

ADDENDUM NO. 02

# **REID GYM CENTER FOR CAREER & PROFESSIONAL DEVELOPMENT OFFICE EXPANSION**

WESTERN CAROLINA UNIVERSITY  
CULLOWHEE, NORTH CAROLINA

PROJECT MANUAL  
SCO ID# 18-19740.01A

Architect's Project Number: 582861

Prepared by

MOSELEY ARCHITECTS  
6210 ARDREY KELL ROAD  
THE HUB AT WAVERLY, SUITE 425  
CHARLOTTE, NORTH CAROLINA 28277

***DATE OF ISSUE – April 23, 2020***

1 **GENERAL:**

2 Planholders are requested to attach this Addendum to the inside front cover of each Project Manual.  
3 Inform all concerned that the Bidding Documents are modified by this Addendum.

4 The following modifications and clarifications are hereby made a part of the Bidding Documents and  
5 supersede or otherwise modify the provisions of the published *Project Manual* and *Drawings*, dated  
6 [March 27, 2020](#) and [Addendum No. 01, dated April 16, 2020](#).

7 Refer to the Drawings and Specification Sections, if any, attached to this Addendum, which are hereby  
8 made a part of this Addendum.

9 **MODIFICATIONS TO THE PROJECT MANUAL:**

10 **DELETE** the previously issued Documents indicated below in their entirety.

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12 SECTION 012300 – ALTERNATES

13 SECTION 081416 – FLUSH WOOD DOORS

14 SECTION 092900 – GYPSUM BOARD

15 SECTION 096813 – TILE CARPETING

16 SECTION 230590 – MECHANICAL PAINTING AND IDENTIFICATION

17 SECTION 230700 – MECHANICAL INSULATION

18 FORM OF PROPOSAL

19 **ADD** new Documents indicated below in their entirety, noted as Addendum No. 02, dated [April 23,](#)  
20 [2020](#)

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22 SECTION 012300 – ALTERNATES

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27 SECTION 230590 – MECHANICAL PAINTING AND IDENTIFICATION

28 SECTION 230700 – MECHANICAL INSULATION

29 FORM OF PROPOSAL

30 **MODIFICATIONS TO THE DRAWINGS:**

31 **DELETE** the previously issued Documents indicated below in their entirety.

32 COVER

33 Drawing A0.1

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34 Drawing AD1.2.1

35 Drawing A2.1

36 Drawing A9.1

37 **ADD** new Documents indicated below in their entirety, noted as Addendum No. 02, dated [April 23,](#)  
38 [2020](#)

39 COVER

40 Drawing A0.1

41 Drawing AD1.2.1

42 Drawing A2.1

43 Drawing A9.1

44 **GENERAL QUESTIONS:**

45 **QUESTION 1:** Is Moseley Architects managing the FF&E on this project, or is the Owner?

46 **Answer:** The architect is not managing the furniture and furniture equipment. Refer to Drawing  
47 FFE1.0 Furniture Plan, Furniture Plan General Note "A".

48 **QUESTION 2:** Regarding demolition, there are currently several pieces of exercise machines, weights,  
49 racks and other equipment. Will the contractor be responsible for locating these? If so, where?  
50 Subsequently, will the contractor be required to place them when construction is completed?

51 **Answer:** The Owner will relocate all exercise machines, weights, racks, and other equipment  
52 before construction begins and will place all exercise machines, weights, racks, and other  
53 equipment back once construction is completed.

54 **QUESTION 3:** Due to the size of this project will it be necessary for casework supplier to provide  
55 AWI Quality Certification Program certificates?

56 **Answer:** Yes, it is necessary.

57 **QUESTION 4:** Regarding access and egress to work area and sequencing of work, the new yoga,  
58 remodeled cardio and existing office areas are all supposed to be returned to service with the start of  
59 school while work is completed in the office expansion area. However, this will leave no direct access  
60 to this area since the exterior door will be walled off for the new Mechanical Room 151E. What access  
61 will the contractors have at this point?

62 **Answer:** Staging area location has been relocated, as shown on the cover. Direct access will be  
63 through the door at the new Mechanical Room 151E. When this direct access has been walled off,  
64 direct access will be through the door at the new Yoga Exercise Area C102.

65 **QUESTION 5:** Where ceiling repairs are required in area where ceiling is to remain intact, will reuse  
66 of ceiling tiles to be demolished be permitted in order to ensure the best possible match with the existing  
67 ceiling?

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68           **Answer:** No, existing ceiling is to remain as indicated. The Owner is aware there are currently  
69           several damaged ceiling tiles where existing ceilings are to remain. The Owner will replace these  
70           damaged ceiling tiles before construction begins.

71           **QUESTION 6:** Will reuse of good ceiling tiles to be demolished be permitted in the new office  
72           expansion, or are all ceiling tiles to be new in this area?

73           **Answer:** No, reuse of ceiling tiles will not be permitted. Where indicated according to the  
74           drawings, all ceilings tiles are to be new.

75

76           **REFER TO DOCUMENTS ATTACHED TO THE END OF THIS ADDENDUM**

77           **END OF ADDENDUM NO. 02**

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096817	Textile Composite Flooring <b>(*AD-02)</b>
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Form of Bid Bond
Form of Construction Contract
Form of Performance Bond
Form of Payment Bond
Sheet for attaching Power of Attorney
Sheet for attaching Insurance Certificates
Approval of the Attorney General
Office of State Budget and Management



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SECTION 012300 – ALTERNATES **(\*AD-02)**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 DEFINITIONS

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

1.3 PROCEDURES

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 – Door Type and Frame Number
1. Base Bid: Provide Door Type with Narrow Lite with clear glazing and STL-1 frame type and number where indicated as listed in the door schedule on sheet A2.1.
  2. Alternate: Provide Door Type with Full Glass Lite and STL-2 frame type and number with fire- and safety-rated glazing where indicated as listed in the door schedule on sheet A2.1.

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- B. Alternate No. 2 - Preferred Brand Alternate - Lighting Fixtures by CREE
  - 1. Base Bid: Provide lighting fixtures A/AE and B/BE as scheduled by CREE or the equal manufacturers listed in the fixture schedule on drawing E2.1.
  - 2. Alternate: Provide lighting fixtures A/AE and B/BE as scheduled by CREE in the fixture schedule on drawing E2.1.
- C. Alternate No. 3 - Preferred Brand Alternate - Wiring Devices PlugTail by Pass and Seymour
  - 1. Base Bid: Provide specification grade wiring devices (receptacles and light switches) in compliance with Specification Section 262726.
  - 2. Alternate: Provide PlugTail specification grade wiring devices by Pass and Seymour.
- D. Alternate No. 4 – Floor Finish **(\*AD-02)**
  - 1. Base Bid: Provide tile carpet floor finish in compliance with Specification 096813.
  - 2. Alternate: Provide textile composite floor finish in compliance with Specification 096817.

END OF SECTION 012300

SECTION 081416 - FLUSH WOOD DOORS (\*AD-02)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 DEFINITIONS

- A. Undercut: Clearance between bottom of door and top of finish floor or threshold below the door.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:
  - 1. Dimensions and locations of blocking.
  - 2. Dimensions and locations of mortises and holes for hardware.
  - 3. Dimensions and locations of cutouts.
  - 4. Undercuts.
  - 5. Requirements for veneer matching.
  - 6. Doors to be factory finished and finish requirements.
  - 7. Fire-Protection ratings for fire-rated doors.
- C. Samples for Initial Selection: For factory-finished doors.
- D. Samples for Verification:
  - 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish.
  - 2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
    - a. Provide Samples for each species of veneer and solid lumber required.
    - b. Provide Samples for each color, texture, and pattern of plastic laminate required.
    - c. Finish veneer-faced door Samples with same materials proposed for factory-finished doors.
  - 3. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For special warranty.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is a certified participant in AWT's Quality Certification Program.
- B. Source Limitations: Obtain flush wood doors through one source from a single manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Except where exposed to view, mark each door on top rail with opening number used on Shop Drawings. Mark doors on bottom rail where top of door will be exposed to view.

1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of construction period.

1.9 WARRANTY

- A. A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
    - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
  - 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
  - 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Lambton Doors.
  - 2. Marshfield-Algoma by Masonite Architectural (Aspiro Series).
  - 3. VT Industries, Inc.
- B. Doors shall be manufactured by hot-press method, bonding faces, crossbands, and core together in a single operation with Type I glue. Doors manufactured by cold-pressing 2 or 3 ply pre-manufactured door skins to multiple cores in the same press will not be accepted.

2.2 FLUSH WOOD DOORS, GENERAL

- A. Quality Standard: In addition to requirements specified, comply with AWT's, AWMAC's, and WI's "Architectural Woodwork Standards."

1. Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.
  - B. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C. After 5 minutes into the NFPA 252 test, the neutral pressure level in the furnace shall be established at 40 inches or less above the sill.
    1. Cores: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
    2. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges. (UL Category A.)
    3. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Provide stiles with concealed intumescent seals. Comply with specified requirements for exposed edges.
  - D. Particleboard-Core Doors:
    1. Particleboard: ANSI A208.1, Grade LD-2.
    2. Provide doors with glued-wood-stave or structural-composite-lumber cores instead of particleboard cores for doors indicated to receive exit devices and doors indicated to receive surface-mounted closers.
  - E. Structural-Composite-Lumber-Core Doors:
    1. Structural Composite Lumber: WDMA I.S.10.
      - a. Screw Withdrawal, Face: 700 lbf.
      - b. Screw Withdrawal, Edge: 400 lbf.
  - F. Mineral-Core Doors:
    1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
    2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.
    3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.
- 2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH (\*AD-02)
- A. Interior Solid-Core Doors:
    1. Grade: Custom (Grade A faces).
    2. Species: ~~Match adjacent door veneer.~~ **Select white maple.** To be approved by Architect.
    3. Cut: Plain sliced (flat sliced).
    4. Match between Veneer Leaves: Book match.
    5. Assembly of Veneer Leaves on Door Faces: Running match.
    6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
    7. Veneers for all doors in the Work well-matched for color and grain as approved. **Match existing door color, to be approved by Architect.** (\*AD-02)

8. Exposed Vertical and Top Edges: Same species as faces or a compatible species - edge Type A.
9. Core: Particleboard, except where indicated to be structural-composite-lumber or mineral-core.
10. Provide manufacturer's structural-composite-lumber construction doors with glazing area cut-out for 9-inch stile width doors.
11. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering. Faces are bonded to core using a hot press.

#### 2.4 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.
  1. Wood Species: Same species as door faces.
  2. Profile: Flush rectangular beads.
  3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.
- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

#### 2.5 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
  1. Non-Fire-Rated Wood 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 Bumper or Panic Threshold (not including the stop strip): Maximum 3/16 inch.
    - e. Between Bottom of Door and Finish Floor (No Threshold): Maximum 3/4 inch.
  2. Comply with NFPA 80 requirements for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.
  1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
  2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Openings: Factory cut and trim openings through doors.
  1. Light Openings: Trim openings with moldings of material and profile indicated.
  2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Division 08 Section "Glazing."
  3. Louvers: Factory install louvers in prepared openings.

- D. Door Weight: Weight of any door leaf without hardware shall not exceed 200 pounds (90.7 kg) unless approved by the Architect.

## 2.6 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
  - 1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises, unless indicated otherwise.
    - a. Finish top edges of doors exposed to view from above, such as in stairwells, multi-story spaces, and low doors and gates.
- B. Factory finish doors.
- C. Transparent Finish:
  - 1. Grade: Custom.
  - 2. Finish: AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" System 5, conversion varnish or System 11, catalyzed polyurethane.
  - 3. Staining: Match Architect's sample.
  - 4. Effect: Open-grain finish.
  - 5. Sheen: Satin.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
  - 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
  - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
  - 1. Install fire door assemblies per NFPA 80, the door and frame manufacturers' installation instructions, and manufacturers' listing requirements.
- C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge. Adjust installed clearances to meet factory fitting requirements indicated for fabrication. Replace doors that do not meet clearance requirements.
- D. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

### 3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.



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- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 092900 - GYPSUM BOARD **(\*AD-02)**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 QUALITY ASSURANCE

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C 1396.
  - 1. Thickness: 5/8 inch unless indicated otherwise.
  - 2. Long Edges: Tapered.

B. Gypsum Board, Type X: ASTM C 1396.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

2.4 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Paper-faced galvanized steel sheet. “No-Coat” synthetic-reinforced trim may be used in lieu of paper-faced galvanized steel sheet for cornerbead applications.
2. Shapes:
  - a. Cornerbead.
  - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
  - c. L-Bead: L-shaped; exposed long flange receives joint compound.
  - d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
  - e. Expansion (control) joint.

B. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Fry Reglet Corp.
  - b. Gordon, Inc.
  - c. Pittcon Industries.
  - d. Stockton Products.
2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.
3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.
4. Factory mask prefinished vents to protect finish.

C. **Acoustic Partition Closure for Storefront or Curtain Wall: Assembly of mullion trim cap and receiver for finished closure between aluminum storefront or curtain wall system glass and partition assembly. Closure shall allow for movements of framing and glass it attaches to, and shall not allow direct metal to glass contact. Design is based on “Mull-it-Over” by Mull-it-Over Products. Subject to compliance with requirements, provide “Mull-it-Over” or similar-appearing closure system with acoustic seals between glass and partition, and concealed fasteners.**

1. **Noise Transmission: Tested minimum STC rating of 55 for 2-sided applications and 50 for single sided applications.**
2. **Acoustic Material: Fungi- and microbe-resistant foam rated Class A when tested under ASTM E 84.**
3. **Metal: Aluminum.**
4. **Thickness: Closure plate not less than 0.125-inch (3 mm) thick.**
5. **Finish: Match adjacent storefront or curtain wall. (\*AD-02)**

## 2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
  - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
  - 1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
  - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
  - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
  - 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound or high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.

## 2.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
  - 1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick. (CFSF-S specified in Division 05 Section "Cold-Formed Steel Framing - Structural.")
  - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
- E. Acoustical Joint Sealant: Manufacturer's standard non-sag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Accumetric LLC; BOSS 826 Acoustical Sound Sealant.
    - b. BASF; MasterSeal NP 520.
    - c. GE Construction Sealants; RCS20 Acoustical.
    - d. Grabber Construction Products; Acoustical Sealant GSC.
    - e. Hilti CP506 Smoke and Acoustical Sealant.

- f. Pecora Corporation; AC-20 FTR or AIS-919.
  - g. Specified Technologies, Inc.; Smoke N Sound Acoustical Sealant.
- F. Thermal Insulation: As specified in Division 07 Section "Thermal Insulation."
- G. Vapor Retarder: As specified in Division 07 Section "Thermal Insulation."
- H. Putty Pads:
- 1. Release Lined Pads: Non-hardening endothermic material in pad form, faced on both sides with poly liner, designed to seal around penetrations and wiring devices, enhancing acoustic performance.
  - 2. Nominal Size: 7-1/4 x 7-1/4 x 3/16 inches.
  - 3. Products: Subject to compliance with requirements, available products that may be incorporated into the work include, but are not limited to, the following:
    - a. STI Firestop; "SpecSeal Putty Pad."
    - b. Hilti; "Firestop Putty Pad CFS-P PA."
    - c. 3M; "Fire Barrier Moldable Putty Pads MPP+."

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Install gypsum board with open horizontal joint (gap) not to exceed 1/2-inch above finished floor slab and tape & finish vertical joints to bottom edge of board to afford a smooth substrate for applied wall base.
- F. Form control and expansion joints with space between edges of adjoining gypsum panels.
- G. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc., except in chases braced internally).

