



ADDENDUM NO. 1

March 20, 2022

**RE: Butler County Public Library
121 East Morrison Street
Morgantown, Kentucky 42261
Project No. 21096**

**FROM: Brandstetter Carroll Inc.
2360 Chauvin Drive
Lexington, Kentucky 40517
Phone 859-268-1933
Fax 859-268-3341**

TO: Plan Holders

This Addendum forms a part of the Construction Documents dated March 8, 2023. Each Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of two (2) page and the following attachments:

- Specification 087100 Door Hardware
- Sketch ADD 1.1
- Sketch ADD 1.2
- Sketch ADD 1.3
- Sketch ADD 1.4

GENERAL:

1. There will not be a pre-bid meeting for this project. All prospective bidders are encouraged to visit the site to become familiar with the existing conditions.
2. Bidders are to include sales tax in their full bid amount. The Owner is tax exempt and will utilize Direct Purchase Orders on material packages over \$5,000.
3. All references to the State of Ohio shall be changed to Kentucky.

CHANGES TO SPECIFICATIONS:

1. 004313 Bid Security and Performance Bond
 - a. Disregard this specification in its entirety. Each Bidder shall include the AIA A310 Bid Bond as part of their bid submission.
2. 087100 Door Hardware
 - a. This specification is to be included in its entirety and is attached herein.
3. 098436 Sound Absorbing Ceiling Units
 - a. Sound Seal, may be considered an acceptable manufacturer.

CHANGES TO DRAWINGS:

1. A-101 First Floor Annotation Plan
 - a. Refer to Floor Plan General Notes
 - i. Add Note 12: All instances of exposed insulation shown within the drawings shall be covered with 5/8" type X gypsum board. Drywall shall be finished and painted in exposed instances to match adjacent areas. In unexposed instances, a level 1 finish shall be provided.
2. A-501 Details
 - a. Disregard detail C4 and replace it with sketch ADD 1.1.
 - b. Add sketch ADD 1.2 for the stair detail of the front entrance stair.
3. A-502 Details
 - a. Disregard detail A2 and replace it with sketch ADD 1.3.
 - b. Refer to detail B2. All metal panel notes and designations are to match what is shown on detail C3.
4. P-502 DWV Isometric View
 - a. The 2" Riser shown on the far right of the Riser Diagram shall be increased to 4". The 3" VTR at the same location shall be increased to 4".
 - b. The 4" VRT shown in the middle of the Riser Diagram shall be connected to a 4" Riser.
5. E-102 Power Plan
 - a. Doors 101A and 101B will be electrified to accommodate ADA door operators per the included door hardware specification. Door opener for door 101A to be wired to circuit P1-41 and door opener for door 101B to be wired to circuit P1-43. Contractor to provide connection for power door operator. Coordinate mounting heights and location in field. Connect control wiring per manufacturer's instructions. Provide with all components for complete working system. Verify exact push button locations with architect. Provide with all wiring and conduits needed from push button to door opener. Refer to attached sketch ADD 1.4.
6. E-501 Electrical Schedules
 - a. Circuits P1-41 and P1-43 are used for ADA door openers.

END OF ADDENDUM NO. 1

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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Sliding doors.
 - 3. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Automatic operators.
 - 3. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 08 Section "Hollow Metal Doors and Frames".
 - 2. Division 08 Section "Flush Wood Doors".
 - 3. Division 08 Section "Aluminum-Framed Entrances and Storefronts".
 - 4. Division 08 Section "Automatic Door Operators".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
 - 8. State Building Codes, Local Amendments.

- E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.
2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing, fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the 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 Schedule.

- C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.
- D. Informational Submittals:
 - 1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.
- E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).
- C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- E. Automatic Operator Supplier Qualifications: Power operator products and accessories are required to be supplied and installed through the Norton Preferred Installer (NPI) program. Suppliers are to be factory trained, certified, and a direct purchaser of the specified power operators and be responsible for the installation and maintenance of the units and accessories indicated for the Project.
- F. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 - G. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
 - H. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." 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.
 - I. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.
 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
 2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
 3. Review sequence of operation narratives for each unique access controlled opening.
 4. Review and finalize construction schedule and verify availability of materials.
 5. Review the required inspecting, testing, commissioning, and demonstration procedures
 - J. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
 - B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
 - C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 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. Warranty Period: Unless otherwise indicated, warranty shall be one year from date of Substantial Completion.

