. On Contractor’s direct net cost: 15%, with a minimum fee of one hundred dollars ($100.00).
B. On first-tier Subcontractor’s net cost: 5%, with a minimum fee of fifty dollars ($50.00). Net cost includes all sub-subcontractors work, and excludes subcontractors (all tiers) overhead and profit amounts.

Note: Insurance, bond, and taxes are considered as job cost items and are included in the percentages listed above.

PART 6 - ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.

Addendum #  _____ Dated   ____________  Addendum #  _____ Dated   ____________
Addendum #  _____ Dated   ____________  Addendum #  _____ Dated   ____________

PART 7 - SUBCONTRACTORS

Identify below which work will be completed by the General Contractor’s own forces and which work will be completed by first-tier Subcontractors. Include Subcontractors name and estimated contract amount.

<table>
<thead>
<tr>
<th>Scope of Work</th>
<th>GC/Sub.</th>
<th>Name</th>
<th>Est. Contract Amount</th>
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</table>
PART 8 - BID FORM SIGNATURE(S)

The Corporate Seal of:

____________________________________________________

(Bidder – please print the full name of your Proprietorship or Corporation)

Was hereunto affixed in the presence of:

___________________________________

(Authorized signing officer) (Title)

(Seal)

END OF SECTION 00 41 13
SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
   1. Mechanical and electrified door hardware
   2. Electronic access control system components

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

C. Related Sections:
   1. Division 01 Section "Alternates" for alternates affecting this section.
   2. Division 06 Section "Rough Carpentry"
   3. Division 06 Section "Finish Carpentry"
   4. Division 07 Section "Joint Sealants" for sealant requirements applicable to
      threshold installation specified in this section.
   5. Division 08 Sections:
      a. "Metal Doors and Frames"
      b. "Flush Wood Doors"
      c. "Stile and Rail Wood Doors"
      d. "Interior Aluminum Doors and Frames"
      e. "Aluminum-Framed Entrances and Storefronts"
      f. "Stainless Steel Doors and Frames"
      g. "Special Function Doors"
      h. "Entrances"
   6. Division 26 "Electrical" sections for connections to electrical power system and
      for low-voltage wiring.
   7. Division 28 "Electronic Safety and Security" sections for coordination with other
      components of electronic access control system and fire alarm system.

1.2 REFERENCES

A. UL LLC
   1. UL 10B - Fire Test of Door Assemblies
   2. UL 10C - Positive Pressure Test of Fire Door Assemblies
   3. UL 1784 - Air Leakage Tests of Door Assemblies
   4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute
   1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association
1. NFPA 70 – National Electric Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.3 SUBMITTALS

A. General:
1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:
1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.
3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
     10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:
   1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
   2. Provide Product Data:
      a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
      b. Include warranties for specified door hardware.

D. Closeout Submittals:
1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Final keying schedule
   e. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   f. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.4 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project’s vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.

2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.

3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.
   d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.

b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.
   d. Review sequence of operation for each type of electrified door hardware.
   e. Review required testing, inspecting, and certifying procedures.
   f. Review questions or concerns related to proper installation and adjustment of door hardware.

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

1.5 DELIVERY, STORAGE, AND HANDLING
A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.6 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.7 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) Corbin Russwin ML Series: 10 years
      2) Exit Devices
         a) Von Duprin: 3 years
      3) Closers
a) LCN 4000 Series: 30 years  
b) CRL Concealed: 5 years  
b. Electrical Warranty  
1) Exit Devices  
a) Von Duprin: 1 year

1.8 MAINTENANCE

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

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

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

2.2 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer's recognized installation standards for application intended.

2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
   1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:
   1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
   2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
   3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.3 Hinges

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Ives 5BB series
   2. Acceptable Manufacturers and Products:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide hinges conforming to ANSI/BHMA A156.1.
   2. Provide five knuckle, ball bearing hinges.
   3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
      a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
      b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
   4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
      a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
      b. Interior: Heavy weight, steel, 5 inches (127 mm) high
   5. 2 inches or thicker doors:
      a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
      b. Interior: Heavy weight, steel, 5 inches (127 mm) high
   6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
   7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
   8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
a. Steel Hinges: Steel pins
b. Non-Ferrous Hinges: Stainless steel pins
c. Out-Swinging Exterior Doors: Non-removable pins
d. Out-Swinging Interior Lockable Doors: Non-removable pins
e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.4 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

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

2.5 ELECTRIC POWER TRANSFER

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Von Duprin EPT-10 CON

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

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

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

2.6 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Corbin Russwin ML2000 series

2. Acceptable Manufacturers and Products:
   a. Schlage L9000 series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.