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
  2. Fit gypsum panels around ducts, pipes, and conduits.
  3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- H. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- I. Isolate perimeter of gypsum board ceilings and soffits at surrounding non-gypsum board construction. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with LC-bead edge trim where edges of gypsum panels are exposed and U-bead edge trim where concealed. Seal joints between edges and surrounding non-gypsum wall surfaces with acoustical sealant.
- J. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- K. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations.
- L. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.
- M. Install putty pads on the backside of items penetrating gypsum board on STC-rated walls/partitions. Items include, but are not limited to, wiring devices, cable, conduit, and pipe. Completely cover and seal around each penetration.

### 3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
1. Wallboard Type: Vertical surfaces unless otherwise indicated.
  2. Acoustically Enhanced Type: As indicated on Drawings.
- B. Single-Layer Application:
1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
  2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
    - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
  3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- C. Multilayer Application:
1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum,

from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.

2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners, unless otherwise indicated or required for fire-resistance-rated assembly.

- D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

### 3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect, and where indicated in drawings.
- C. Interior Trim: Install in the following locations:
1. Cornerbead: Use at outside corners unless otherwise indicated.
  2. LC-Bead: Use at exposed panel edges.
  3. L-Bead: Use where indicated.
  4. U-Bead: Use where indicated.
  5. Curved-Edge Cornerbead: Use at curved openings.
- D. Aluminum Trim: Install in locations indicated on Drawings.

### 3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
  2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
    - a. Primer and its application are specified in other Division 09 Sections.

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900



SECTION 096813 – TILE CARPETING (\*AD-02)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include manufacturer's written data on physical characteristics, durability, and fade resistance. Include installation recommendations for each type of substrate.
- B. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
- C. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency.
- C. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:
  - 1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
  - 2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.
- B. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide products with the critical radiant flux classification indicated in Part 2, as determined by testing identical products per ASTM E 648 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI Carpet Installation Standard, Section 5, "Storage and Handling."

1.7 PROJECT CONDITIONS

- A. Comply with CRI Carpet Installation Standard, Section 7 "Site Conditions – All Installations" Section 11 "Ventilation."
- B. Environmental Limitations: Do not install carpet tiles until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

#### 1.8 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer's standard form in which manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
  - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
  - 2. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, loss of tuft bind strength, dimensional stability, excess static discharge, and delamination.
  - 3. Warranty Period: 10 years from date of Preliminary Final Completion.

#### 1.9 EXTRA MATERIALS

- A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Carpet Tile: Full-size units equal to **2** percent of amount installed for each type indicated, but not less than 10 sq. yd.

### PART 2 - PRODUCTS

- A. Provide Basis-of-Design carpet tile product or comparable product by one of the following, subject to acceptance by Architect:
  - 1. JJ Flooring
  - 2. Shaw Contract
  - 3. Patcraft

#### 2.2 CARPET TILE (C-Tile) (\*AD-02)

- A. Properties:
  - 1. Manufacturer: J+J Flooring
  - 2. Contact: Pheadra Line 704-620-7587
  - 3. Pattern: Tone Modular
  - 4. Color: As selected by Architect from Manufacturer's full range.
  - 5. Fiber Content: Encore SD Ultima, Solution Dyed
  - 6. Gauge: Minimum 1/2"
  - 7. Stitches: Minimum 9 per inch
  - 8. Backing: Manufacturer's standard
  - 9. Size: 24"x24"
  - 10. Critical Radiant Flux Classification: Not less than 0.45 W/sq. cm.

11. Environmental Requirements: Provide carpet tile that complies with testing and product requirements of Carpet and Rug Institute's "Green Label Plus" program.

### 2.3 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Moisture Vapor Treatment (MVT): Where flooring is installed over concrete slabs, provide the following:
1. Subject to compliance with requirements, provide alkaline-resistant product designed to control excessive moisture vapor transmission through concrete slab, and approved by the flooring manufacturer, equivalent to one of the following:
    - a. Duraamen Engineered Products, Inc.; "Perdure MVT."
    - b. Maxxon Corporation; "Maxxon MVP."
    - c. Tnemec Company, Inc.; "Epoxyprime MVT, Series 208."
  2. Verify with flooring manufacturer that submitted product maintains compliance with all provisions of flooring manufacturer's warranty.
  3. Low-VOC: Provide product with VOC content less than 15 g/L.
  4. Bond Strength to Concrete: Minimum 400 psi per ASTM D 4541 (100% concrete failure).
  5. Permeance: Maximum 0.1 perm per ASTM E 96, and 0.10 grains/hr/ft<sup>2</sup>/in-Hg, per ASTM F 3010.
  6. Applications: Provide MVT for all concrete slabs on-grade and lightweight concrete elevated slabs.
- C. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for releasable installation.
1. VOC Limits: Provide adhesives with VOC content not more than 50 g/L when calculated according to 40 CFR 59, Subpart D (EPA method 24).

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 and the following:
1. Slab substrates are dry and free of curing compounds, sealers, and other materials that may interfere with adhesive bond. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by carpet tile manufacturer.
  2. Subfloor finishes comply with requirements specified in Division 3 Section "Cast-in-Place Concrete" for slabs receiving carpet tile.
  3. Subfloors are free of cracks, ridges, depressions, scale, and foreign deposits.

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

### 3.2 PREPARATION

- A. General: Comply with CRI Carpet Installation Standard, Section 7 “Site Conditions – All Installations,” and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile installation.
- B. Concrete Substrates:
1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
  2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
  3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
  4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. (18.6 sq. m) and perform not less than 2 tests in each installation area and with test areas evenly spaced in installation areas.
    - a. Perform anhydrous calcium chloride test according to ASTM F 1869.
    - b. Perform relative humidity test using in situ probes according to ASTM F 2170.
  5. Moisture Vapor Treatment (MVT): After initial moisture testing is complete, prepare slab and install MVT in accordance with manufacturer’s written instructions. If moisture testing indicates measurements are within acceptable levels for flooring installation without need of moisture vapor treatment, MVT may be omitted where approved by the Architect.
    - a. After installation of MVT, perform final moisture tests to verify that moisture-vapor-emission rate is at an acceptable level for flooring installation. Proceed with flooring installation only after substrates demonstrate a moisture-vapor-emission rate and relative humidity not more than maximum indicated.
      - 1) Moisture-Vapor-Emission Rate: Maximum 3 lbs. of water/1,000 sq. ft. (1.36 kg of water/92.9 sq. m.) in 24 hours, unless indicated otherwise by flooring manufacturer’s requirements.
      - 2) Relative Humidity: Maximum 75 percent relative humidity, unless indicated otherwise by flooring manufacturer’s requirements.
- C. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.
- D. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.
- E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

### 3.3 INSTALLATION

- A. General: Comply with CRI Carpet Installation Standard, Section 18 “Modular Carpet,” and with carpet tile manufacturer's written installation instructions.

- B. Installation Method: Vertical Ashlar pattern as recommended in writing by carpet tile manufacturer for specific pattern used.
- C. Maintain dye lot integrity. Do not mix dye lots in same area.
- D. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- E. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings. Extend carpet tile to center of cased openings and to center under door leafs at door openings unless indicated otherwise. Where transitions occur to another flooring material, extend or cut carpet tile to suit transition.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- G. Install pattern parallel to walls and borders.

#### 3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
  - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
  - 2. Remove yarns that protrude from carpet tile surface.
  - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect installed carpet tile to comply with CRI Carpet Installation Standard, Section 20 "Protection of Indoor Installations."
- C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 096817 – TEXTILE COMPOSITE FLOORING (\*AD-02)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Provisions of the Contract and of the Contract Documents apply to this Section.

1.2 DEFINITIONS

- A. Textile Composite Flooring: A hybrid floor covering consisting of a tufted loop nylon or polyester fiber wear layer thermally fused to a cushioned polyester backing, commonly referred to as textile composite flooring (TCF).

1.3 SUBMITTALS

- A. Shop Drawings: Showing the extent of installation, seam direction of TCF, and accessories shall be submitted to Architect for approval prior to installation. Check pattern match, if any, for matching during installation and possible waste factors in ordering required amounts. Shop drawings shall also indicate columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. A copy of the approved shop drawings shall be available on job site during installation.
- B. Schedule: TCF schedule using same room designations indicated on drawings.
- C. Product Data: Provide data on specified products, describing physical and performance characteristics, sizes, patterns, colors available, and method of installation.
- D. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial color selection.
- E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention. Submit installation instructions and seaming diagram.
- F. Maintenance Data: Include maintenance procedures, recommendations for maintenance materials and equipment, and suggested schedule for cleaning. In-house maintenance demonstration to be given by carpet manufacturer within 30 days after installation with end user.
- G. Manufacturer's Warranty in writing, registered with manufacturer.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Manufacturer to provide representative to assist in project start-up and to inspect installation while in process and upon completion. Representative will notify designated contact if any installation instructions are not followed.
  - 2. Single Source Responsibility: Obtain each type of carpet from one source and by a single manufacturer.
- B. Installer Qualifications:
  - 1. Flooring contractor must submit list of certified installers prior to bid.
  - 2. Flooring contractor to be a specialty contractor normally engaged in this type of work and shall have prior experience in the installation of these types of materials.

3. Flooring contractor shall be responsible for proper product installation, including floor testing and preparation, as specified by the carpet manufacturer.

#### 1.5 DELIVERY, STORAGE, & HANDLING

- A. Deliver materials to the site in manufacturer's original packaging listing manufacturer's name, product name, identification number, and related information.
- B. Store in a dry location, between 60 degrees F and 80 degrees F and a relative humidity below 65 percent. Protect from damage and soiling. Place pallets of textile composite flooring modules on a flat surface (do not double stack pallets).
- C. Make stored materials available for inspection by the Owner's representative.
- D. Store materials in area of installation for minimum period of 48 hours prior to installation.

#### 1.6 PROJECT CONDITIONS

- A. Sub-floor preparation is to include all required work to prepare the existing floor for installation of the product as specified in this document and manufacturer's installation instructions.
- B. The maximum amount of moisture evacuation from the floor is 3.0 pounds per 1,000 square feet in 24 hours. The acceptable pH level of the substrate is between 7.0 and 9.0. Flooring contractor is responsible for floor testing.
- C. All material used in sub-floor preparation and repair shall be recommended by the carpet manufacturer and shall be chemically and physically compatible with the carpet system being bid. Architect to verify concrete curing agent for compatibility.
- D. Maintain minimum 65 degrees F ambient temperature and 65% Relative Humidity for 72 hours prior to, during, and 48 hours after installation.
- E. Do not install flooring until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and shall be continuously maintained at values near those indicated for final occupancy.

#### 1.7 EXTRA MATERIALS

- A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. Coordinate storage location with owner.
  1. TCF Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

#### 1.8 WARRANTY

- A. Warranty to be sole source responsibility of the manufacturer. Second source warranties and warranties that involve parties other than the carpet manufacturer is unacceptable.
- B. If the product fails to perform as warranted when properly installed and maintained the affected area shall be repaired or replaced at the discretion of the manufacturer.
- C. Warranty shall be for a minimum period of 10 years.
- D. The wear layer warranty shall cover against and specifically define the following:

1. Product performance.
  2. Colorfastness to light and crocking.
  3. Stain Removal.
  4. Static Protection.
  5. Zippering.
- E. The backing layer warranty shall cover against and specifically define the following:
1. Edge Ravel.
  2. Delamination.
  3. Dimensional Stability.
- F. Tuft Bind warranty in lieu of edge ravel and zippering is not acceptable.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS

- A. Available Products: Subject to compliance with requirements, provide Basis-of-Design product(s) indicated or one of the following:
1. J&J Flooring Group, Inc.; "Kinetex."
  2. EF Contract; "Kinetex"

### 2.2 TEXTILE COMPOSITE FLOORING

A. Basis-of-Design Product (TCF):

- |                         |                                |
|-------------------------|--------------------------------|
| 1. Manufacturer:        | J&J Flooring                   |
| 2. Contact:             | Pheadra Line 704-620-7587      |
| 3. Product Name:        | Kinetex, Against the Grain     |
| 4. Color:               | To be determined by Architect. |
| 5. Size:                | 12" x 48" Plank Modules        |
| 6. Installation Method: | Ashlar                         |

- B. Products installed with a mill-applied releasable "dry" adhesive system to securely attach product to sub-floor in compliance with ADA guidelines, Section 4.5.3. Free-lay and stretch-in installations NOT allowed.

### 2.3 PERFORMANCE CHARACTERISTICS

- A. Test reports for the following performance assurance testing to be submitted upon request. Submitted results shall represent average results for production goods of the referenced style.
- B. Requirements listed below must be met by all products.
1. Flooring Radiant Panel: ASTM E 648 / NFPA 253: Class 1 (CRF: > 0.45 watts/sq cm)
  2. Federal Flammability: CPSC FF 1-70: Passes
  3. Smoke Density: ASTM E 662 / NFPA 258: < 450 Flaming Mode
  4. Electrostatic Propensity: AATCC 134 (Step & Scuff): 3.0 kV or less
  5. Static Coefficient of Friction: ASTM C 1028: Passes ADA Guidelines for Accessible Routes (Minimum 0.60)
  6. Delamination of Secondary Backing of Pile Floor Coverings: ASTM D-3936: Minimum 15 lbs.
  7. Lightfastness: AATCC 16E: > 4 @ 100 hours
  8. Vetterman Drum: ASTM D 5417: Minimum 3 @ 22,000 cycles



9. Seam Integrity: Seam to remain intact after 50,000 cycles per Phillips Chair Test

#### 2.4 ACCESSORIES

- A. Adhesives: Supply products with a pre-cured, mill-applied or other “dry” adhesive system.
- B. Base, Carpet Edge, and Transition Strips: As specified in applicable sections.
- C. Moisture Vapor Treatment (MVT): Where flooring is installed over concrete slabs, provide the following:
  1. Subject to compliance with requirements, provide alkaline-resistant product designed to control excessive moisture vapor transmission through concrete slab, and approved by the flooring manufacturer, equivalent to one of the following:
    - a. Duraamen Engineered Products, Inc.; “Perdure MVT.”
    - b. Maxxon Corporation; “Maxxon MVP.”
    - c. Tnemec Company, Inc.; “Epoxyprime MVT, Series 208.”
  2. Verify with flooring manufacturer that submitted product maintains compliance with all provisions of flooring manufacturer’s warranty.
  3. Low-VOC: Provide product with VOC content less than 15 g/L.
  4. Bond Strength to Concrete: Minimum 400 psi per ASTM D 4541 (100% concrete failure).
  5. Permeance: Maximum 0.1 perm per ASTM E 96, and 0.10 grains/hr/ft<sup>2</sup>/in-Hg, per ASTM F 3010.
  6. Applications: Provide MVT for all concrete slabs on-grade and lightweight concrete elevated slabs.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION / PREPARATION

- A. Prepare sub-floor to comply with criteria established in manufacturer’s installation instructions. Use only preparation materials that are acceptable to the manufacturer.
- B. Concrete Substrates:
  1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
  2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
  3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
  4. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft. (92.9 sq. m) and perform not less than 2 tests in each installation area and with test areas evenly spaced in installation areas.
    - a. Perform anhydrous calcium chloride test according to ASTM F 1869.
    - b. Perform relative humidity test using in situ probes according to ASTM F 2170.
  5. Moisture Vapor Treatment (MVT): After initial moisture testing is complete, prepare slab and install MVT in accordance with manufacturer’s written instructions. If moisture testing indicates measurements are within acceptable levels for flooring installation

without need of moisture vapor treatment, MVT may be omitted where approved by the Architect.