1.8 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.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing 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 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.
1. Quantity: Provide the following hinge quantity:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: With the exception of electric through wire hinges, provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
 5. Manufacturers:
 - a. Hager Companies (HA) - BB Series, 5 knuckle.

- b. McKinney (MK) - TA/T4A Series, 5 knuckle.
 - c. dormakaba Best (ST) - F/FBB Series, 5 knuckle.
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 continuous geared hinge. with minimum 0.120-inch thick extruded 6063-T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

- 1. Manufacturers:

- a. Pemko (PE).

2.3 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: Provide products conforming to ANSI/BHMA A156.3 and A156.16, Grade 1.

- 1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
 - 2. Furnish dust proof strikes for bottom bolts.
 - 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
 - 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

- 5. Manufacturers:

- a. Door Controls International (DC).
 - b. Rockwood (RO).
 - c. Trimco (TC).

- B. Door Push Plates and Pulls: ANSI/BHMA A156.6 door pushes and pull units of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

- 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 - 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
 - 3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
 - 4. Pulls, where applicable, shall be provided with a 10" clearance from the finished floor on the push side to accommodate wheelchair accessibility.
 - 5. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

- 6. Manufacturers:

- a. Hiawatha, Inc. (HI).

- b. Rockwood (RO).
- c. Trimco (TC).

2.4 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:
 - 1. Threaded mortise cylinders with rings and cams to suit hardware application.
 - 2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 - 3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
 - 4. Tubular deadlocks and other auxiliary locks.
 - 5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 - 6. Keyway: Manufacturer's Standard.
- C. Patented Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed cylinders employing a utility patented and restricted keyway requiring the use of a patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents. Cylinders are to be factory keyed with owner having the ability for on-site original key cutting.
 - 1. Patented key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.
 - 2. Manufacturers:
 - a. Corbin Russwin (RU) - Access 3 AP.
 - b. Sargent (SA) - Degree DG1.
 - c. No Substitution.
- D. Keying System: Each type of lock and cylinders to be factory keyed.
 - 1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
 - 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 - 3. New System: Key locks to a new key system as directed by the Owner.
- E. Key Quantity: Provide the following minimum number of keys:
 - 1. Change Keys per Cylinder: Two (2)
 - 2. Master Keys (per Master Key Level/Group): Five (5).
 - 3. Construction Keys (where required): Ten (10).

F. Construction Keying: Provide construction master keyed cylinders.

G. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.5 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:
 - a. Lund Equipment (LU).
 - b. MMF Industries (MM).
 - c. Telkee (TK).

2.6 AUXILIARY LOCKS

A. Mortise Deadlocks, Small Case: ANSI/BHMA A156.36, Grade 1, small case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. Steel or stainless steel bolts with a 1" throw and hardened steel roller pins. Deadlocks to be products of the same source manufacturer and keyway as other specified locksets.

1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DL4000 Series.
 - b. Sargent Manufacturing (SA) - 4870 Series.
 - c. Yale Commercial (YA) - 350 Series.

2.7 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.8 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. Exit devices shall have a five-year warranty.
2. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
3. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
4. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
5. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

10. Rail Sizing: Provide exit device rails factory sized for proper door width application.
 11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
- B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
 - c. dormakaba Best (PR) - Apex 2000 Series.

2.9 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.
 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.
- B. Door Closers, Surface Mounted (Commercial Duty): ANSI/BHMA 156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, institutional grade door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck, closing sweep, and latch speed control valves. Provide non-handed units standard.
1. Manufacturers:

- a. Corbin Russwin Hardware (RU) - DC6000 Series.
- b. Norton Rixson (NO) - 8500 Series.
- c. Sargent Manufacturing (SA) - 1431 Series.

