

# Francis Cauffman

## **ADDENDUM # 3**

PROJECT: Saint Mary Medical Center – Corridor Expansion

PROJECT NO: 09-5677

OWNER: Saint Mary Medical Center

PROJECT MANAGER: Clarke Van Sant

ARCHITECT: Erin M. Kelly  
Francis Cauffman  
2120 Arch Street  
Philadelphia, PA 19103

CONSULTING ENGINEERS: AEC

CONTRACTOR: To be determined

DATE: May 7, 2010

DISTRIBUTION: Corridor Expansion – All Bidders

CONTENTS: Addendum No. 3 Narrative

### I. GENERAL

- A. This Addendum is hereby included in and made part of the Contract Drawings and Specifications, whether or not attached thereto. It becomes effective upon receipt of written authorization from the Owner's Representative. All requirements of the original drawings and specifications shall remain in force except as modified by this Addendum.

## II. Revisions to the Drawings

### A.201 – Construction Plan

- Added Specific Construction Note #2.
- Adjusted columns along column line '0" to reflect structural layout.

### A.203 – Reflected Ceiling Plan

- Clarification of extent of 2 hour rated ceiling assembly.

### A.301 – Exterior Elevations

- Added exhaust fans along building elevation - north.
- Added control joints in exterior insulating system.

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### A.401 – Sections/ Details

- Adjusted sections to reflect structural layout.

### A.502 – Details

- Adjusted details to reflect structural revisions.

### A.503 – Details

- Adjusted details to reflect structural revisions.

### A.601 – Partition Types and Door Schedule

- Revised partition type 'D'.
- Revised door schedule.

### C1.1C

- Added 4 existing trees to be removed.

### C2.2C

- Added irrigation requirements.

### C3.2

- Added ground rod to details 6 and 7.

### S1.00

- Revised footing elevations for utilities.

### S4.00

- Added grating to section 4/S4.00.

### E0.00

- Added drawing E1.02 to the Drawing Schedule

### E1.01

- Delete fan E4, Add fans E3A and E4A. Delete electrical requirements for CR-2. Add circuits for two BAS panels

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## E1.02

- Add drawing E1.02 to indicate demolition of site lighting and raceways in area of new offices that needs to be relocated.

## E2.01

- Indicate location of ATS-4 and clarified location of panel EDSBC. Clarified rerouting of conduits by adding junction boxes to raise or lower existing conduits as necessary.

## E3.01

- Revised panel schedules to indicate site lighting and removal/addition of fans EF4, EF3A, and EF4A. Removed CR-2. Added circuit and timeclock for site lighting. Add circuits for two BAS panels.

## P1.01

- Added Partial Ground Floor Sanitary Relocation Plan.
- Relocated existing sanitary piping at ceiling of ground floor to accommodate new ductwork.
- Clarified demolition at existing pipe chase on plan 1.
- Relocated existing piping to accommodate demolition of chase on plan 1.
- Relocated fresh air intake at existing house trap on plan 1.

## H1.00

- Added air vent, iso valve and pipe to drain at steam entrance to building.
- Added anchors, guides and expansion joints to steam and pumped condensate piping.
- Specified accessories for steam meter.
- Modified relief (backdraft) damper model.
- Added fans EF-4A,B.
- Added insulated blank-off panels to south facade (upper level) architectural louvers.

## H1.01

- Added Modified diffuser locations in egress corridor.
- Added VAV-5 and ductwork.
- Added 2 BAS control panel locations.

## H1.02

- Added demolition plan.
- Added repiping of first floor radiant system from below.
- Added anchors, guides and expansion joints to steam and pumped condensate piping.
- Modified piping elevations thru shell space.
- Added air vent, iso valve and pipe to drain at 2 locations.

## H2.00

- Revised HW points list and added sequence.

### H3.00

- Modified mechanical room/infill sections.
- Added relief areaway ladder and steel grating.
- Modified relief (backdraft) damper model.

### H3.01

- Modified LPS reducing station. Added schedule of devices and modified equipment.
- Modified LPC trap and piping sizes for HW HX.
- Modified MPS reducing station. Added schedule of devices and modified equipment.
- Revised steam drip details.
- Added CR detail.