2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.

3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.

4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to "KEYING" article, herein.

5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.

6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches.

7. Provide motor based electrified locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case.
   c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.
   d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
   e. Connections – provide quick-connect Molex system standard.

8. (KEY OVERRIDE OPTION WHEN XL13-439 IS SPECIFIED IN HARDWARE SETS) Provide locks with a key override feature built into the chassis that allows the outside key to retract the deadbolt and/or latchbolt, overriding the inside thumbturn when it is being held in the locked position.

9. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
a. Provide levers that return to within 1/2 inch (13 mm) of door face.
b. Vandigard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
c. Lever Design: CSA

2.7 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 98/35A series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide smooth touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
4. Touchpad must extend a minimum of one half of door width. No plastic inserts are allowed in touchpads.
5. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
6. Provide exit devices with weather resistant components that can withstand harsh conditions of various climates and corrosive cleaners used in outdoor pool environments.
7. Provide flush end caps for exit devices.
8. Provide exit devices with manufacturer's approved strikes.
9. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
10. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
11. Provide cylinder or hex-key dogging as specified at non fire-rated openings.
12. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
13. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
14. Provide electrified options as scheduled.
15. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
16. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.8 ELECTRIC STRIKES

A. Manufacturers and Products:
1. Scheduled Manufacturer and Product:
   a. Von Duprin 6000 Series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.9 MAGNETIC LOCKS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Security Door Controls

2. Acceptable Manufacturers:
   a. Substitutions by official Division 01 request only

B. Requirements:

1. Provide magnetic locks certified to meet ANSI/BHMA A156.23 classification criteria, UL10C, and UL1034 for burglary-resistant electronic locking mechanisms.
2. Provide magnetic locks equipped with SPDT Magnetic Bond Sensing device, where specified, to monitor whether enough magnetic holding force exists to ensure adequate locking and SPDT Door Status Monitor device, where specified, to monitor whether door is open or closed. Provide bond sensors fully concealed within electromagnet to resist tampering or damage.
3. Provide fasteners, mounting brackets, and spacer bars required for mounting and details.
4. Provide power supply recommended and approved by manufacturer of magnetic locks.
5. Where magnetic locks are scheduled, provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of magnetic locks for each individual leaf. Switches control both doors simultaneously at pairs. Locate controls as directed by Architect.

2.10 PASSIVE INFRARED MOTION SENSORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Security Door Controls MD-31D Series

2. Acceptable Manufacturers and Products:
   a. Substitutions by official Division 01 request only
B. Requirements:
   1. Provide motion sensors as specified in hardware groups.

2.11 PUSHBUTTONS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Security Door Controls 410 series
   2. Acceptable Manufacturers and Products:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide push buttons as specified in hardware groups.

2.12 POWER SUPPLIES

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. Schlage/Von Duprin PS900 Series
   2. Acceptable Manufacturers and Products:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide power supplies approved by manufacturer of supplied electrified hardware.
   2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
   3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
   4. Provide power supplies with the following features:
      a. 12/24 VDC Output, field selectable.
      b. Class 2 Rated power limited output.
      c. Universal 120-240 VAC input.
      d. Low voltage DC, regulated and filtered.
      e. Polarized connector for distribution boards.
      f. Fused primary input.
      g. AC input and DC output monitoring circuit w/LED indicators.
      h. Cover mounted AC Input indication.
      i. Tested and certified to meet UL294.
      j. NEMA 1 enclosure.
      k. Hinged cover w/lock down screws.
      l. High voltage protective cover.

2.13 CYLINDERS
A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Corbin Russwin

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.14 KEYING

A. Scheduled System:

1. Existing non-factory registered system:
   a. Provide cylinders/cores keyed into Owner’s existing keying system managed by Owner’s locksmith, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

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

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
      b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
      c. Provide keys with the following features:
         1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
         2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
         d. Identification:
            1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
            2) Identification stamping provisions must be approved by the Architect and Owner.
            3) Stamp cylinders/cores and keys with Owner’s unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with “DO NOT DUPLICATE” along with the “PATENTED” or patent number to enforce the patent protection.
4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
1) Permanent Control Keys: 3.
3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
4) Key Blanks: Quantity as determined in the keying meeting.

