November 7, 2022

ADDENDUM #3

TO CONTRACT DOCUMENTS FOR:	Project #CP221611 – Patient Care Tower - Radiology Expansion
ADVERTISEMENT DATE:	CP221611
PREPARED FOR:	The Curators of the University of Missouri
CONSULTANT:	Planning, Design & Construction University of Missouri 130 General Services Building (573) 882-6800

The contract documents for the above noted project and the work covered thereby and herein modified.

CHANGES TO PROJECT MANUAL:

1) Specification Section 079513.13, Interior Expansion Joint Cover Assemblies: Revisions have been made to paragraph 2.03, 2.04, and 2.05: MM Systems added as to comparable product list.

2) Specification Section 087113, Automatic Door operators: Remove specification section from contract documents.

3) Specification Section 081113, Hollow Metal Doors, and Frames: Revisions have been made to paragraph 2.01: Mesker Door Company added as to comparable product list.

CHANGES TO DRAWINGS:

1) Mechanical Drawing MP-122-A: DPT location added.

2) Sketch: DP Monitor Detail attached.

3) Architectural Drawing A-123-A: Annotation plan keyed note 5 removed.

4) Piping Drawings PD-122-B: Additional piping demolition noted.

BIDDER'S QUESTIONS / DESIGN TEAM RESPONSES:

1) Bidder Question: Request to add MM Systems to the comparable product list for expansion joint control product list in Specification Section 079513.
    a. Design Team's Response: MM Systems has been added to the comparable product list for floor expansion joint covers, wall expansion joint covers, and ceiling expansion joint covers in the specifications.

2) Bidder Question: Automatic Operators: Specifications have section 08 71 13 for automatic operators. There are no automatic operators in the hardware schedule or the door schedule. Can you please advise if automatic operators will be added on Corridor Entrances/Exits, double-door entrances/exits, Operating/CT Rooms, and bathrooms?
    a. Design Team's Response: There are no automatic operators in the project.

3) Bidder Question: Request to add Mesker Door Company to the preferred door product list in Specification Section 081113.
    a. Design Team's Response: Mesker Door Company has been added to the comparable product list for hollow metal door and frame manufacturers in the specification section 081113. Mesker Door Company is also acceptable, if applicable, for Flush Wood Doors (specification section 081416) as the section does not define preferred product manufacturers.

4) Bidder Question: Request to add Dormakaba Precision Exit Devices to the comparable product list in Specification Section 087111.
    a. Design Team's Response: Not allowed.

5) Bidder Question: Request to add Dormakaba Commercial Hardware to the comparable product list in Specification Section 087111.
    a. Design Team's Response: Not allowed

6) Bidder Question: The chilled water control point diagram (Sheet MH-505) Keyed Note 1 directs the contractor to install the DPT where shown on plans. No location is shown on piping plans. Please provide location.
    a. Design Team's Response: Location added to drawing Sheet MP-122-A.

7) Bidder Question: Exhaust Fan EF-4 is included in the project scope. However, no BAS control points are shown to interface with EF-4. If required, please provide control point detail and location of its BAS controller location.
    a. Design Team Response: EF-4 is a replacement fan, re-use the existing control points.

8) Bidder Question: Bidder Question: Sheet MP-122-A floor plan indicates that there are two (2) room pressure monitors (DP) located at Rooms CT-Force 1 and CT-Force-2. These are not shown on the MH-504 and MH-505 control schematics. If required, please specify type and if BAS communications are required. IF BAS communications are

required (BACnet), please clarify if this communications wiring will be independent from the FC Bus.

a. Design team response: Room pressure monitors are required at the two (2) CT rooms. Please see attached "DP Monitor" PDF. Room differential pressure devices shall be TSI PresSura or equal by Accutrol, Siemens, or Setra.

9) Bidder Question: On sheet A-123-A on Keynote 5 says "pneumatic tube station, RE: v-sheets". No V-sheets are in the current document set.
   a. Design team response: Pneumatic tube station is an MU vendor. No v-sheets provided in construction documents.

10) Bidder Question: General Note 4 indicates Phase 3 cannot be constructed until Substantial Completion of MUHC Children's Hospital Facility is granted. It is our understanding that is currently scheduled for October 31, 2023. Currently with the 270-day schedule and Substantial Completion for this project would be in August/September of 2023 depending on Contract Award date. Is the contract duration going to be revised to allow Phase 3 to complete after SC of the Children's Facility?
   a. Design team response: The contract duration will not change. Coordination of final phase timing will happen after construction award.

11) Bidder Question: Note 23 on A series demo sheets (ex AD102—A) indicates the plastic barrier is to go from floor to ceiling, please confirm there will be no requirements to install plastic above ceiling to the floor deck above as well in these locations.
   a. Design team response: Temporary barrier not required to go above ceiling in this location.

12) Bidder Question: Please clarify if the contractor is responsible for both Construction Clean and Thorough Clean or is MUHC performing the Thorough Clean? Thorough clean has been performed by the contractor or MUHC staff on various projects.
   a. Design team response: Both Construction and Thorough Clean required.

13) Bidder Question: Please confirm all RA and SA grilles, diffusers, etc will be required to be covered with filters prior to moving air in the construction area and will remain in place until thorough cleaning is performed.
   a. Design team response: Confirmed.

14) Bidder Question: Please provide a location for a dumpster to be located for this project.
   a. Design team response: Will provide/coordinate at Pre-Construction Meeting.

15) Bidder Question: Please verify there are no parking spaces intended to be provided for the Contractor. It has been common to receive 3-5 spots allocated to a project in either WG-1 and/or the NexGen/Children's Hospital parking lots for this work. It is not feasible to allow no contractor parking for company vehicles.
   a. Design team response: No Parking available.

