

ADDENDUM NO. 1

20240379 – BL475 – Recreational Sports – SRSC Lobby Remodel

Indiana University, Bloomington, Indiana

Project No. 20240379

Index of Contents

Addendum No. 1, 10 items, 2 pages
New Project Manual Section: 08 11 13 – Hollow Metal Doors and Frames
Revised Drawing Sheets: A-102 and A-601

Date: February 20, 2026

I hereby certify that this Addendum was prepared by me or under my direct supervision and that I am a duly registered Architect/Engineer under the Laws of the State of Indiana.

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS



Paul A. Miller, License No. AR10800161
Expiration Date: 12/31/2027

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 1 to Drawings and Project Manual, dated January 15, 2026, for BL475 – Recreational Sports – SRSC Lobby Remodel, for Indiana University Bloomington; as prepared by Fanning/Howey Associates, Inc., Indianapolis, Indiana.

This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. PROJECT MANUAL, TABLE OF CONTENTS

- A. Page 00 01 10-2, DIVISION 6: Delete Section 06 16 00 - Sheathing.
- B. Page 00 01 10-2, DIVISION 8: Delete Sections 08 21 13 – Hollow Metal Frames and 08 14 16 – Flush Wood Doors.
- C. Page 00 01 10-2, DIVISION 8: Add Section 08 11 13 – Hollow Metal Doors and Frames.

ITEM NO. 2. NEW PROJECT MANUAL SECTION(S)

- A. New Project Manual Section 08 11 13 – Hollow Metal Doors and Frames is included with and hereby made a part of this Addendum.

ITEM NO. 3. PROJECT MANUAL, SECTION 03 01 30.61 – RESURFACING CAST-IN-PLACE CONCRETE

- A. Delete Article 1.2, in its entirety.

ITEM NO. 4. PROJECT MANUAL, SECTION 05 50 00 – METAL FABRICATIONS

- A. Delete 1.1, A., 4., and 5., in their entirety.
- B. Delete Articles 2.9 and 2.12 in their entirety.
- C. Delete Article 3.6 in its entirety.

ITEM NO. 5. PROJECT MANUAL, SECTION 06 16 00 - SHEATHING

- A. Delete this Section in its entirety.

ITEM NO. 6. PROJECT MANUAL, SECTION 08 21 13 – HOLLOW METAL FRAMES

- A. Delete this Section in its entirety.

ITEM NO. 7. PROJECT MANUAL, SECTION 08 14 16 – FLUSH WOOD DOORS

- A. Delete this Section in its entirety.

ITEM NO. 8. PROJECT MANUAL, SECTION 08 56 00 – SPECIAL FUNCTION WINDOWS

- A. Add 1.1, A., 2., as follows:

“2. Sliding and fixed glazing components”.

- B. Add 2.4, C., 5., as follows:

“5. Fixed glazing areas with overhead track and bottom track/frame.”

- C. Add 2.4, C., 6., as follows:

“6. Half-Round Service window with cover plate: Provide semi-circular cut-out within glass via template per manufacturer’s written instructions.

- a. Cover Plate: 12 inch by 6 inch half-round swing away cover plate with tamper-resistant snap lock and retaining pin. Extruded aluminum construction, satin anodized.
- b. CRL Half-Round Swing Away Cover Plates, model 725A.”

ITEM NO. 9. PROJECT MANUAL, SECTION 12 32 16 – MANUFACTURED PLASTIC-LAMINATE-FACED CASEWORK

- A. Delete 1.1, A., 4., and 5., in their entirety.

ITEM NO. 10. REVISED DRAWING SHEETS

- A. Drawing Sheets A-102 and A-601 have been revised, dated 2/20/26, and are included with and hereby made a part of this Addendum. These Drawings supersede the original documents.

END OF ADDENDUM

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior steel doors and frames.
 - 2. Interior fire rated doors and frames.
- B. Furnish materials and equipment necessary for complete installation by the following Sections:
 - 1. Division 04 Section "Unit Masonry": For installing anchors and frames in masonry construction.
- C. Related Sections:
 - 1. Division 07 Section "Joint Sealants": For caulking between metal frames and adjacent materials.
 - 2. Division 08 Section "Door Hardware".
 - 3. Division 08 Section "Glazing".
 - 4. Division 09 Sections "Interior Painting".
 - 5. Division 26 Sections for electrical connections including conduit and wiring for door controls and operators.
 - a. Exception: Low-voltage wiring for security access and for automatic door operator switches is pulled by Division 28 ("Electronic Safety and Security").

