

**EAST PROVIDENCE POLICE DEPT. RENOVATIONS
750 WATERMAN AVENUE
EAST PROVIDENCE, RHODE ISLAND**

ADDENDUM NO. 2

DATE: July 19, 2024

PROJECT: East Providence Police Department Renovations
750 Waterman Avenue
East Providence, Rhode Island

FROM: JCJ Architecture
21 West 3rd Street
Boston, Massachusetts
617-532-6600

TO: Bidders of Record

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated June 21, 2024. 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 three (3) pages and the following attached documents:

1. Drawings.
2. Specifications

GENERAL:

1. The bid opening date has been extended from **Wednesday, July 24, 2024 at 11:00am** to **Thursday, August 1, 2024 at 11:00am**. The location of the bid opening remains the same.
2. The deadline to submit questions has been extended from **Wednesday, July 17, 2024** to **Wednesday, July 24, 2024 at 4:00pm**.
3. Separate addenda will be issued to address any unanswered questions.

PROJECT MANUAL:

- 1 087100 Door Hardware
- 2 092116 Gypsum Board Assemblies - *Revised*

RE-ISSUED DRAWINGS:

1. A-020 Code Information and Phasing
2. A-610 Door Schedule and Details
3. A-620 Room Finish and Signage Schedule
4. E-211 Lower Level – Power Plan
5. E-301 Schedules and Details

REQUEST FOR INFORMATION:

Nolin Electric, RFI Dated 7/16/2024

1. **Q:** See below
 - a. Comparing Sheet A-020 Phasing Plan to the Electrical Floor Plans, there are some rooms that fall outside of the designated phased areas: 007 Weapons Cleaning, 017 Evidence Cleaning, 018 Traffic, 107 Report Writing, 108 Payroll, 114 Planning and Training, 123 Sergeant's Office, 131 Decomp.
A: See A-020 in addendum 2 for phasing in rooms mentioned above.
 - b. During which Phase will the Switchboard Breakers and new Panels be installed?
A: Switchboard breakers and new panel boards to be installed in Phase 1.
 - c. Are the EBU's in the corridors part of the Alternate?
A: EBU's are part of Alternate.
 - d. The location shown for new Panel MP1 is presently occupied by two disconnect switches and motor starters. Are these being removed to make way for the new panel?
A: New panel MP1 shall be installed adjacent to exiting panel "M" Tack board and desk shall be relocated by General Contractor.
 - e. The One-Line Diagram shows MDP with breakers existing. MDP Schedule notes to provide 4 new breakers, three of which are for existing loads. Are the breakers for Panels M, IT and C being replaced? Is the 100A breaker for Panel MP1 existing?
A: Only breakers for new panel PP2 and new panel MP1 are required . Breakers for panel M,C, and IT to remain.
 - f. Which panel feeds the coiling door at Armory 014?
A: Coiling door shall go to 20A/1-pole breaker MP1-25.
 - g. Which panel feeds EWH-1 and the trap primer in Swat Storage 009?
A: EWH-1 shall be circuited to a 40A/2-pole breaker MP1-27,29. Trap primer shall be circuited to a 20A/1-pole breaker MP1-31.

H.V. Collins Company, RFI Dated 7/16/2024

2. **Q:** There is one hardware set in the Division 8 specifications. Is every door getting the same hardware?
A: See addendum 2 for revised door schedule and door hardware sets and specifications. Original hardware set is only for the detention grade door.
3. **Q:** The drawings indicate Ballistic Fiber Glass Panels. Can a specification be provided for the Ballistic Panels? Wall Partition Type A on Drawing A-030 calls to provide 2" Bullet Resistant Fiber Glass Wall Panels. What is the BL Rating for this wall type?
A: See addendum 2 for ballistic panel specification. Wall type A5 is to have a ballistic level 4 rating. Intent is for (1) 1" layer of ballistic panel with a 6" ballistic panel strip behind all joints and outlets for a total thickness of 2".
4. **Q:** What is the Resinous Floor Specification for rooms indicated to receive the RF-1 Finish?
A: Omit RF-1 in favor of colored sealer on concrete (CONC-S) to match existing adjacent to remain. Refer to addendum 2.
5. **Q:** Specification Section 323000 Site Improvements includes: Project Signage and Posts, Steel Bollards, Player Benches, Native Stone Walls, Bike Racks, Flagpoles, Native, Boulder Embankments, Ornamental Benches, Baseball Equipment, Collapsible Bollards, Timber

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Amphitheater Seating. With the exception of the eight steel bollards, are any of these items to be included in the bid?

A: Only the steel bollards are to be included in the bid.

6. **Q:** The specs for the RAF-1 athletic flooring specify black. Are you looking for a plain black rubber rolled flooring, or black with a colored fleck/granule?

A: The RAF-1 flooring is to be black with colored fleck/granule

END OF ADDENDUM NO. 1

SECTION 087100 - DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for hollow metal doors.
- B. Electrically operated and controlled hardware.