- a. After installation of MVT, perform final moisture tests to verify that moisture-vapor-emission rate is at an acceptable level for flooring installation. Proceed with flooring installation only after substrates demonstrate a moisture-vapor-emission rate and relative humidity not more than maximum indicated.
  - 1) Moisture-Vapor-Emission Rate: Maximum 3 lbs. of water/1,000 sq. ft. (1.36 kg of water/92.9 sq. m.) in 24 hours, unless indicated otherwise by flooring manufacturer's requirements.
  - 2) Relative Humidity: Maximum 75 percent relative humidity, unless indicated otherwise by flooring manufacturer's requirements.
- C. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8-inch-wide or wider and protrusions more than 1/32 inch, unless more stringent requirements are required by manufacturer's written instructions.
- D. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by the flooring manufacturer.

### 3.2 INSTALLATION

- A. Install product in accordance with manufacturer's installation instructions.
- B. Install TCF tight and flat on sub-floor, well fastened at edges, with a uniform appearance.
- C. Roll with appropriate roller for complete contact of TCF with mill-applied adhesive to sub-floor.
- D. Trim carpet neatly at walls and around interruptions.
- E. Extend tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings. Extend tile to center of cased openings and to center under door leafs at door openings unless indicated otherwise. Where transitions occur to another flooring material, extend or cut tile to suit transition.
- F. Completed TCF installation is to be smooth and free of bubbles, puckers, and other defects.
- G. There shall be no exceptions to the provisions stated in the manufacturer's installation instructions.

### 3.3 PROTECTION & CLEANING

- A. Remove excess adhesive and/or seam sealer from floor and wall surfaces without damage.
- B. All rubbish, wrappings, debris, trimmings, etc. to be removed from site and disposed of properly.
- C. Clean and vacuum TCF tile surfaces using a beater brush/bar commercial vacuum.
- D. After each area of TCF tile is installed, protect from soiling and damage by other trades by covering with Kraft paper or approved equal by end user.

END OF SECTION 096817

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SECTION 230590 - MECHANICAL PAINTING AND IDENTIFICATION (\*AD-02)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, Standard General Conditions of the Construction Contract, including Supplementary General Conditions, Division-01 Specification sections and other Division 23 specification sections, apply to work of this section.

1.2 SCOPE

- A. Paint and/or identify the following:
  - 1. Hot and chilled water return and supply piping.
  - 2. All mechanical equipment including valves.
  - 3. All electrical equipment, including panels.
  - 4. Control panel and visible control components.

1.3 SUBMITTALS

- A. Manufacturer's Data: Submit manufacturer's technical product data and installation instructions.

PART 2 - PRODUCTS

2.1 PLASTIC PIPE MARKERS

- A. Snap-On Type: Provide manufacturer's standard pre-printed, semi-rigid snap-on, color-coded pipe markers, complying with ANSI A13.1. Provide full-band pipe markers, extending 360 degrees around pipe at each location.
- B. Lettering: Manufacturer's standard pre-printed nomenclature which best describes piping system in each instance, as selected by Engineer in cases of variance with name as shown or specified.
- C. Arrows: Print each pipe marker with arrows indicating direction of flow, either integrally with piping system service lettering (to accommodate both directions), or as separate unit of plastic.

2.2 VALVE TAGS

- A. Brass Valve Tags: Provide 19-gage polished brass valve tags with stamp-engraved piping system abbreviation in 1/4" high letters and sequenced valve numbers □" high, and with 5/32" hole for fastener.
- B. Provide 1-1/2" diameter tags, except as otherwise indicated.
- C. Valve Tag Fasteners: Provide solid brass chain (wire link or beaded type), or solid brass S-hooks of the sizes required for proper attachment of tags to valves, and manufactured specifically for that purpose.

2.3 ENGRAVED PLASTIC-LAMINATE SIGNS AND EQUIPMENT MARKERS

- A. General: Provide engraving stock melamine plastic laminate, complying with FS L-P-387, in the sizes indicated, 1/16" thick, engraved with engraver's standard letter style of the sizes and

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wording indicated, black with white core (letter color) except as otherwise indicated, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.

- B. Fasteners: Self-tapping stainless steel screws.

### PART 3 - EXECUTION

#### 3.1 PAINTING

- A. All equipment, except where otherwise specifically noted, shall be furnished in prime coat. All uninsulated black steel piping shall be prime coated and finish painted in light gray unless otherwise required by schedule below to be color coded. All welds, on both insulated and uninsulated piping, shall be painted with one coat of primer. All miscellaneous black steel items such as hangers and rods, machinery supports, breechings and stacks, etc., shall be prime coated and finish painted in light gray. Exposed surfaces of insulation shall be sealed. All metal surfaces shall be thoroughly cleaned of rust and dirt and shall be degreased before application of primer. All prime coated equipment shall be touched up where prime coats are chipped, scratched, or otherwise damaged. All prime coated equipment shall be thoroughly cleaned and left ready for finish painting. Where cast iron accessories or galvanized pipe, or equipment surfaces are to receive finish painting, the item shall be properly primed.
- B. Ferrous surfaces shall be painted with the following coats:
1. 1 coat of primer equivalent to Bruning Silathane 520-14 grey-green primer, Benjamin Moore 06- 20 red oxide alkyd primer or Richards SR-1399 red metal primer.
  2. 2 coats of finish equivalent to Bruning Silathane Gloss Enamel 520-32 quarry gray, Benjamin Moore Gloss Enamel 22-38 or Richards Gloss Enamel 1003 Series.
- C. Finish painting or labeling of all equipment and piping (both insulated and uninsulated) shall be provided. Existing equipment, piping, duct, etc. in the work area shall be labeled along with new work. Do not paint piping that is provided with aluminum or PVC jacketing insulation covering. Paint or label piping insulation per color schedule below and provide stenciled identification or plastic pipe markers. **(\*AD-02)**
- D. Painting and/or identification shall be in accordance with the following schedule:

<u>ITEM</u>	<u>IDENTIFICATION</u>	<u>COLOR</u>
Heating Hot Water	HHWS, HHWR	Burgundy
Chilled Water	CHWS, CHWR	Royal
Condensate	Condensate	Burgundy

- E. All other uninsulated ferrous pipes shall be painted light gray with stenciled identification as specified under stenciling.

#### 3.2 GENERAL MECHANICAL IDENTIFICATION

- A. Coordination: Where identification is to be applied to surfaces which require insulation, painting or other covering or finish, including valve tags in finished mechanical spaces, install identification after completion of covering and painting.

#### 3.3 PIPING SYSTEM IDENTIFICATION

- A. General: Install plastic pipe markers on each system indicated to receive identification.
- B. Locate pipe markers and color bands as follows:

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1. Near each valve and control device.
  2. Near each branch.
  3. Near locations where pipes pass through walls or floors/ceilings, or enter non-accessible enclosures.
  4. Near major equipment items and other points of origination and termination.
- C. Spaced intermediately at maximum spacing of 50' along each piping run, except reduce spacing to 25' in congested areas of piping and equipment and in mechanical rooms.
- D. Stenciling: In lieu of plastic pipe markers, stenciling may be used for identification. Apply stenciling after finished painting has been completed. Stencil indication shall be in block letters, applied with black paint (except white paint on black surface) as follows:
- E. Stencil as follows:
- | OD Pipe or Covering    | Stencil Letter Size |
|------------------------|---------------------|
| 3/4 in. thru 1-1/4 in. | 2 in.               |
| 1-1/2 in. thru 2 in.   | 3/4 in.             |
| 2-1/2 in. thru 4 in.   | 1 in.               |
- F. All underground lines shall have a magnetic type warning tape installed in the backfill at least six inches below grade.

3.4 VALVE IDENTIFICATION

- A. General: Provide valve tag on every valve, cock and control device in each piping system. List each tagged valve in typed valve schedule for each piping system, and post under glass in main mechanical room and/or boiler room.

3.5 MECHANICAL EQUIPMENT IDENTIFICATION

- A. General: Install engraved plastic laminate sign or plastic equipment marker on or near each major item of mechanical equipment and each operational device, as specified herein if not otherwise specified for each item or device. Provide signs for the following general categories of equipment and operational devices:
1. FCUs
  2. Main control and operating valves, including safety devices

END OF SECTION 230590

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SECTION 23 0700 - MECHANICAL INSULATION **(\*AD-02)**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, Standard General Conditions of the Construction Contract, including Supplementary General Conditions, Division-1 Specification sections and other Division 23 specification sections, apply to work of this section.

1.2 RATING

- A. All insulation systems, including jackets and adhesives shall be U.L. rated and FM approved. All insulation for indoor use shall have a maximum permanent flame spread rating of 25 or less and a smoke developed rating of 50 or less, as tested by ASTM E 84 (NFPA 255) method. Outdoor mechanical insulation may have flame spread index of 75 and smoke developed index of 150. Submit smoke and flame ratings for every material proposed for use.
- B. Make: Certain Teed, Owens Corning, Johns Manville, Knauf and PPG.

1.3 SCOPE

- A. Furnish and install insulation for the following:
  - 1. Outside air, supply, and return ducts in unconditioned spaces (ceiling spaces, crawl space, duct chases, mechanical rooms, etc.).
  - 2. Hot water, chilled water, and condensate drain piping.

1.4 QUALITY ASSURANCE

- A. Insulation contractor shall be member of either the National Insulation Association (NIA) or the Southeastern Insulation Contractors Association (SEICA).

1.5 SUBMITTALS

- A. Submit evidence of membership in NIA or SEICA.
- B. Submit manufacturer's technical product data and installation instructions for each type of mechanical insulation. Submit schedule showing manufacturer's product number, k-value, thickness, and furnished accessories for each mechanical system requiring insulation.
- C. Submit, if requested by Designer, manufacturer's sample of each piping insulation type required, and of each duct and equipment insulation type required. Affix label to sample completely describing product.

PART 2 - PRODUCTS

2.1 PIPE INSULATION

- A. Type 1: Thermal Pipe Insulation with Jacket. Preformed Fiberglass Pipe insulation complying with ASTM C547, Class 3, rigid, molded pipe insulation, noncombustible. Maximum K-factor of .24 at mean temperature of 75°F. All insulation shall have a jacket of white kraft paper reinforced with a glass fiber yarn and bonded to an aluminum foil, with self sealing longitudinal laps and butt strips. Jacket shall comply with ASTM C1136 (Type 1). Insulation and jacket shall be equal to Johns Manville Micro-Lok with AP-T Plus, PPG Industries, Owens

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Corning, Certainteed, or Knauf. Insulate all fittings, valves and strainers with molded fittings, mitered segments of pipe insulation or over- sized pipe insulation held in place with wire. Finish in accordance with manufacturers recommendations to comply with the UL Systems listing. Preformed jackets of PVC material as manufactured by Zeston 2000 PVC, Inc. or equal by George Fisher, Inc., or Photo Corp., may be used at fittings.

- B. Type 2: Flexible Pipe Insulation.
  - 1. Material: Flexible, closed cell, elastomeric thermal insulation, minimum
  - 2. k value .27 at 75 degrees F., conforming to ASTM C 534.
  - 3. Fittings: Sleeve type fitting covers and miter cut tubular form.
  - 4. Make: Armstrong AP Armaflex, Rubatex No. R-180-J, or Johns Manville Corp. or approved equal.
  - 5. Pipe Insulation Below Grade Field-insulated pipes
- C. Type 3: Cellular glass, maximum K-factor of 0.32 @ 75 deg. F, factory fabricated sizes to conform to pipe size. Insulation shall be 1-1/2" thick for all pipe sizes.
- D. Make: Pittsburgh Corning Foamglas, or approved equal by Thermacor Process, Inc. or Urecon System, Inc.

## 2.2 FIELD APPLIED JACKETS

- A. Where required, the following jackets shall be applied in addition to the insulation jacket specified above. PVC fitting covers and jacketing, .030" (.3 mm) thickness of white, gloss finish, weather-able grade, UV resistant, PVC material. Flame spread/ smoke developed of 25/50 per ASTM-E84. Install per manufacturer's specification. Fitting covers shall be shaped to exact fit. Longitudinal seam shall lap over from above to drain rain water over lap. Attach with weld adhesive product provided by the jacket manufacturer. Provide bands as required and where requested.
- B. Manufacturers: John Manville Zestar 300, Owens Corning Speeline or Knauf PVC Jacketing Fitting Covers.
- C. Canvas Jacket: UL listed fabric, 8 oz/sq yd, plain weave cotton treated with dilute fire retardant lagging adhesive.
- D. Aluminum Jacket: 0.016 inch thick sheet, embossed finish, with longitudinal slip joints and 2 inch laps, die shaped fitting covers with factory attached protective liner.
- E. Stainless Steel Jacket: Type 304 Stainless steel, 0.10 inch, corrugated finish.

## 2.3 PIPE INSULATION THICKNESS

- A. Type 1
  - 1. Hot Water: Insulate hot water pipe sizes up to and including 1 1/2" with 1 1/2" insulation and pipe sizes above 1 1/2" with 2" insulation.
  - 2. Chilled Water: Insulate chilled water pipe sizes up to and including 4" with 1 1/2" insulation, and pipe sizes above 4" with 2" insulation.
- B. Type 2
  - 1. Chilled Water Coil Condensate Drain: Insulate condensate drain pipe sizes up to and including 2" with 1/2" insulation and pipe sizes above 2" with 1" insulation.

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- C. Type 3
  - 1. Not used

#### 2.4 DUCT INSULATION

- A. Type A: Vapor Seal Duct Insulation
  - 1. Material: Fiberglass duct wrap 1 lb. density with FSK facing complying with ASTM C1290. Maximum K-factor of .31 at 75°F. Jacket shall be FSK aluminum foil reinforced with fiber glass yarn and laminated to fire resistant kraft paper, secured with UL listed pressure sensitive tape and outward clinch expanding staples and vapor barrier mastic. Johns Manville Microlite or equal by Owens Corning or Knauf.
  - 2. Thickness shall be 2 inches.
- B. Type B: Vapor Seal Duct Insulation - Rigid
  - 1. Fiberglass ductboard complying with ASTM C612, Type I. 3 lb. density with maximum K-factor of 0.23 at 75° F mean temperature. Jacket shall be FSK aluminum foil reinforced with fiber glass yarn and laminated to fire resistant kraft paper, secured with UL listed pressure sensitive tape and outward clinch expanding staples and vapor barrier mastic. Johns Manville 800 or equal by Owens Corning or Knauf.
  - 2. Thickness shall be 1-1/2 inches.
  - 3. In exposed locations, such as mechanical rooms, cover insulation with canvas jacket. Canvas jacket shall be UL listed fabric, 8 oz/sq yd, plain weave cotton treated with dilute fire retardant lagging adhesive.

### PART 3 - EXECUTION

#### 3.1 GENERAL REQUIREMENTS

- A. All insulation shall be applied by experienced pipe coverers and journeymen in accordance with best trade practice. Work shall be as recommended by manufacturer's latest printed installation directions. Test, inspect, and clean all surfaces to be insulated before applying insulation. Take all possible precautions to protect work of other trades. Provide protective covering as required to accomplish this and be responsible for returning all equipment and material to its original new condition and appearance where damage occurs due to neglect.
- B. Protect insulation where supported in hangers by means of inserts or saddles sufficiently large to prevent crushing of insulation.
- C. Apply adhesive to exposed risers to prevent slipping and turning.
- D. Butt covering neatly to walls, floors, ceiling. Apply bands at end and position so band covers gap between surface and insulation where exposed.
- E. At butt ends of insulation the jacket material shall be pulled over exposed ends and secured with bands to give a neat and finished appearance. Exposed fiberglass material will not be permitted.
- F. In location where it will be exposed to view do not apply insulating cement until there is heat on lines.
- G. Do not cover nameplates on equipment.
- H. Do not insulate vibration eliminators.