1.2 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or ANSI A250.8.

1.3 REFERENCE STANDARDS

- A. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI/SDI A250.8 – Specifications for Standard Steel Doors and Frames.
 - 2. ANSI/SDI A250.4 – Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
 - 3. ANSI/SDI A250.6 – Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
 - 4. ANSI/SDI A250.10 – Test Procedure and Acceptance Criteria and Prime Painted Steel Surfaces for Steel Doors and Frames.
 - 5. ANSI/SDI A250.11 – Recommended Erection Instructions for Steel Frames.
 - 6. ASTM A1008 – Standard Specification for Steel Sheet, Cold-Rolled, Carbon Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - 7. ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 - 8. ASTM A924 – Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
 - 9. ASTM C1363 – Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
 - 10. ASTM E283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Doors Under Specified Pressure Differences Across the Specimens.
 - 11. ASTM E330 – Standard Test Methods for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
 - 12. ASTM E413 – Classification for Rating Sound Insulation.
 - 13. ANSI/ASA S12.60 – Acoustical Performance Criteria, Design Requirements and Guidelines for Schools.
 - 14. ASTM E1332 – Standard Classification for Determination of Outdoor-Indoor Transmission Class.

15. ANSI/BHMA A156.115 – Hardware Preparation in Steel Doors and Frames.
16. ANSI/SDI 122 – Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
17. ANSI/NFPA 80 – Standard for Fire Doors and Fire Windows; National Fire Protection Association.
18. ANSI/NFPA 105 – Standard for the Installation of Smoke Door Assemblies.
19. NFPA 252 – Standard Methods for Fire Tests of Door Assemblies; National Fire Protection Association.
20. NFRC 102 – Procedure for Measuring the Steady State Thermal Transmittance of Fenestration Systems.
21. NFRC 400 – Procedure for Determining Fenestration product Air Leakage.
22. UL 10C – Positive Pressure Fire Tests of Door Assemblies.
23. UL 1784 – Standard for Air Leakage Tests of Door Assemblies.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination

1. Coordinate installation of anchorages for standard steel frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
2. Refer to Division 08 Section “Glazing” to obtain glass thickness requirements. Provide stops and beads, properly sized, to support glass in accordance with manufacturer’s recommendations and Performance Standards.
3. Coordinate requirements for installation of door hardware, electrified, door hardware, and access control and security systems.
4. Coordinate installation of anchorages for sound control door assemblies. Furnish setting drawings, templates, and directions for installing anchorages. Deliver sleeves, inserts, anchor bolts, and items with integral anchors to Project site in time for installation.

B. Preinstallation Conference: Conduct conference at Project site with attendance by representatives of suppliers, installers, and contractor. Review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrical or access control hardware.

1. Hold conference in conjunction with door hardware conference.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of door and frame specified, including details of construction, materials, dimensions, hardware preparation, core, label compliance, sound ratings, fire resistance and temperature rise ratings, profiles, and finishes, and indicating compliance with “Performance Requirements”.

1. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

B. Shop Drawings: Include the following in accordance with Steel Door Institute (SDI) 111D.

1. Elevations of each door type.
2. Details of doors, including vertical and horizontal edge details and metal thickness.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition. Drawings must show actual wall conditions.
6. Details electrical raceway and preparation for electrified hardware, access control systems, and security systems.
7. Details of anchorages, joints, field splices, and connections.
8. Details of accessories.
9. Details of moldings, removable stops, and glazing.
10. Include details of sound control seals, door bottoms, and threshold, if applicable.