1.02 RELATED REQUIREMENTS

- A. Section 081113 - Hollow Metal Doors and Frames.
- B. Section 081416 - Flush Wood Doors.
- C. Section 281000 - Access Control: Electronic access control devices.

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design.
- B. BHMA (CPD) - Certified Products Directory.
- C. BHMA A156.1 - Standard for Butts and Hinges.
- D. BHMA A156.3 - Exit Devices.
- E. BHMA A156.4 - Door Closers and Pivots.
- F. BHMA A156.6 - Standard for Architectural Door Trim.
- G. BHMA A156.7 - Template Hinge Dimensions.
- H. BHMA A156.8 - Door Controls - Overhead Stops and Holders.
- I. BHMA A156.13 - Mortise Locks & Latches Series 1000.
- J. BHMA A156.16 - Standard for Auxiliary Hardware.
- K. BHMA A156.18 - Standard for Materials and Finishes.
- L. BHMA A156.20 - Standard for Strap and Tee Hinges, and Hasps.
- M. BHMA A156.26 - Standard for Continuous Hinges.
- N. BHMA A156.30 - High Security Cylinders.
- O. BHMA A156.31 - Electric Strikes and Frame Mounted Actuators.
- P. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.

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- Q. BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames.
- R. DHI (H&S) - Sequence and Format for the Hardware Schedule.
- S. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames.
- T. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors.
- U. ICC A117.1 - Accessible and Usable Buildings and Facilities.
- V. NFPA 70 - National Electrical Code.
- W. UL (DIR) - Online Certifications Directory.
- X. UL 437 - Standard for Key Locks.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.
- C. Preinstallation Meeting: Convene a preinstallation meeting one week prior to commencing work of this section; attendance is required by affected installers and the following:
 - 1. Architect.
 - 2. Installer's Architectural Hardware Consultant (AHC).
 - 3. Hardware Installer.
 - 4. Owner's Security Consultant.
- D. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- E. Keying Requirements Meeting:
 - 1. Schedule meeting at project site prior to Contractor occupancy.
 - 2. Attendance Required:
 - a. Contractor.
 - b. Owner.
 - c. Architect.
 - d. Installer's Architectural Hardware Consultant (AHC).
 - e. Hardware Installer.
 - f. Owner's Security Consultant.
 - 3. Agenda:
 - a. Establish keying requirements.
 - b. Verify locksets and locking hardware are functionally correct for project requirements.
 - c. Verify that keying and programming complies with project requirements.
 - 4. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:

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- a. Access control requirements.
- b. Key control system requirements.
5. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
6. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 2. Comply with DHI (H&S) using door numbers and hardware set numbers as indicated in construction documents.
 3. List groups and suffixes in proper sequence.
 4. Provide complete description for each door listed.
 5. Provide manufacturer name, product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
 6. Include account of abbreviations and symbols used in schedule.
- D. Shop Drawings - Electrified Door Hardware: Submit diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
 2. Elevations: Submit front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
 3. Diagrams: Submit point-to-point wiring diagram that shows each device in door opening system with related colored wire connections to each device.
- E. Samples for Verification:
 1. Submit minimum size of 2 by 4 inch (51 by 102 mm) for sheet samples, and minimum length of 4 inch (102 mm) for other products.
 2. Submit one (1) sample of hinge, latchset, lockset, and closer illustrating style, color, and finish.
 3. Return full-size samples to Contractor.
 4. Submit product description with samples.
- F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- G. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
 1. Submit manufacturer's parts lists and templates.
 2. Bitting List: List of combinations as furnished.

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- H. Keying Schedule:
 - 1. Submit three (3) copies of Keying Schedule in compliance with requirements established during Keying Requirements Meeting unless otherwise indicated.
- I. Manufacturer's qualification statement.
- J. Installer's qualification statement.
- K. Supplier's qualification statement.
- L. Specimen warranty.
- M. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
- N. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 016000 - Product Requirements, for additional provisions.
 - 2. Lock Cylinders: three for each master keyed group.
 - 3. Tools: One set of each special wrench or tool applicable for each different or special hardware component, whether supplied by hardware component manufacturer or not.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.
- C. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.08 WARRANTY

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer's Warranty: Provide warranty against defects in material and workmanship for period indicated. Complete forms in Owner's name and register with manufacturer.
 - 1. Closers: Five years, minimum.
 - 2. Exit Devices: Three years, minimum.
 - 3. Locksets and Cylinders: Three years, minimum.
 - 4. Other Hardware: Two years, minimum.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE CRITERIA

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Listed and certified compliant with specified standards by BHMA (CPD).
 - 4. Auxiliary Hardware: BHMA A156.16.
 - 5. Straps and Tee Hinges: BHMA A156.20.
 - 6. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
 - 7. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
 - 8. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.
- D. Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide wiring between hardware and control components and to building power connection in compliance with NFPA 70.
 - 1. See Section 281000 for additional access control system requirements.
- E. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's series. See Door Hardware Schedule.
- F. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
 - 2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
 - a. Self-drilling (Tek) type screws are not permitted.
 - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
 - 4. Provide wall grip inserts for hollow wall construction.
 - 5. Provide spacers or sex bolts with sleeves for through bolting of hollow metal doors and frames.