2.15 DOOR CLOSERS

A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. LCN 4040XP series
   2. Acceptable Manufacturers and Products:
      a. No Substitute

B. Requirements:
   1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
   2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
   3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
   4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
   5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that insecure cover to spring tube.
   6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
   7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
   8. Pressure Relief Valve (PRV) Technology: Not permitted.
   9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
   10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.16 CONCEALED DOOR CLOSERS
A. Manufacturers and Products:
   1. Scheduled Manufacturer and Product:
      a. CRL
   2. Acceptable Manufacturers and Products:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide concealed door closers at doors conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory.
   2. Provide heavy duty, double-acting closers with single lever arm and roller assembly.
   3. Provide closers capable of being mounted in a minimum 1-3/4-inch header.
   4. Provide concealed door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
   5. Cylinder Body: 1-1/8-inch (29 mm) piston diameter, with 5/8-inch (16 mm) diameter heat-treated pinion journal.
   6. Provide all-weather hydraulic fluid, fireproof, passing requirements of UL10C.
   7. Pressure Relief Valve (PRV) Technology: Not permitted.
   8. Provide special template, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.17 DOOR TRIM

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives
   2. Acceptable Manufacturers:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.18 PROTECTION PLATES

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives
   2. Acceptable Manufacturers:
      a. Substitutions by official Division 01 request only

B. Requirements:
1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.19 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturers:
      a. Glynn-Johnson
   2. Acceptable Manufacturers:
      a. Substitutions by official Division 01 request only

B. Requirements:
   1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.20 DOOR STOPS AND HOLDERS

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Ives
   2. Acceptable Manufacturers:
      a. Substitutions by official Division 01 request only

B. Provide door stops at each door leaf:
   1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
   2. Where a wall stop cannot be used, provide universal floor stops.
   3. Where wall or floor stop cannot be used, provide overhead stop.
   4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

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

A. Manufacturers:
   1. Scheduled Manufacturer:
      a. Zero International
   2. Acceptable Manufacturers:
      a. Substitutions by official Division 01 request only

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

2.22 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:
   1. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
   3. Protection Plates: BHMA 630 (US32D)
   4. Overhead Stops and Holders: BHMA 630 (US32D)
   5. Door Closers: Powder Coat to Match
   6. Wall Stops: BHMA 630 (US32D)
   7. Latch Protectors: BHMA 630 (US32D)
   8. Weatherstripping: Clear Anodized Aluminum
   9. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
   2. Custom Steel Doors and Frames: HMMA 831.
   3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
   4. Installation Guide for Doors and Hardware: DHI TDH-007-20
B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer’s instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:
   1. Install construction cores to secure building and areas during construction period.
   2. Replace construction cores with permanent cores as indicated in keying section.
   3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:
   1. Conduit, junction boxes and wire pulls.
   2. Connections to and from power supplies to electrified hardware.
   3. Connections to fire/smoke alarm system and smoke evacuation system.
   4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
   5. Connections to panel interface modules, controllers, and gateways.
   6. Testing and labeling wires with Architect’s opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

M. Overhead Stops/holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section “Joint Sealants.”
P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

S. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.3 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.4 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.5 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.
C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

<table>
<thead>
<tr>
<th>Hardware Group No. 01</th>
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<tr>
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Hardware Group No. 03

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<td>1</td>
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<tr>
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<tr>
<td>1</td>
<td>WALL STOP</td>
<td>WS406/407CVX</td>
<td>630</td>
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CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.

Hardware Group No. 04

Provide each SGL door(s) with the following:

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CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.
Hardware Group No. 05

Provide each SGL door(s) with the following:

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CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.