1.6 CLOSEOUT SUBMITTALS

- A. General: Closeout Submittals are to be submitted with O and M Manuals only. Do not submit with other ACTION and INFORMATIONAL Submittals.
 - 1. Maintenance Data: For sound control door assemblies to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Quality Standard: Comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

1.8 DELIVERY, STORAGE, AND HANDLING

- A. General: All products shall be marked with A/E's opening number on all doors, frames, miscellaneous parts and cartons.
- B. Handle, store, and protect products in accordance with manufacturers printed instructions and ANSI/SDI A250.10 and NAAMM/HMMA 840.
 - 1. Provide additional protection to prevent damage to finish of factory finished doors and frames.
 - 2. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
 - a. Temporary spreader bars are intended for shipping and handling purposes only.
- C. Inspect doors and frames on delivery for damage, and notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to A/E. Remove and replace damaged items that cannot be repaired as directed.
- D. Store doors and frames at building site under cover. Place units on minimum 4 inch high wood blocking. Avoid using nonvented plastic or canvas shelter that could create a humidity chamber. If door packaging becomes wet, remove cartons immediately. Provide minimum 1/4 inch spaces between stacked doors to permit air circulation.
 - 1. A 1/4 inch space between doors shall be provided to promote air circulation. If the wrapper on the door becomes wet, it must be removed immediately.

1.9 FIELD CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.
- B. Door Size Field Verification: Contractor/door supplier shall note that the door sizes as listed on the door schedule, for new doors in existing frames, are approximate and are for bidding purposes only. The contractor/door supplier MUST field verify door size, frame preps, and other frame conditions prior to submission of Shop Drawings and fabrication of doors. It will be assumed, by the A/E, that the door size as indicated on the Shop Drawings has been field verified by the contractor/door supplier. Doors shipped to the project that are incorrect size for the existing frame shall be the responsibility of the contractor/door supplier to replace at no additional cost to the Project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
 - a. Ceco Door Products; Div. of Assa-Abloy Group Company
 - b. Steelcraft; Div. of Ingersoll-Rand
 - c. Curries; Div. of Assa-Abloy Group Company
 - d. Mesker Door Inc.
 - e. The MPI Group, LLC
 - f. Deansteel Manufacturing Company
 - g. Security Metal Products.
 - h. Door Components, Inc.
 - i. Pioneer Industries
 - j. Republic Doors and Frames.

- B. Products of other manufacturers will be considered for acceptance provided they equal or exceed the material requirements and functional qualities of the specified product. Requests for A/E's approval must be accompanied by the "Substitution Request Form" and complete technical data for evaluation. All materials for evaluation must be received by the Project Manager and Specification Department at least 10 days prior to bid due date. Additional approved manufacturers will be issued by Addendum.
- C. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Openings shall be provided to conform to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and State and Local Regulations. Where openings, in the opinion of the supplier/manufacturer, do not conform, the A/E shall be notified.
- B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire protection ratings indicated, based on testing according to NFPA 252 or UL 10c.
 1. Test Pressure: "Positive Pressure Tested," after 5 minutes into the test, the neutral pressure level in the furnace shall be established at 40 inches or less above the sill.
 2. Temperature Rise Rating: Where indicated, provide doors that have a temperature rise rating of 450 degrees F maximum in 30 minutes of fire exposure.
 3. Oversize, Fire-Rated Door Assemblies: For units exceeding sizes of testing assemblies, provide certification by a qualified testing agency that does comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 4. Smoke- and Draft-Control Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction based on testing according to UL 1784 and installed in compliance with NFPA 105..
 - a. Smoke "S" Label: Doors to bear "S" label, and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.
 5. Affix a physical label or approved marking on each fire door or fire door frame, at an authorized facility as evidence of compliance with procedures of the labeling agency. Label embossment is not permitted.
- C. Fire Rated Borrowed Light Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 257 or UL 9.
- D. Smoke Control Door Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
 1. Smoke door assemblies (including fire doors that are also smoke doors) shall have an air leakage rating not greater than 3 cubic feet/minute/square foot of door opening when tested in accordance with ANSI/UL 1784, Air Leakage Tests of Door Assemblies, and the door shall bear an "S" label indicating compliance with requirement.

- E. Electrified Hardware Backbox Assemblies: Manufactured assemblies complying with UL 10C that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for concealed installation within hollow metal frames.
- F. Conduit, Connectors, and Fittings: Listed and labeled as defined in NFPA 70, by a qualified testing agency acceptable to authorities having jurisdiction and marked for intended location and application.