2.02 HINGES

- A. Manufacturers:
 - 1. Basis of Design: Hager Companies: www.hagerco.com/#sle..
 - 2. McKinney; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 3. Bommer Industries, Inc: www.bommer.com/#sle.
 - 4. Hager Companies: www.hagerco.com/#sle.
 - 5. Roton Continuous Hinges: <https://www.hagerco.com/home>.

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6. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
7. Substitutions: See Section 016000 - Product Requirements.

- B. Hinges: Comply with BHMA A156.1, Grade 1.
1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
 - a. Provide hinge width required to clear surrounding trim.
 2. Continuous Hinges: Comply with BHMA A156.26.
 3. Provide hinges on every swinging door.
 4. Provide following quantity of butt hinges for each door:
 - a. Doors up to 60 inches (1.5 m) High: Two hinges.
 - b. Doors From 60 inches (1.5 m) High up to 90 inches (2.3 m) High: Three hinges.
 - c. Doors 90 inches (2.3 m) High up to 120 inches (3 m) High: Four hinges.
 - d. Doors over 120 inches (3 m) High: One additional hinge per each additional 30 inches (762 mm) in height.

2.03 EXIT DEVICES

- A. Manufacturers:
1. Basis of Design: Corbin Russwin: <https://www.corbinrusswin.com/en/contact-us>.
 2. Sargent; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 3. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
 4. Von Duprin, an Allegion brand: www.allegion.com/us/#sle.
 5. Substitutions: See Section 016000 - Product Requirements.
- B. Exit Devices: Comply with BHMA A156.3, Grade 1.
1. Lever design to match lockset trim.
 2. Provide cylinder with cylinder dogging or locking trim.
 3. Provide exit devices properly sized for door width and height.
 4. Provide strike as recommended by manufacturer for application indicated.
 5. For electrical options, provide quick connect plug-in pre-wired connectors.

2.04 ELECTRIC STRIKES

- A. Manufacturers:
1. Adams Rite, HES, or Securitron; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Pamex, Inc; Electric Strikes: www.pamexinc.com/#sle.
 3. Substitutions: See Section 016000 - Product Requirements.
- B. Electric Strikes: Comply with BHMA A156.31, Grade 1.
1. Provide UL (DIR) listed burglary-resistant electric strike; style to suit locks.
 2. Provide non-handed 24 VDC electric strike suitable for door frame material and scheduled lock configuration.
 3. Provide field selectable Fail Safe/Fail Secure modes.
 4. Provide transformer and rectifier as necessary for complete installation.

2.05 LOCK CYLINDERS

- A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
1. Provide high security mechanical type cylinders, Grade 1, with six-pin core in compliance with BHMA A156.30 or UL 437 at locations indicated.
 2. Provide cylinders from same manufacturer as locking device.

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3. Provide cams and/or tailpieces as required for locking devices.
4. Within specific Door Sections, when provisions for lock cylinder are being referenced to this Section, provide specified lock cylinder and keyed to building keying system, unless otherwise indicated.

2.06 MORTISE LOCKS

- A. Manufacturers:
1. Sargent; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Schlage, an Allegion brand: www.allegion.com/us/#sle.
 3. Stanley, dormakaba Group: www.stanleyhardwarefordoors.com/#sle.
 4. Substitutions: See Section 016000 - Product Requirements.
- B. Mortise Locks: Comply with BHMA A156.13, Grade 1, Security, 1000 Series.
1. Latchbolt Throw: 3/4 inch (19 mm), minimum.
 2. Deadbolt Throw: 1 inch (25.4 mm), minimum.
 3. Backset: 2-3/4 inch (70 mm) unless otherwise indicated.
 4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
 - a. Flat-Lip Strikes: Provide for locks with three piece antifriction latchbolts as recommended by manufacturer.
 - b. Rabbet Front and Strike: Provide on locksets for use with rabbeted meeting rails.
 - c. Finish: To match lock or latch.

2.07 DOOR PULLS AND PUSH PLATES

- A. Manufacturers:
1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. Hager Companies: www.hagerco.com/#sle.
 3. Substitutions: See Section 016000 - Product Requirements.
- B. Door Pulls and Push Plates: Comply with BHMA A156.6.
1. Pull Type: Straight, unless otherwise indicated.
 2. Push Plate Type: Flat, with square corners, unless otherwise indicated.
 - a. Edges: Beveled, unless otherwise indicated.
 3. Material: Aluminum, unless otherwise indicated.
 4. On solid doors, provide matching door pull and push plate on opposite faces.

2.08 CLOSERS

- A. Manufacturers; Surface Mounted:
1. Corbin Russwin, Norton, Rixson, Sargent, or Yale; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 2. LCN, an Allegion brand: www.allegion.com/us/#sle.
 3. Substitutions: See Section 016000 - Product Requirements.
- B. Closers: Comply with BHMA A156.4, Grade 1.
1. Type: Surface mounted to door.
 2. Provide door closer on each exterior door.