END OF ADDENDUM #3

SECTION 07 95 13.13 - INTERIOR EXPANSION JOINT COVER ASSEMBLIES

PART 1 - GENERAL

1.01 SUMMARY:

A. SECTION includes interior expansion joint cover assemblies.

1.02 ACTION SUBMITTALS:

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for expansion joint cover assemblies.

B. Shop Drawings: For each expansion joint cover assembly.
   1. Include plans, elevations, sections, details, splices, block-out requirement, attachments to other work, and line diagrams showing entire route of each expansion joint.
   2. Where expansion joint cover assemblies change planes, provide isometric or clearly detailed drawing depicting how components interconnect.

C. Samples: For each expansion joint cover assembly and for each color and texture specified, full width by 6 inches (150 mm) long in size.

D. Samples for Initial Selection: For each type of exposed finish.
   1. Include manufacturer's color charts showing the full range of colors and finishes available for each exposed metal and elastomeric-seal material.

E. Samples for Verification: For each type of expansion joint cover assembly, full width by 6 inches (150 mm) long in size.

F. Expansion Joint Cover Assembly Schedule: Prepared by or under the supervision of the supplier. Include the following information in tabular form:
   1. Manufacturer and model number for each expansion joint cover assembly.
   2. Expansion joint cover assembly location cross-referenced to Drawings.
   3. Nominal, minimum, and maximum joint width.
   4. Movement direction.
   5. Materials, colors, and finishes.
   6. Product options.
   7. Fire-resistance ratings.

1.03 INFORMATIONAL SUBMITTALS:

A. Product Test Reports: For each fire-resistance-rated expansion joint cover assembly, for tests performed by manufacturer and witnessed by a qualified testing agency or a qualified testing agency.

PART 2 - PRODUCTS

2.01 ASSEMBLY DESCRIPTION:

A. Furnish units in longest practicable lengths to minimize field splicing.

B. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion joint cover assemblies.

2.02 PERFORMANCE REQUIREMENTS:

A. Seismic Performance: Expansion joint cover assemblies to withstand the effects of earthquake motions determined according to ASCE/SEI 7.

B. Fire-Resistance Ratings: Provide expansion joint cover assemblies with fire barriers identical to those of systems tested for fire resistance according to UL 2079 or ASTM E1966 by a qualified testing agency.
   1. Hose Stream Test: Wall-to-wall and wall-to-ceiling assemblies to be subjected to hose stream testing.

C. Expansion Joint Design Criteria:
   1. Type of Movement: Wind and/or Seismic.
      a. Nominal Joint Width: As indicated on Drawings.
      b. Minimum Joint Width: 50 percent of the joint width.
      c. Maximum Joint Width: 150 percent of the joint width.

2.03 FLOOR EXPANSION JOINT COVERS:

A. Dual-Elastomeric-Seal Floor Joint Cover Type 8: Assembly consisting of dual-elastomeric seals and center plate anchored to frames fixed to sides of joint gap.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Construction Specialties, Inc.; model SGR-1000HD with Fire Barier or a comparable product by one of the following:
      a. Balco; a CSW Industrials Company.
      b. Inpro Corporation.
      c. Nystrom.
      d. MM Systems
   2. Application: Floor to floor.
   3. Installation: Recessed.
   4. Load Capacity: Heavy Duty
      a. 2000 lb point load minumum.
   5. Fire-Resistance Rating: Not less than 2 hours.
   6. Center-Plate Design: Recessed to accept field-applied finish materials.
      a. Center-Plate Recess Depth: As required to accommodate adjacent flooring.
   7. Exposed Metal:
      a. Aluminum: Clear anodic, Class II.
   8. Seal: Preformed elastomeric membranes or extrusions.
      a. Color: As selected by Architect from manufacturer's full range.

2.04 WALL EXPANSION JOINT COVERS:

A. Dual-Elastomeric-Seal Wall Joint Cover Type 13: Assembly consisting of dual-elastomeric seals and center plate anchored to frames fixed to sides of joint gap.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Construction Specialties, Inc.; model SGW-1000 with fire barrier or a comparable product by one of the following:
      a. Balco; a CSW Industrials Company.
      b. Inpro Corporation.
      c. Nystrom.
      d. MM Systems
   2. Application: Wall to wall.
   3. Center-Plate Design: Plain.
   4. Exposed Metal:
      a. Aluminum: Clear anodic, Class II.

5. Seal: Preformed elastomeric membranes or extrusions.
   a. Color: As selected by Architect from manufacturer's full range.

2.05 CEILING EXPANSION JOINT COVERS:

A. Elastomeric-Seal Ceiling Joint Cover Type 5: Assembly consisting of elastomeric seal anchored to frames fixed to sides of joint gap.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Construction Specialties, Inc.; model FCF-1000 or a comparable product by one of the following:
      a. Balco; a CSW Industrials Company.
      b. Inpro Corporation.
      c. Nystrom.
      d. MM Systems
   2. Application: Ceiling to ceiling.
   3. Aluminum: Mill finish (no finish)
   4. Seal: Preformed elastomeric membranes or extrusions.
      a. Color: As selected by Architect from manufacturer's full range.

B. Schedule of Expansion Joints

Type	Condition / Description	Basis of Design Model #
Type 5	10” Ceiling-to-Ceiling, Non-rated	FCF-1000
Type 8	10” Floor-to-Floor, 2-hr Rated, Heavy Duty	SGR-1000HD w/ FB
Type 13	10” Wall-to-Wall, 2 hr rated	SGW-1000 w/FB

2.06 MATERIALS:

A. Aluminum: ASTM B221 (ASTM B221M), Alloy 6063-T5 for extrusions; ASTM B209 (ASTM B209M), Alloy 6061-T6 for sheet and plate.
   1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious materials.

B. Elastomeric Seals: Manufacturer's standard preformed elastomeric membranes or extrusions to be installed in metal frames.