2.3 DOOR TYPES

- A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces, unless otherwise indicated. Comply with ANSI/SDI A250.8.
- B. Construct hollow-metal doors to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- C. Door types shall conform to ANSI A250.8 for level and model and ANSI A250.4 for physical endurance level indicated hereinafter.
- D. Adjust width of doors, as required, where full mortise continuous hinges are scheduled.
- E. Coordinate with Division 08 Section "Door Hardware", the undercut requirements for exterior doors with thresholds. Standard undercut will not be acceptable for low profile handicap thresholds.
- F. Interior Flush Type Doors
 - 1. Doors shall be Level 3 and physical performance Level A, extra heavy duty 1-3/4 inch, Model 2 – seamless.
 - a. Face Steel Sheet: 0.053-inch thick (fka 16 gauge) cold rolled steel, factory applied baked on primer.
 - 2. Type: As indicated in the Door and Frame Schedule.
 - 3. Door Face Sheets: One sheet of metal with no visible seams.
 - 4. Lock and Hinge Edge: Continuously or spot welded full height of door with welds filled and ground smooth.
 - 5. Top and Bottom: Closed with a recessed channel end closure.
 - 6. Interior Core: Kraft resin impregnated honeycomb or polystyrene slab core bonded to both door skins with thermal adhesive.

2.4 DOOR ACCESSORIES

- A. Vision Lite Systems (Borrowed Lites): Manufacturer's standard kits consisting of glass lite moldings to accommodate glass thickness and size of vision lite indicated.
 - 1. Construction: Face welded.
 - 2. Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as metal as frames.
 - 3. Provide countersunk, flat or oval-head exposed screws and bolts for exposed fasteners, unless otherwise noted.
- B. Astragals: At rated and nonrated interior and exterior doors with 3-point latching, (lockset/panic exit device and flush bolts), furnish a steel "Z" astragal, factory prepared for hardware as scheduled.
 - 1. RHR and LHR Doors: Mount astragal on the ACTIVE leaf and overlap the inactive leaf for latch bolt security. Notch astragal for strike lip.
 - 2. RH and LH Doors: Mount astragal on the INACTIVE leaf to overlap the key side of the active door leaf for latch bolt security.

- C. Vision Lite Systems and Astragals for exterior doors shall be galvanized steel with factory applied baked on primer.
- D. Provide gasketing and door bottoms as specified under Division 08 Section "Door Hardware".
 - 1. Gasketing and door seals are not to be painted.
- E. Doors shall have a 3/8 inch undercut.
 - 1. Coordinate adjustable mortise door bottom as specified in Division 08 Section "Door Hardware" with bottom door channel and undercuts.

2.5 FRAME TYPES

- A. General: Provide steel frames for doors, transoms, sidelights, borrowed lights, and other openings that comply with ANSI A250.8 and with details indicated for type and profile. Conceal fastenings, unless otherwise indicated.
- B. Frames for interior door openings and borrowed lights shall be fabricated with 2 inch face at jambs, heads and mullions, unless otherwise indicated.
 - 1. 0.053 inch thick (fka 16 gauge) steel, cold rolled, factory applied baked on primer, for Level 2 and Level 3 steel doors and wood doors.
 - 2. 0.067-inch thick (fka 14 gauge) for all door frames installed in steel or wood stud walls.
- C. Full Profile Welded Frames, unless otherwise noted: Frames for masonry and steel stud and drywall construction shall be mitered or butted and set-up and welded, ("SUW") with welds on exposed surfaces dressed smooth and flush. Provide a temporary spreader bar securely fastened to the bottom of each frame. Butt-welded frames without back bend at head and jamb joint will not be acceptable.