2.09 OVERHEAD STOPS AND HOLDERS

- A. Manufacturers:
 - 1. Rixson or Sargent; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. DORMA USA, Inc; 900 Series: www.dorma.com/#sle.
 - 3. Glynn-Johnson, an Allegion brand: www.allegion.com/us/#sle.
 - 4. Substitutions: See Section 016000 - Product Requirements.

- B. Overhead Stops and Holders (Door Checks): Comply with BHMA A156.8, Grade 1.
 - 1. Provide stop for swinging door indicated.

2.10 PROTECTION PLATES

- A. Manufacturers:
 - 1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. Hager Companies: www.hagerco.com/#sle.
 - 3. Ives, an Allegion brand: www.allegion.com/us/#sle.
 - 4. Substitutions: See Section 016000 - Product Requirements.

- B. Protection Plates: Comply with BHMA A156.6.

- C. Metal Properties: Aluminum material.
 - 1. Metal, Heavy Duty: Thickness 0.062 inch (1.57 mm), minimum.

- D. Edges: Beveled, on four sides unless otherwise indicated.

- E. Fasteners: Countersunk screw fasteners.

2.11 KICK PLATES

- A. Manufacturers:
 - 1. Ives, an Allegion brand: www.allegion.com/us/#sle.
 - 2. Substitutions: See Section 016000 - Product Requirements.

- B. Kick Plates: Provide along bottom edge of push side of every door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.
 - 1. Size: 8 inch (203 mm) high by 2 inch (51 mm) less door width (LDW) on push side of door.

2.12 MOP PLATES

- A. Mop Plates: Provide along bottom edge of push side of doors to provide protection from cleaning liquids and equipment damage to door surface.
 - 1. Size: 4 inch (102 mm) high by 1-1/2 inch (38 mm) less door width (LDW) on pull side and 2 inch (51 mm) LDW on push side of door.

2.13 WALL STOPS

- A. Manufacturers:
 - 1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 - 2. Hager Companies: www.hagerco.com/#sle.

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3. Substitutions: See Section 016000 - Product Requirements.
- B. Wall Stops: Comply with BHMA A156.16, Grade 1 and Resilient Material Retention Test as described in this standard.
 1. Provide wall stops to prevent damage to wall surface upon opening door.
 2. Type: Bumper, concave, wall stop.
 3. Material: Aluminum housing with rubber insert.

2.14 SILENCERS

- A. Manufacturers:
 1. Ives, an Allegion brand: www.allegion.com/us/#sle.
 2. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 3. Substitutions: See Section 016000 - Product Requirements.
- B. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
 1. Single Door: Provide three on strike jamb of frame.
 2. Material: Rubber, gray color.

2.15 POWER SUPPLY

- A. Manufacturers:
 1. Detex Corporation Series 800 Power Supply: www.detex.com/#sle.
 2. Securitron; an Assa Abloy Group company: www.assaabloydss.com/#sle.
 3. Substitutions: See Section 016000 - Product Requirements.
- B. Power Supply: Hard wired, with multiple zones providing eight (8) breakers for each output panel with individual control switches and LED's; UL (DIR) Class 2 listed.
 1. Power: 24 VAC, 10 Amp; with 120 VAC power supply.
 2. Operating Temperature: 32 to 110 degrees F (0 to 43 degrees C).
 3. Provide with emergency release terminals that release devices upon activation of fire alarm system.

2.16 FINISHES

- A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
 1. Primary Finish: 626; satin chromium plated over nickel, with brass or bronze base material (former US equivalent US26D); BHMA A156.18.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available to power operated devices and of correct characteristics.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.

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- B. Use templates provided by hardware item manufacturer.
- C. Do not install surface mounted items until application of finishes to substrate are fully completed.
- D. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
 - 1. For Steel Doors and Frames: Install in compliance with DHI (LOCS) recommendations.
 - 2. For Wood Doors: Install in compliance with DHI WDHS.3 recommendations.
 - 3. Mounting heights in compliance with ADA Standards:
 - a. Locksets: 40-5/16 inch (1024 mm).
 - b. Push Plates/Pull Bars: 42 inch (1067 mm).
 - c. Exit Devices: 40-5/16 inch (1024 mm).

3.03 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014000 - Quality Requirements.
- B. Provide an Architectural Hardware Consultant (AHC) to inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.04 ADJUSTING

- A. Adjust work under provisions of Section 017000 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.05 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.
- D. See Section 017419 - Construction Waste Management and Disposal for additional requirements.