Hardware Group No. 06

Provide each SGL door(s) with the following:

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ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.
Hardware Group No. 07

Provide each SGL door(s) with the following:

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<td>IVE</td>
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<td>HEAD AND JAMB</td>
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CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE,
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.
Hardware Group No. 08

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<td>BY DIVISION 28</td>
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<td>SCE</td>
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CREDENTIAL READER DEVICE IS TO RETRACT LATCHES ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.
Hardware Group No. 09

Provide each PR door(s) with the following:

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<td>POWER TRANSFER</td>
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<td>LCN</td>
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<td>ZER</td>
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<td>SCE</td>
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CREDENTIAL READER DEVICE IS TO RETRACT LATCH ALLOWING THE DOORS TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED WIRING TO THE PS902 POWER SUPPLY (WHICH POWERS THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE), THE QEL ELECTRIC LATCH RETRACTION FEATURE INSIDE THE PANIC HARDWARE ITSELF.
Hardware Group No. 10

Provide each SGL door(s) with the following:

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</tr>
<tr>
<td>1</td>
<td>LFIC RIM CYLINDER</td>
<td>CT6D</td>
<td>626</td>
<td>C-R</td>
</tr>
<tr>
<td>1</td>
<td>LFIC PERMANENT CORE</td>
<td>KEYED INTO EXISTING SYSTEM</td>
<td>626</td>
<td>C-R</td>
</tr>
<tr>
<td>1</td>
<td>ELECTRIC STRIKE</td>
<td>6111 FSE CON BSS 12/24 VAC/VDC</td>
<td>630</td>
<td>VON</td>
</tr>
<tr>
<td>1</td>
<td>SURFACE CLOSER</td>
<td>4040XP RW/PA</td>
<td>689</td>
<td>LCN</td>
</tr>
<tr>
<td>1</td>
<td>KICK PLATE</td>
<td>8400 10&quot; X 2&quot; LDW B-CS</td>
<td>630</td>
<td>IVE</td>
</tr>
<tr>
<td>1</td>
<td>WALL STOP</td>
<td>WS406/407CVX</td>
<td>630</td>
<td>IVE</td>
</tr>
<tr>
<td>1</td>
<td>CREDENTIAL READER</td>
<td>BY DIVISION 28</td>
<td>B/O</td>
<td></td>
</tr>
</tbody>
</table>

CREDENTIAL READER DEVICE IS TO RELEASE THE ELECTRIC STRIKE ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE. KEYED INGRESS IS ALSO AVAILABLE.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE ELECTRIC STRIKE.

Hardware Group No. 11

Provide each PR door(s) with the following:

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>CATALOG NUMBER</th>
<th>FINISH</th>
<th>MFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>TOP DOOR PATCH AND PIVOT</td>
<td>AS REQ.</td>
<td>630</td>
<td>CRL</td>
</tr>
<tr>
<td>2</td>
<td>BOTTOM DOOR PATCH</td>
<td>AS REQ.</td>
<td>630</td>
<td>CRL</td>
</tr>
<tr>
<td>2</td>
<td>PUSH/PULL BAR</td>
<td>9190EZHD-10&quot;-PQ</td>
<td>630-316</td>
<td>IVE</td>
</tr>
<tr>
<td>2</td>
<td>CONCEALED IN FLOOR CLOSER AND COVER PLATE</td>
<td>8532 AND 85CPBS</td>
<td>630</td>
<td>CRL</td>
</tr>
<tr>
<td>2</td>
<td>FLOOR STOP</td>
<td>FS410</td>
<td>626</td>
<td>IVE</td>
</tr>
</tbody>
</table>

NOTE: CONFIRM GLASS THICKNESS WITH GLASS DOOR SUPPLIER.
NOTE: HEADER CHANNEL AND ALL OTHER COMPONENTS REQUIRED TO MAKE THE SPECIFIED HARDWARE WORK PROPERLY IS BY THE GLASS DOOR SUPPLIER.
Hardware Group No. 12

Provide each SGL door(s) with the following:

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION</th>
<th>CATALOG NUMBER</th>
<th>FINISH</th>
<th>MFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BOTTOM DOOR PATCH AND PIVOT AS REQ.</td>
<td>630</td>
<td>CRL</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>TOP DOOR PATCH AS REQ.</td>
<td>630</td>
<td>CRL</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>REQ TO EXIT PUSH BUTTON</td>
<td>413MN</td>
<td>630</td>
<td>SDC</td>
</tr>
<tr>
<td>1</td>
<td>MAG LOCK SDC EMLOCK 1500 BRACKETS AS REQ.</td>
<td>AA</td>
<td>SDC</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>LONG DOOR PULL PR 9266F 54&quot; P</td>
<td>630</td>
<td>IVE</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ADA CONCEALED IN HEAD CLOSER 9970 W/ 105 DEGREE HOLD OPEN</td>
<td>630</td>
<td>CRL</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>CREDENTIAL READER BY DIVISION 28</td>
<td>B/O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>MOTION SENSOR MD-31D</td>
<td>WHT</td>
<td>SDC</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: CONFIRM GLASS THICKNESS WITH GLASS DOOR SUPPLIER.
NOTE: HEADER CHANNEL AND ALL OTHER COMPONENTS REQUIRED TO MAKE THE SPECIFIED HARDWARE WORK PROPERLY IS BY THE GLASS DOOR SUPPLIER.

CREDENTIAL READER DEVICE IS TO RELEASE THE MAGNETIC LOCK ALLOWING THE DOOR TO BE OPENED. IMMEDIATE EGRESS IS ALWAYS AVAILABLE USING THE MOTION SENSOR OR THE NON-FIRE RELATED EMERGENCY RELEASE BUTTON.

THE MAGNETIC LOCKS ARE TO BE TIED TO THE FIRE ALARM SYSTEM.

THE NON-FIRE RELATED EMERGENCY RELEASE BUTTON IS TO BE WIRED DIRECTLY BETWEEN THE POWER SUPPLY FOR THE MAGNETIC LOCKS AND THE MAGNETIC LOCKS THEMSELVES.

ITEMS TO BE PROVIDED BY THE DIVISION 28 SUPPLIER:
CREDENTIAL READER DEVICE.
REQUIRED POWER AND WIRING TO THE MAGNETIC LOCK.
WIRING FOR THE PUSH BUTTON AND MOTION SENSOR.

END OF SECTION 08 71 00
SECTION 10 26 00 - WALL AND DOOR PROTECTION

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. Corner guards. (CG-x)

1.3 ACTION SUBMITTALS
   A. Product Data: For each type of product.
      1. Include construction details, material descriptions, impact strength, dimensions of individual components and profiles, and finishes.
      2. Include fire ratings of units recessed in fire-rated walls and listings for door protection items attached to fire-rated doors.
   B. Shop Drawings: For each type of wall and door protection showing locations and extent.
      1. Include plans, elevations, sections, and attachment details.
   C. Samples for Verification: For each type of exposed finish on the following products, prepared on Samples of size indicated below:
      1. Corner Guards: 12 inches long. Include example top caps.

1.4 INFORMATIONAL SUBMITTALS
   A. Material Certificates: For each type of exposed plastic material.
   B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS
   A. Maintenance Data: For each type of wall and door protection product to include in maintenance manuals.
1. Include recommended methods and frequency of maintenance for maintaining best condition of plastic covers under anticipated traffic and use conditions. Include precautions against using cleaning materials and methods that may be detrimental to finishes and performance.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Corner-Guard Covers: Full-size plastic covers of maximum length equal to 2 percent of each type, color, and texture of cover installed, but no fewer than two, 48-inch-long units.
   2. Mounting and Accessory Components: Amounts proportional to the quantities of extra materials. Package mounting and accessory components with each extra material.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store wall and door protection in original undamaged packages and containers inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.
   1. Maintain room temperature within storage area at not less than 70 deg F during the period plastic materials are stored.
   2. Keep plastic materials out of direct sunlight.
   3. Store plastic wall- and door-protection components for a minimum of 72 hours, or until plastic material attains a minimum room temperature of 70 deg F.
      a. Store corner-guard covers in a vertical position.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of wall- and door-protection units that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures including detachment of components from each other or from the substrates, delamination, and permanent deformation beyond normal use.
      b. Deterioration of metals, metal finishes, plastics, and other materials beyond normal use.
2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain wall- and door-protection products of each type from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Surface Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

2.3 CORNER GUARDS

A. Surface-Mounted, Opaque-Plastic Corner Guards (CG-x): Fabricated as one piece from PVC-free plastic; with formed edges; fabricated with 90- or 135-degree turn to match wall condition.

B. See Legends on 'Finish Plan' drawings for product information.


2.4 MATERIALS

A. Plastic Materials: Chemical- and stain-resistant, high-impact-resistant plastic with integral color throughout; extruded and sheet material as required, thickness as indicated.