### H3.02

- New drawing. Added details.
- Added modification to existing wall bracing at infill.

### H4.00

- Revised CR-1 and CR-2.
- Added VAV-5.
- Revised VAV-3,4.
- Added SD-3.
- Added "Add Alternate" to AHU/SG schedules.
- Added EF-4A,B.

## II. Revisions to the Specifications

- A. Section 011000 "Summary" - deleted section 1.5 "Work Phases.  
Added Steam Generators to section 1.7 "Owner Furnished Products"
- B. Section 012300 "Alternates" – Added section.
- C. Section 087100 "Door Hardware"- revised hardware set No.3 in .
- D. Section 230523 - GENERAL-DUTY VALVES FOR HVAC PIPING  
Nibco Gate Valves Removed from list of Approved Manufacturers.
- E. Section 233113 - METAL DUCTS  
Perforated Liner shall not be required for Lined Ductwork

**End of Addendum # 3**





## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:

1. Work covered by the Contract Documents.
2. Type of the Contract.
3. Work phases.
4. Work under other contracts.
5. Owner-furnished products.
6. Use of premises.
7. Owner's occupancy requirements.
8. Work restrictions.
9. Specification formats and conventions.

- B. Related Sections include the following:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

#### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: The Project included in the work but not limited are as follows:

Corridor Expansion

Project Location: Langhorne-Newtown Rd. /Middletown Township, Langhorne, Pennsylvania 19047

- B. Owner: Saint Mary Medical Center, Langhorne-Newtown Rd./Middletown Township, Langhorne, PA 19047

1. Owner's Representative: Mr. Bart Miller, Director of Facilities Planning and Construction, Saint Mary Medical Center.

- C. Architect and Interior Designer: Francis Cauffman, Inc., 2120 Arch Street, Philadelphia, PA 19103.

- D. Structural & MEP Engineer: AEC - Associated Engineering Consultants Inc, 485 Devon Park Drive, Suite 113, Wayne, PA 19087.

- E. Construction Manager: To Be Determined.

Saint Mary Medical Center  
Corridor Expansion

SUMMARY  
011000-1

#### 1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single contract. Contracts for this Project include but are not limited to the following:
1. General Construction Contract
  2. Heating Ventilating and Air Conditioning Construction Contract
  3. Plumbing Construction Contract
  4. Electrical Construction Contract
  5. Other Contracts as assigned by Construction Manager

#### 1.5 WORK PHASES - *deleted*

#### 1.6 WORK UNDER OTHER CONTRACTS

- A. General: The Owner may have other separate Contract(s) being conducted simultaneously with the Facility and site. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

#### 1.7 OWNER-FURNISHED PRODUCTS

- A. The Owner will furnish to the Contractor the following equipment. The Contractor shall off load, handle, store and protect the furnished equipment on the Owner's property, then completely install as per the manufacturer's recommendation the following:
1. Air Handling Unit - AHU-43 and Steam Generator
  2. Air Handling Unit - AHU-44 and Steam Generator
- B. The Contractor must assume all supplied equipment is in basic manufacturer's delivery format, therefore the Contractor is responsible for supplying and installing any miscellaneous hardware necessary to have a complete operational system as required for this project.

#### 1.8 USE OF PREMISES

- A. General: Each Contractor shall have full use of Equipment premises for construction operations, including use of Project site, during construction period. Each Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. General: Each Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits.
- C. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Limits: Confine constructions operations to those areas where work is permitted.
  2. Owner Occupancy: Allow for Owner occupancy of Project site and limited use by the public if necessary.
  3. Driveways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at

all times. Do not use these areas for parking or storage of materials unless agreed upon by the Medical Center.

- a. Schedule deliveries to minimize use of driveways and entrances.
- b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

D. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1. Limit use of the Owner's cafeteria as directed.

#### 1.9 OWNER'S OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations. Owner may require longer notice of activities planned by the Contractor. Coordinate on a regular basis.

B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy. Provide all necessary documentation.
3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

#### 1.10 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed inside the existing building during normal business working hours Monday through Friday, (coordinate exact time with Hospital) except otherwise indicated.