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3.2 PIPE INSULATION SHALL BE APPLIED AS FOLLOWS

- A. Type 1: Thermal Pipe Insulation with Jacket
  - 1. Hot water piping.
  - 2. Chilled water piping.
- B. Type 2: Flexible Pipe Insulation
  - 1. Condensate drain piping from cooling coils.

3.3 DUCT INSULATION SHALL BE APPLIED AS FOLLOWS

- A. Type A: Vaporseal Duct Insulation.
  - 1. Outside air ducts.
  - 2. All supply air ducts.
  - 3. All return air ducts except in return air plenums.
- B. Type B: Rigid Duct Insulation – not used

3.4 SPECIFIC REQUIREMENTS

- A. Type A Insulation:
  - 1. Fiberglass duct wrap insulation shall be applied over clean, dry sheetmetal duct. Before applying the insulation all joints and seams shall be sealed air tight. Duct wrap shall be installed to allow maximum fullness at corners. Minimum thickness at corners is one inch. Insulation shall be butted tightly at joints and vapor barrier facing shall be overlapped at minimum of 2 inches. Insulation shall be butted tightly at joints and vapor barrier facing shall be overlapped at minimum of 2 inches. Insulation should be removed from lap prior to stapling. All seams shall be stapled approximately 6 inches on center with outward clinching staples, then sealed with a foil vapor barrier tape, or vapor barrier mastic. Where ducts are over 24 inches in width, the duct wrap shall be additionally secured to the bottom of rectangular ducts with mechanical fasteners spaced on 18 inch centers (maximum), to prevent sagging of insulation. Seal penetrations so as to provide a vapor-tight system.
- B. Type B Insulation:
  - 1. FSK faced insulation boards shall be applied using mechanical fasteners such as weld pins or stick clips. Fasteners shall be located not less than 3 inches from each edge or corner of the board. Pin spacing along the duct should be no greater than 12 inches on centers. Additional pins or clips may be required to hold the insulation tightly against the surface where cross breaking is used for stiffening. Weld pin lengths must be selected to insure tight fit but avoid "oil canning" effect.
  - 2. Apply vapor seal FSK pressure-sensitive patches. Rub hard with the nylon sealing tool to insure a tight bond and a vapor seal. All insulation edges and butt joints are to be sealed with pressure-sensitive joint sealing tape to match the jacket. Rub hard with nylon sealing tool. Use 3 inch wide tapes on the flat surfaces, or where edges are shiplapped and stapled. Five (5) inch wide tape can be used in lieu of shiplapping.
  - 3. Precautions: Keep all contact adhesive surfaces clean. Use nylon sealing tool to prevent wrinkles and fishmouths. Ductwork or radius may require pre-scoring to allow the board

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to conform to the surface.

- C. Insulation shall be installed according to manufacturer recommendations. Insulation over the expansion joint and the flexible section shall be loose and of adequate length to permit the movement of pipe.
- D. Provide insulation shield equivalent to Fee and Mason Fig. 81 at each support.
- E. Provide canvas jacket for pipe insulation exposed in mechanical rooms. **(\*AD-02)**

3.5 DO NOT INSULATE

- A. Vibration eliminators.

END OF SECTION 230700

FORM OF PROPOSAL

<b>Reid Gym Center for Career and Professional Development Office Expansion</b>	<b>Contract:</b>
<b>Western Carolina University</b>	<b>Bidder:</b>
<b>SCO PROJECT #: 18-19740-01</b>	<b>Date:</b>

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The bidder further declares that he and his subcontractors have fully complied with NCGS 64, Article 2 in regards to E-Verification as required by Section 2.(c) of Session Law 2013-418, codified as N.C. Gen. Stat. § 143-129(j).

The bidder proposes and agrees if this proposal is accepted to contract with the State of North Carolina through Western Carolina University in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of an office suite expansion in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of the State of North Carolina and Western Carolina University and Moseley Architects with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the contract documents, for the sum of:

**SINGLE PRIME CONTRACT:**

Base Bid:  
 \_\_\_\_\_ Dollars(\$)

Alternate No. 1 – Door Type and Frame Number:  
 \_\_\_\_\_ Dollars(\$)

Alternate No. 2 – Preferred Brand Alternate – Lighting Fixtures by CREE:  
 \_\_\_\_\_ Dollars(\$)

Alternate No. 3 – Preferred Brand Alternate – Wiring Devices PlugTail by Pass and Seymour:  
 \_\_\_\_\_ Dollars(\$)

Alternate No. 4 – Floor Finish:  
 \_\_\_\_\_ Dollars(\$)

General Subcontractor:

Plumbing Subcontractor:

\_\_\_\_\_ Lic \_\_\_\_\_

\_\_\_\_\_ Lic \_\_\_\_\_

Mechanical Subcontractor:

Electrical Subcontractor:

\_\_\_\_\_ Lic \_\_\_\_\_

\_\_\_\_\_ Lic \_\_\_\_\_

GS143-128(d) requires all single prime bidders to identify their subcontractors for the above subdivisions of work. A contractor whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except (i) if the listed subcontractor's bid is later determined by the contractor to be non-responsible or non-responsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or (ii) with the approval of the awarding authority for good cause shown by the contractor.

**MINORITY BUSINESS PARTICIPATION REQUIREMENTS**

*Provide with the bid* - Under GS 143-128.2(c) the undersigned bidder shall identify **on its bid** (Identification of Minority Business Participation Form) the minority businesses that it will use on the project with the total dollar value of the bids that will be performed by the minority businesses. **Also** list the good faith efforts (Affidavit A) made to solicit minority participation in the bid effort.

**NOTE:** A contractor that performs all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of Affidavit (A) required above. The MB Participation Form must still be submitted even if there is zero participation.

*After the bid opening* - The Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low bidder, the bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the 10% goal established. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort and Affidavit D is not necessary;

**\* OR \***

If less than the 10% goal, Affidavit (D) of its good faith effort to meet the goal shall be provided. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.

**Note:** Bidders must always submit **with their bid** the Identification of Minority Business Participation Form listing all MB contractors, vendors and suppliers that will be used. If there is no MB participation, then enter

none or zero on the form. Affidavit A **or** Affidavit B, as applicable, also must be submitted with the bid. Failure to file a required affidavit or documentation with the bid or after being notified apparent low bidder is grounds for rejection of the bid.

**Proposal Signature Page**

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) consecutive calendar days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of \_\_\_\_\_

\_\_\_\_\_  
(Name of firm or corporation making bid)

WITNESS:

By: \_\_\_\_\_

Signature

\_\_\_\_\_  
(Proprietorship or Partnership)

Name: \_\_\_\_\_

Print or type

Title \_\_\_\_\_

(Owner/Partner/Pres./V.Pres)

Address \_\_\_\_\_

ATTEST:

\_\_\_\_\_

By: \_\_\_\_\_

License No. \_\_\_\_\_

Title: \_\_\_\_\_  
(Corp. Sec. or Asst. Sec. only)

Federal I.D. No. \_\_\_\_\_

Email Address: \_\_\_\_\_

(CORPORATE SEAL)

Addendum received and used in computing bid:

Addendum No. 1 \_\_\_\_\_ Addendum No. 3 \_\_\_\_\_ Addendum No. 5 \_\_\_\_\_ Addendum No. 6 \_\_\_\_\_

Addendum No. 2 \_\_\_\_\_ Addendum No. 4 \_\_\_\_\_ Addendum No. 6 \_\_\_\_\_ Addendum No. 7 \_

BID SET  
MARCH 27, 2020

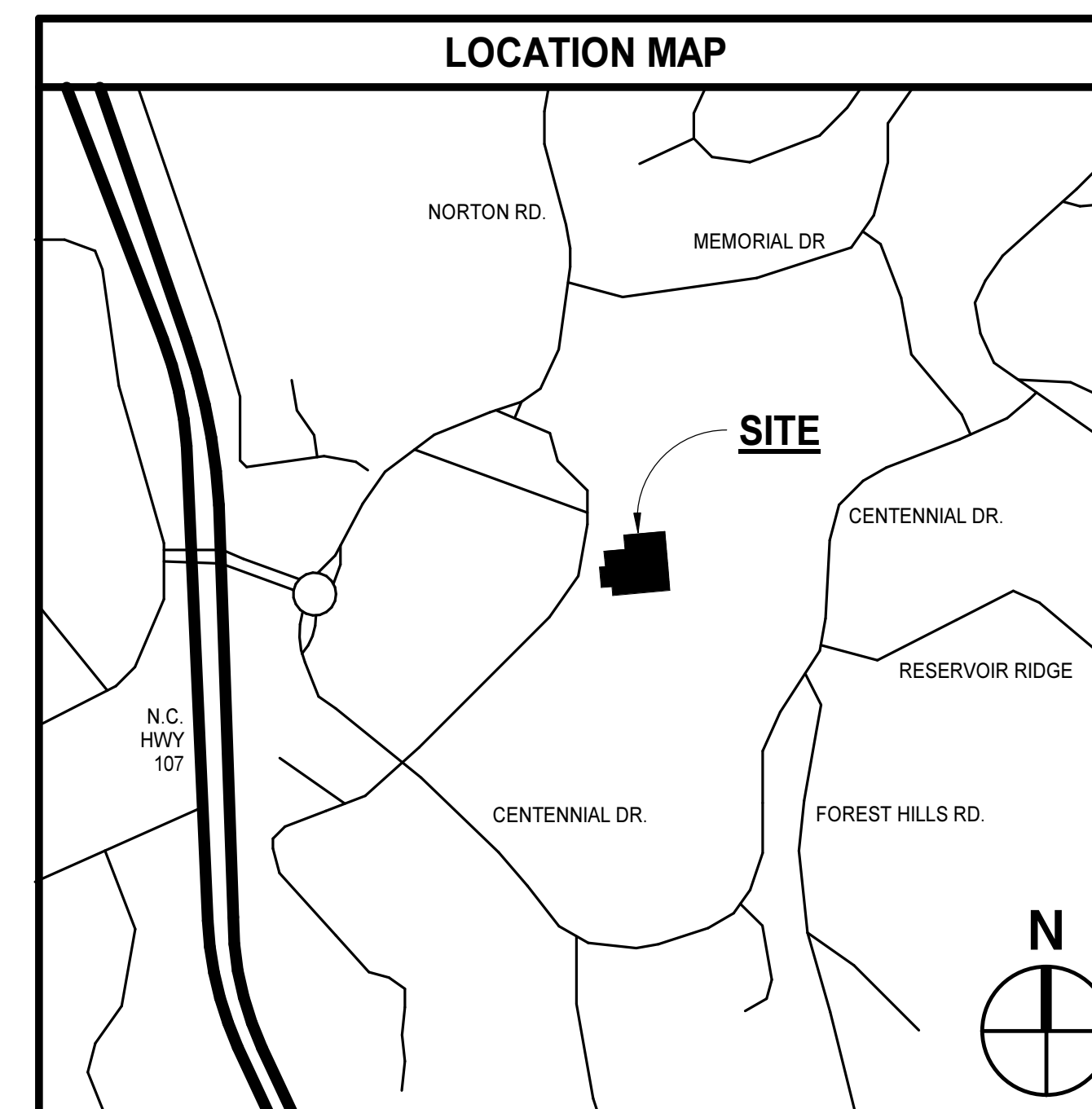
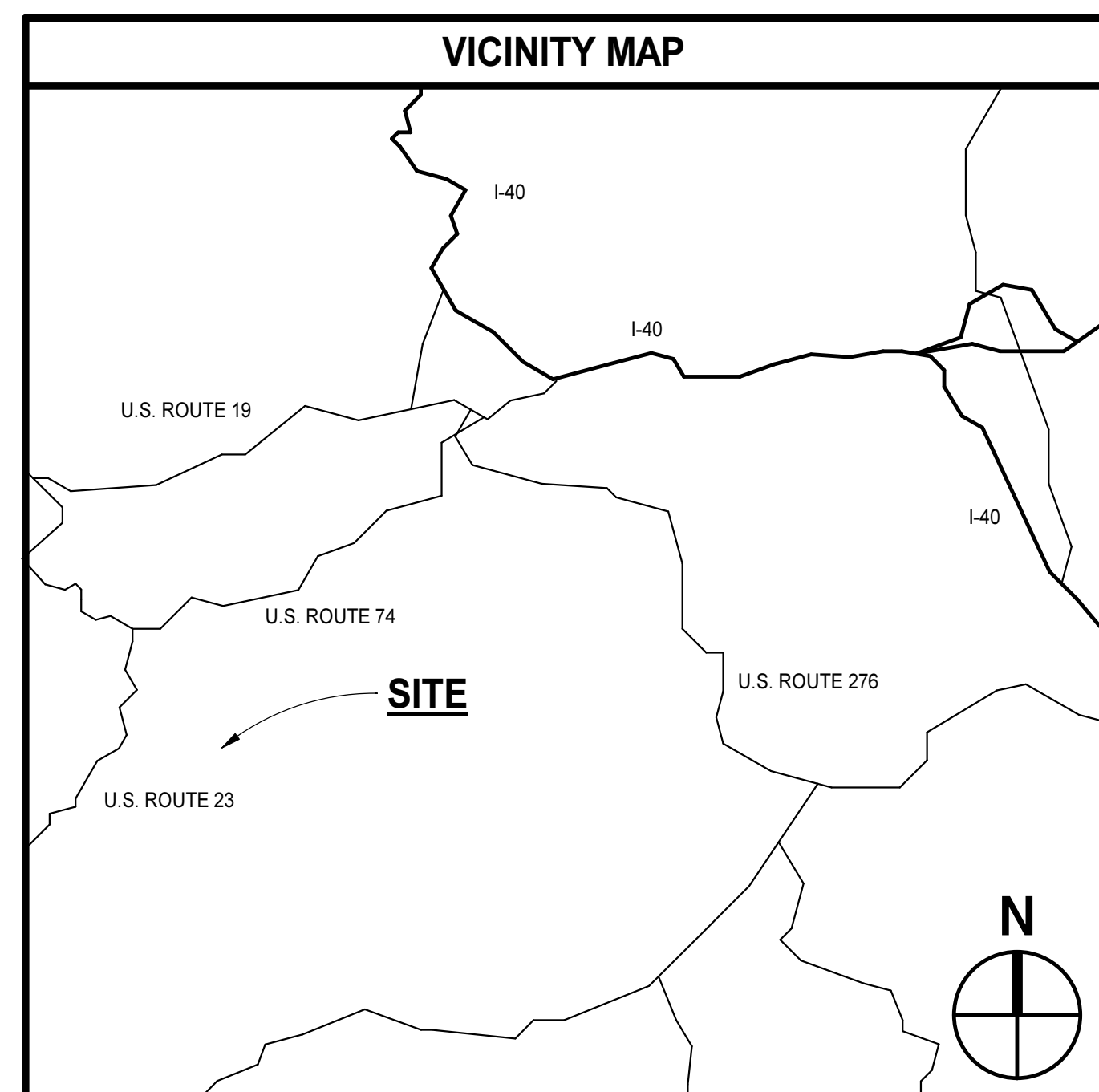
# REID GYM CENTER FOR CAREER & PROFESSIONAL DEVELOPMENT OFFICE EXPANSION