B. Adhesive: As recommended by protection product manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less.

2.5 FABRICATION

A. Fabricate wall and door protection according to requirements indicated for design, performance, dimensions, and member sizes, including thicknesses of components.
B. Quality: Fabricate components with uniformly tight seams and joints and with exposed edges rolled. Provide surfaces free of wrinkles, chips, dents, uneven coloration, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.

2.6 FINISHES

A. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining 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

A. Examine substrates and wall areas, with Installer present, for compliance with requirements for installation tolerances, fire rating, and other conditions affecting performance of the Work.

B. Examine walls to which wall and door protection will be attached for blocking, grounds, and other solid backing that have been installed in the locations required for secure attachment of support fasteners.

1. For wall and door protection attached with adhesive, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Complete finishing operations, including painting, before installing wall and door protection.

B. Before installation, clean substrate to remove dust, debris, and loose particles.

3.3 INSTALLATION

A. Installation Quality: Install wall and door protection according to manufacturer’s written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
B. Mounting Heights: Install wall and door protection in locations and at mounting heights indicated on Drawings.

C. Accessories: Provide splices, mounting hardware, anchors, trim, joint moldings, and other accessories required for a complete installation.

3.4 CLEANING

A. Immediately after completion of installation, clean plastic covers and accessories using a standard ammonia-based household cleaning agent.

B. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION 10 26 00
SECTION 27 41 16 - AUDIOVISUAL SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, Including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. Section Includes:
      1. Ceiling Speakers.
      2. Projector Screens.
      3. Projector Mounts.

1.3 REGULATORY REQUIREMENTS
   A. 2021 International Building Code; as Amended by the City of Woodstock.
   B. 2021 International Mechanical Code; as Amended by the City of Woodstock.
   C. 2021 International Fire Code; as Amended by the City of Woodstock.
   G. 2020 National Electrical Code; as Amended by the City of Woodstock.
   L. Products: Listed and classified by Underwriter's Laboratories, Inc. as suitable for the purpose specified and indicated.

1.4 SUBMITTALS
   A. See Division 01 for project requirements.
   B. Product Data: Submit manufacturer's catalog information showing dimensions, colors, and configurations.

1.5 QUALIFICATIONS
PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTIONS

A. Provide ceiling mounted audio-visual speakers and associated wiring to Owner provided amplifier.

B. Provide ceiling mounted, recessed, manual-operated projector screen in the following spaces:
   1. Classroom 125.
   2. Classroom 130.
   3. Classroom 137.
   4. Conference 105A.
   5. Conference 150B.
   6. Classroom 147.
   7. Classroom 148.
   8. Classroom 149.

C. Provide ceiling mounted enclosure as specified on drawings.

2.2 CEILING SPEAKERS

A. 6.5" Coaxial In-Ceiling Speaker with 32-Watt 70V/100V Transformer.
   1. Manufacturers:
      a. Atlas Sound #FAP63T-W.

B. Cabling shall be UL-Listed, 12 AWG, stranded copper, two-conductor, shielded, and plenum-rated (regardless of the plenum rating of the space).
   1. Manufacturers:
      a. West Penn.
      b. Belden.

2.3 MANUALLY OPERATED PROJECTION SCREENS

A. Screen Operation: Manually operated, retractable projection screen mounted on ball bearing rigid steel spring roller with controlled screen return (CSR) mechanism.
   1. Form screen bottom into pocket holding tubular metal slat with attached steel pull bail.
   2. Protect slat ends with heavy-duty plastic end caps.
   3. Include 6 feet pull cord.

B. Screen Mounting Type: Recessed ceiling mounted with screen case.

C. Screen Case:
   1. Material:
      a. 21 gauge steel.
      b. Case is designed to receive mounting hardware and is sized to suit projection screen.
2. Design: Flat-backed case with heavy duty plastic end caps concealing roller ends with steel inner plates to support roller. End caps to form sturdy brackets for wall or ceiling installations.