2.10 ELECTROHYDRAULIC DOOR OPERATORS

- A. General: Provide low energy operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for compliance with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation devices.
 - 1. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.
- B. Standard: Conforming to ANSI/BHMA A156.19.
- C. Performance Requirements:
 - 1. Opening Force if Power Fails: Not more than 15 lbf required to release a latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
 - 2. Entrapment Protection: Not more than 15 lbf required to prevent stopped door from closing or opening.
- D. Configuration: Surface mounted or in-ground as required. Door operators to control single swinging and pair of swinging doors.
- E. Operation: Power opening and spring closing operation capable of meeting ANSI A117.1 accessibility guideline. Provide time delay for door to remain open before initiating closing cycle as required by ANSI/BHMA A156.19. When not in automatic mode, door operator to function as manual door closer with fully adjustable opening and closing forces, with or without electrical power.
- F. Features: Operator units to have full feature adjustments for door opening and closing force and speed, backcheck, motor assist acceleration from 0 to 30 seconds, time delay, vestibule interface delay, obstruction recycle, and hold open time from 0 up to 30 seconds.
- G. Provide outputs and relays on board the operator to allow for coordination of exit device latch retraction, electric strikes, magnetic locks, card readers, safety and motion sensors and specified auxiliary contacts.
- H. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonferrous shims for aligning system components.
- I. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. LCN Closers (LC) - 4640 Series.
 - 2. Norton Rixson (NO) - 6000 Series.

3. Stanley Security Solutions (ST) - D-4990 Series.

2.11 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, 050-inch thick.
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).
 - c. Trimco (TC).

2.12 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.
- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 1. Manufacturers:
 - a. Hiawatha, Inc. (HI).
 - b. Rockwood (RO).

- c. Trimco (TC).
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 - 1. Manufacturers:
 - a. Norton Rixson (RF).
 - b. Rockwood (RO).
 - c. Sargent Manufacturing (SA).

2.13 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. 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 perimeter gasketing at all smoke labeled openings.
- C. 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 UL-10C.
 - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- F. Manufacturers:
 - 1. National Guard Products (NG).
 - 2. Pemko (PE).
 - 3. Reese Enterprises, Inc. (RE).

2.14 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.15 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically 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. DHI TDH-007-20: Installation Guide for Doors and Hardware.
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and 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 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection (Punch Report): Reference Division 01 Sections "Closeout Procedures". Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.
 - 1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.

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.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

- A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should 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 and functionality.

- 1. Quantities listed are for each pair of doors, or for each single door.
- 2. The supplier is responsible for handing and sizing all products.
- 3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.
- 4. At existing openings with new hardware the supplier shall field inspect existing conditions prior to the submittal stage to verify the specified hardware will work as required. Provide alternate solutions and proposals as needed.

- B. Manufacturer's Abbreviations:

- 1. MK - McKinney
- 2. PE - Pemko
- 3. RO - Rockwood
- 4. RU - Corbin Russwin
- 5. HS - HES
- 6. RF - Rixson
- 7. NO - Norton
- 8. HD - HID

9. OT - Other
10. SU - Securitron

Hardware Sets

Set: 1.0

Doors: 101A

Description: CVR x NL/EO, AOx1, Pair no Mullion, Ext, Alum

2 Continuous Hinge (AL)	DFM SLF-HD1 x Dr Ht		PE
1 CVR Exit x EO, Narrow	ED4800 EO	613E	RU
1 CVR Exit x NL, Narrow	ED4800 O859	613E	RU
2 Offset Pull	RM3311-72 x 12HD MP	10BE	RO
1 Closer - PA x Hvy Duty Stop	DC6210 A11	690	RU
1 Automatic Operator	6011 / 6061 (as req'd)	689	NO
1 Threshold - 5" T-Break	252x3AFG		PE
2 Sweep	315DN		PE
2 Actuator Button	505		NO

Notes: WIDE STILE EXIT DEVICES ACCEPTABLE AT DOORS THAT WILL ACCOMMODATE THEM

-Weatherstripping/Door edge gasketing furnished by Aluminum Door/Frame supplier.

-Furnish all necessary brackets/spacers and plates necessary for a complete and proper installation of hardware items listed.

When doors are dogged down manually, either actuator button opens active leaf automatically.
Free egress at all times.