## WESTERN CAROLINA UNIVERSITY CULLOWHEE, NC

SCO ID# 18-19740.01A

**MOSELEY**ARCHITECTS

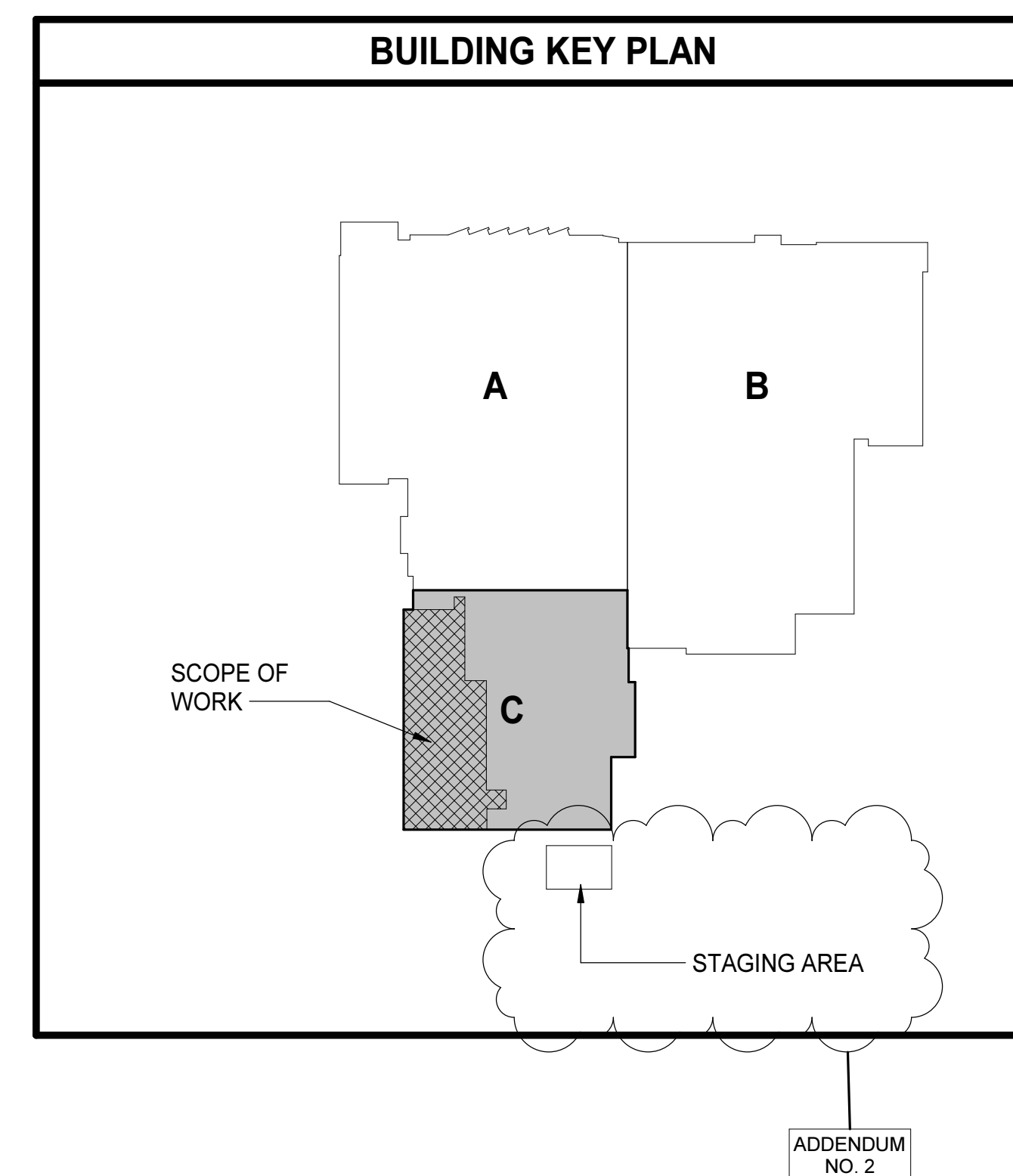
6210 ARDREY KELL ROAD • THE HUB AT WAVERLY, SUITE 425 • CHARLOTTE, NC 28277  
PHONE (704) 540-3755 FAX (704) 540-3754  
MOSELEYARCHITECTS.COM



Sud Associates, P.A.  
90 Southside Avenue, Suite 300

Mechanical and Electrical Engineering  
Asheville, North Carolina 28801

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6210 ARDREY KELL ROAD • THE HUB AT WAVERLY, SUITE 425 • CHARLOTTE, NC 28277  
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MOSELEYARCHITECTS.COM



REID GYM CENTER FOR CAREER & PROFESSIONAL DEVELOPMENT OFFICE  
EXPANSION  
SCO ID# 18-19740.01A  
WESTERN CAROLINA UNIVERSITY  
160 UNIVERSITY WAY, CULLOWHEE, NC 28723

PROJECT NO:	582861
DATE:	MARCH 27, 2020
REVISIONS	
DATE	DESCRIPTION
4/23/20	ADDENDUM NO. 2

COVER  
**SET NO.**

THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL.  
IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY. IN CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE GREATER QUANTITY OF WORK.

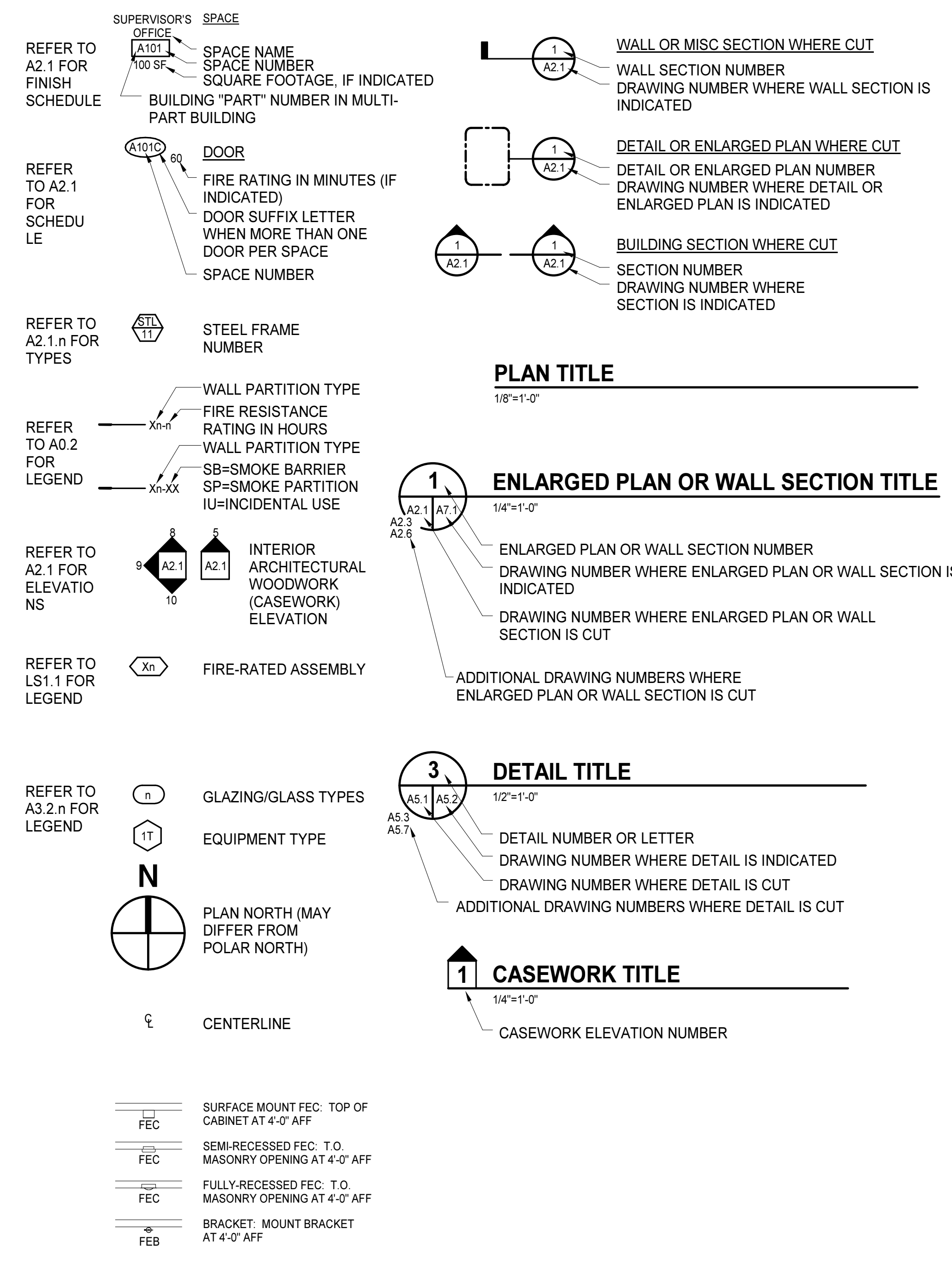
ARCHITECTURAL ABBREVIATIONS

Table of architectural abbreviations including terms like A-PT ACCENT PAINT, ABS AIR BARRIER SYSTEM, EXP EXPANSION, NRC NOISE REDUCTION COEFFICIENT, VCT VINYL COMPOSITION TILE, etc.

KEYNOTES

- KEYNOTE (1 TO 2 DIGITS)
KEYNOTE (3 DIGITS ONLY)
SIZE, THICKNESS, OR OTHER DESCRIPTIVE INFORMATION

ARCHITECTURAL GRAPHIC SYMBOL LEGEND



ARCHITECTURAL GENERAL NOTES

- A. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL...
B. ELEMENTS THAT ARE IDENTIFIED BY OTHER DISCIPLINES...
C. ELEMENTS IDENTIFIED IN "LEGENDS" AND/OR "GENERAL NOTES" MAY NOT BE NOTED IN DETAILS, OR SECTIONS...
D. REFER TO "ASSEMBLIES" FOR MATERIALS AND COMPONENTS...
E. VERIFY ALL DIMENSIONS, INCLUDING DIMENSIONS ON STRUCTURAL DRAWINGS...
F. PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL EQUIPMENT...

ARCHITECTURAL MATERIALS LEGEND

Table of architectural materials legend showing patterns for Earth, Concrete, Brick, Stone, etc.

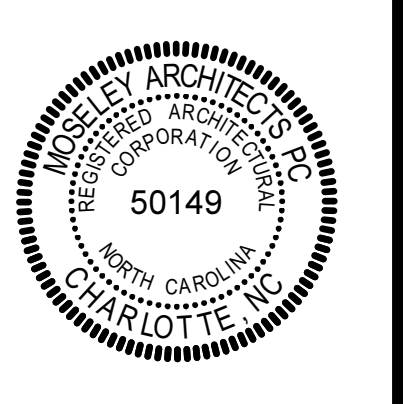


Table with columns for PROJECT NO., DATE, REVISIONS, and DESCRIPTION.



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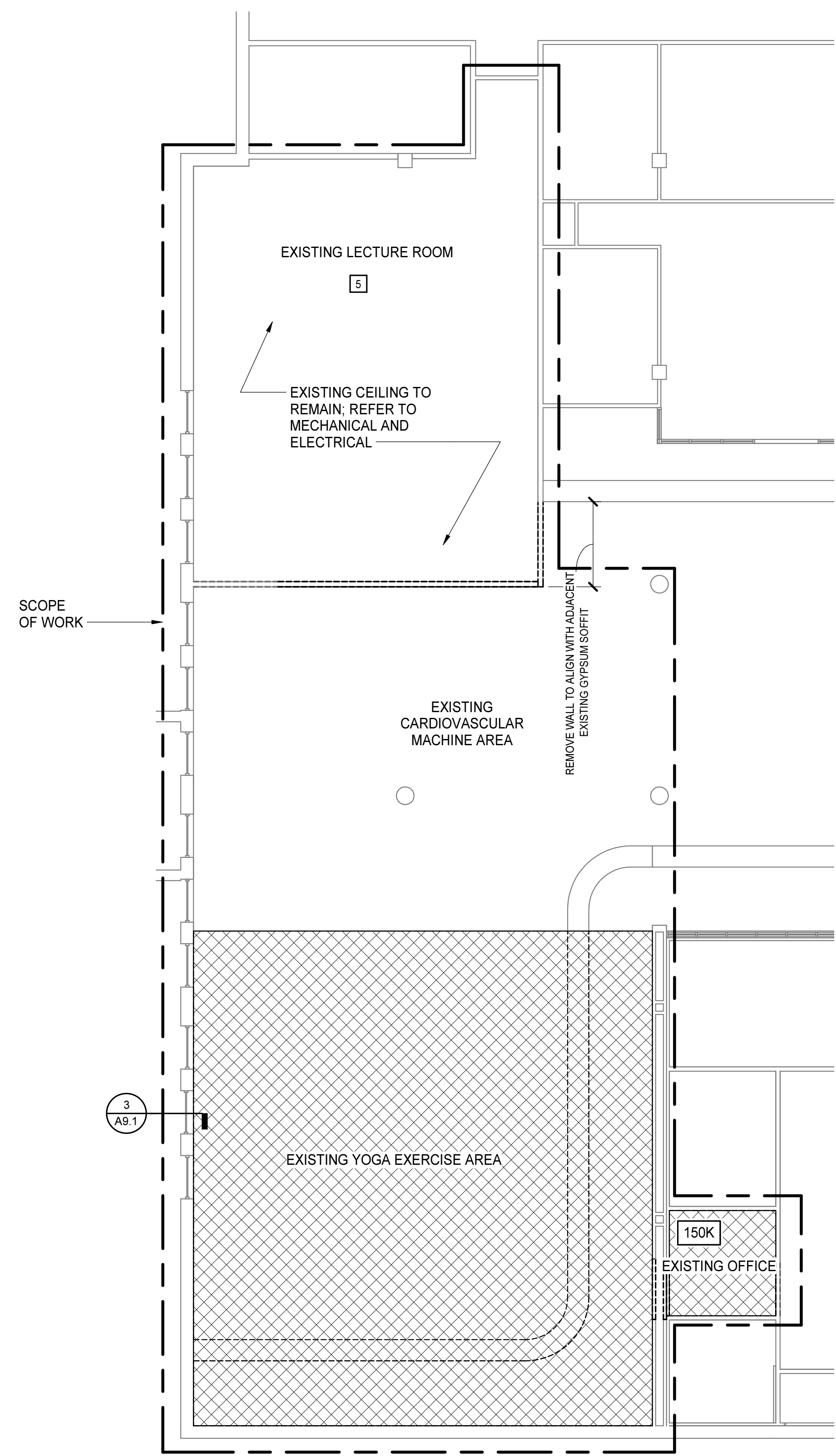
DEMOLITION PLAN KEYNOTES	
REPRESENTED BY [1]	
APPLIES TO DRAWINGS AD1.2.1	
1	REMOVE WALL; EXISTING WALL IS 3'-6" AFF, 4 LAYERS OF GYPSUM BOARD ON METAL STUD
2	REMOVE WALL; EXISTING WALL IS 4" CMU
3	REMOVE WALL; EXISTING WALL IS GYPSUM BOARD ON METAL STUD
4	KEYNOTE NO LONGER USED
5	REMOVE ALL MAP RAILS AND WHITEBOARDS ON EAST, WEST, AND SOUTH WALLS.
6	REMOVE WALL MIRROR