1. Weekend Hours: Restrictions on times permitted for weekend work (coordinate with Medical Center).

2. Early Morning Hours: Per regulations by authorities having jurisdiction for restrictions on noisy work and Owner.
  3. Hours for Utility Shutdowns: Coordinate with Owner. Minimum of 72 hours advanced notice.
  4. Hours for Core Drilling and other noisy activity: Coordinate with Owner.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Construction Manager and/or Owner not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Construction Manager's and/or Owner's written permission.

#### 1.11 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.
1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
  2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
  2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
    - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.12 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

## SECTION 012300 - ALTERNATES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

#### 1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

#### 1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Add Alternate No. 1 – Installation of two (2) air handling units and steam generators.
  - 1. Add Alternate: Provide price for installation of the two owner furnished air handling units and steam generators as per the contract documents.
  
- B. Add Alternate No. 2 – Provide separate price for scope of Landscaping work.
  - 1. Add Alternate:..Provide separate price for landscaping work defined as “Alternate” on Civil drawings.

END OF SECTION 012300

## SECTION 087100 - DOOR HARDWARE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Hinges
  - 2. Lock cylinders and keys.
  - 3. Lock and latch sets.
  - 4. Bolts/flush bolts/dead bolts/dust proof strikes.
  - 5. Exit devices.
  - 6. Push/pull units.
  - 7. Closers.
  - 8. Overhead holders.
  - 9. Miscellaneous door control devices.
  - 10. Door trim units.
  - 11. Protection plates/stretcher plates.
  - 12. Combination Locks.
  - 13. Weather-stripping for exterior doors.
  - 14. Astragals or meeting seals on pairs of doors.
  - 15. Thresholds.
  - 16. Folding Door Hardware
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 8 Section "Hollow Metal Doors and Frames" for silencers integral with hollow metal frames.
  - 2. Division 8 Section "Flush Wood Doors" for factory prefabricating and factory machining of door hardware.

#### 1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification sections.
- B. Product data including manufacturers' 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.
- C. Final hardware schedule coordinated with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - 1. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
    - a. Type, style, function, size, label, hand and finish of each hardware item.
    - b. Name and manufacturer of each item.
    - c. Fastenings and other pertinent information.

- d. Location of each hardware set cross referenced to indications on Drawings both on floor plans and in door and frame schedule.
  - e. Explanation of all abbreviations, symbols, and codes contained in schedule.
  - f. Mounting locations for hardware.
  - g. Door and frame sizes and materials.
- 2. Submittal Sequence: Submit final schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work that is critical in the Project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by door hardware, and other information essential to the coordinated review of schedule.
  - 3. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- D. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

#### 1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain each type of hardware (latch and lock sets, hinges, closers, etc.) from a single manufacturer.
- B. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL, Warnock Hersey, FM, or other testing and inspecting organization acceptable to authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

#### 1.5 PRODUCT HANDLING

- A. Tag each item or package separately with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. Packaging of door hardware is responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- C. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- D. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
- E. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