Set: 2.0

Doors: 108, 124C

Description: Alum Single Exterior Keyed Entry

1 Continuous Hinge (AL)	DFM SLF-HD1 x Dr Ht		PE
1 Rim Exit x Keyed Lvr, Narrow	ED4200 123855ET	613E	RU
1 Closer - PA x Hvy Duty Stop	DC6210 A11	690	RU
1 Threshold - 5" T-Break	252x3AFG		PE
1 Sweep	315DN		PE

Notes: WIDE STILE EXIT DEVICES ACCEPTABLE AT DOORS THAT WILL ACCOMMODATE THEM

-Weatherstripping/Door edge gasketing furnished by Aluminum Door/Frame supplier.

-Furnish all necessary brackets/spacers and plates necessary for a complete and proper installation of hardware items listed.

Set: 3.0

Doors: 101B

Description: Alum Pair Vestibule Push/Pull, AO

2 Continuous Hinge (AL)	DFM SLF-HD1 x Dr Ht		PE
2 Straight Pull	RM3301-72 x 12HD MP	10BE	RO
2 Push Bar	RM350	10BE	RO
1 Closer - Top Jamb	DC6220	690	RU
1 Automatic Operator	6011 / 6061 (as req'd)	689	NO
2 Actuator Button	505		NO

Notes:

-Weatherstripping/Door edge gasketing furnished by Aluminum Door/Frame supplier.

-Furnish all necessary brackets/spacers and plates necessary for a complete and proper installation of hardware items listed.

OPERATION:

Either actuator button opens active leaf automatically.

Set: 4.0

Doors: 124B

Description: Ext, Rim Exit x Exit Only, Single

1 Continuous Hinge (WD/HM)	DFM HD1 x Dr Ht		PE
1 Rim Exit Device, Exit Only	ED5200S EO	613E	RU
1 Closer - PA x Hvy Duty Stop	DC6210 A11	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Threshold - 6" T-Break	253x3AFG		PE
1 Gasketing	2891DS (head)		PE
2 Gasketing	290DS (jambs)		PE
1 Rain Guard	346D (frame width)		PE
1 Brush Sweep	18061CNB x dr width		PE

Notes: Install gasketing at head before installing closer(s).

Install gasketing at jambs before installing rim exit strike.

Set: 5.0

Doors: 124A

Description: Classroom Lever, Rim Exit, Rated

3 Hinge	TA2714 (NRP)	US26D	MK
1 Rim Exit, Classroom, Rated	ED5200A 123955ET ACP	613E	RU
1 Closer - PA x Stop	DC6210 A4	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 6.0

Doors: 107

Description: Passage Lever Rim Exit, Rated, Closer/Stop

1 Continuous Hinge (WD/HM)	DFM HD1 x Dr Ht		PE
1 Rim Exit, Passage, Rated	ED5200A 123910ET ACP	613E	RU
1 Closer - PA x Stop	DC6210 A4	690	RU

1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 7.0

Doors: 115

Description: Storeroom, Closer x Stop, Rated

3 Hinge	TA2714 (NRP)	US26D	MK
1 Storeroom Lock	ML2057 123X ACP	613E	RU
1 Closer - PA x Stop	DC6210 A4	690	RU
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 8.0

Doors: 126

Description: Storeroom, Rated

3 Hinge	TA2714 (NRP)	US26D	MK
1 Storeroom Lock	ML2057 123X ACP	613E	RU
1 Closer - Regular Arm	DC6210 A10	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Wall Stop	402 / 405 (as req'd)	10B	RO
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 9.0

Doors: 117

Description: Storeroom, Exterior

1 Continuous Hinge (WD/HM)	DFM HD1 x Dr Ht		PE
1 Storeroom Lock	ML2057 123X ACP	613E	RU
1 Closer - PA x Hvy Duty Stop	DC6210 A11	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Threshold - 6" T-Break	253x3AFG		PE
1 Gasketing	2891DS (head)		PE
2 Gasketing	290DS (jambs)		PE
1 Rain Guard	346D (frame width)		PE
1 Sweep	315DN		PE

Notes: Install gasketing at head before installing closer(s).