ADDENDUM NO. 2

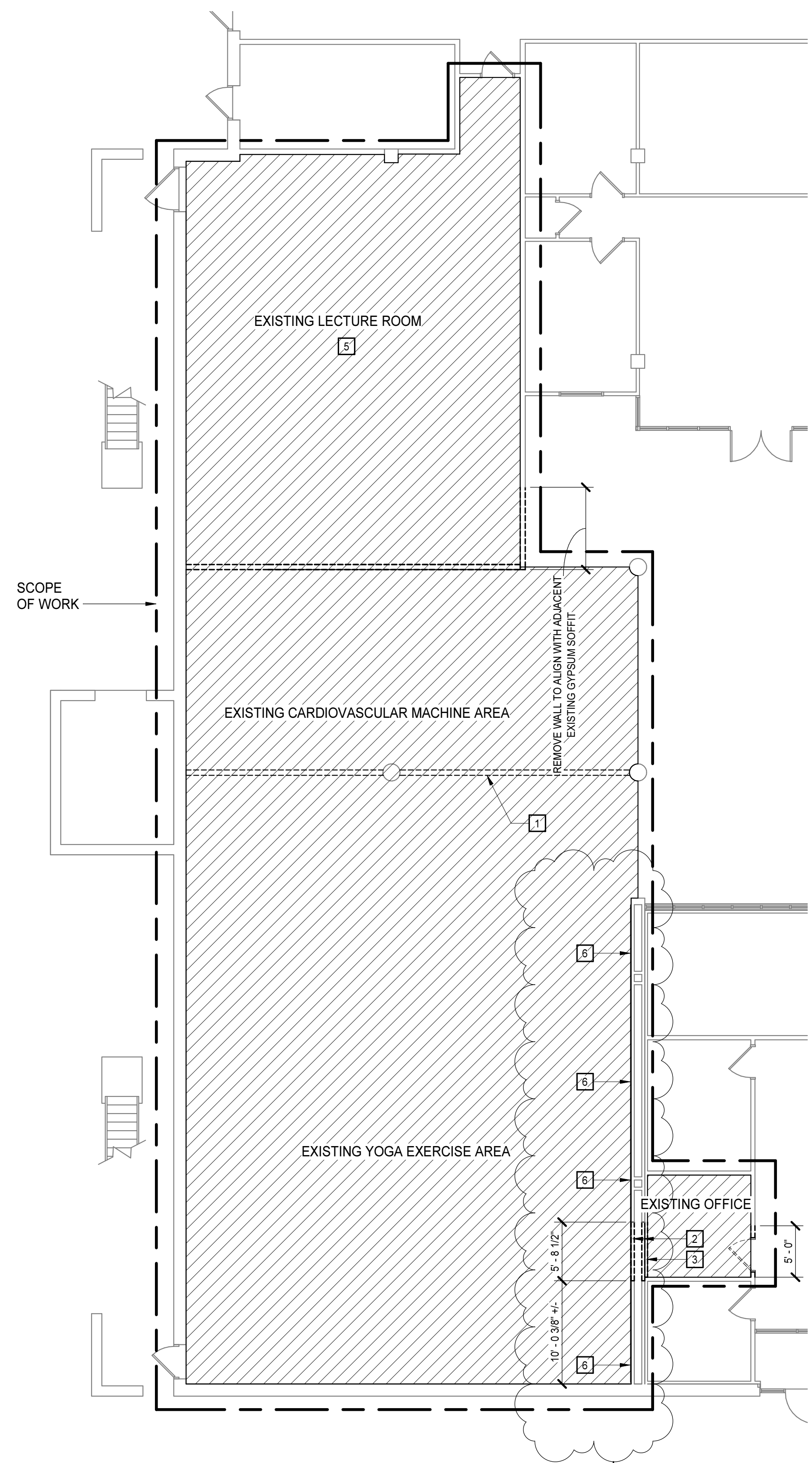
ADDENDUM NO. 2

DEMOLITION PLAN LEGEND	
APPLIES TO DRAWINGS AD1.2.1	
	EXISTING PARTITION/ WALL/ ITEM TO REMAIN
	REMOVE EXISTING PARTITION/WALL/ITEM
	REMOVE EXISTING DOOR AND FRAME ASSEMBLY INCLUDING DOOR HARDWARE, ANCHORS, AND THRESHOLD (WHERE OCCURS).
	REMOVE ALL EXISTING FINISH FLOORING
	REMOVE ALL CEILINGS AND SOFFITS IN AREA TO SUIT NEW CONSTRUCTION

DEMOLITION PLAN GENERAL NOTES	
A.	ALL DEMOLITION WORK INDICATED IN THESE DRAWINGS INVOLVE THE REMOVAL OF EXISTING CONSTRUCTION UNDER THIS CONTRACT AND SHALL BE COORDINATED WITH CORRESPONDING MECHANICAL AND ELECTRICAL DRAWINGS.
B.	REMOVE EXISTING CONSTRUCTION AS INDICATED. DEMOLITION SHALL BE TO THE LEAST EXTENT POSSIBLE IN ORDER TO COMPLETE THE WORK. DO NOT PERFORM DEMOLITION BEYOND THE SCOPE OF CONSTRUCTION.
C.	DETAILS OF EXISTING CONDITIONS, ACTUAL FIELD CONDITIONS WHICH ARE CONCEALED BY EXISTING CONSTRUCTION MAY VARY FROM THOSE INDICATED. ALL WORK THAT RELATES TO, OR IS IN ANY WAY AFFECTED BY EXISTING CONDITIONS WHICH VARY FROM THOSE INDICATED SHALL BE MODIFIED TO ACHIEVE THE REQUIREMENTS OF THE CONTRACT DOCUMENTS ACCORDING TO FIELD ASSESSMENTS AND MEASUREMENTS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH AFFECTED ASPECTS OF DEMOLITION OR CONSTRUCTION.
D.	DAMAGE OCCURRING DURING SCOPE OF WORK IS TO BE PATCHED, REPAIRED, AND FINISHED TO MATCH ADJACENT SIMILAR CONDITIONS.



**DEMOLITION REFLECTED CEILING PLAN**  
1/8" = 1'-0"  
0 2 4 8 16



**DEMOLITION FLOOR PLAN**  
1/8" = 1'-0"  
0 2 4 8 16

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DEMOLITION FLOOR PLAN AND REFLECTED CEILING PLAN

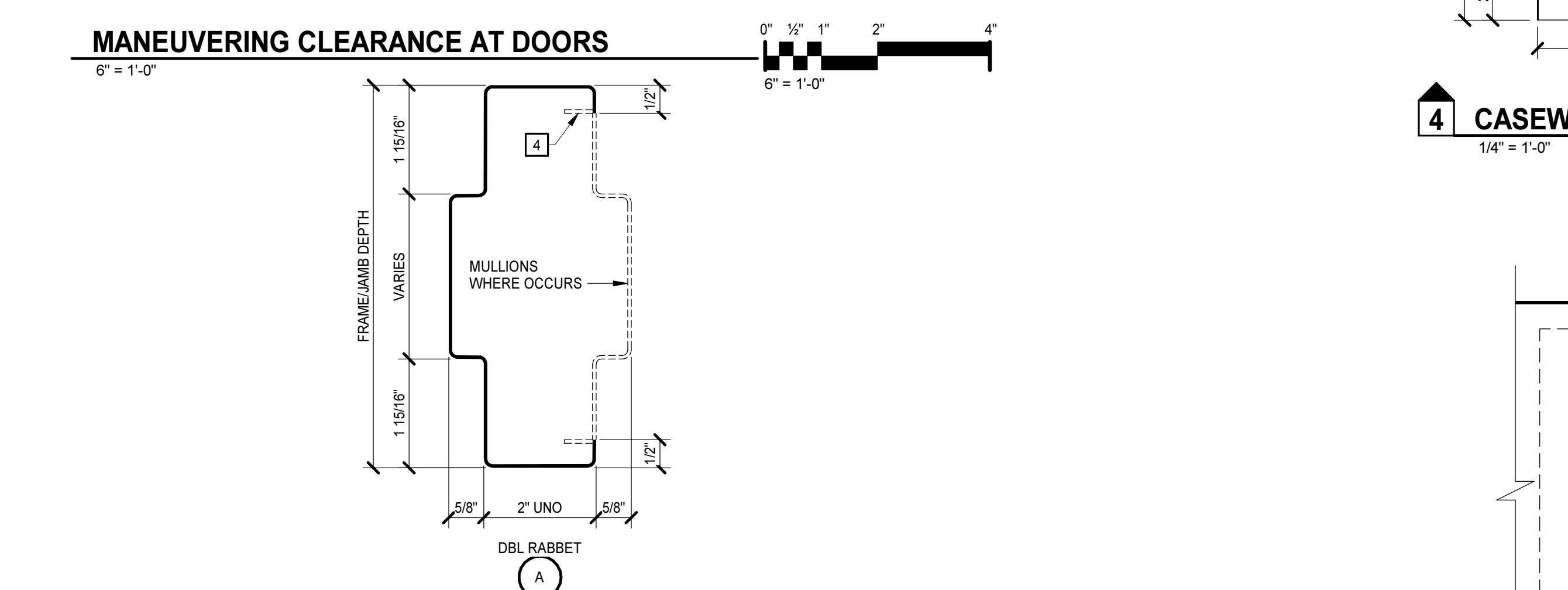
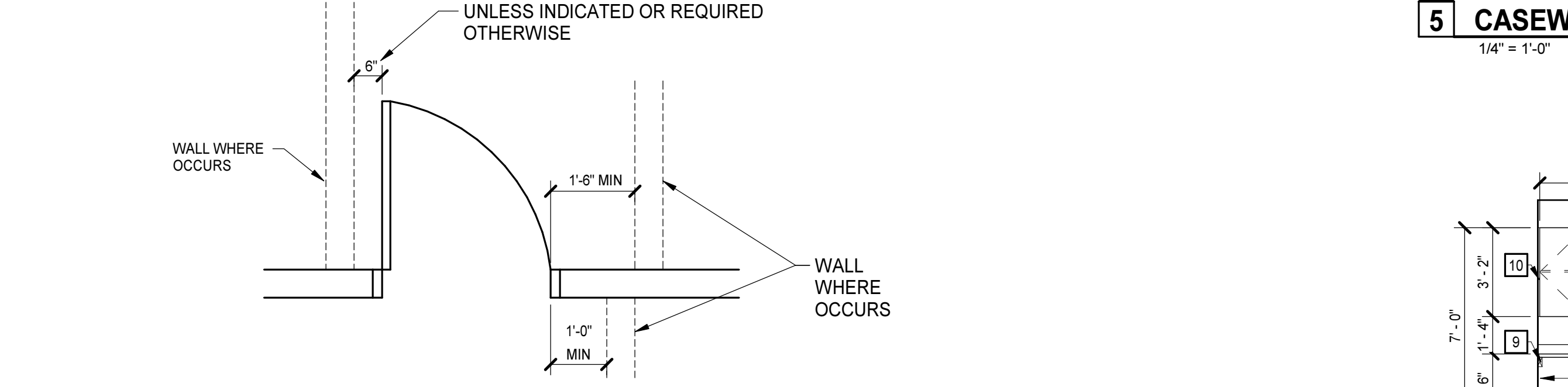
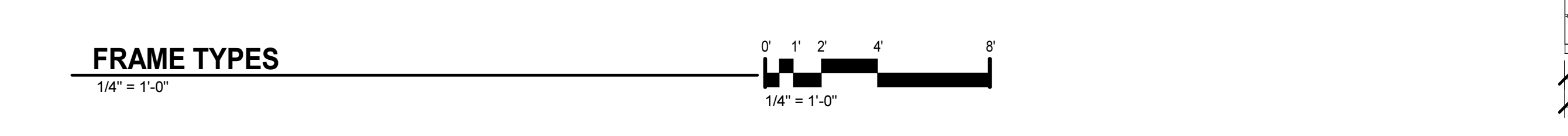
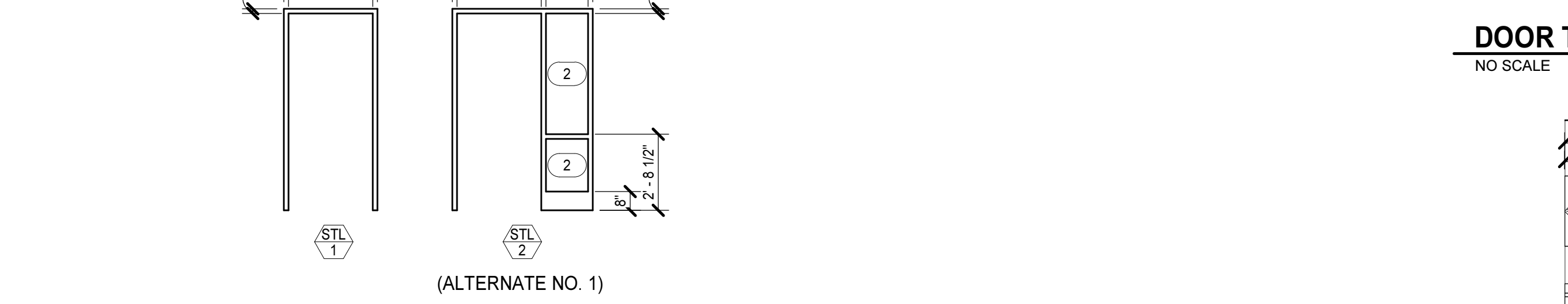
**AD1.2.1**

DOOR SCHEDULE												
NUMBER	DOOR			FRAME								
	TYPE	SIZE	MATL	GLAZING TYPE	TYPE	NUMBER	SECTIONS	HEAD DETAIL	JAMB DETAIL	HDWR	FIRE RATING	NOTES
150	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	1	20 MIN	1
151A-1	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	3	20 MIN	1, 2
151A-2	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	4	20 MIN	1, 2
151B	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
151C	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
151D	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
151F	F	3'-0"x7'-0"x1-3/4"	WD	-	STL	1	A	3	3	5	20 MIN	1
151G	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
151H	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
151I	N	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	2	20 MIN	1
152	F	3'-0"x7'-0"x1-3/4"	WD	1	STL	1	A	3	3	1	20 MIN	1

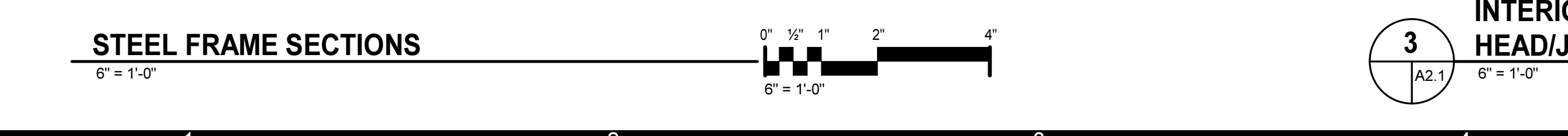
NOTES  
 1. ALTERNATE NO. 1: CHANGE DOOR TYPE TO "FG" WITH GLAZING TYPE 2.  
 2. ALTERNATE NO. 1: CHANGE FRAME NUMBER TO "2" WITH GLAZING TYPE 2.