3. Include built-in bumper stops to prevent slat wedging into case.

4. Length: 96 inches.

5. Finish: Powder coated white.

D. Screen Size:

1. Viewing Area: H 60 inches x W 96 inches.

E. Manufacturers:

1. Da-Lite Model C #36441.

2.4 PROJECTOR MOUNTS

A. Attachment of mounting device to projector shall not require modification of projector.

B. Support from ceiling projector box, not ceiling grid, per manufacturer instructions.

C. Manufacturers: Chief, Peerless, Premier Mounts.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate locations and sizes of junction boxes, outlets, and conduit. Field verify compliance with the construction documents.

B. Carefully inspect areas where equipment will be installed. Notify the Architect of any conditions that would adversely affect the installation and subsequent operation of the system.

1. Repeat inspection on a regular basis to ensure ongoing work by other trades does not pose a conflict to Contractor’s pending work.

3.2 COORDINATION

A. Coordinate projection screen placement with other ceiling and wall mounted components.

3.3 INSTALLATION

A. General

1. Install system in accordance with NFPA 70 and other applicable codes. Install equipment in accordance with manufacturer’s written instructions.

2. Contractor shall demonstrate a reasonable standard of care. Installation shall be rendered in a workmanlike manner observing direction set forth herein as well as industry standard best practices.

3. In addition to any spare cabling shown, utilize industry best practice to pull additional spare cabling in conduit where logical. Neatly bundle a usable length of cable at each end of each spare circuit. All spare circuits shall be labeled and noted on the field drawings for inclusion into the record drawings.
4. Furnish all equipment with factory finish where possible using the standard available factory color(s) as selected by the Architect. Notify the Architect regarding color options of relevant equipment prior to ordering equipment from each manufacturer.
5. Support cables above accessible ceilings to keep from resting on ceiling tiles. Install bridal rings to support cables from structure.
6. Do not secure cables with permanent cable ties. Do not tighten cable bundles in such a way as to cause jacket deformation or damage.
7. Re-terminate and re-test any cables or pairs of cables failing end-to-end testing requirements. Replace any faulty cables/pairs or termination devices. Remove all defective cables completely from pathways.

B. Projector Screen

1. Install projection screens in accordance with reviewed shop drawings at locations and heights indicated.
   a. Verify locations with Owner/Architect prior to installation.
   b. Suspend screen from roof structure.
2. Install screen housing in conjunction with installation of suspended ceiling system.
3. Securely install screens plumb and level to supporting substrate.

3.4 CABLE MANAGEMENT AND TERMINATION

A. Employ cable management and installation techniques to fulfill ANSI/INFOCOMM 10:2013, 9.4 (ANS2013-12-20) "Cable Management, Termination, and Labeling Reference Verification Items" as a minimum standard with the additional requirements as described in this paragraph.

B. General

1. Do not violate the minimum cable bend radius as specified by the cable manufacturer.
2. Dress cables so terminations are free from stress due to gravity acting on the cabling. Use cable supports as required depending on the size and stiffness of the cable.
3. Terminate cables with sufficient service loop to allow at least one re-termination without having to open a cable bundle or pathway.
4. All circuits, including various audio signal levels, shall be separated according to function. Where audio and video circuits are installed in conduit or other raceway, separate conduits are required for the various circuit functions.
5. Where circuits are exposed in the equipment racks or large junction or pull boxes, circuits shall be bundled according to function.
6. All solder connections shall be made with soldering iron and rosin core solder. All solder connections shall be checked for "cold" solder joints.
7. If equipment is removed or replaced for service, ensure the proper cable termination points are apparent when the equipment is re-installed.

C. Splicing, Paralleling, and Extension

1. Audiovisual cables shall not be spliced.

END OF SECTION 27 41 16
DEMO FLOOR PLAN SYMBOLS LEGEND:

DEMO PLAN GENERAL NOTES:

1. All existing finish materials, furniture, equipment, structures, and other installa-
tions shall be removed in accordance with the Contract Documents. Any mate-
rials or equipment removed upon the Contractor's decision shall be disposed of
in accordance with applicable codes and regulations. All satisfied, dismantled,
or removed materials shall be removed from the premises by the Contractor.

2. The Contractor shall provide proper protection and segregation of all sur-
rounding materials, equipment, and structures to prevent the damage or
contamination of such materials, equipment, and structures. The Contractor
shall also provide proper segregation of all materials, equipment, and
structures removed from the premises to prevent the contamination of such
materials, equipment, and structures.