Set: 10.0

Doors: 102

Description: Storeroom, OH Stop

3 Hinge	TA2714 (NRP)	US26D	MK
1 Storeroom Lock	ML2057 123X ACP	613E	RU
1 Surf Overhead Stop	10-X36	613E	RF

Set: 11.0

Doors: 125

Description: Classroom

3 Hinge	TA2714 (NRP)	US26D	MK
1 Classroom Lock	ML2055 123X ACP	613E	RU
1 Wall Stop	402 / 405 (as req'd)	10B	RO

Set: 12.0

Doors: 109, 119

Description: Classroom, Closer/Stop/Slide Track

3 Hinge	TA2714 (NRP)	US26D	MK
1 Classroom Lock	ML2055 123X ACP	613E	RU
1 Closer - Slide Track	DC6230	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO

Set: 13.0

Doors: 122

Description: Classroom, Closer/Stop, Rated

3 Hinge	TA2714 (NRP)	US26D	MK
1 Classroom Lock	ML2055 123X ACP	613E	RU
1 Closer - PA x Stop	DC6210 A4	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 14.0

Doors: 111, 113

Description: Classroom, OH Stop

3 Hinge	TA2714 (NRP)	US26D	MK
1 Classroom Lock	ML2055 123X ACP	613E	RU
1 Surf Overhead Stop	10-X36	613E	RF

Set: 15.0

Description: NOT USED

Set: 16.0

Doors: 114

Description: Office x Closer/Stop/Slide Track

3 Hinge	TA2714 (NRP)	US26D	MK
1 Entrance Lock	ML2054 123X ACP	613E	RU
1 Closer - Slide Track	DC6230	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO

Set: 17.0

Doors: 103, 116

Description: Office

3 Hinge	TA2714 (NRP)	US26D	MK
1 Entrance Lock	ML2054 123X ACP	613E	RU
1 Wall Stop	402 / 405 (as req'd)	10B	RO

Set: 18.0Doors: [118](#)

Description: Privacy Restroom Closer

3 Hinge	TA2314 (NRP)	US32D	MK
1 Privacy Lock (OCC/VAC)	ML2030 123X V21	613E	RU
1 Closer - PA x Stop	DC6210 A4	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO

Set: 19.0Doors: [120](#), [121](#), [123](#)

Description: Privacy Restroom Rated

3 Hinge	TA2314 (NRP)	US32D	MK
1 Keyed Privacy Lock	ML2069 123X V21 ACP	613E	RU
1 Closer - Regular Arm	DC6210 A10	690	RU
1 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Mop Plate	K1050 4" 4BE CSK	10BE	RO
1 Wall Stop	402 / 405 (as req'd)	10B	RO
1 Perimeter Gasketing	S88BL (head & jambs)		PE

Set: 20.0

Doors: 105

Description: Passage

3 Hinge	TA2714 (NRP)	US26D	MK
1 Passage Latch	ML2010 123X	613E	RU
1 Wall Stop	402 / 405 (as req'd)	10B	RO

Set: 21.0

Doors: 110

Description: Passage, OH Stop

3 Hinge	TA2714 (NRP)	US26D	MK
1 Passage Latch	ML2010 123X	613E	RU
1 Surf Overhead Stop	10-X36	613E	RF

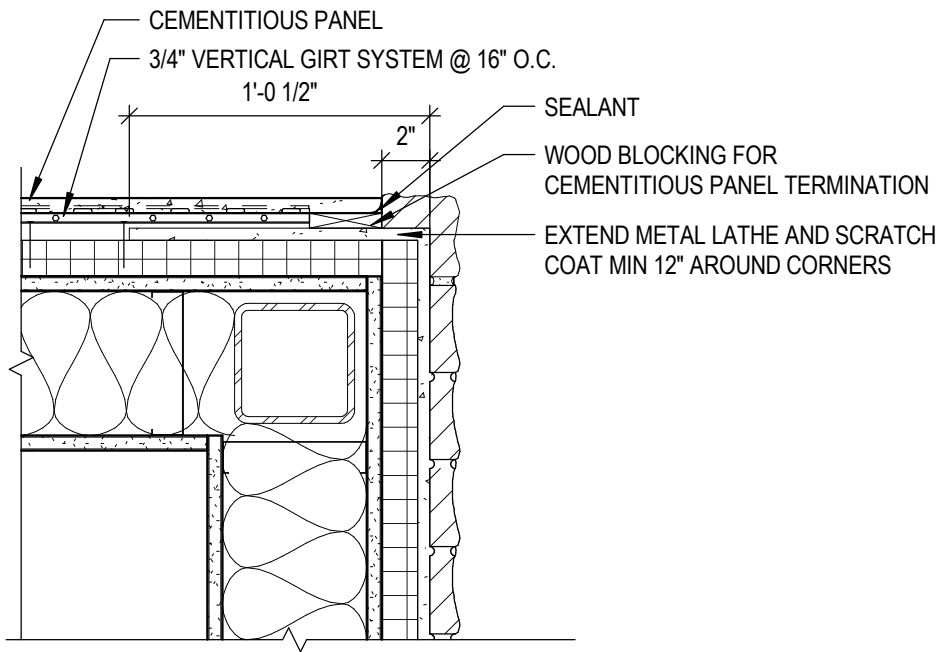
Set: 22.0Doors: [112A](#)