FINISH SCHEDULE										
NUMBER	NAME	FLOOR	BASE	WALLS			CEILING	NOTES		
				NORTH	EAST	WEST				
150K	PRINTER AREA	C-TILE	RB	PT	PT	-	ACP	1		
151A	WORK ROOM	C-TILE	RB	PT	PT	PT	ACP	1		
151B	OFFICE	C-TILE	RB	PT	PT	PT	ACP	1		
151C	OFFICE	C-TILE	RB	PT	PT	PT	ACP	1		
151D	GRAD AREA	C-TILE	RB	PT	PT	PT	ACP	1		
151E	MECHANICAL	CONC-SL	EPX-PT	PT	PT	PT	EX-PT	2		
151F	STORAGE	C-TILE	RB	PT	PT	PT	ACP	1		
151G	OFFICE	C-TILE	RB	PT	PT	PT	ACP	1		
151H	OFFICE	C-TILE	RB	PT	PT	PT	ACP	1		
151I	OFFICE	C-TILE	RB	PT	PT	PT	ACP	1		
C102	YOGA EXERCISE AREA	C-TILE	RB	EX-PT	EX-PT	EX-PT	EX-ACP	1		
C113	CARDIOVASCULAR MACHINE AREA	C-TILE	RB	EX-PT	-	PT	EX-ACP	1		
C123	CIRCULATION	C-TILE	RB	PT	PT	PT	ACP	1		

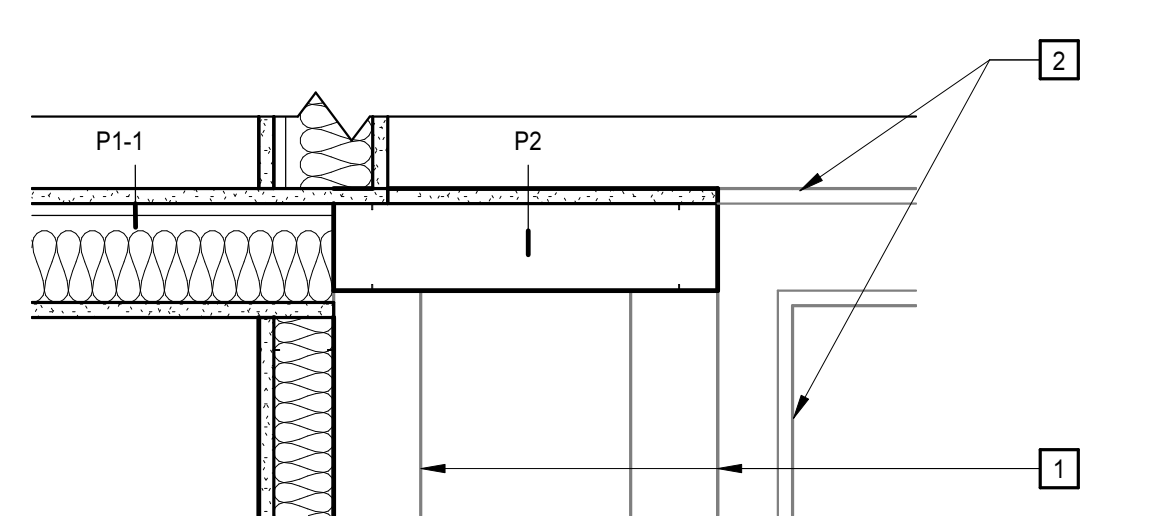
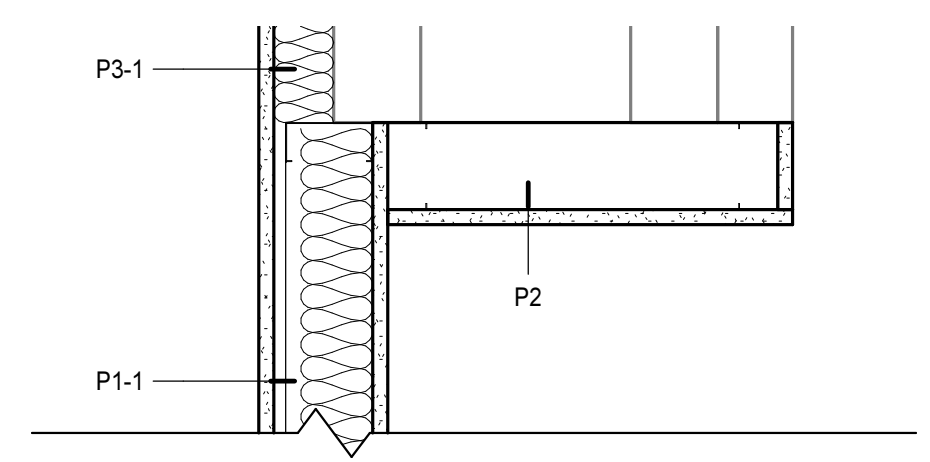
NOTES  
 1. ALTERNATE NO. 4: CHANGE FLOOR FINISH TO TCF.  
 2. EPX-PT TO 6" ABOVE FINISH FLOOR.



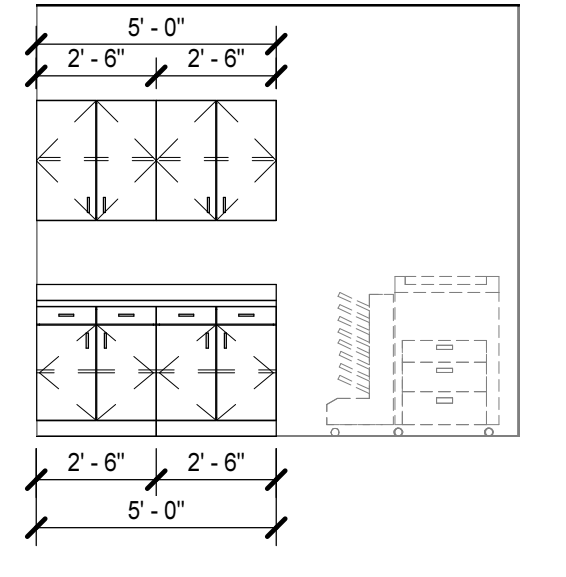
1. ALL FRAME/JAMB DEPTHS, OTHER THAN WRAP CONDITIONS, SHALL BE 5-3/4" UNO.  
 2. ALL FRAME/JAMB DEPTHS AT WRAP CONDITIONS SHALL BE SIZED TO SUIT PARTITION.  
 3. DOORS, PANELS, GLAZING, STOPS, AND OTHER FRAME INFILLS ARE NOT SHOWN IN FRAME SECTIONS AS THEY VARY - PROVIDE SAME WHERE INDICATED.



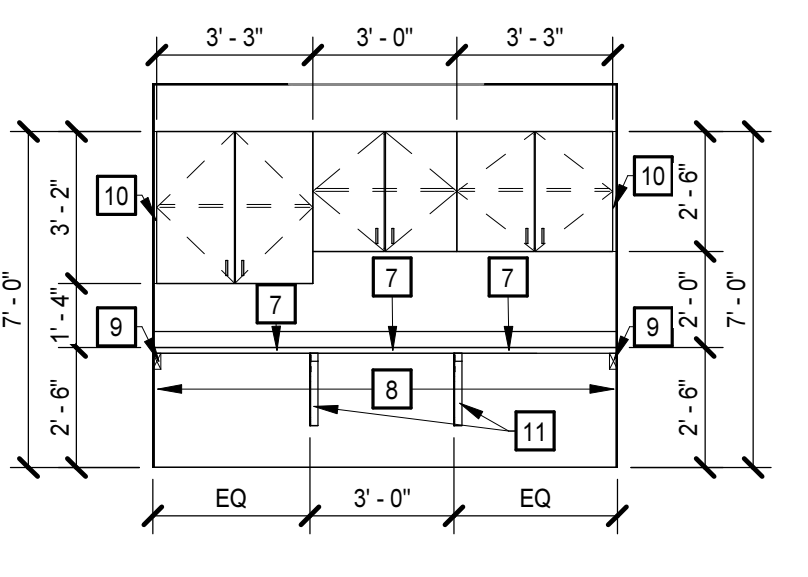
ADDENDUM NO. 2



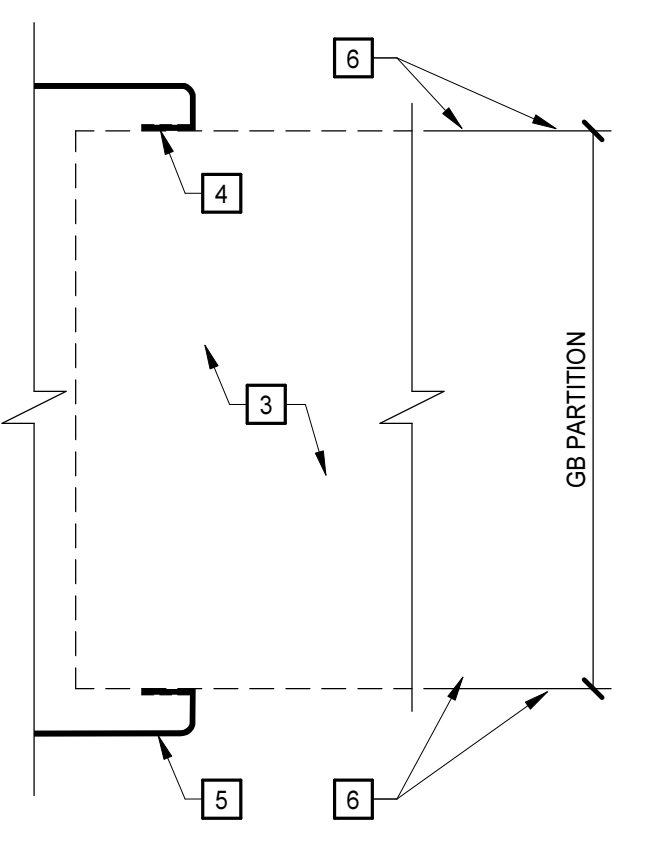
DOOR TYPES  
NO SCALE



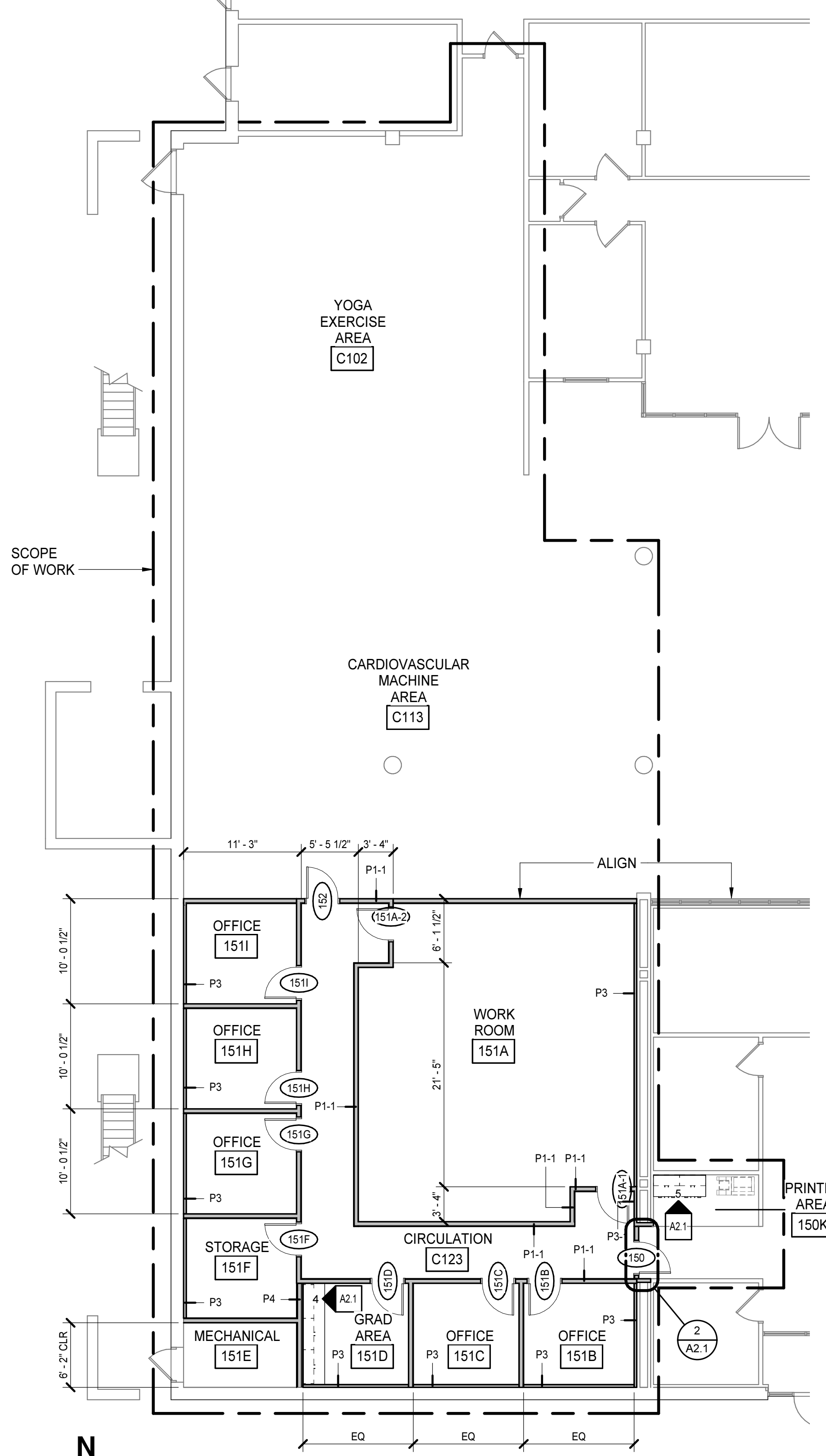
5 CASEWORK ELEVATION  
1/4" = 1'-0"



4 CASEWORK ELEVATION  
1/4" = 1'-0"



3 INTERIOR WRAP HEAD/JAMB/SILL  
6" = 1'-0"



FLOOR PLAN  
1/8" = 1'-0"

GENERAL NOTES

- DOOR AND FRAME GENERAL NOTES**
- UNLESS INDICATED OTHERWISE, ALL DETAIL NUMBERS IN THE DOOR AND FRAME SCHEDULE FOR HEAD, JAMB, AND SILL CONDITIONS REFER TO DRAWINGS A2.1.
  - DOOR AND FRAME DETAILS INDICATE GENERAL CHARACTERISTICS OF DOOR AND FRAME SIZES AND COMPONENTS AND MAY NOT INDICATE EXACT FIELD CONDITIONS OR REQUIREMENTS. COORDINATE DETAILS WITH OTHER DRAWINGS AND SPECS TO DETERMINE ALL COMPONENTS (E.G. SEALANTS, ANCHORS, HARDWARE, LINTELS, CLIPS) REQUIRED FOR COMPLETE AND FUNCTIONAL INSTALLATION.
  - DOOR SWINGS ON FLOOR PLANS TAKE PRECEDENCE OVER SWINGS INDICATED ELSEWHERE (E.G. ELEVATIONS).
- FINISH SCHEDULE GENERAL NOTES**
- FINISH SCHEDULE DESCRIBES ONLY THE BASIC OR PREDOMINANT SURFACE FINISH.
  - PROVIDE SAME FINISHES AS THE ADJACENT SPACE IN ALCOVES AND CONTINUOUS SPACES WITHOUT DESIGNATED SPACE NUMBERS.
  - CASEWORK FINISHES ARE NOT NOTED IN THE FINISH SCHEDULE. REFER TO CASEWORK ELEVATIONS AND SPECIFICATIONS FOR MATERIALS AND FINISHES.
  - DIRECTIONAL WALL FINISH INDICATORS (NORTH, EAST, SOUTH, WEST) REFER TO THE "PLAN" NORTH ORIENTATION.
  - BULKHEADS AND SOFFITS MAY NOT BE INDICATED IN FINISH SCHEDULES. REFER TO RCP DETAILS, AND OTHER DOCUMENTS FOR EXTENT.
  - PROVIDE CONTINUOUS SEALANT BETWEEN INTERIOR SLAB-ON-GRADE AND VERTICAL ELEMENT WHERE JOINT IS NOT CONCEALED BY FINISH BASE OR OTHER CONSTRUCTION.
- CASEWORK GENERAL NOTES**
- UNLESS INDICATED OTHERWISE, ALL COUNTERTOP(S):
    - 2'-10" AFF
    - 2'-1" DEEP
    - HIGH PRESSURE LAMINATE
    - BACKSPASHES: 4" HIGH AT ALL SIDES AND BACK
  - UNLESS INDICATED OTHERWISE, ALL BASE CABINET(S):
    - 2'-0" DEEP NOMINAL
    - TOE KICKS: 4" HIGH AND 3" DEEP
  - UNLESS INDICATED OTHERWISE, ALL WALL CABINET(S):
    - 1'-0" DEEP NOMINAL
    - 2'-6" HIGH
    - TOP AT 7'-0" AFF
  - ALL SHELVES: ADJUSTABLE UNLESS INDICATED OTHERWISE.
  - PROVIDE FINISH END PANELS AT ALL EXPOSED CASEWORK ENDS.
  - PROVIDE LOCKS FOR DRAWERS AND CABINETS WITH MASTER KEY.