C. Fire Barriers: Any material or material combination, when fire tested after cycling, designated to resist the passage of flame and hot gases through a movement joint and to comply with performance criteria for required fire-resistance rating.

D. Moisture Barrier: Manufacturer's standard, flexible elastomeric material.

E. Nonmetallic, Shrinkage-Resistant Grout: ASTM C1107/C1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive, non-staining, mixed with water to consistency suitable for application and a 30-minute working time.

2.07 ALUMINUM FINISHES:

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

2.08 ACCESSORIES:

A. Moisture Barriers: Manufacturer's standard continuous, waterproof membrane within joint and attached to substrate on sides of joint.
   1. Provide where indicated on Drawings.

B. Manufacturer's standard attachment devices. Include anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

PART 3 - EXECUTION

3.01 EXAMINATION:

A. Examine surfaces where expansion joint cover assemblies will be installed for installation tolerances and other conditions affecting performance of the Work.

B. Notify Architect where discrepancies occur that will affect proper expansion joint cover assembly installation and performance.

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

3.02 PREPARATION:

A. Prepare substrates according to expansion joint cover assembly manufacturer's written instructions.

B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion joint cover assemblies. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion joint cover assemblies.

3.03 INSTALLATION:

A. Comply with manufacturer's written instructions for storing, handling, and installing expansion joint cover assemblies and materials unless more stringent requirements are indicated.

B. Metal Frames: Perform cutting, drilling, and fitting required to install expansion joint cover assemblies.

1. Repair or grout block out as required for continuous frame support using nonmetallic, shrinkage-resistant grout.
2. Install frames in continuous contact with adjacent surfaces.
   a. Shimming is not permitted.
3. Install in true alignment and proper relationship to joints and adjoining finished surfaces measured from established lines and levels.
4. Adjust for differences between actual structural gap and nominal design gap due to ambient temperature at time of installation.
5. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
6. Locate anchors at interval recommended by manufacturer, but not less than 3 inches (75 mm) from each end and not more than 24 inches (600 mm) o.c.

C. Seals: Install elastomeric seals and membranes in frames to comply with manufacturer's written instructions. Install with minimum number of end joints.

1. Provide in continuous lengths for straight sections.
2. Seal transitions. Vulcanize or heat-weld field-spliced joints as recommended by manufacturer.
3. Installation: Mechanically lock seals into frames or adhere to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.

D. Install with hairline mitered corners where expansion joint cover assemblies change direction or abut other materials.

E. Terminate exposed ends of expansion joint cover assemblies with field- or factory-fabricated termination devices.

F. Fire-Resistance-Rated Assemblies: Coordinate installation of expansion joint cover assembly materials and associated work so complete assemblies comply with performance requirements.

1. Fire Barriers: Install fire barriers to provide continuous, uninterrupted fire resistance throughout length of joint, including transitions and field splices.

G. Moisture Barrier Drainage: If indicated, provide drainage fittings and connect to drains.

3.04 PROTECTION:

A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.

B. Protect the installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install temporary protection over expansion joint cover assemblies. Reinstall cover plates or seals prior to Substantial Completion.

END OF SECTION 07 95 13.13

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SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.01 SUMMARY:

A. SECTION includes:
   1. Interior standard steel doors and frames.
   2. Exterior standard steel doors and frames.

B. Related Requirements:
   1. SECTION 08 71 11 "DOOR HARDWARE (DESCRIPTIVE SPECIFICATION)" for door hardware for hollow-metal doors.

1.02 DEFINITIONS:

A. Minimum Thickness: Minimum thickness of base metal without coatings in accordance with NAAMM-HMMA 803 or ANSI/SDI A250.8.

1.03 COORDINATION:

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.04 PREINSTALLATION MEETINGS:

A. Preinstallation Conference: Conduct conference at Project site.

1.05 ACTION SUBMITTALS:

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

B. Shop Drawings: Include the following:
   1. Elevations of each door type.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   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.
   6. Details of 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.

C. Samples for Initial Selection: For hollow-metal doors and frames with factory-applied color finishes.

D. Samples for Verification:
   1. Finishes: For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches (75 by 127 mm).

E. Product Schedule: For hollow-metal doors and frames, 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.

1.06 INFORMATIONAL SUBMITTALS:

A. Qualification Data: For door inspector.
   1. Submit copy of DHI Fire and Egress Door Assembly Inspector (FDAI) certificate.
B. Product Test Reports: For each type of fire-rated hollow-metal door and frame assembly for tests performed by a qualified testing agency indicating compliance with performance requirements.
C. Oversize Construction Certification: For assemblies required to be fire-rated and exceeding limitations of labeled assemblies.
D. Field quality control reports.

1.07 CLOSEOUT SUBMITTALS:

A. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.08 QUALITY ASSURANCE:

A. Fire-Rated Door Inspector Qualifications: Inspector for field quality control inspections of fire-rated door assemblies is to meet the qualifications set forth in NFPA 80, section 5.2.3.1 and the following:
   1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.
B. Egress Door Inspector Qualifications: Inspector for field quality control inspections of egress door assemblies is to meet the qualifications set forth in NFPA 101, Section 7.2.1.15.4 and the following:
   1. Door and Hardware Institute Fire and Egress Door Assembly Inspector (FDAI) certification.

1.09 DELIVERY, STORAGE, AND HANDLING:

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
   1. Provide additional protection to prevent damage to factory-finished units.
B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS:

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Ceco Door; ASSA ABLOY.
   2. Curries Company; ASSA ABLOY.
   3. Pioneer Industries.

4. Republic Doors and Frames.
5. Steelcraft; an Allegion brand.
6. Mesker Door Company

2.02 PERFORMANCE REQUIREMENTS:

A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
   1. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing in accordance with UL 1784 and installed in compliance with NFPA 105.
   2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.