Description: Deadbolt, Push/Pull, Closer/Stop/HO, Pair

6 Hinge	TA2714 (NRP)	US26D	MK
1 Manual Flush Bolt	555/557 (as req'd)	US26D	RO
1 Mortise Deadbolt	DL4113 ACP	613E	RU
2 Push Bar	RM350	10BE	RO

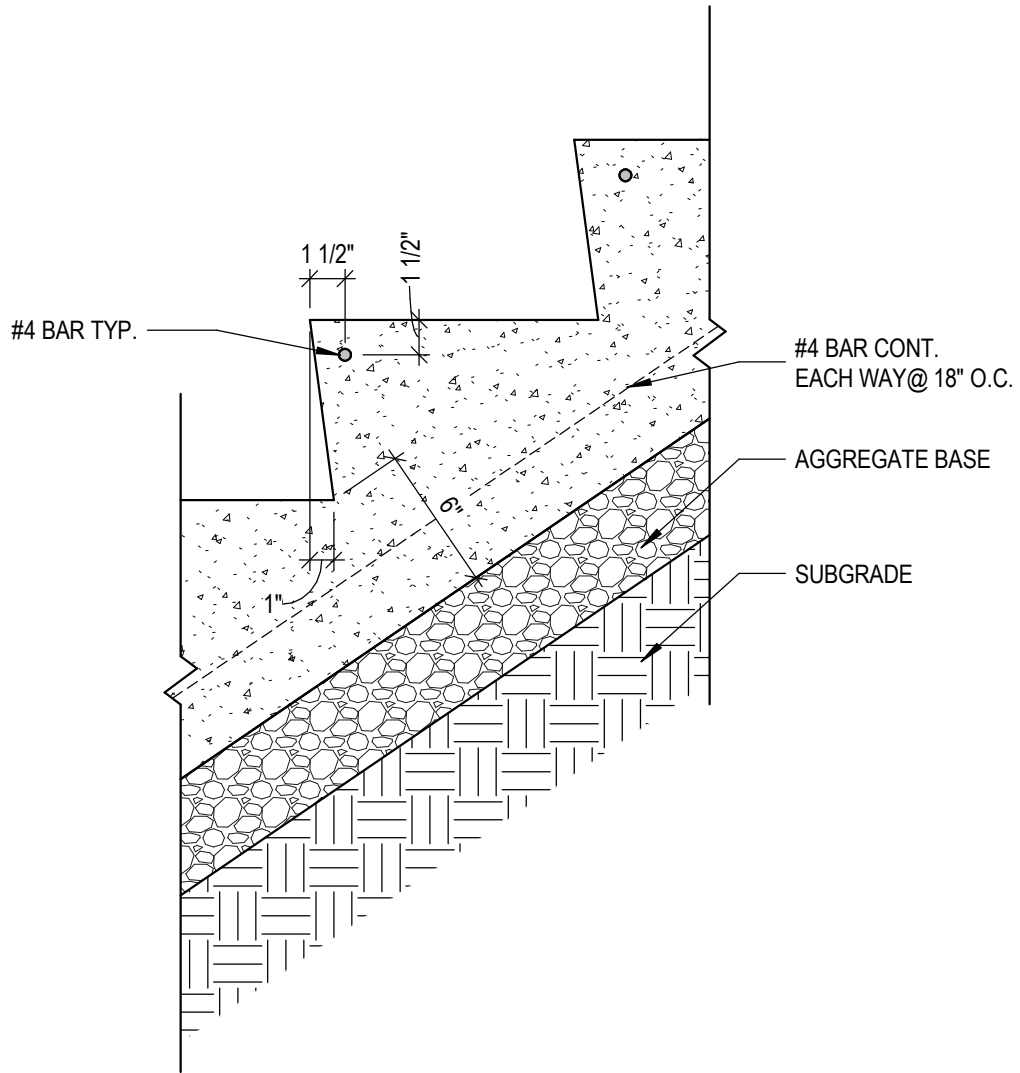
2 Straight Pull	RM3301-36	10BE	RO
2 Closer - PA x Stop/Hold Open	DC6210 A5	690	RU
2 Kick Plate	K1050 10" 4BE CSK	10BE	RO
1 Sound Seals	S773BL (head & jambs)		PE
1 Astragal Edge Seal	S772BL x Dr Ht		PE