2.6 FRAME ASSEMBLIES

- A. Stops and Beads: Furnish minimum 0.032 inch thick (fka 20 gauge) metal glazing beads with the hollow metal frames at transoms, side lights, interior glazed panels, and other locations where beads are indicated in pressed steel frames. Glazing beads for exterior frames shall be on the interior side of transoms and sidelights. Glazing beads for interior frames shall be on the secure side of door.
- B. Mortar/Plaster Guards: Provide minimum 0.016 inch thick (fka 26 gauge) steel plaster guards or mortar boxes, welded to the frame, at back of door hardware cutouts where mortar or other materials might obstruct hardware operation.
- C. Provide minimum 0.1495 inch thick (fka 9 MSG) hinge reinforcement, including all doors with continuous type hinges.
- D. Provide minimum 0.1046 inch thick (fka 12 MSG) frame head reinforcement for closers, surface, and concealed overhead stop and holders, removable mullions, flush bolts, and top latch of vertical rod exit devices.
- E. Door Silencers: Drill stops and install 3 silencers on strike jambs of single swing frames and 2 silencers on heads of double swing frames.
- F. Hollow metal frames requiring continuous hinges shall have a continuous mortar guard of a minimum 0.016 inch thick (fka 26 gauge) steel, welded to frame, the full height of the door. Mortar guards shall be shop applied by frame supplier.
- G. Electrical Requirements: Coordinate all electrical requirements for doors and frames. Make provisions for installation of electrical items so that wiring can be readily removed and replaced.
 - 1. Provide cutouts and reinforcements required for metal door frame to accept electric components.
 - 2. Provide cutouts and reinforcements required to accept security system components.

3. Exterior door frames shall be furnished with a mortar box installed, as a junction box for door security monitoring contacts. Install junction box in frame head 12 inches from strike edge of frame to centerline of box. Weld junction box to inside of 1-15/16 inch frame rabbet.
 - a. Mortar Box
 - 1) 10 inch by 1-3/4 inch by 1-3/4 inch inside dimensions.
 - 2) Serves as mortar shield.
 - 3) Knock outs at each end for standard conduit fittings.
- H. All frames installed in masonry shall be furnished with field-or-shop applied corrosion-resistant coating the full depth of frame.
- I. Mineral-fiber Insulation: Insulation composed of rock-wool fibers, slag-wool fibers, or glass fibers.

2.7 FRAME ANCHORAGE

- A. Jamb Anchors: Provide anchors of size and type required by applicable door and frame standard, and suitable for performance level indicated.
 1. Frames Set in New Masonry: Provide metal anchors of shapes and sizes required for the adjoining wall construction. Provide a minimum of 3 wall anchors per jamb. Frames over 7'-6" shall be provided with one additional anchor for each 24 inch or fraction thereof. Wire anchor was formerly specified per "Steel Wire Gage" or "Washburn and Moen Gage" (WMG).
 - a. Provide adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick (fka 18 gauge), with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.1770-inch in diameter (fka 7 WMG).
 2. Frames Set Against Previously Placed Masonry or Concrete: Punch each frame jamb and dimple countersink for not less than four 3/8 inch, diameter flat head screws. For doors over 7'-6" high, punch for one additional anchor for each 24 inches or fraction thereof. Provide pipe sleeves with spacers welded into each jamb at each fastening location. Provide 3/8 inch diameter galvanized steel flat head screws with approved expansion anchors or toggles as required. After installing flat head screws, fill head of countersink screw with body filler, then sand flush with frame.
 3. Frames Set in Stud Partitions: Provide a minimum of three 0.042 inch thick (fka 18 gauge) metallic coated "Z" shaped sheet metal jamb anchor clips welded in each jamb. For doors over 7'-6" high weld one additional anchor for each 24 inches or fraction thereof.
- B. Provide head anchors at door or window heads over 5 feet wide at minimum 3 feet o.c. mounted in metal-stud partitions.
- C. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottom of jambs.
 1. Provide 0.067 inch thick (fka 14 gauge) minimum anchors punched for two 3/8 inch diameter bolts each.
- D. Electrified Hardware Backbox Assemblies (Contractor's Option): Manufactured back-box and conduit connector assembly, factory-installed to inside of door frame, specifically designed for connection of conduit as an internally smooth pathway for fishing and installing wiring and terminating connections for electrified door hardware and access control devices installed within or connected to door frame. Assemblies must accommodate wire routing without disconnection of assembly components, without field modifications to frame, and without frame removal after installation.

