

EXTERIOR RESTORATION
NEW HAVEN COURTHOUSE GA #23, PHASE 1
NEW HAVEN, CT
PROJECT: BI- JD - 299

BID OPENING	1:00 P.M.	AUGUST 31, 2011
ADDENDUM NUMBER 6	DATE OF ADDENDUM	AUGUST 16, 2011

The following clarifications are applicable to drawings and specifications for the project referenced above.

Item 1

Specification Section 081425 – KALAMEIN DOORS

Add the attached new Specification Section to the Project Manual.

Comment: There are numerous manufacturers of Kalamein doors available. The doors on the Courthouse are not a "stock" item, but the manufacturer's can custom fabricate them to match the existing doors.

Item 2

Specification Section 087100 – HISTORIC HARDWARE REPLACEMENT

Add the attached new Specification Section to the Project Manual.

Item 3

DRAWING R-1 TREATMENT NOTES LEGEND

Note Number S20, delete the reference to the Detail.

Item 4

Drawing R-3 ROOF DETAIL

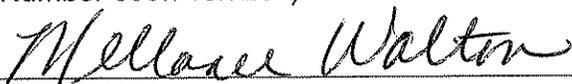
Upper right hand corner of the sheet, change Reference Note 'G13' to read as 'G11.'

Item 5

Drawing A-522 ROOFING DETAILS

Detail 3, change material references to "Modified Bitumen Roofing" to read "Liquid-Applied Waterproofing Membrane."

All questions must be in writing (not phone or e-mail) and must be forwarded to the consulting Architect/Engineer (JCJ Architecture and Fax Number 860.524.8067) with copy sent to the DCS Project Manager (Ward Ponticelli, RA and Fax Number 860.713.7261).



Mellanee Walton
Associate Fiscal Administrative Officer
Department of Public Works

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 the work of this Section.

1.2 SUMMARY

- A. The Work of this Section principally includes providing new kalamein doors as indicated on the Drawings, as specified herein, and as may be required by conditions and by authorities having jurisdiction, including but not limited to, the following:
1. Provide new solid core kalamein doors to match restored existing historic kalamein doors complete with glazing, hardware, weatherstripping, patina, and finish.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 1 Section 014244 "Special Subcontractor Qualifications Statement."
 2. Division 8 Section 080406 "Kalamein Door Restoration."
 3. Division 8 Section 088200 "Glass and Glazing" for glass.

1.3 SUBMITTALS

- A. Bid Submissions: Submit completed copy of "Special Subcontractor Qualifications Statement" with the Bid documents at time of bid. Failure to submit completed form is sufficient cause to disqualify and reject the bid.
- B. Product Data: Manufacturer's published technical data for each product to be used in work of this Section including material description, chemical composition (ingredients and proportions), physical properties, recommendations for application and use, test reports and certificates verifying that product complies with specified requirements, and Material Safety Data Sheets (MSDS).
- C. Work Description: Detailed written description for each phase of kalamein doors work required by this Section. Submit new description of proposed work; do not submit copies of Contract Documents or copied text from Contract Documents. Description for each condition shall include, but not be limited to:
1. Materials and Procedure: Materials, methods and procedures, tools, and equipment to be used.
 2. Protection: Description, including drawings, of proposed materials and methods of protection for preventing harm, damage, and deterioration caused by work of this Section to persons (whether involved in the Work or not), building elements, materials, and finishes, surrounding landscape and site, and the environment (including air and water).
 3. Alternate Methods and Materials (If Any): Proposed alternate methods and materials (if any) to those specified for kalamein doors. Provide evidence of successful use on comparable projects and demonstrate effectiveness for use on this Project.