END OF SECTION 087100



C4 Corner Detail

1 1/2" = 1'-0"

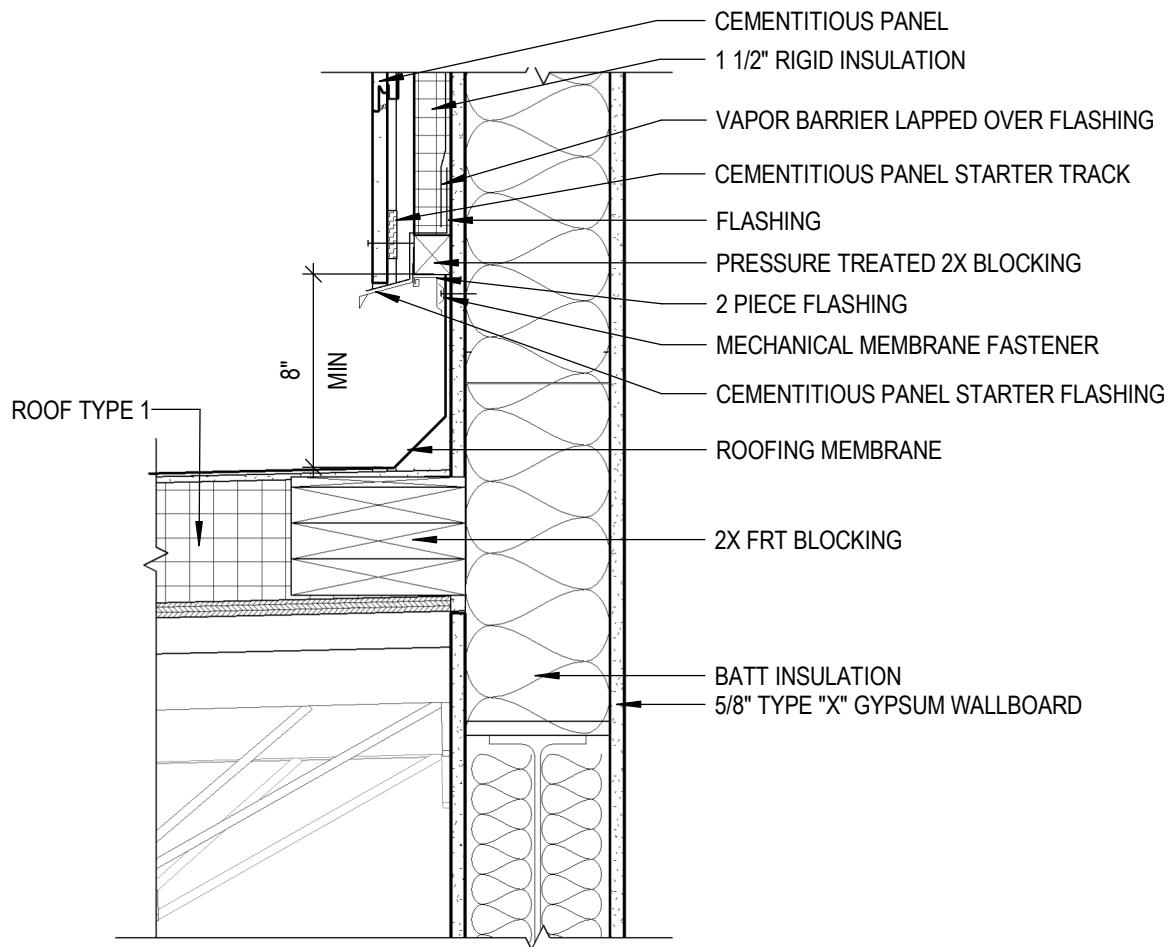


B4

Concrete Stair Profile

1 1/2" = 1'-0"