1. Subject to compliance with requirements, provide the following:
 - a. Electrified Hardware Backbox Assembly: Injection-molded, ABS (Acrylonitrile butadiene styrene) plastic enclosure manufactured with integral ports, at each end of enclosure, for solvent connection of PVC conduit within the frame. Include integral ports for connection and extensions of conduit specified in Division 26 and 28 that will extend from the frame to other locations such as above ceiling or other remote devices such as card readers, tec. Include QR Code Labels for identification that each frame has been provided with control wiring pathways.
 - 1) Product: FRAMEFROG, as manufactured by Tadpole Products, LLC. 223 Fairfield Ave., Bellevue, Kentucky 41073. Tadpoleproducts.org phone 513-702-5436. Provide 1/2 inch diameter rigid PVC conduit between each ABS back-box assembly located within the door frame as indicated drawings.

E. Door Frame Conduits (Contractor's Option)

1. Manufactured conduits, factory installed to the inside of door frame, that connect to each back box within the full perimeter of the door frame. Provide conduits located within the frame per the drawings and manufacturer's installation instructions. Conduits exiting the frame shall be per Divisions 26 and 28 of these specifications.
 - a. Conduit: Provide 1/2 inch Schedule 40 rigid PVC conduit compatible with the back box materials used.
 - b. Manufacturer
 - 1) Cantex
 - 2) Carlon by Thomas Betts

F. Metal Mortar-Dust Boxes (Contractor's Option)

1. Provide at all hardware locations where electrified hardware backbox assemblies are NOT installed.
 - a. Provide a metal cover attached to the frame behind reinforcement for any mortised or recessed non-electrified hardware locations, to prevent mortar or plaster from entering the mounting holes.

G. Material: ASTM A879, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008 or ASTM A1011; hot-dip galvanized according to ASTM A153, Class B.

2.8 FIRE DOORS AND FRAMES

A. Provide approved and labeled hollow metal fire doors and frames at locations indicated in Door Schedule. Approved doors, frames, and hardware shall be constructed and installed in accordance with requirements of NFPA 80 and tested by UL (Underwriters' Laboratories, Inc.) or WH (Warnock Hersey) for the class of door opening indicated in schedules.

1. Smoke doors must comply with NFPA 105 and door shall bear an "S" label indicating compliance with this requirement.

B. Provide 3/4 inch stops for sidelights and transoms where the individual glass areas for fire rated openings exceeds the allowable area for 5/8 inch stops.

C. Where continuous hinges are specified for labeled openings, apply the label in rabbet of the frame head and on top of the door. Labels shall be placed 12 inches from strike edge of door(s).

D. Label Materials and Attachment: Labels shall be steel, brass, aluminum, or non-metallic. Metal labels shall be attached by welding, riveting, pop riveting, or with drive screws. Embossed labels stamped directly into the steel will not be acceptable. Labels shall be provided for doors, door frames, and borrowed lites. Labels shall be protected during painting. Label protection shall be removed after final coat of paint has been completed and approved.

E. Labeled metal frames are required for labeled wood doors.

- F. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

2.9 HARDWARE

- A. Hardware, General: Comply with requirements in Division 08 Section "Door Hardware".

2.10 MATERIALS

- A. Cold-Rolled Steel Sheets: ASTM A 1008, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Frame Anchors: ASTM A 879, Commercial Steel (CS). 4oz (12G) coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel complying with ASTM A 1008A or ASTM A 1011, hot-dip galvanized according to ASTM A 153, Class B.
- C. Inserts, Bolts, and Fasteners: Manufacturer's standard units, except hot dip zinc coated items to be built into exterior walls, complying with ASTM A153, Class C or D as applicable.
- D. Shop Applied Paint: For steel surfaces, use rust-inhibitive enamel or paint, either air drying or baking, suitable as a base for specified finish paints.
 - 1. Comply with ANSI A250.10 for acceptance criteria.
- E. Mineral-Fiber Insulation: ASTM C 665, Type 1 (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool with 6 to 16 pounds per cu. ft. density; with maximum flame-spread and smoke development indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- F. Glazing: Comply with requirements in Division 08 Section "Glazing".
- G. Corrosion-Resistant Coating: Spray-applied rubber- or asphalt-based automotive undercoating. Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.11 FABRICATION