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- D. Shop Drawings: Dimensioned scale drawings including elevations, vertical and horizontal sections, and details as necessary to completely describe kalamein doors. Provide details of core construction, metal cladding, moldings, glazing, hardware, and weatherstripping. Include installation of hardware and weatherstripping on frame. Draw elevations at a scale of 1-1/2 inches equals 1 foot, minimum. Draw details of core, cladding, moldings, glazing, hardware, and weatherstripping at full scale. Submit newly prepared drawings showing site-verified conditions and materials. Photocopies of Contract Documents and/or electronic scans of Contract Documents will not be accepted for Shop Drawing submittals.
- E. Samples: Submit, for verification purposes, the following:
1. Wood for Core: 6 inch x 12 inch x full-thickness pieces.
 2. Sheet Metal Cladding: 12 inch x 12 inch pieces of each type and gauge of metal with mechanical finish matching mechanical finish of existing doors.
 3. Moldings: 6-inch-long pieces of each configuration of molding including wood core and sheet metal cladding.
 4. Hardware: Each type.
 5. Weatherstripping: 12-inch-length of each configuration.
 6. Fasteners: Each type.
 7. Patinated Finish: 12-inch-square sample on metal to be used for cladding. Lacquer and wax half of finish sample.

1.4 QUALITY ASSURANCE

- A. Kalamein Door Restoration Specialty Subcontractor: Kalamein doors shall be performed by a firm regularly engaged in fabrication of sheet-metal-clad doors for historic buildings that can demonstrate to Owner's satisfaction that, within previous five years, it has successfully completed at least three projects similar in scope and type to work required on this Project involving buildings designated as Landmarks by local governmental authorities, buildings listed in or eligible for listing in the National Register of Historic Places, or buildings listed in or eligible for listing in a State Register of Historic Places under the direction of preservation authorities.
1. Foreman: Kalamein doors shall be directly supervised by a full-time foreman with experience equal to or greater than that required of Kalamein Door Restoration Specialty Subcontractor. Foreman shall be on site daily for duration of work of this Section. Same foreman shall remain on Project throughout work unless his performance is deemed unacceptable.
 2. Mechanics: Kalamein doors shall be carried out by skilled mechanics who are thoroughly experienced with kalamein work, have a minimum of three years' experience with fabrication of kalamein doors for historic buildings similar to that required by this Section, and can demonstrate to Architect's satisfaction experience with materials, methods, and equipment required for proper performance of the work. In acceptance or rejection of work of this Section, no allowance will be made for workers' inattention, incompetence, or lack of skill.

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- B. Sources of Materials: Obtain each type of material required for kalamein doors from a single source to ensure a match in quality, performance, and appearance.
- C. Knowledge of Site and Project Conditions: Before submitting bid, Bidders shall make themselves thoroughly familiar with the Drawings and Specifications, with the scope of this Project, and with conditions at the Project site relating to requirements of this Section and limitations under which the work will be performed and shall determine or verify dimensions and quantities. Submission of a bid shall be considered conclusive evidence that Contractor is thoroughly familiar with Project requirements and site conditions and limitations.

1.5 REFERENCED STANDARDS

- A. General: Work of this Section shall comply with applicable requirements and recommendations of latest editions of the documents listed herein, except as modified by more stringent requirements of the Contract Documents and of applicable laws, codes, and regulations of authorities having jurisdiction. Where the language in any of the documents referred to herein is in the form of a recommendation or suggestion, such recommendations or suggestions shall be deemed to be mandatory under this Contract unless specifically indicated otherwise in the Contract Documents. Provide a reference copy of each of the following standards at Project site and at shop during all periods when work of this Section is being performed. In each case in which there is a conflict between requirements of referenced standards; requirements of laws, codes, and regulations; and requirements of this Section, the most stringent or restrictive requirement shall govern.
- B. Window and Door Manufacturers Association (WDMA), I.S. 6A, *Industry Standard for Architectural Stile and Rail Doors*. Comply with all applicable requirements.
- C. Architectural Woodwork Institute (AWI), *Architectural Woodwork Standards*, latest edition. Wood fabrication shall comply with requirements for "Premium Grade" materials and workmanship.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. General: Deliver, store, and handle materials to protect them from damage, moisture, dirt, and introduction of foreign matter. Store materials on raised platforms and under ventilated, waterproof cover. Store packaged materials in manufacturer's unopened containers, marked with manufacturer's name and product brand name. Immediately reseal containers after partial use. Remove damaged materials, deteriorated materials, and materials that have exceeded their expiration dates and replace with fresh materials.