3.06 PROTECTION

- A. Protect finished Work under provisions of Section 017000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

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3.07 HARDWARE SCHEDULE

A. Hardware Set #01:

2	Hingle, Ball Bearing	BB1279-4.5x4.5	Hager
1	Electric Hinge, Ball Bearing	BB1279 - 4.5x4.5 - US26D-RETW-QC (12 wire)	Hager
1	Mortar Box	430	Hager
1	Electrically Unlocked	ML20906 x SEC-NDA-626-M17-M91-M92-24 volt AC/DC	Corbin Russwin
1	Stop, Wall	409 - US26D	Rockwood
3	Silencer, HM Door Frame	608-Gray	Rockwood
1	Power Supply	Refer to Electrical/ Security Drawings	Refer to Electrical/ Security Drawings

B. Hardware Set #02:

3	Hinge, Ball Bearing	BB1279-4.5x4.5 - US26D	Hager
1	Lockset, Storeroom/ Closet	ML2057-NSA-626-M17	Corbin Russwin
1	Closer, Regular Arm	7500-689	Norton
1	Kick Plate	K1050-08"x34"-18 ga. - US32D	Rockwood
1	Stop, Wall	409 - US26D	Rockwood
3	Silencer, HW Door Frame	608-Gray	Rockwood

C. Hardware Set #3:

3	Hingle, Ball Bearing	BB1279-4.5x4.5 - US26D	Hager
1	Lockset, Privacy	ML2060-NSA-M34-626-M17	Corbin Russin
1	Mop Plate	K1050-04"x35"-18 ga.- US32D (Pull Side of Door	Rockwood
1	Kick Plate	K1050-08"x34"-18ga.- US32D	Rockwood
1	Stop, Overhead, Concealed	1ADJ-336-Stop Only- (33-1/16"-38" Door)-689	Rixson
3	Silencer, HW Door Frame	608-Gray	Rockwood

D. Hardware Set #4:

3	Hingle, Ball Bearing	BB1279-4.5x4.5-US26D	Hager
1	Push Plate	70C-4"x16"-US32D	Rockwood
1	Pull Plate	BF-107-70C-4"x16"-US32D	Rockwood
1	Closer, Overhead Regular Arm	7500-689-SN- (Sex Bolt)	Norton
1	Kick Plate	K1050-08"x34"-18 ga.- US32D	Rockwood
3	Silencer, HW Door Frame	608-Gray	Rockwood

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E. Hardware Set #5:

1	Hinge, Continuous Gear	780-226 HD-83" -CLEAR-Concealed Leaf-EPT-RHR	Roton
1	Power Transfer	EL-EPT	Securiton
1	Exit Device, Rim-Key-ELP	ED5200-K157-P12-630-RHR-D200-M52 (CD)-M91-M92-M94	Corbin Russwin
1	Cylinder, Mortise-Dogging	Cylinder-Mortise-626 (Dogging)	
1	Cylinder, Rim	Cylinder - Rim- 626	
1	Closer, Overhead Parallel Arm	CPS-7500-689 (Max Swing is 110 Degrees	Norton
1	Weatherstrip	8810S, Black	Zero International
1	Power Supply	Refer to Electrical/ Security Drawings	Refer to Electrical/ Security Drawings

F. Hardware Set #6:

1	Harness	ElectroLynn	ASSA Abloy
1	Electric Power Transfer	EPT-10	Von Duprin
1	Key/Lockset	60-8271-US26D	ASSA Abloy

G. Hardware Set #7: Refer to Specification Section 08716

END OF SECTION 087100

SECTION 092116 - GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Acoustic insulation.
- C. Gypsum sheathing.
- D. Cementitious backing board.
- E. Gypsum wallboard.
- F. Joint treatment and accessories.
- G. ***Bullet resistant sheathing and wallboard.***

1.02 RELATED REQUIREMENTS

- A. Section 016116 - Volatile Organic Compound (VOC) Limits For Adhesives, Sealants, Paints, And Coatings.
- B. Section 061000 - Rough Carpentry: Wood blocking products and execution requirements.
- C. Section 072100 - Thermal Insulation: Acoustic insulation.
- D. Section 078400 - Firestopping: Top-of-wall assemblies at fire-resistance-rated walls.
- E. Section 079200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board.
- F. Section 093000 - Tiling: Tile backing board.

1.03 REFERENCE STANDARDS

- A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing.
- B. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units.
- C. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units.
- D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
- E. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

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- F. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
- G. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
- H. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
- I. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
- J. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- K. ASTM C1325 - Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units.
- L. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
- M. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels.
- N. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- O. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- P. ASTM E413 - Classification for Rating Sound Insulation.
- Q. GA-216 - Application and Finishing of Gypsum Panel Products.
- R. ICC (IBC) - International Building Code.
- S. UL (FRD) - Fire Resistance Directory.
- T. UL 752 - Standard for Bullet-Resisting Equipment.
- U. UL 2079 - Standard for Tests for Fire Resistance of Building Joint Systems.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the installation of gypsum board assemblies with size, location, and installation of service utilities.
- B. Preinstallation Meeting: Conduct a preinstallation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
- C. Sequencing: Install service utilities in an orderly and expeditious manner.