- A. Fabricate steel door and frame units to comply with ANSI A250.8 and to be rigid, neat in appearance, and free from defects, warp, or buckle. Accurately form metal to required sizes and profiles. Wherever practicable, fit and assemble units in the manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at the Project site.
- B. Hollow-Metal Doors:
 - 1. Vertical Edges for Single-Acting Doors: Bevel edges 1/8 inch in 2 inches, unless otherwise noted.
 - 2. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closure at exterior doors of same material as face sheets.
 - 3. Bottom Edge Closures: Close bottom edge of doors with end closures or channels of same material as face sheets. Coordinate with weatherstripping.
 - 4. Glazed Lites: Factory cut openings in doors with applied trim or kits to fit. Factory install glazing where indicated.
 - 5. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

- C. Hollow-Metal Frames: Where frames are fabricated in Sections due to shipping or handling limitations, provide alignment plates of angles at each joint, fabricated of same thickness metal as frames.
1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 2. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both joints to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.
 3. Sidelite and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 4. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
 5. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
 6. Frame Undercoating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, coating inside of frame throat with a water-based frame undercoating or asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.
- D. Fabricate concealed stiffeners, reinforcement, edge channels, and moldings from either cold rolled or hot rolled steel (at fabricator's option).
1. Minimum hardware reinforcement gage shall comply with Table 4 of ANSI/SDI A250.8 "SDI 100, Recommended Specifications for Standard Steel Doors and Frames".
- E. Clearances for Non-Fire Rated Doors: Not to exceed 1/8 inch at jambs and heads, 3/32 inch between pairs of doors, and 3/4 inch at bottom.
- F. Clearances for Fire Rated Doors: As required by NFPA 80.
- G. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.
- H. Door Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
1. Prepare hollow metal units to receive mortised and concealed door hardware, including cutouts, steel reinforcing, drilling, and tapping in accordance with final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A250.6 and ANSI/BHMA A156.115 for preparation of hollow-metal work for hardware.
 2. Reinforce hollow metal units to receive nontemplated, mortised, and surface mounted hardware. Hardware installer shall drill and tap for surface applied hardware.
 3. Coordinate locations of conduit and wiring boxes for electrical connections.
- I. Stops and Moldings: Manufacturer's standard, formed from minimum 0.032 inch thick (fka 20 gauge) steel sheet stops and moldings around glazed lites and louvers. Form corners of stops and moldings with butted or mitered hairline joints.
1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow-metal work.
 2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite are capable of being removed independently.

3. Provide nonremovable stops on outside of exterior doors and on secure side of interior doors for glass, louvers, and other panels in doors.
 4. Provide screw applied, removable, glazing stops on inside of glass, louvers, and other panels in doors.
 5. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
- J. Electrical Thru-Wiring: Provide hollow metal frames receiving electrified hardware with loose wiring harness. Coordinate connectors on end of the wiring harness to plug directly into the electric through-wire transfer hardware or wiring harness.
- K. Electrical Knockout Boxes: Factory weld 18 gauge electrical knockout boxes to frame for electrical hardware preps; including, but not limited to, electrical through wire transfer hardware, electrical raceways and wiring harnesses, door position switches, electrical strikes, magnetic locks, and jamb mounted card readers.
1. Provide electrical knockout boxes with a dual 1/2 inch and 3/4 inch knockouts.
 2. Conduit to be coordinated and installed in the field (Division 26) from middle hinge box and strike box to door position box.
 3. Electrical knockout boxes to comply with NFPA requirements and fit electrical door hardware.
 4. Electrical knockout boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb.
- L. Accessories
1. Install electrified hardware backbox assemblies per manufacturer's installation instructions, at each location where electrified door hardware is scheduled, or where specified for future electrified door hardware.
 2. Connect each back-box located within the frame by means of a 1/2 inch diameter PVC conduit.
 3. Metal Mortar-Dust Cover: Weld metal covers to frames at back of hardware mortises in frames to be grouted, except where electrified hardware back-box assemblies are scheduled.