B. Fire-Rated, Borrowed-Lite Assemblies: Assemblies complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing in accordance with NFPA 257 or UL 9.

C. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.38 deg Btu/F x h x sq. ft. (2.16 W/K x sq. m) when tested in accordance with ASTM C1363 or ASTM E1423.

2.03 INTERIOR STANDARD STEEL DOORS AND FRAMES:

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 3; ANSI/SDI A250.4, Level A..
   1. Doors:
      a. Type: As indicated in the Door and Frame Schedule.
      b. Thickness: 1-3/4 inches (44.5 mm).
      c. Face: Uncoated steel sheet, minimum thickness of 0.053 inch (1.3 mm). 16 gauge minimum.
      d. Edge Construction: Model 2, Seamless.
      e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
      f. Core: Manufacturer's standard.
      g. Fire-Rated Core: Manufacturer's standard core for fire-rated doors.
      h. SDI Level 3 minimum fully welded.
   2. Frames:
      a. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch (1.3 mm). 16 gauge minimum.
      b. Sidelite and Transom Frames: Fabricated from same thickness material as adjacent door frame.
      c. Construction: Full profile welded. Ground and dress smooth.
      d. Frames for rated doors shall be securely anchored and grouted in plumb and level.
   3. Exposed Finish: Prime.

2.04 EXTERIOR STANDARD STEEL DOORS AND FRAMES:

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 3; ANSI/SDI A250.4, Level A..

1. Doors:
   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1-3/4 inches (44.5 mm).
   c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating. 16 gauge minimum.
   d. Edge Construction: Model 2, Seamless.
   e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
   f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
   g. Bottom Edges: Close bottom edges of doors with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
   h. Core: Polyurethane.
   i. Fire-Rated Core: Manufacturer's standard core for fire-rated doors.
   j. SDI Level 3 minimum fully welded.
2. Frames:
   a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating. 14 gauge minimum.
   b. Construction: Face welded. Ground and dress smooth.
3. Exposed Finish: Prime.

2.05 BORROWED LITES:

A. Fabricate of uncoated steel sheet, minimum thickness of 0.042 inch (1.0 mm). 16 gauge minimum.

B. Construction: Face welded. Ground and dress smooth.

C. 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.

D. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2.06 FRAME ANCHORS:

A. Jamb Anchors:

1. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
   a. Three anchors per jamb up to 60 inches (1524 mm) high.
   b. Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
   c. Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
   d. Five anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.

2. Postinstalled Expansion Anchor: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch (51-mm) height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized in accordance with ASTM A153/A153M, Class B.

2.07 MATERIALS:

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized in accordance with ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E136 for combustion characteristics.

G. Glazing: Comply with requirements in SECTION 08 80 00 "GLAZING."

H. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.08 FABRICATION:

A. 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 (19 mm) beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch (0.66 mm), steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches (152 mm) apart. Spot weld to face sheets no more than 5 inches (127 mm) o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.

2. Fire Door Cores: As required to provide fire-protection ratings indicated.

C. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. 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 welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
   a. Form grout guards from same material as frames, not less than 0.016 inch (0.4 mm) thick.
4. 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 bottoms of jambs.
5. 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.

D. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping in accordance with ANSI/SDI A250.6, the Door Hardware Schedule, and templates.
1. Reinforce doors and frames to receive non-templated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

E. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with ~~*[butted] [or] [*~~**mitered**~~*]*~~ hairline joints.
1. Provide stops and moldings flush with face of door, and with ~~*[beveled] [*~~**square**~~*]*~~ stops unless otherwise indicated.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (51 mm) o.c. from each corner.

2.09 STEEL FINISHES:

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.01 PREPARATION:

A. 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. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.02 INSTALLATION:

A. Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.

B. Hollow-Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.
   a. Install frames with removable stops located on secure side of opening.
   b. Install door silencers in frames before grouting.
   c. Remove temporary braces necessary for installation only after frames have been properly set and secured.
   d. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
   e. Field apply bituminous coating to backs of frames that will be filled with grout containing anti-freezing agents.
2. Fire-Rated Openings: Install frames in accordance with NFPA 80.
3. Floor Anchors: Secure with post-installed expansion anchors.
   a. Floor anchors may be set with power-actuated fasteners instead of post-installed expansion anchors if so indicated and approved on Shop Drawings.
4. Solidly pack mineral-fiber insulation inside frames.
5. In-Place Concrete: Secure frames in place with post-installed expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
6. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:
   a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with ANSI/SDI A250.8.
2. Fire-Rated Doors: Install doors with clearances in accordance with NFPA 80.
3. Smoke-Control Doors: Install doors in accordance with NFPA 105.

D. Glazing: Comply with installation requirements in SECTION 08 80 00 "GLAZING" and with hollow-metal manufacturer's written instructions.

3.03 FIELD QUALITY CONTROL:

A. Inspection Agency: Engage a qualified inspector to perform inspections and to furnish reports to Architect.

B. Inspections:

1. Fire-Rated Door Inspections: Inspect each fire-rated door in accordance with NFPA 80, Section 5.2.
2. Egress Door Inspections: Inspect each door equipped with panic hardware, each door equipped with fire exit hardware, each door located in an exit enclosure, each electrically controlled egress door, and each door equipped with special locking arrangements in accordance with NFPA 101, Section 7.2.1.15.

C. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

D. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

E. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.04 REPAIR:

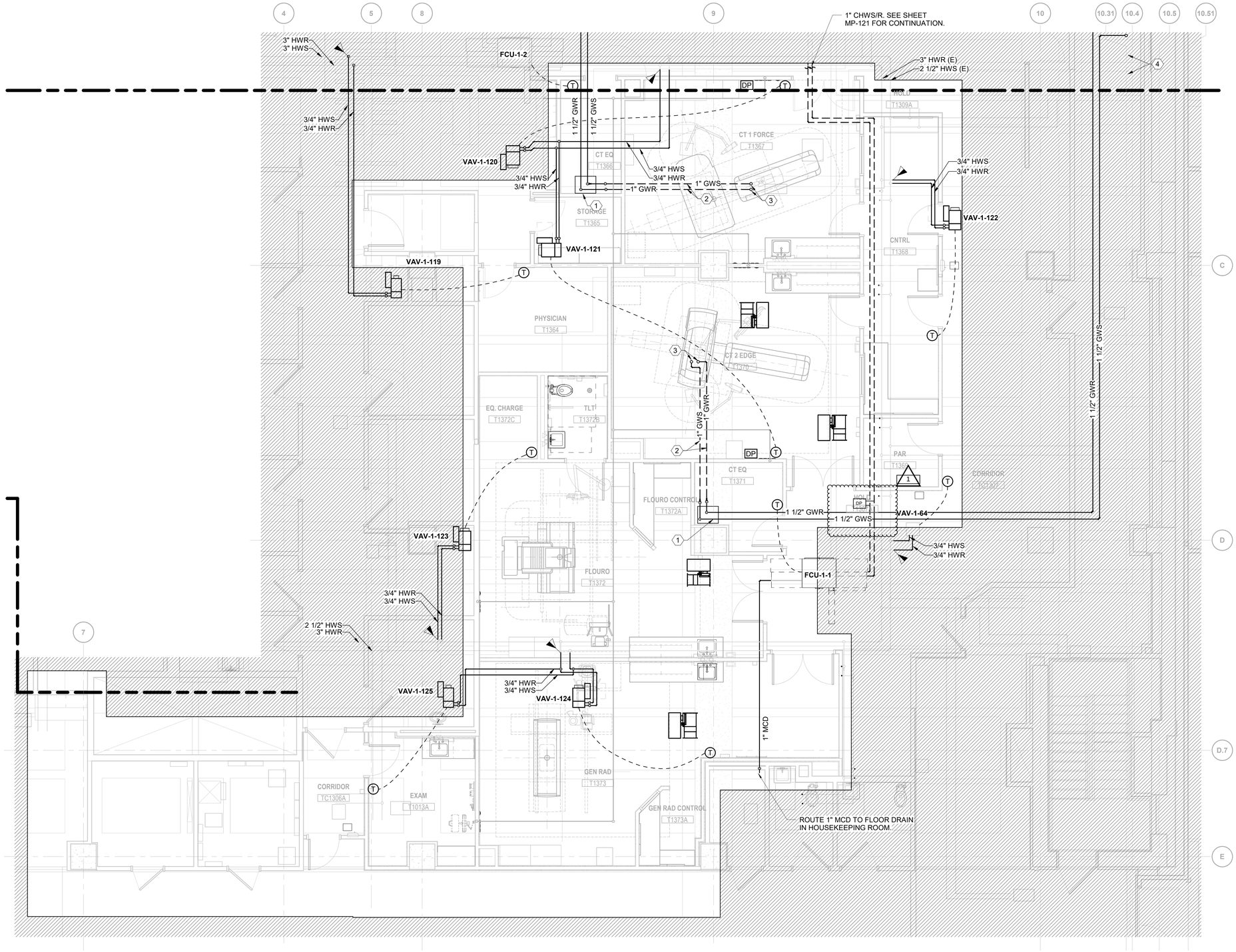
A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 08 11 13



1 MP-LEVEL 1, PHASE 2, AREA B - FLOOR PLAN
1/4" = 1'-0"

KEYED NOTES

1. CONNECT 1-1/2" GWS/GWR TO OWER FUNISHED CT CHILLER. REFER TO VENDOR DRAWINGS FOR SPECIFIC LOCATION IN CT EQUIPMENT ROOM.
2. ROUTE 1" COPPER PIPING FROM CT CHILLER DOWN THRU SLAB, AND RUN IN LEVEL 0 CEILING SPACE OVER TO CT GANTRY.
3. ROUTE 1" COPPER PIPES UP THRU SLEEVE IN SLAB TO CT GANTRY REFER TO VENDOR DRAWING M-101.
4. (2) SETS OF 1-1/2 GWS/GWR UP TO LEVEL 2. SEE SHEET MP-402 FOR CONTINUATION.

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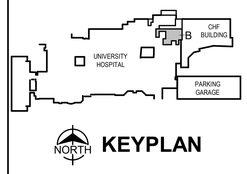

KEYPLAN

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913-239-8900
MOCoA #: 2003025022

DEREK HUNTER NUMBER PE-2021021523 PROFESSIONAL ENGINEER STATE OF MISSOURI

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MOCoA # - Engineering: 000165

date	detailed
10/11/2022	S. HETER
designed	checked
D.HUNTER	T.WICKER

PATIENT CARE TOWER - RADIOLOGY EXPANSION
University of Missouri - Columbia,
For The Curators of the University of Missouri
1 Hospital Drive, Columbia, MO 65212

CONSTRUCTION DOCUMENTS
ISSUED FOR BID / PERMIT

Contract Title:
PCT1 - Radiology Expansion

LEVEL 1, PHASE 2, AREA B - PIPING

BMcD project #:	MU project / contract #:
143839	CP221611

drawing rev.