3. The Contractor shall provide proper segregation of all materials, equipment,
and structures needed for the new construction or remodeling work to be
completed. The Contractor shall provide proper segregation of all materials,
equipment, and structures removed from the premises to be used in the new
construction or remodeling work.

4. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
tion or remodeling work to be completed.

5. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
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6. The Contractor shall provide proper segregation of all materials, equipment,
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10. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
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DEMO PLAN REFERENCED NOTES:

1. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
tion or remodeling work to be completed.

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and structures removed from the premises to be used in the new construc-
tion or remodeling work to be completed.

DEMO PLAN ISSUED FOR BIDS:

1. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
tion or remodeling work to be completed.

2. The Contractor shall provide proper segregation of all materials, equipment,
and structures removed from the premises to be used in the new construc-
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tion or remodeling work to be completed.
IT / ELECTRICAL

135

PLYWOOD FOR GROUND BAR
AND MISCELLANEOUS LOW VOLTAGE TERMINATIONS.
REFER TO DETAILS FOR ADDITIONAL INFORMATION.

TELECOMMUNICATIONS GROUND BAR.
REFER TO DETAILS FOR ADDITIONAL INFORMATION.

FLOOR MOUNTED 2-POST RACK.
REFER TO DETAILS FOR ADDITIONAL INFORMATION.

PROVIDE (2) 4" CONDUIT SLEEVES WITH END BUSHINGS STUBBED INTO CEILING SPACE FOR ROUTING OF LOW VOLTAGE CABLES.

DFSS-135
“PP-3”:26
“PP-3”:26
“PP-3”:26
“GP”:2
“GP”:4

ELECTRICAL

202

“PP-3”: 61,63,65
“PP-3”: 67,69,71

AC-1
VP-1

NEW 208/120V-3PH-4W, 1200A RATED SWITCHBOARD MOUNTED ON 6" TALL CONCRETE PAD AUTOMATIC TRANSFER SWITCH “ATS-1”

RECEPTACLES SHALL BE MOUNTED TO THE RACK. (TYP.)

RELOCATE TELECOMMUNICATION DEMARCATION POINT, PUNCH DOWN BLOCKS AND ASSOCIATED EQUIPMENT TO THIS LOCATION. EXTEND ALL EXISTING CABLING AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. FIELD VERIFY EXACT REQUIREMENTS.

1/4" = 1'-0"

ENLARGED ELECTRICAL PLAN - IT / ELECTRICAL 146

ENLARGED ELECTRICAL PLAN - IT 135

ENLARGED ELECTRICAL PLAN - STORAGE 202
INTERNAL DEVICE MOUNTING BRACKET TO ACCEPT COMMUNICATION JACKS.

INTERNAL DEVICE MOUNTING BRACKET TO ACCEPT AUDIO/VISUAL OUTLET.

NOTE:

1. SECURITY DEVICES BY OTHERS. COORDINATE FINAL LOCATION AND CABLING REQUIREMENTS WITH OWNER'S SECURITY VENDOR.

PROVIDE TWO GANG BACKBOX EXTRA DEEP (2" MINIMUM DEPTH) WITH SINGLE GANG TRIM RING.

CABLES SHALL BE INSTALLED WITH 5'-0" EXTRA SLACK COILED INSIDE BACKBOX FOR TERMINATION BY OTHERS.

STUB (1) 3/4" EMPTY CONDUIT WITH PULL STRING TO ACCESSIBLE CEILING SPACE ON SECURED SIDE OF DOOR. INCLUDE INSULATED BUSHING FOR CABLE PROTECTION.

HOMERUN (1) #22AWG, 6-CONDUCTOR CABLE, (1) #18, 4-CONDUCTOR CABLE, (1) #22, 2-CONDUCTOR CABLE TO DOOR ACCESS CONTROLLER IN IT/ELECTRICAL 146.

ALL CABLES SHALL BE SHIELDED, AND PLENUM-RATED.

NOTE:

IN-GRADE FLOOR BOX DEVICE DETAIL

IN-GRADE FLOOR BOX DEVICE DETAIL

CREDENTIAL READER DETAIL

CREDENTIAL READER DETAIL

IN-GRADE FLOOR BOX DEVICE DETAIL

IN-GRADE FLOOR BOX DEVICE DETAIL