KEYNOTES

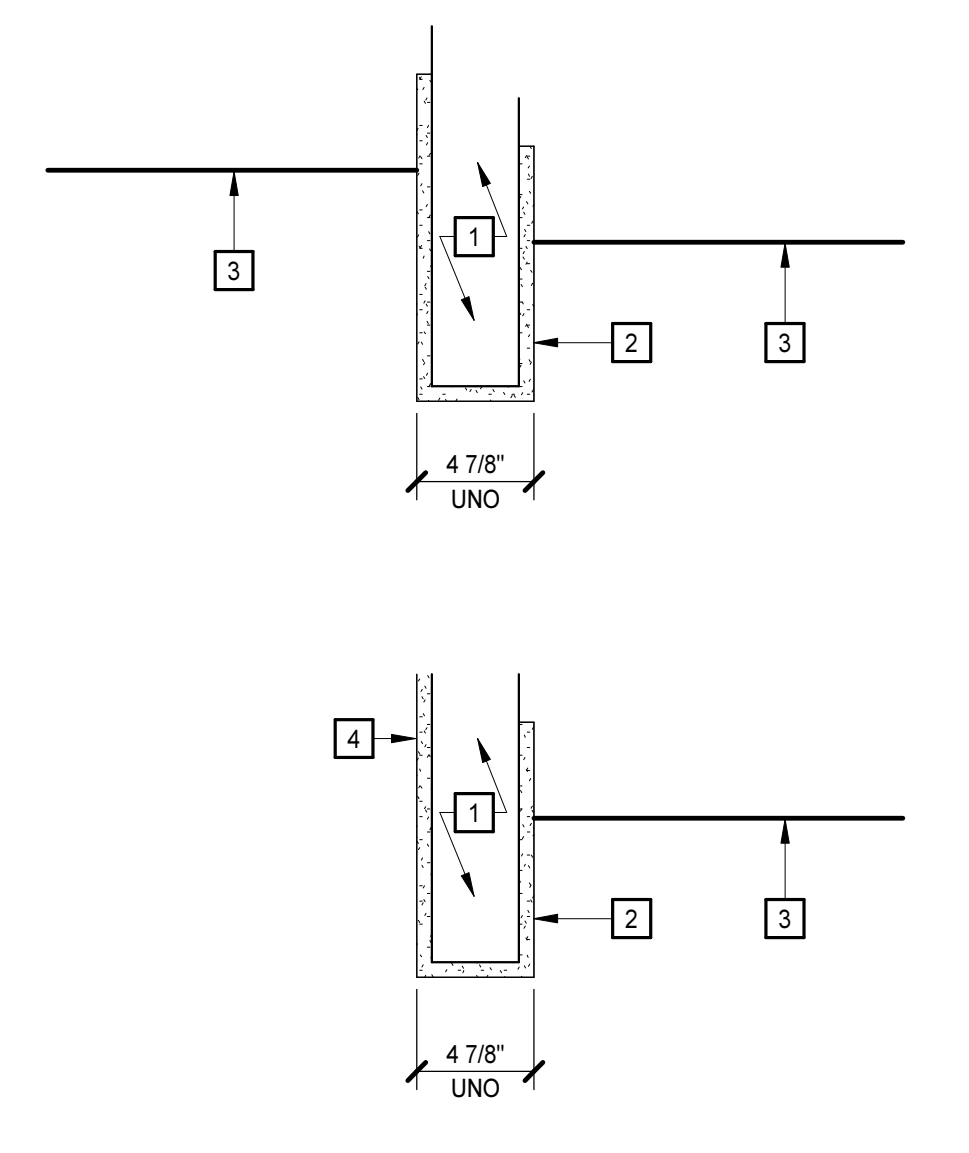
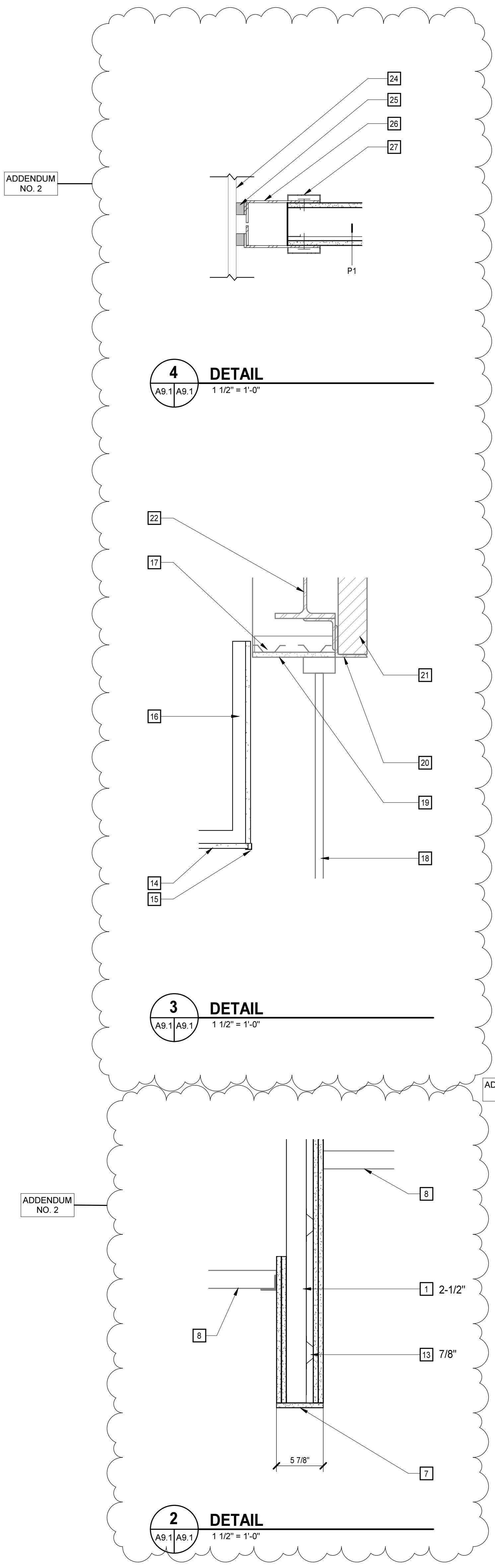
- APPLIES TO DRAWINGS A2.1 REPRESENTED BY [A]
- EXISTING 4" CONCRETE MASONRY UNIT
  - EXISTING GYP BOARD ON METAL STUD PARTITION
  - ANCHORAGES, REINFORCING, SPECIFIC PARTITION CONSTRUCTION AND/OR LINTELS ARE NOT SHOWN FOR CLARITY.
  - BACKBEND RETURN @ GB LOCATIONS ONLY.
  - REFER TO FRAME SECTION IN DOOR SCHEDULE FOR TYPE.
  - 0" @ GB LOCATIONS
  - 3" GROMMET IN COUNTER EVERY 3'
  - UNDERCOUNTER KNEE SPACE, MINIMUM 27" CLEAR ABOVE FINISH FLOOR
  - BLOCKING UNDER COUNTER
  - FILLER PANEL
  - UNDERCOUNTER BRACE

GLAZING TYPES

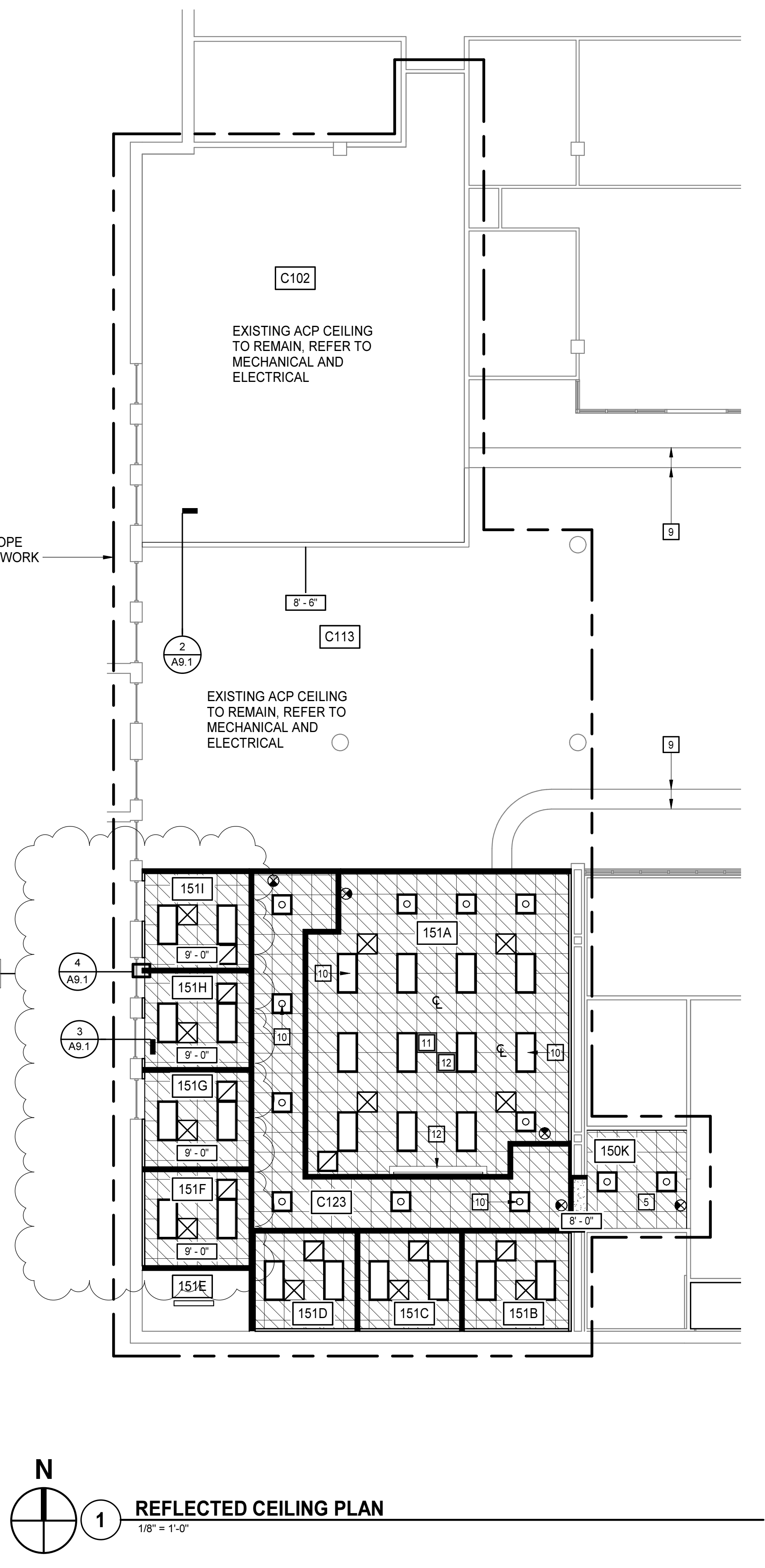
- REPRESENTED BY [A, B]
- 1/4" CLEAR GLASS
  - CLEAR FIRE RATED GLASS UNIT
- NOTES:  
 1. ALL GLAZING IN INTERIOR FRAMES SHALL BE TYPE 1, UNO  
 2. GLAZE ALL OPENINGS IN FRAMES UNLESS SPECIFICALLY INDICATED OTHERWISE  
 3. ALL GLAZING SHALL BE SAFETY GLASS UNLESS INDICATED OTHERWISE

J  
H  
G  
F  
E  
D  
C  
B  
A

1 2 3 4 5 6 7 8 9 10



**BULKHEAD DETAILS**  
NO SCALE



**REFLECTED CEILING PLAN LEGEND**  
APPLIES TO DRAWINGS A9.1  
REFER TO M, E & FP DRAWINGS FOR REFLECTED CEILING PLAN SYMBOLS NOT INDICATED BELOW

	SPACE NUMBER CEILING HEIGHT, AFF UNO
	INTERIOR APPLICATIONS: GYPSUM BOARD CEILING
	2'-0" x 2'-0" LAY-IN ACOUSTICAL CEILING PANELS IN SUSPENDED GRID WITH R-11 BATT INSULATION ABOVE; INSULATION TO BE KEPT 6" FROM ALL CEILING FIXTURES
	INTERIOR WALL/PARTITION TO UNDERSIDE OF DECK WITH OPENING
	INTERIOR WALL/PARTITION TO CAP ABOVE OR TERMINATES ADJACENT TO A RATED HORIZONTAL ASSEMBLY WITH OPENING
	INTERIOR WALL/PARTITION 4" MIN ABOVE HIGHEST ADJACENT CEILING, IF NECESSARY TO ACHIEVE RESULTS DESIRED, EXTEND WALL HEIGHT SO WALL BRACING IS NOT EXPOSED TO VIEW IN FINISHED SPACES WITH OPENING
	INTERIOR WALL/PARTITION TO UNDERSIDE OF CEILING
	EXISTING TO REMAIN, VERIFY VERTICAL EXTENTS WHERE THE HEIGHT IMPACTS THE WORK

**REFLECTED CEILING PLAN/DETAIL GENERAL NOTES**

- ALL CEILING HEIGHTS SHALL BE 8'-0" AFF UNLESS INDICATED OTHERWISE.
- REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LIGHTING AND DIFFUSER LOCATIONS.
- DRAWINGS INDICATE GRID LAYOUT DIAGRAMMATICALLY. REFER TO SPECIFICATIONS FOR SPECIFIC GRID LAYOUT CRITERIA AT PERIMETER CONDITIONS THAT MAY DIFFER FROM GRID LAYOUT INDICATED ON DRAWINGS.
- CENTER CEILING MOUNTED ITEMS WITHIN CEILING PANELS, UNLESS INDICATED OTHERWISE.
- EXISTING FLOOR-TO-FLOOR HEIGHT IS 13'-4". FLOOR ABOVE IS CONCRETE SLAB.

**REFLECTED CEILING PLAN KEYNOTES**  
APPLIES TO DRAWINGS A9.1  
REPRESENTED BY [n]

- CFSF-S
- 5/8" GYP BD, TERMINATE 4" ABV FIN CLG
- FIN CLG: FINISH AND/OR HEIGHT AFF VARIES
- GYP BD: EXTEND FULL HEIGHT, UNLESS INDICATED OTHERWISE
- ALIGN TO ADJACENT EXISTING CEILING GRID
- GYPSUM BOARD
- EXISTING CEILING
- EXISTING GYP BOARD SOFFIT
- EMERGENCY LIGHT FIXTURE, REFER TO ELECTRICAL
- PROJECTOR, OWNER FURNISHED, CONTRACTOR INSTALLED; REFER TO ELECTRICAL
- CEILING-MOUNTED AV EQUIPMENT RACK, OWNER FURNISHED, CONTRACTOR INSTALLED; REFER TO ELECTRICAL
- RESILIENT CHANNEL
- ACOUSTICAL CEILING TILE
- CONTINUOUS LAY-IN CEILING EDGE ANGLE
- VERTICAL "T" AND ACOUSTICAL PANELS: PROVIDE HOLD-DOWN CLIPS TO SECURE VERTICAL PANELS
- EXISTING 7/8" CHANNEL
- EXISTING STEEL WINDOW
- EXISTING FIRE-RATED GYPSUM BOARD
- EXISTING L4x4 LEDGER ANGLE
- EXISTING BRICK
- EXISTING STEEL BEAM
- EXISTING WINDOW GLAZING
- COMPRESSIBLE GASKET
- EXTRUDED ALUMINUM, FINISHED TO MATCH EXISTING STEEL WINDOW FRAMING
- SNAP COVER



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