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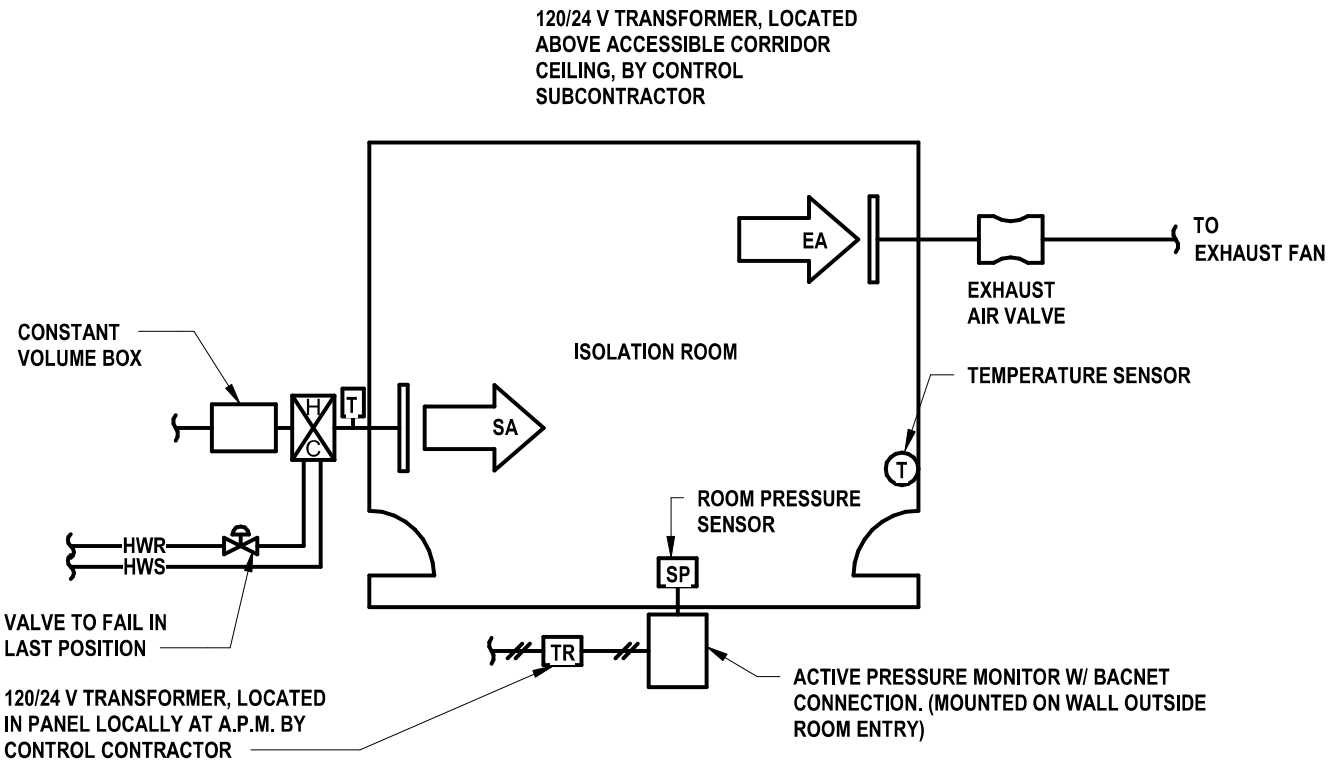
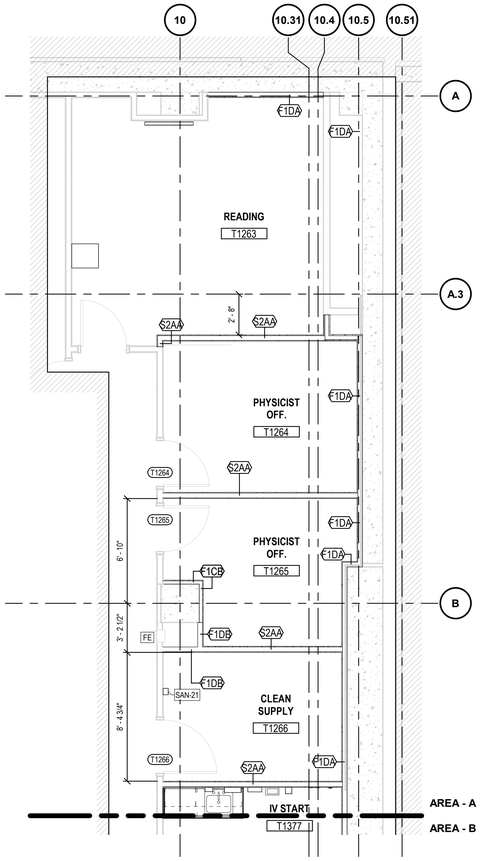


SEQUENCE OF OPERATIONS:

THE SUPPLY AIR VALVE AND EXHAUST AIR VALVE SHALL MAINTAIN THE OFFSET IN AIR FLOWS. THE ROOM TEMPERATURE SENSOR SHALL MODULATE THE REHEAT COIL VALVE TO MAINTAIN SET POINT. THE OPERATOR WILL HAVE THE ABILITY TO ADJUST, OVERRIDE, AND DISPLAY TEMPERATURES AND SET POINTS FROM THE WORKSTATION. THE ACTIVE PRESSURE MONITOR SHALL MONITOR ROOM PRESSURE WITH RESPECT TO THE ADJACENT HALL.