1.7 PROJECT CONDITIONS

- A. Safety: Take all necessary precautions to protect persons, whether engaged in work of this Section or not, from all hazards of any kind associated with work of this Section.
- B. Protection of Building: Protect building elements and finishes from damage and from deterioration caused by work of this Section. Repair damage to materials and to finishes to Architect's satisfaction at no additional cost to Owner.
 - 1. Take all necessary precautions to prevent fire and spread of fire.

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- C. Contract Drawings: Dimensions in Contract Documents are for bidding purposes only. Field measure dimensions of existing and in-place elements before preparing shop drawings or beginning work. Contractor is responsible for field verifying all dimensions.

1.8 ENVIRONMENTAL CONDITIONS

- A. General: Perform work only when temperature of products being used, temperatures of existing and new materials, and air temperature and humidity comply with manufacturer's requirements and requirements of this Section. In case of conflict, the most stringent requirements shall govern.
- B. Use of Epoxy Adhesives: Mix and apply epoxy adhesives only when temperatures are between 50 deg F and 80 deg F.
- C. Lacquer Application: Apply lacquer only when temperatures are between 50 deg F and 80 deg F, relative humidity level is within range acceptable to lacquer manufacturer, and location in which lacquer is being applied is free of dust.
- D. Patination Chemicals: Mix and apply patination chemicals only when temperature is within range for optimum performance of chemicals.

PART 2 - PRODUCTS

2.1 WOOD

- A. Wood for Cores of Doors and for Cores of Moldings: Wood shall comply with requirements for "Premium Quality" materials and workmanship for wood doors as defined by Architectural Woodwork Institute's *Architectural Woodwork Standards* and shall be free from defects and imperfections impairing strength or durability.
 - 1. Moisture Content: Wood shall be thoroughly air-seasoned and shall be kiln-dried to a moisture content of 6 to 12 percent at time of fabrication.
 - 2. Specie: Northern White Pine.
- B. Adhesive for Core Construction: Two-component epoxy resin glue designed specifically for use with wood that has been successfully used for gluing wood elements for at least 15 years.

2.2 METAL CLADDING MATERIALS

- A. Metal Cladding: Sheet metal matching alloy, temper, surface characteristics, and thickness of existing metal cladding on kalamein doors for each use and location.
 - 1. Flat Surfaces: Cold-rolled patent leveled sheets to match existing cladding.
 - 2. Drawn Members: Cold-rolled sheets or rolled metal to match existing members.
 - 3. Extruded Shapes: To match existing members.
- B. Solder: 95-5 tin-antimony solder.
- C. Flux: Muriatic acid neutralized with zinc.
- D. Brazing Materials: As recommended by metal manufacture.

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2.3 FASTENERS

- A. Fasteners for Fabrication of Wood Elements: Non-corrosive fasteners of size and configuration for optimum performance. Comply with requirements of AWI *Architectural Woodwork Standards*.
- B. Fasteners for Installation of Hardware and Other Elements: Provide fasteners matching fasteners of original hardware on adjacent existing kalamein doors.
- C. Fasteners for Attaching Cladding: Small headed box nails of the same metal as cladding or coated with the same metal as cladding and matching configuration of fasteners on existing kalamein doors.

2.4 CLEANING AND POLISHING MATERIALS

- A. Cleaner: Acetone or lacquer thinner.
- B. Metal Wool: Bronze wool, extra fine, free of contaminants and corrosion.
- C. Polishing Compound: Commercial ammonia-free polishing compounds, including but not limited to, Emery Buffing Compound, Tripoli Buffing Compound, White Rouge, and Jewelers' Rouge, selected as required to polish metal surfaces. Provide polishing compounds appropriate to each use.
- D. Polishing Wheels: Commercial polishing wheels for use with polishing compounds as required to polish metal surfaces.
- E. Wadding Cloth: Abrasive impregnated cotton batting specifically designed for polishing metal and approved by Architect.
- F. Non-Ionic Detergent: Concentrate, silicate buffered, non-ionic, rinseless-type synthetic detergent, containing no soaps, free alkali, solvents, abrasives, acids, caustics or other deleterious materials.
- G. Cloths: Clean, lint-free white cotton rags.