1.05 SUBMITTALS

- A. Refer to Section 013300 - Submittal Procedures for submittal procedures.
- B. Product Data:
 - 1. Provide data on metal framing, gypsum board, glass mat faced gypsum board, accessories, and joint finishing system.
- C. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
- D. ***Samples: Submit two samples of predecorated gypsum board, 12 by 12 inches (300 by 300 mm) in size, indicating finish color and texture.***
- E. Steel Framing Industry Association (SFIA) Certification:
 - 1. Submit documentation that metal studs and connectors used on project meet or exceed requirements of International Building Code.
- F. Test Reports: For stud framing products that do not comply with AISI S220 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
- G. Ballistic Test Reports: Indicate compliance of bullet-resistant sheathing and wallboard assemblies with specified requirements.
- H. Evaluation Service Reports: Show compliance of grid suspension systems with specified requirements.
- I. Installer's Qualification Statement.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.
- B. Documents at Project Site: Maintain at the project site a copy of manufacturer's instructions, erection drawings, shop drawings, and reference standard documents containing execution requirements.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.
- B. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonwicking supports, in accordance with manufacturer's recommendations.
- C. Store metal products to prevent corrosion, under cover and above grade.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
 - 1. Refer to PART 3 for finishing requirements.
- B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
- C. Grid Suspension Systems: Provide grid suspension systems in accordance with ASTM C840 and GA-216.
 - 1. ***Match existing construction.***
- D. Fire-Resistance-Rated Assemblies: Provide completed assemblies complying with applicable code.
 - 1. ICC IBC Item Numbers: Comply with applicable requirements of ICC IBC for the particular assembly.
 - 2. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 BOARD MATERIALS

- A. Manufacturers:
 - 1. American Gypsum Company: www.americangypsum.com/#sle.
 - 2. CertainTeed Corporation: www.certainteed.com/#sle.
 - 3. Georgia-Pacific Gypsum: www.gpgypsum.com/#sle.
 - 4. Gold Bond Building Products, LLC provided by National Gypsum Company: www.goldbondbuilding.com/#sle.
 - 5. USG Corporation: www.usg.com/#sle.
 - 6. Substitutions: See Section 016000 - Product Requirements.
- B. Gypsum Wallboard, General: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces, unless otherwise indicated.
 - 2. Glass mat faced gypsum panels, as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 - 3. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
 - b.
 - 4. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 5. Thickness:
 - a. Vertical Surfaces: 5/8 inch (16 mm).
 - b. Ceilings: 1/2 inch (13 mm).
 - c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
 - 6. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

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7. Use moisture resistant Glass Mat Faced products when building is unenclosed.
- C. Paper-Faced Products (**GB-1x**): Type X, fire rated gypsum panels for interior wall partitions. Provide one of the following, or an approved equivalent.
1. American Gypsum Company; FireBloc Type X Gypsum Wallboard:
www.americangypsum.com/#sle.
 2. CertainTeed Corporation; Type X Drywall: www.certainteed.com/#sle.
 3. Georgia-Pacific Gypsum; ToughRock Fireguard X: www.gpgypsum.com/#sle.
 4. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond Fire-Shield Gypsum Board: www.goldbondbuilding.com/#sle.
 5. USG Corporation; Sheetrock Brand Firecode X Panels 5/8 in. (15.9 mm):
www.usg.com/#sle.
 6. Substitutions: See Section 016000 - Product Requirements.
- D. Mold Resistant Paper Faced Products for Walls (**GB-4**): Interior, 5/8-inch thickness, non-rated partitions to be painted or have perforated wall coverings applied:
1. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond XP Gypsum Board: www.goldbondbuilding.com/#sle.
 2. CertainTeed Corporation; M2Tech Moisture & Mold Resistant Drywall:
www.certainteed.com/#sle.
 3. USG Corporation; Sheetrock Brand Mold Tough Panels Firecode X: www.usg.com/#sle.
 4. Mold Resistant Paper Faced Products (**GB-4x**): Moisture and mold resistant, fire rated interior wall board panels. Provide one of the following, or an approved equivalent.
 - a. American Gypsum Company; M-Bloc Type X: www.americangypsum.com/#sle.
 - b. CertainTeed Corporation; M2Tech 5/8-inch, Type X Moisture & Mold Resistant Drywall: www.certainteed.com/#sle.
 - c. Georgia-Pacific Gypsum; ToughRock Fireguard X Mold-Guard:
www.gpgypsum.com/#sle.
 - d. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond XP Extreme Fire-Shield Gypsum Board: www.goldbondbuilding.com/#sle.
 - e. USG Corporation; Sheetrock Brand Mold Tough Firecode SCX Panels 5/8 in. (15.9 mm): www.usg.com/#sle.
 - f. Substitutions: See Section 016000 - Product Requirements.
- E. Paper Faced Products for Ceilings (**GB-5**): Interior, sag-resistant gypsum ceiling panels as defined in ASTM C1396/C1396M, sizes to minimize joints in place. Provide one of the following, or an approved equivalent.
1. Application: Ceilings, unless otherwise indicated.
 2. Thickness: 1/2 inch (13 mm).
 3. Edges: Tapered.
 - a. CertainTeed Corporation; 1/2-inch, Interior Ceiling Drywall:
www.certainteed.com/#sle.
 - b. Gold Bond Building Products, LLC provided by National Gypsum Company; 1/2-inch, Gold Bond High Strength Ceiling Board: www.goldbondbuilding.com/#sle.
 - c. USG Corporation; 1/2-inch, Sheetrock Brand Sag Resistant Interior Gypsum Ceiling Board: www.usg.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.
 4. Glass Mat Faced Products: (**GB-5x**) Provide one of the following, or an approved equivalent.
 - a. CertainTeed Corporation; 5/8-inch, GlasRoc Interior Type X:
www.certainteed.com/#sle.