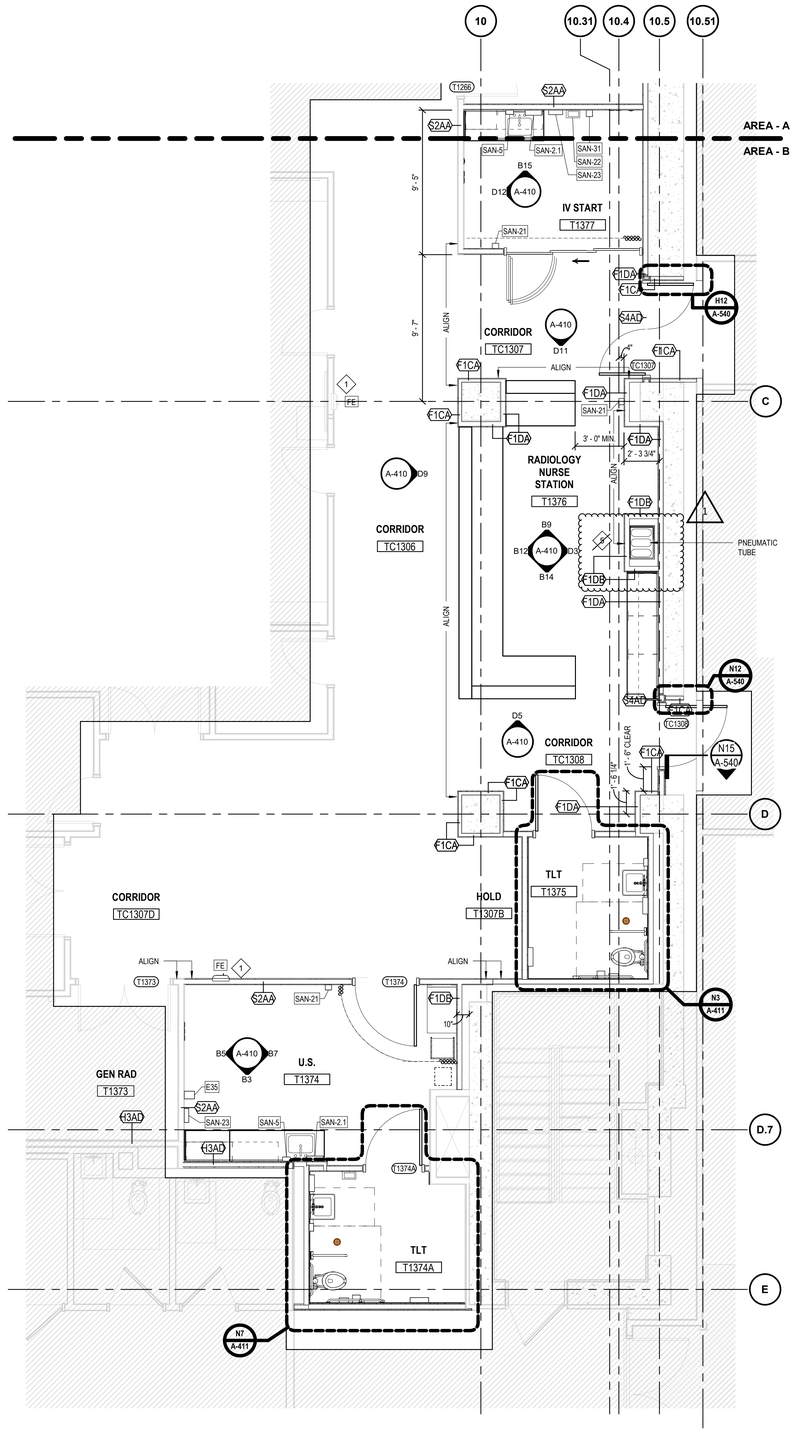
J10 TYPICAL ROOM PRESSURE & TEMPERATURE CONTROL DIAGRAM

NOT TO SCALE



H9 LEVEL 1, PHASE 3, AREA A - FLOOR PLAN

1/4" = 1'-0"



N15 LEVEL 1, PHASE 3, DETAIL AT TC1308

1/4" = 1'-0"

FLOOR PLAN LEGEND

NOT IN SCOPE

FLOOR PLAN GENERAL NOTES:

1. REFERENCE AG-002 FOR GENERAL NOTES
2. REFERENCE AG-003 FOR GENERAL ACCESSIBILITY
3. LEVEL 0 - REMOVE THE EXISTING CEILING AS REQUIRED FOR MODIFICATION OF THE EXISTING DUCTWORK AND ROOF DRAINS. PATCH TO MATCH. REFER TO MECHANICAL AND PLUMBING FOR ADDITIONAL INFORMATION.
4. PHASE 2 NOT OCCUPIED DURING PHASE 3 CONSTRUCTION. PHASE 3 CANNOT BE CONSTRUCTED UNTIL SUBSTANTIAL COMPLETION IS GRANTED ON MU HEALTHCARE CHILDREN'S HOSPITAL FACILITY.
5. SEE DEMO PLANS FOR TEMPORARY PARTITION LOCATIONS.
6. REFER TO NEW WORK OVERALL FLOOR PLAN ON SHEET A-101 FOR OVERALL PHASING SCOPES.
7. COORDINATE FLOOR PROTECTION WITH OWNER VENDORS FOR EQUIPMENT DELIVERIES.
8. COORDINATE ALL ROOF PENETRATIONS WITH STRUCTURAL

ANNOTATION PLAN KEYED NOTES:

1. FIRE EXTINGUISHER CABINET. CONTRACTOR'S OPTION: TO BUILD 5-SIDED BOX AROUND NON-RATED FIRE EXTINGUISHER CABINET (RE: KI/AG-301) OR INSTALL RATED CABINET. COORDINATE WITH RATED PARTITIONS. RE: PARTITION TYPES SHEETS & LIFE SAFETY PLAN SHEETS.
2. FIRE EXTINGUISHER WALL MOUNTED BRACKET
3. FLOOR DRAIN, RE: PLUMBING
4. INTERLOCKING AUTOMATIC ICU DOORS
5. ~~PNEUMATIC TUBE STATION, RE: V SHEETS~~
6. PROVIDE IN-WALL BLOCKING WITH OWNER FURNISHED EQUIPMENT
7. 24" HORIZONTAL GRAB BAR, CENTER ON WALL. PROVIDE IN-WALL BLOCKING.
8. GAP AT WORKSTATION, RE: M16/A570