#### 1.6 MAINTENANCE

- 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 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Hinges: Basis of Design; Ball Bearing Hinges, Hager Hinge, Model No. BB1199. Continuous Hinges, Roton, Model No. 1200-600 XHD.
    - a. Markar.
    - b. McKinney Products Company; Div. of ESSEX Industries, Inc.
    - c. Stanley Commercial Hardware; Div. of the Stanley Works.
    - d. Hager Companies.
  2. Lockset and Latchsets: Basis of Design; Best Access Systems, Cylindrical Locks, 9K Series.
    - a. Best Lock Corporation
    - b. Schlage Commercial Lock Division; An Ingersoll-Rand Company
    - c. Arrow USA; An ASSA ABLOY Group Company
    - d. Yale Commercial Locks and Hardware
    - e. Accurate Lock and Hardware
  3. Flush Bolts: Basis of Design; Manual, Ives, Model No. FB256N or FB358, Automatic, Ives, Model No. FB30 or FB40
    - a. Glynn-Johnson; An Ingersoll-Rand Company
    - b. Hager Companies
    - c. Ives: An Ingersoll-Rand Company
  4. Dust-Proof Strikes: Basis of Design; Ives, Model No. DP1 and DP2
    - a. Glynn-Johnson; An Ingersoll-Rand Company
    - b. Hager Companies
    - c. Ives: An Ingersoll-Rand Company
  5. Exit/Panic Devices: Basis of Design; Von Duprin, Monarch, 18 Series.
    - a. Von Duprin; An Ingersoll-Rand Company
    - b. Sargent Manufacturing; An ASSA ABLOY Group Company
    - c. NT Monarch; An Ingersoll-Rand Company
  6. Overhead Closers: Basis of Design; LCN, 4041 Series.
    - a. LCN Closers; An Ingersoll-Rand Company
    - b. DORMA Door Controls Inc. Member of The Dorma Group (For Cupped hold open)
    - c. Yale Commercial Locks and Hardware; An ASSA ABLOY Group Company
    - d. Sargent Manufacturing; An ASSA ABLOY Group Company
  7. Kick Plates: Basis of Design; Rockwood Manufacturing, Model No. K1050 & K1050F, Stainless Steel, 6" x 2" LDW, B4E.
    - a. Hager Companies
    - b. Ives; An Ingersoll-Rand Company
    - c. Rockwood Manufacturing
  8. Stretcher Plates and Armor Plates: Basis of Design; Rockwood Manufacturing, Model No. K1050 and K1050F, Stainless Steel, 10" x 2" LDW, B4E, 34" x 2" LDW, B4E
    - a. Hager Companies

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- b. Ives; An Ingersoll-Rand Company
  - c. Rockwood Manufacturing
9. Door Stops: Basis of Design; Rockwood Manufacturing, Model No. 406
    - a. Hager Companies
    - b. Ives; An Ingersoll-Rand Company
    - c. Rockwood Manufacturing
    - d. Glynn-Johnson – IR Security and Safety; An Ingersoll-Rand Company
  10. Overhead Stops: Basis of Design; Rixson: An ASSA ABLOY Group Company, Heavy Duty 1 Series, “Checkmate”, concealed.
    - a. Glynn-Johnson – IR Security and Safety; An Ingersoll-Rand Company
    - b. Sargent Manufacturing; An ASSA ABLOY Group Company
    - c. Rockwood Manufacturing
  11. Silencers: Basis of Design; Glynn-Johnson, Model No. GJ64
    - a. Glynn-Johnson – IR Security and Safety; An Ingersoll-Rand Company
    - b. Rockwood Manufacturing
  12. Electromagnetic Hold Open Device: Basis of Design; LCN, Model No. SEM7850
    - a. LCN Closers; An Ingersoll-Rand Company
    - b. Von Duprin; An Ingersoll-Rand Company
    - c. Yale Commercial Locks and Hardware; An ASSA ABLOY Group Company
  13. Folding Door Hardware: Basis of Design, Grant Hardware, Model No. 1600
    - a. Hager Companies
    - b. Stanley Commercial Hardware; Div. of The Stanley Works
    - c. Grant Hardware
  14. Door Pulls / Push Plates: Basis of Design, Ives, Door Pull Model No. 8303-8, Push Plate Model No. 8200
    - a. Ives; An Ingersoll-Rand Company
    - b. Rockwood Manufacturing
    - c. Hager Companies
  15. Hospital Latch: Basis of Design; Glynn-Johnson; HL6
    - a. Glynn-Johnson: An Ingersoll-Rand Company
    - b. Sargent Manufacturing: An ASSA ABLOY Group Company
    - c. VonDuprin; An Ingersoll-Rand Company
  16. Combination Locks (Manual): Basis of Design; Kaba Ilco, Series 1000 with lever handle, Satin chrome finish with cylinders by ‘Best’
    - a. Kaba Ilco (formerly Simplex Uican)
    - b. Sargent Manufacturing; An ASSA ABLOY Group Company
  17. Door Gasketing, Door Bottoms and Weather stripping: Basis of Design; Perimeter Gasketing, Pemko, Model No. 290AS, Door Shoe, Pemko, Model No. 216AV
    - a. Pemko Manufacturing.
    - b. Hager Companies.
    - c. National Guard Products.
  18. Thresholds (Exterior Doors): Basis of Design; Pemko, Model No. 2005AT
    - a. Pemko Manufacturing
    - b. Hager Companies
    - c. National Guard Products
  19. Astragals: Basis of Design; Pemko, Model No. 356AV
    - a. Hager Companies
    - b. National Guard Products, Inc.