2.5 CHEMICAL TREATMENT AND COATING MATERIALS

- A. Patinating Chemicals: Chemical or chemicals selected by Kalamein Door Restoration Specialty Subcontractor and approved by Architect that will induce a stable, sound, securely-adhered patina matching sound, existing original patina. Patina shall withstand weathering and application of protective wax coating without deteriorating.
- B. Lacquer for Metal Surfaces: Clear non-yellowing, acrylic emulsion, water-borne coating, formulated with corrosion inhibitor benzotriazole specifically for application to copper-alloy metal surfaces.
- C. Wax: Wax selected by Kalamein Door Restoration Specialty Subcontractor and approved by Architect (a commercial blend of carnauba and microcrystalline waxes or a proprietary product) suitable for hot application that can be deposited and spread to a suitable thickness that will allow it to even out and harmonize the appearance of the patina and protect the substrate from contact with the atmosphere for a period of a year.

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2.6 HARDWARE

- A. General: New hardware to match hardware on adjacent existing kalamein doors and frames. Provide all units of hardware as on existing doors and frames. Include fasteners and accessories. Each unit of hardware shall match existing hardware in function, configuration, dimensions, metal alloy, and surface color, texture, and finish.

2.7 GLASS AND GLAZING

- A. Glass: New laminated safety glass complying with the requirements of Section 088200 – “Glass and Glazing.”
- B. Glazing Sealant: Silicone glazing sealant complying with the requirements of Section 088200 – “Glass and Glazing.”
1. Use primer to ensure adhesion to substrates unless specifically recommended otherwise by sealant manufacturer.

2.8 MISCELLANEOUS MATERIALS

- A. Coating for Wood Core: Boiled linseed oil.
- B. Weatherstripping: New weatherstripping to match weatherstripping on adjacent existing kalamein doors and frames.

2.9 FABRICATION

- A. General: Kalamein doors shall be fabricated by an experienced fabricator employing experienced mechanics to match construction and appearance of historic kalamein doors.
1. Fabricate doors for installation of new glazing matching configuration of glazing on adjacent existing kalamein doors.
- B. Core Construction: Form stiles and rails of solid wood.
1. Wood members over 6 inches wide shall be built up of narrow strips, keyed, and glued under pressure to form continuous members.
 2. Construct cores with members straight, square, true, and in proper alignment.
 3. Stiles shall extend full height of doors. Rails shall be tenoned into stiles with tenons not less than 4 inches long and 2 inches less in width than width of rails. Jointing shall be glued and wedged.
 4. Thoroughly impregnate wood to be covered with metal with boiled linseed oil.
- C. Metal Cladding: Apply metal cladding to match application and appearance of cladding on existing doors.
1. Where necessary to provide construction matching construction of existing kalamein doors, lock the metal and sweat to brass plates countersunk flush with face of wood cores, making joints invisible on completion.
 2. At intersections of metal covering, turn metal in, secure, and make weather tight.
 3. There shall be no exposed seams or joints except as on existing historic kalamein doors.

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4. Accurately fabricate and fit cladding with surfaces free from warp, wave, buckle, dents, and other defects; with square corners and angles; members set in alignment; surfaces straight and to true planes; and with moldings, edges, and arrises straight and clean.
 5. Neatly and accurately miter or cope moldings to match existing configuration. Braze or solder joints.
 6. Brazed joints and soldered joints shall be neatly made and dressed clean, smooth, and flush with surface of base metal.
 7. Exposed joints in cladding shall not be visible to the unaided eye from a distance of three feet after finish has been applied.
 8. Fabricate metal cladding to accommodate expansion and contraction of materials resulting from temperature range of 140 deg F without splitting, opening of joints, stressing of fasteners, warping, or other failure.
- D. Preparation for Hardware: Prepare doors for installation of hardware to match hardware on adjacent existing kalamein doors.