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- b. Georgia-Pacific Gypsum; 5/8-inch, DensArmor Plus Fireguard C:
www.gpgypsum.com/#sle.
 - c. Gold Bond Building Products, LLC provided by National Gypsum Company; 5/8-inch, Gold Bond eXP Interior Extreme Fire-Shield Gypsum Panel:
www.goldbondbuilding.com/#sle.
 - d. USG Corporation; Sheetrock Brand Glass-Mat Panels Mold Tough Regular 5/8-inch:
www.usg.com/#sle.
 - e. Substitutions: See Section 016000 - Product Requirements.
- F. Backing Board For Wet Areas: One of the following products:
- 1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
 - 2. Cement-Based Board (**GB-8**): Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - a. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings, and where indicated.
 - b. Thickness: 5/8 inch (16 mm) or as indicated.
 - c. Products: Provide one of the following, or an approved equivalent.
 - 1) PermaBASE Building Products, LLC provided by National Gypsum Company; PermaBase Cement Board: www.goldbondbuilding.com/#sle.
 - 2) USG Corporation; Durock Brand Cement Board Regular 5/8 in. (15.9 mm): www.usg.com/#sle.
 - 3) Substitutions: See Section 016000 - Product Requirements.
- G. Backing Board For Non-Wet Areas (**GB-7**): Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
- 1. Application: Vertical surfaces behind thinset tile, except in wet areas.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 - 4. Type: Regular and Type X, in locations indicated.
 - 5. Type X Thickness: 5/8 inch (16 mm).
 - 6. Regular Board Thickness: 5/8 inch (16 mm).
 - 7. Edges: Tapered.
 - 8. Products: Provide one of the following, or an approved equivalent.
 - a. American Gypsum Company; M-Bloc Type X: www.americangypsum.com/#sle.
 - b. Georgia-Pacific Gypsum; ToughRock Mold-Guard Gypsum Board: www.gpgypsum.com/#sle.
 - c. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond eXP Tile Backer Board: www.goldbondbuilding.com/#sle.
 - d. USG Corporation; Fiberock Aqua-Tough AR Interior Panels: www.usg.com/#sle.
 - e. Substitutions: See Section 016000 - Product Requirements.
- H. Ceiling Board (**GB-5**): Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
- 1. Application: Ceilings, unless otherwise indicated.
 - 2. Thickness: 1/2 inch (13 mm).
 - 3. Edges: Tapered.
 - 4. Products: Provide one of the following, or an approved equivalent.
 - a. CertainTeed Corporation; Interior Ceiling Drywall: www.certainteed.com/#sle.

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- b. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond High Strength LITE Gypsum Board: www.goldbondbuilding.com/#sle.
 - c. USG Corporation; Sheetrock Brand UltraLight Panels 1/2 in. (12.7 mm): www.usg.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.
- I. Bullet Resistant Sheathing and Wallboard: Woven roving, multi-ply, ballistic grade fiberglass cloth with thermoset polyester resin; comply with UL 752 Level 1.
- 1. Thickness: 7/16 inch (11 mm).
 - 2. Products:
 - a. *ArmorCore by Waco Composites; Bullet Resistant Fiberglass Panels:* www.armorcore.com/#sle.
 - b. *O.F. 400 by Armortex:* <https://www.armortex.com/our-products/fiberglass-panels/#>.
 - c. *Substitutions: See Section 016000 - Product Requirements.*
- J. Shaftwall and Coreboard (**GB-15**): Type X; 1 inch (25 mm) thick by 24 inches (610 mm) wide, beveled long edges, ends square cut.
- 1. Paper-Faced Type: Gypsum shaftliner board or gypsum coreboard as defined ASTM C1396/C1396M; water-resistant faces.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - 3. Paper-Faced Products: Provide one of the following, or an approved equivalent.
 - a. American Gypsum Company; M-Bloc Shaft Liner: www.americangypsum.com/#sle.
 - b. CertainTeed Corporation; M2Tech Type X Shaftliner: www.certainteed.com/#sle.
 - c. Georgia-Pacific Gypsum; ToughRock Shaftliner: www.gpgypsum.com/#sle.
 - d. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond Shaftliner XP: www.goldbondbuilding.com/#sle.
 - e. USG Corporation; Sheetrock Brand Mold Tough Gypsum Liner Panels 1 in. (25.4 mm) SLX: www.usg.com/#sle.
 - f. Substitutions: See Section 016000 - Product Requirements.