- c. Pemko Manufacturing
- 20. Cylinders
  - a. Best Lock Corporation

## 2.2 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in the "Hardware Schedule" at the end of this Section. Products are identified by using hardware designation numbers of the following:
  - 1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or, where more than one manufacturer is specified under the Article "Manufacturers" in Part 2 for each hardware type, the comparable product of one of the other manufacturers that complies with requirements.
  - 2. ANSI/BHMA designations used elsewhere in this Section or in schedules to describe hardware items or to define quality or function are derived from the following standards. Provide products complying with these standards and requirements specified elsewhere in this Section.
    - a. Butts and Hinges: ANSI/BHMA A156.1.
    - b. Bored and Preamsembled Locks and Latches: ANSI/BHMA A156.2.
    - c. Exit Devices: ANSI/BHMA A156.3.
    - d. Door Controls - Closers: ANSI/BHMA A156.4.
    - e. Auxiliary Locks and Associated Products: ANSI/BHMA A156.5.
    - f. Architectural Door Trim: ANSI/BHMA A156.6.
    - g. Template Hinge Dimensions: ANSI/BHMA A156.7.
    - h. Door Controls - Overhead Holders: ANSI/BHMA A156.8.
    - i. Interconnected Locks and Latches: ANSI/BHMA A156.12.
    - j. Mortise Locks and Latches: ANSI/BHMA A156.13.
    - k. Sliding and Folding Door Hardware: ANSI/BHMA A156.14.
    - l. Closer Holder Release Devices: ANSI/BHMA A156.15.
    - m. Auxiliary Hardware: ANSI/BHMA A156.16.
    - n. Materials and Finishes: ANSI/BHMA A156.18.
    - o. Pull / Push Plates: ANSA/BHMA A156.6

## 2.3 MATERIALS AND FABRICATION

- A. Base Metals: Produce hardware units of basic metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for those indicated, except as otherwise specified.
- B. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- C. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.

## 2.4 HINGES, BUTTS, AND PIVOTS

- A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Screws: Provide Phillips flat-head screws complying with the following requirements:
  - 1. For metal doors and frames install machine screws into drilled and tapped holes.
  - 2. For wood doors and frames install wood screws.
  - 3. For fire-rated wood doors install #12 x 1-1/4-inch, threaded-to-the-head steel wood screws.
  - 4. Finish screw heads to match surface of hinges or pivots.
- C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
  - 1. Out-Swing Exterior Doors: Nonremovable pins.
  - 2. Out-Swing Corridor and Lobby Doors with Locks: Nonremovable pins.
  - 3. Interior Doors: Nonrising pins.
  - 4. Tips: Flat button and matching plug, finished to match leaves, except where hospital tip (HT) indicated.
- D. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches or less in height and one additional hinge for each 30 inches of additional height.
  - 1. Fire-Rated Doors: Not less than 3 hinges per door leaf for doors 86 inches or less in height with same rule for additional hinges.

## 2.5 LOCK CYLINDERS AND KEYING

- A. Standard System: Except as otherwise indicated, provide new masterkey system for Project.
- B. Multiple-Building System: Except as otherwise indicated, provide new grandmasterkey system for Project.
- C. Existing System: Grandmasterkey the locks to the Owner's existing system, with a new masterkey for the Project.
- D. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system.
- E. Equip locks with manufacturer's standard 6-pin tumbler cylinders.
- F. Equip locks with high-security cylinders that comply with performance requirements for Grade 1 cylinders as listed in ANSI/BHMA A156.5 and that have been tested for pick and drill resistance requirements of UL 437 and are UL listed.
- G. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
- H. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
  - 1. Permanently inscribe each key with number of lock that identifies cylinder manufacturer's key symbol, and notation, "DO NOT DUPLICATE."
- I. Key Material: Provide keys of nickel silver only.
- J. Key Quantity: Furnish 3 change keys for each lock, 5 master keys for each master system, and 5 grandmaster keys for each grandmaster system.