2.10 PREPARATION FOR FINISHING

- A. Remove corrosion from metal with fine abrasive papers, buffing compound, and/or polishing compound.
- B. Polish metal to obtain uniform, even, smooth satin finish matching approved sample using appropriate buffing and polishing compounds on cotton cloths and cotton wheels. Do not damage metal surfaces. Replace metal that cannot be polished to uniform, even, smooth satin finish with new metal.

2.11 PATINATION

- A. General: Provide new colored patina matching color of original patina on adjacent existing kalamein doors to match approved mock-up.
- B. Preparation: Clean metal surfaces to be patinated free of dirt, oil, grease, and other substances that might adversely affect patina formation.
 1. Degrease with solvent and burnish lightly with bronze wool. If a surface is handled, repeat degreasing process.
- C. Patination: Treat surfaces to be patinated using chemical baths, chemical baths and controlled heat, or proprietary patination solutions to produce surface color and characteristics matching approved mock-ups.
 1. Application: Apply chemical solutions in careful, systematic manner controlling temperatures and dwell times to achieve uniform results. Apply packaged chemical patination solution in strict compliance with manufacturer's instructions and sequence, including temperature and humidity range for application.
 - a. Uniformity: Apply coatings in an even, uniform manner to avoid streaks and other variations in final patina.
 - b. Standard: Patina shall exactly match patina of approved mock-up.

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- D. Correction: Completely remove patination treatments rejected by Architect. Prepare metal surfaces and provide new treatments until patina matches approved mock-up to Architect's satisfaction at no additional cost to Owner.

2.12 FINISHING

- A. General: Provide lacquer coating and protective wax coating.
- B. Preparation: Degrease metal using acetone or lacquer thinner. Ensure surface is dry.
- C. Lacquer Application: Build up coatings to produce 1 mil-to-1.5 mils dry film thickness. Spray lacquer using "Hot spray," "airless spray," or "electrostatic spray" methods. "Dipping," "flow coating," "curtain coating," or "roller coating" shall not be used.
- D. Wax Coating Application: Apply wax coating to hot metal and rub to provide an even coating of thickness to withstand weathering for a period of one year.

2.13 GLAZING

- A. General: Provide new laminated safety glass to comply with requirements of Section 088200 - "Glass and Glazing."

PART 3 - EXECUTION

3.1 INSTALLATION OF DOORS

- A. Hardware: Prepare doors and frames and install hardware to match hardware of adjacent existing kalamein doors and frames. Provide reinforcement for hardware as necessary to ensure secure attachment.
- B. Weatherstripping: Install weatherstripping to match weatherstripping of adjacent existing doors and frames.
- C. Align doors to frame for proper fit and uniform clearance.
- D. Adjustment
 - 1. Adjust doors and hardware to provide smooth operation. Lubricate hardware and moving parts.
 - 2. Adjust weatherstripping for proper sealing.
 - 3. Doors shall be in excellent operating condition at the conclusion of installation.
- E. Touch-up finishes damaged or deteriorated during transportation and installation to provide even, uniform finishes in excellent condition at completion of the Work.
- F. Restore frames to comply with requirements of Section 080406 - "Kalamein Door Restoration." No evidence of patching on restored frames shall be visible to the unaided eye at a distance of three feet after finish has been applied.

3.2 ADJUST AND CLEAN

- A. General: Within one week of date set for inspection to establish Substantial Completion, examine kalamein doors and adjust for optimum operation.

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- B. Adjust and check each operating item of hardware and weatherstripping on each door to ensure proper operation and function of every unit.
- C. Lubricate moving parts with machine oil. Replace elements that cannot be adjusted and lubricated to operate freely and smoothly for the application made.
- D. Clean hardware.
- E. Clean glass.