2.03 GYP SUM BOARD ACCESSORIES

- A. Acoustic Insulation (**IN-6a**): ASTM C665; preformed mineral-fiber, friction fit type, unfaced; thickness as required for STC.
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- 1. Products:
 - a. Franklin International, Inc; Titebond Acoustical Smoke & Sound Sealant: www.titebond.com/#sle.
 - b. Liquid Nails, a brand of PPG Architectural Coatings; _____ : www.liquidnails.com/#sle.
 - c. Specified Technologies Inc; Smoke N Sound Acoustical Sealant: www.stifirestop.com/#sle.
 - d. Substitutions: See Section 016000 - Product Requirements.
- C. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
- 1. Corner Beads: Low profile, for 90 degree outside corners.
 - a. Products:
 - 1) CertainTeed Corporation; No-Coat Drywall Corner: www.certainteed.com/#sle.

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- 2) ClarkDietrich; Strait-Flex OS-300: www.clarkdietrich.com/#sle.
 - 3) Phillips Manufacturing Co; Everlast Corner Bead: www.phillipsmfg.com/#sle.
 - 4) Trim-Tex, Inc; Corner Bead: www.trim-tex.com/#sle.
 - 5) Substitutions: See Section 016000 - Product Requirements.
2. L-Trim with Tear-Away Strip: Sized to fit 5/8 inch (16 mm) thick gypsum wallboard.
- a. Products: Provided the following, or an approved equivalent.
 - 1) Phillips Manufacturing Co; gripSTIK L-Tear: www.phillipsmfg.com/#sle.
 - 2) Substitutions: See Section 016000 - Product Requirements.
3. Expansion Joints:
- a. Fire-Resistance Rated: 1 hour when joint system tested in accordance with UL 2079.
 - b. Type: V-shaped PVC with tear away fins.
 - c. Type: Off-angle inside corner expansion.
 - d. Products: Provide one of the following, or an approved equivalent.
 - 1) Phillips Manufacturing Co; 093 Expansion Control Joint: www.phillipsmfg.com/#sle.
 - 2) Trim-Tex, Inc; Fire Rated 093V Expansion Bead: www.trim-tex.com/#sle.
 - 3) Substitutions: See Section 016000 - Product Requirements.
- D. Moisture Guard Trim (For Wet Areas): ASTM C1047, rigid plastic, 48 inch (1219.2 mm) length, applied to bottom edge of gypsum board.
1. Height: 1/2 inch (13 mm).
 2. Depth: 5/8 inch (15.9 mm).
 3. Products: Provide the following, or an approved equivalent.
 - a. Waterguard USA; Waterguard: www.waterguard-usa.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.
- E. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Fiberglass Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
 2. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 3. Joint Compound: Drying type, vinyl-based, ready-mixed.
 4. Joint Compound: Setting type, field-mixed.
- F. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
1. Products: Provide one of the following, or an approved equivalent.
 - a. CertainTeed Corporation; Level V Wall and Ceiling Primer/Surfer with M2Tech: www.certainteed.com/#sle.
 - b. USG Corporation; USG Sheetrock Brand Tuff-Hide Primer-Surfer: www.usg.com/#sle.
- G. Concrete Cover Coat Compound: Ready-mix compound for filling and smoothing interior, above-grade, monolithic concrete ceilings and columns.
1. Products: Provide the following, or an approved equivalent.
 - a. USG Corporation; Sheetrock Brand Cover Coat Compound: www.usg.com/#sle.
 - b. Substitutions: See Section 016000 - Product Requirements.
- H. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping

screws, corrosion-resistant.

- I. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 SHAFT WALL INSTALLATION

- A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions and GA-600 requirements.
- B. Shaft Wall Liner: Cut panels to accurate dimensions and install sequentially between special friction studs.
 1. On walls over sixteen feet high, screw-attach studs to runners top and bottom.
 2. Seal perimeter of shaft wall and penetrations with acoustical sealant.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
- B. Acoustic Sealant: Install in accordance with manufacturer's instructions.

3.04 INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Fire-Resistance-Rated Construction: Install wallboard in strict compliance with requirements of assembly listing.
- C. Exposed Gypsum Board: Seal joints, cut edges, and holes with water-resistant sealant.
- D. Cementitious Backing Board: Install over steel framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- E. Installation on Metal Framing: Use screws for attachment of wallboard.
- F. **Bullet Resistant Sheathing and Wallboard:**
 1. **Install bullet-resistant sheathing according to manufacturer's written recommendations and with manufacturer-approved fasteners.**
 2. **Cover all joints between boards with a 4-inch (100 mm) strip of the same thickness material as the boards, centered on the joint.**

3.05 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as follows:

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1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.
- D. Moisture Guard Trim: Install on bottom edge of gypsum board according to manufacturer's instructions and in locations indicated on drawings.

3.06 JOINT TREATMENT

- A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, embed and finish with setting type joint compound.
- B. Paper Faced Gypsum Board: Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
- C. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
 2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
 4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch (0.8 mm).
- E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

3.08 CLEANING

- A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

3.09 PROTECTION

- A. Protect installed gypsum board assemblies from subsequent construction operations.

END OF SECTION 092116