1. Deliver keys to Owner.

## 2.6 LOCKS, LATCHES, AND BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
  1. Provide flat lip strikes for locks with 3-piece, antifriction latchbolts as recommended by manufacturer.
  2. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.
  3. Provide dust-proof strikes for foot bolts, except where special threshold construction provides nonrecessed strike for bolt.
  4. Provide roller type strikes where recommended by manufacturer of the latch and lock units.
- B. Lock Throw: Provide 5/8-inch minimum throw of latch on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
  1. Provide 1/2-inch minimum throw of latch for other bored and preassembled types of locks and 3/4-inch minimum throw of latch for mortise locks. Provide 1-inch minimum throw for all dead bolts.
- C. Flush Bolt Heads: Minimum of 1/2-inch-diameter rods of brass, bronze, or stainless steel with minimum 12-inch-long rod for doors up to 7'-0" in height. Provide longer rods as necessary for doors exceeding 7'-0" in height.
- D. Exit Device Dogging: Except on fire-rated doors where closers are provided on doors equipped with exit devices, equip the units with keyed dogging device to keep the latch bolt retracted, when engaged.
- E. Rabbeted Doors: Where rabbeted door stiles are indicated, provide special rabbeted front on lock and latch units and bolts.

## 2.7 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit depending on size of door, exposure to weather, and anticipated frequency of use.
  1. Provide parallel arms for all overhead closers, except as otherwise indicated.
- B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ANSI A117.1 provisions for door opening force and delayed action closing.
- C. Provide black resilient parts for exposed bumpers.

## 2.8 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if no latch or lock sets).
- B. Provide finishes that match US26D (satin chromium plated).

- C. 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.
- D. Provide protective lacquer coating on all exposed hardware finishes of brass, bronze, and aluminum, except as otherwise indicated. The suffix "-NL" is used with standard finish designations to indicate "no lacquer."
- E. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
  - 1. Rust-Resistant Finish: For iron and steel base metal required for exterior work and in areas shown as "High Humidity" areas (and also when designed with the suffix -RR), provide 0.2-mil-thick copper coating on base metal before applying brass, bronze, nickel, or chromium plated finishes.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
  - 1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
  - 2. NWWDA Industry Standard I.S.1.7, "Hardware Locations for Wood Flush Doors."
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.
- C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

#### 3.2 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
  - 1. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- B. Clean adjacent surfaces soiled by hardware installation.

- C. Instruct Owner's personnel in the proper adjustment and maintenance of door hardware and hardware finishes.

### 3.3 HARDWARE SCHEDULE

- A. General: Provide hardware for each door to comply with requirements of Section "Door Hardware," hardware set numbers indicated in door schedule, and in the following schedule of hardware sets.

#### **Hardware Set No. 1**

- 1 1/2 Pair Heavy Duty 5 Knuckle Hinges
- 1 Office Lockset
- 1 Kick Plate
- Silencers

#### **Hardware Set No. 2**

- 3 Pair Heavy Duty 5 Knuckle Hinges
- 1 Storeroom Lockset
- 2 closers with hold open function
- 1 manual flush bolt
- 2 kick plates
- 1 astragal
- 1 HC accessible sill
- 1 Door shoe at each leaf
- Perimeter gasketing at head and jambs

#### **Hardware Set No. 3**

- 3 Pair Heavy Duty 5 Knuckle Hinges
- 2 closers
- 2 pulls
- 2 push plates
- 4 kick plates
- 1 astragal
- 1 pair of magnetic hold opens tied to fire alarm
- Silencers

#### **Hardware Set No. 4**

- 1 1/2 Pair Heavy Duty 5 Knuckle Hinges
- 1 Exit device and door strike
- 1 Closer
- 1 HC accessible sill
- Perimeter gasketing at head and jambs

**Hardware Set No. 5**

- 3 Pair Heavy Duty 5 Knuckle Hinges
- 2 Exit Devices
- 4 kick plates
- Silencers
- 2 Latch Sets
- 1 pair of magnetic hold opens tied to fire alarm

END OF SECTION 087100