2.12 STEEL FINISHES

- A. General: Comply with recommendations in "Metal Finishes Manual by Architectural and Metal Products (AMP) Division of National Association of Architectural Metal Manufacturers (NAAMM) for applying and designating finishes.
1. Finish standard steel door and frames after assembly.
- B. Steel Surface Preparation: Clean surfaces to comply with SSPC-SP1, "Solvent Cleaning"; remove dirt, oil, grease, or other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel; comply with SSPC-SP 3, "Power Tool Cleaning," or SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning".
- C. Factory Priming for Field Painted Finish: Apply shop primer specified below immediately after surface preparation and pretreatment. Apply a smooth coat of even consistency to provide a uniform dry film thickness of not less than 0.7 mils.
1. Shop Primer: Manufacturer's standard, fast curing, lead and chromate free primer complying with ANSI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field applied finish paint system indicated; and providing a sound foundation for field applied topcoats despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of standard steel doors and frames.

1. Examine roughing-in for embedded and built-in anchors to verify actual locations of standard steel frame connections before frame installation.

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

3.2 PREPARATION

A. Prior to installation and with Contractor-installed installation spreaders in place, adjust and securely brace standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured on jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs on a perpendicular line from head to floor.

B. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touchup factory-applied finishes where spreaders are removed.

C. Drill and tap doors and frames to receive nontemplated mortised and surface mounted door hardware.

D. Existing hollow metal frames: Prepare as recommended by manufacturer and Steel Door Institute. Preparation can include but is not limited to patch of existing holes, recesses, and fastener marks with patching materials or cover plates. Cover plates shall be fit to holes or recesses and made flush with surrounding material for a seamless patch after finishing.

3.3 INSTALLATION

A. General: Provide doors and frames of sizes, thicknesses, and designs indicated. Install standard steel doors and frames plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Standard Steel Frames: Install standard steel frames for doors, sidelights, transoms, borrowed lights, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. Where frames are fabricated in sections due to shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - b. Install frames with removable glazing stops located on secure side of opening.
 - c. Install door silencers in frames.
 - d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - e. Check plumb, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - f. Field-apply corrosion-resistant coating to backs of all frames where coating has not been factory applied.
2. At fire protection rated openings, install frames according to NFPA 80.
3. Floor Anchors: Provide floor anchors for each jamb and mullions that extends to floor and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with powder actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on shop drawings.

4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout as specified.
 - a. Where grout is installed during masonry installation, frames shall be braced or fastened in such a way that will prevent the pressure of the grout from deforming the frame members. Grout shall be mixed to provide a 4 inch maximum slump consistency, hand troweled into place. Grout mixed to a thin "pumpable" consistency shall not be used.
 - 1) Refer to ANSI A 250.8 for additional information.
 5. Existing Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 6. Existing Gypsum Board Partitions: Secure frames in place with postinstalled expansion anchors through floor anchors at each jamb. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 7. Installation Tolerances: Adjust standard steel door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Standard Steel Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non Fire Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
 - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.
 2. Fire Rated Doors: Install with clearances according to NFPA 80.
 3. Smoke Control Door Assemblies: Install according to NFPA 105.
- D. Door Frame Assemblies
1. Install electrified hardware backbox assemblies per manufacturer's installation instructions.
 2. Connect each backbox located within the frame by a means of a 1/2 inch diameter PVC conduit.
 3. See Division 26 and 28 for requirements of conduits that extend outside of the frame.
 4. For frames that curtain electrified hardware backbox assemblies and conduit within the frame, apply QB Code decal provided by manufacturer on hinge side of door frame at face of door rabbet, for identified that frame has been provided with control wiring pathways.
- E. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with standard steel door and frame manufacturer's written instructions.
1. Secure stops with countersunk flat or oval head machine screws spaced uniformly not more than 9 inches o.c., and not more than 2 inches o.c. from each corner.
- 3.4 ADJUSTING/CLEANING
- A. Final Adjustments: Verify that bolts and screws are tight and firmly seated. Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including standard steel doors or frames that are warped, bowed, or otherwise unacceptable.

- B. Clean steel doors and frames immediately after installation.
- C. Prime Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air drying primer.

END OF SECTION 08 11 13