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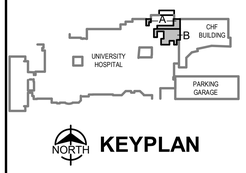
PRELIMINARY - NOT FOR CONSTRUCTION



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designed	**checked**
MMM	MMH

PATIENT CARE TOWER - RADIOLOGY EXPANSION

University of Missouri - Columbia,
For The Curators of the University of Missouri
1 Hospital Drive, Columbia, MO 65212

CONSTRUCTION DOCUMENTS
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Contract Title:
PCT1 - Radiology Expansion

LEVEL 1, PHASE 3, AREA A & B - FLOOR PLAN

BMcD project #:	MU project / contract #:
143839	CP221611

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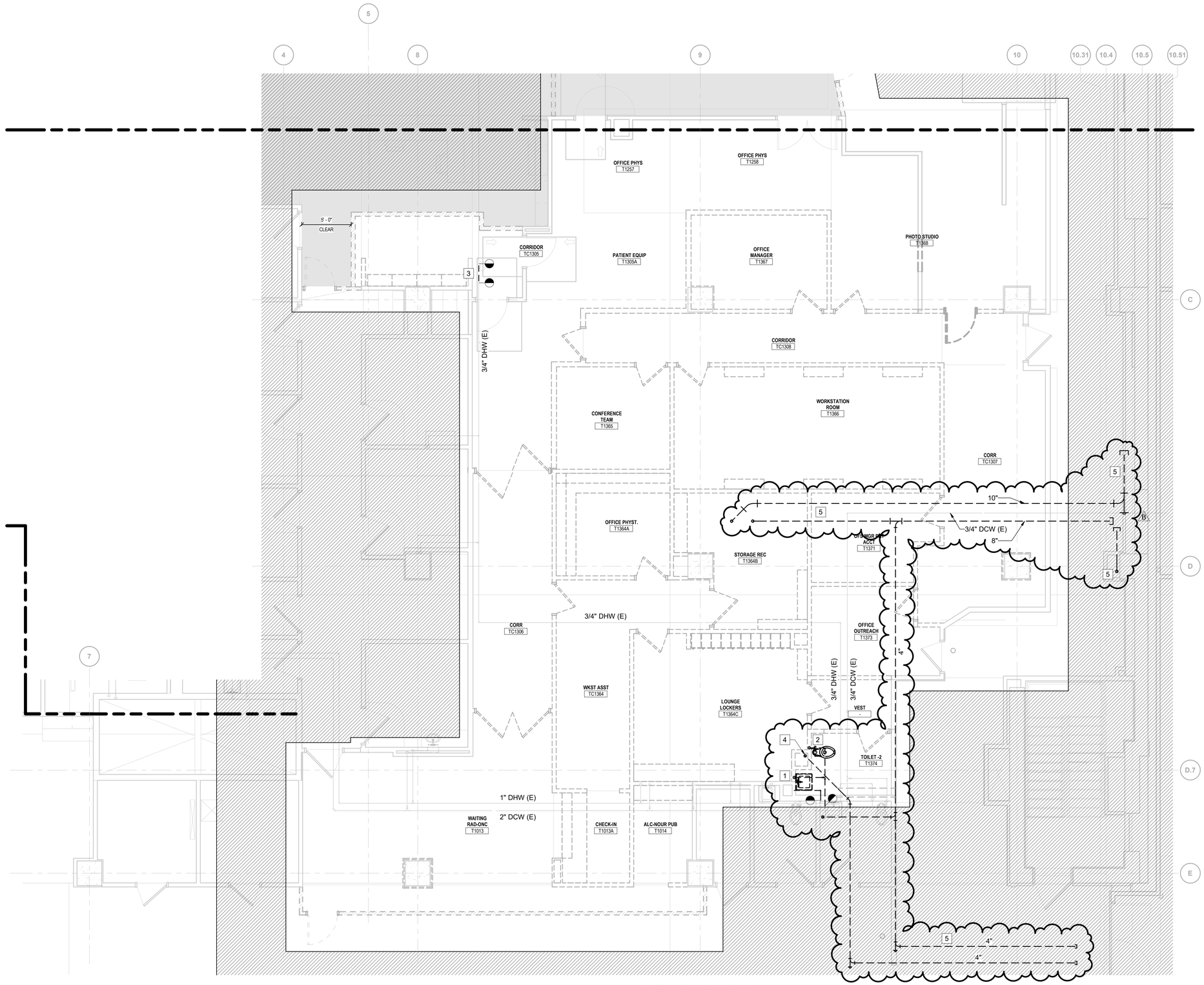

LEVEL 1, PHASE 2, AREA B - DEMOLITION PLAN

1/4" = 1'-0"

NOTE:

1. FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS SEE DRAWING PG-001.

DEMOLITION NOTES: #

1. REMOVE LAVATORY. REMOVE DOMESTIC COLD WATER BACK TO THE MAIN AND CAP. REMOVE SANITARY SEWER TO MAIN AND CAP. REMOVE VENT PIPING TO MAIN AND CAP.
2. REMOVE WATER CLOSET. REMOVE DOMETIC COLD WATER BACK TO THE MAIN AND CAP. REMOVE SANITARY SEWER TO MAIN AND CAP. REMOVE VENT PIPING TO MAIN AND CAP.
3. REMOVE 3/4" DHW PIPING.
4. REMOVE EXISTING STORM DRAIN PIPING.
5. REMOVE EXISTING STORM OVERFLOW PIPING.

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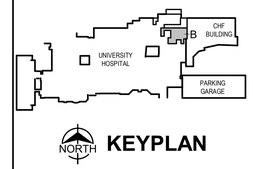
B	11/07/2022	BM	DH	ADDENDUM 3



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LEVEL 1, PHASE 2, AREA B
DEMOLITION PLAN

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