END OF SECTION 081425

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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.

1.3 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".

1.4 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 Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: Related Division 08 Sections (Steel, Aluminum and Wood) 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.

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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.
 - 1. 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:
 - a. 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.
 - 2. Products furnished, but not installed, under this Section include the following. Coordinating, purchasing, delivering, and scheduling remain requirements of this Section.
 - a. Permanent cylinders, cores, and keys to be installed by Owner.
- B. 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. Floor Closers: ANSI/BHMA A156.4 certified floor closers provided either center hung or 3/4" offset hung type complete with top and intermediate pivots (offset closers only) in quantity according to manufacturer's recommendation. Floor closers available with options for labeled, lead lined and regular doors. Provide independent and adjustable valves for closing speed, latch speed, and backcheck with built-in dead stop and hold open features as specified. Provide finish cover plates or thresholds as indicated in door Hardware Sets.
 - 1. Acceptable Manufacturers:
 - a. Rixson Door Controls (RF).
 - b. Dorma (DM).

2.3 CONVENTIONAL EXIT DEVICES

- A. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Mounting rails to be formed from smooth stainless steel, brass or bronze architectural materials no less than 0.072" thick, with push rails a minimum of 0.062" thickness. Painted or aluminum

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metal rails are not acceptable. Exit device latch to be investment cast stainless steel, pullman type, with deadlock feature.

1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
 - c. Von Duprin (VD) - 35A/98/99 XP Series.

2.4 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 including installation and adjusting information on inside of cover.
 2. Standards: Closers to comply with UL-10C and UBC 7-2 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 physically handicapped, provide units complying with ANSI ICC/A117.1 provisions for door opening force and delayed action closing.
 4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 - a. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
 - b. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
 - c. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.
 5. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and through-bolt or security type fasteners as specified in the door Hardware Sets.
 6. Hurricane and Tornado Resistance Compliance: Door closers to be U.L. listed for windstorm components where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

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- B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty 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 and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units and high impact, non-corrosive plastic covers standard.

1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) - DC8000 Series.
 - b. LCN Closers (LC) - 4040XP Series.
 - c. Sargent Manufacturing (SA) - 351 Series.

2.5 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 certified 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. Acceptable Manufacturers:
 - a. McKinney Architectural Hardware (MK).
 - b. Rockwood Manufacturing (RO).
 - c. Ives (IV).

2.6 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. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.
- C. Acceptable Manufacturers:
 1. McKinney Weatherstripping Products (MW).
 2. Pemko Manufacturing (PE).
 3. National Guard (NG).

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. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
 - 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."

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- 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: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

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, and 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 SCHEDULE

- 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.
- B. Manufacturer's Abbreviations:

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1. RF - Rixson
2. SA - Sargent
3. RO - Rockwood
4. PE - Pemko
5. SE - Securitron

Hardware Schedule

Set: 1.0

Description: Church Street North and South Pair Doors

1	Door Closer (surface)	351 UO		SA
2	Door Stop	474 EXP TORX	US10B	RO
2	Sweep	368		PE
1	Exit Device	43 8810	US10B	SA

Notes:

1. Remove existing door closer.
2. New door closer cover plate shall be painted to match existing door color.

Set: 2.0

Description: Church Street Center Pair

2	Pivot	H345	613	RF
2	Floor Closer	H28N LFP SC CWF	613	RF
2	Exit Device (surface vertical rod, pull)	16 8710	US10B	SA
2	Door Stop	474 EXP TORX	US10B	RO
1	Threshold	272		PE
2	Sweep	368		PE
2	Contacts	MSS-1	Black	SE

Notes:

1. Remove existing doors and aluminum frame.
2. If existing pivot arm is in transom above, remove and replace with new pivot.
3. Cut existing slab and prepare for new floor closer. Verify that New center hung floor closer will work with existing trim and column placement.
4. Remove existing door contacts and wiring. Connect new doors contacts and wiring back to existing security control panel.

END OF SECTION 087100

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End of Addendum Number Six