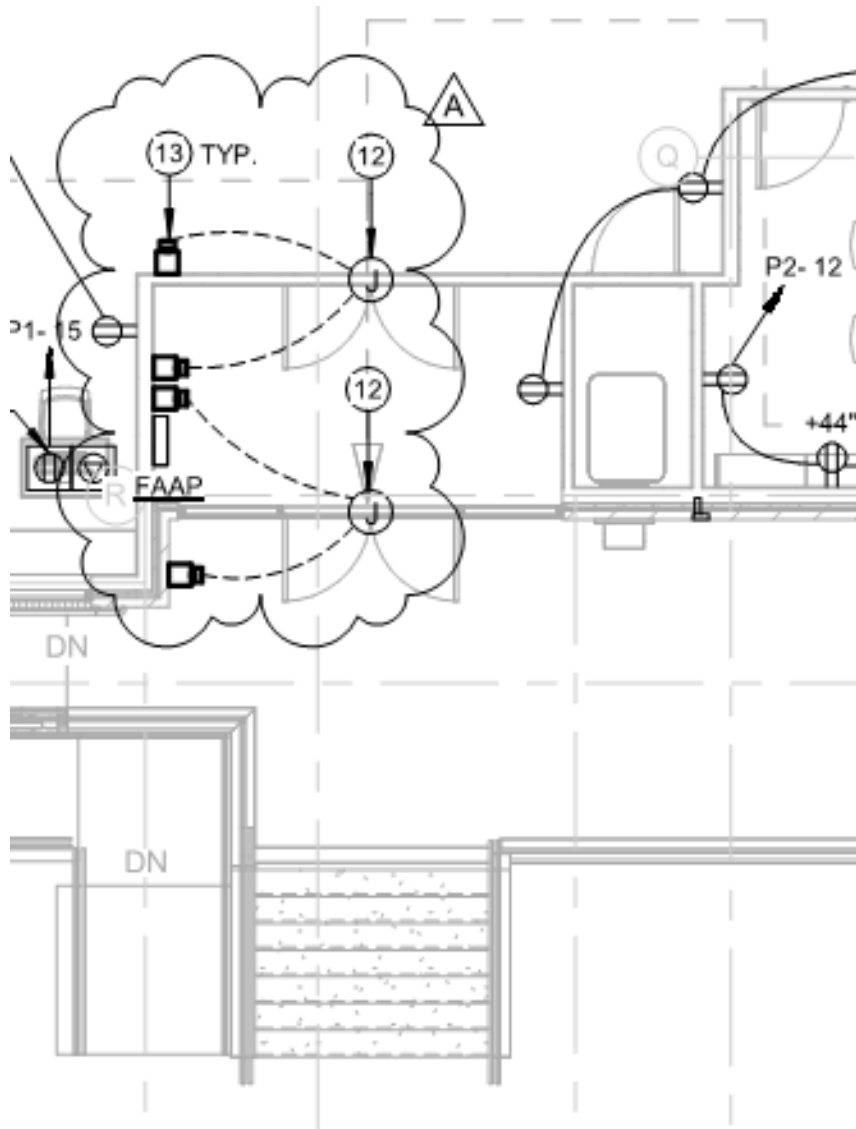




A2

Roof and Wall Detail

1 1/2" = 1'-0"



- | | |
|----|---|
| 11 | INSTALL RECEPTACLE IN BASE OF CASEWORK. COORDINATE IN FIELD. |
| 12 | PROVIDE CONNECTION FOR POWER DOOR OPERATOR. COORDINATE MOUNTING HEIGHTS AND LOCATIONS IN FIELD AND CONNECT CONTROL WIRING PER MANUFACTURER'S INSTRUCTIONS. PROVIDE ALL COMPONENTS AND WIRING FOR COMPLETE WORKING SYSTEM. |
| 13 | PROVIDE ALL CONDUITS AND WIRING FOR ADA PUSH BUTTON DOOR OPENER. VERIFY IN-FIELD REQUIREMENTS WITH EQUIPMENT VENDOR. |

