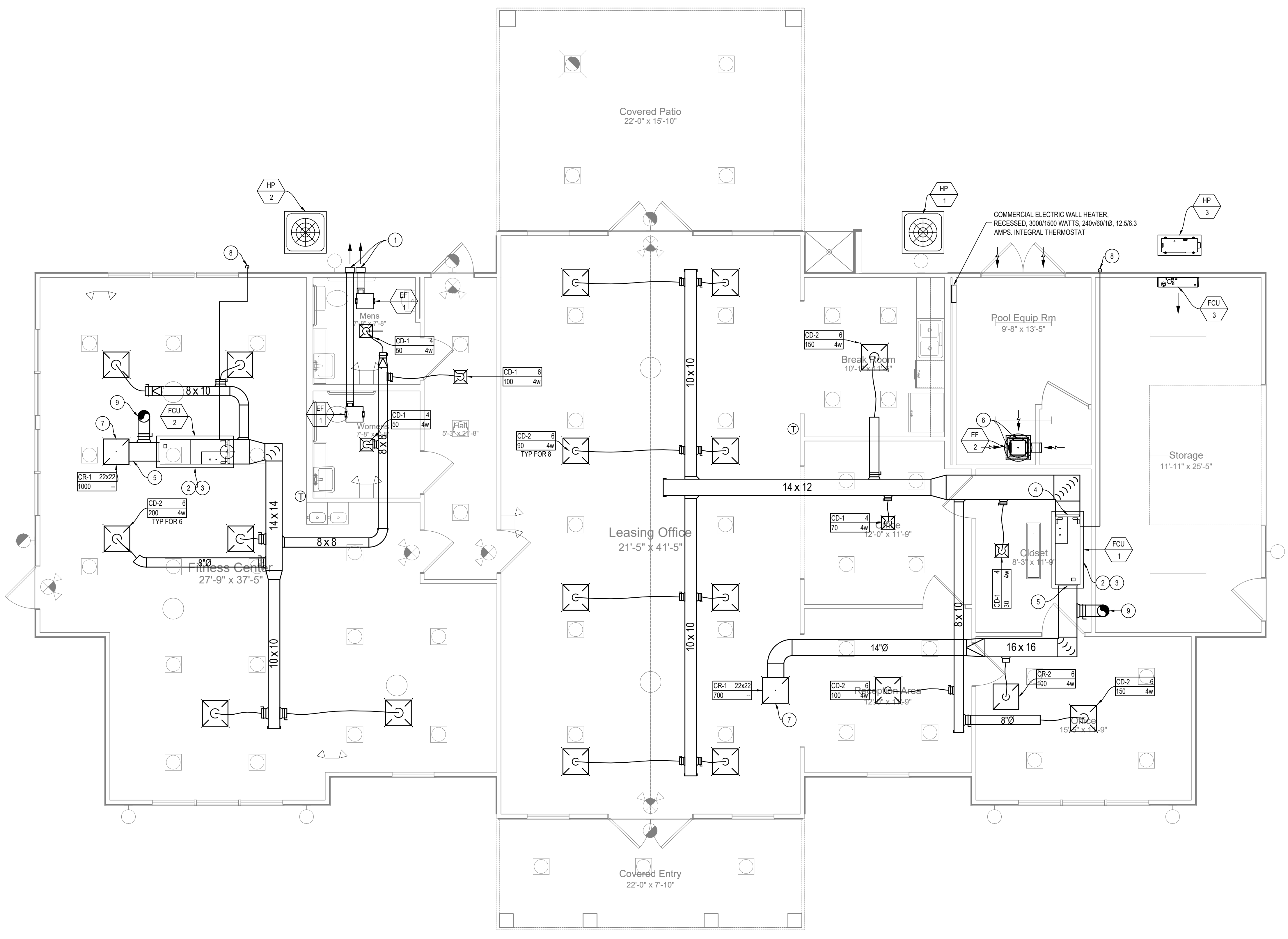




- KEYED NOTES:
- 6"Ø THRU WALL. TERMINATE WITH WALL CAP. SEE DETAIL E/M-3. COORDINATE SIZE TO MATCH EXHAUST FAN PROVIDED. TERMINATE DISCHARGE NOT LESS THAN 3 FEET IN ANY DIRECTION FROM OPENINGS INTO THE BUILDING.
  - ROUTE 3/4" PVC CONDENSATE TO EXTERIOR. TERMINATE WITH AIR GAP.
  - PROVIDE GALV. STEEL AUXILIARY DRAIN PAN 1/2" DEEP. INSTALL LIQUID DETECTOR TO DE-ENERGIZE UNIT UPON DETECTION OF LIQUID.
  - SUPPLY DUCT TO MATCH FCU PROVIDED DISCHARGE CONNECTION.
  - RETURN DUCT TO MATCH FCU PROVIDED DISCHARGE CONNECTION.
  - PROVIDE 12x12x24 PLENUM (VERIFY TO MATCH FAN & GRILLE REQUIREMENTS) FROM EF-2. EXTEND 8x8 DUCT TO CHEMICAL STORAGE WITH DAMPER (50 CFM) AND SIDEWALL GRILLE. PROVIDE (2) 8x8 SIDEWALL GRILLES WITH DAMPERS AS SHOWN.
  - FABRICATE 24x24x18 LINED PLENUM ON RETURN GRILL. TAP SIDE AS SHOWN FOR OUTLET CONNECTION.
  - DISCHARGE 3/4" CONDENSATE DRAIN TO GUTTER.
  - 10"Ø OA UP THRU ROOF. TERMINATE W/ AIR INLET HOOD SUITABLE FOR 450 CFM @ 0.1" ΔP.



1 First Floor Plan - HVAC

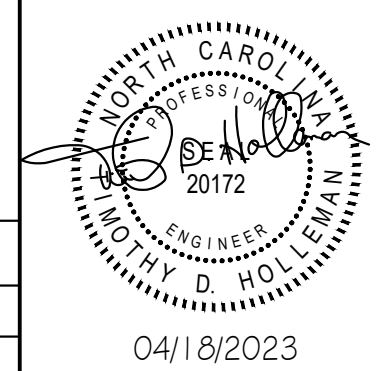
Scale: 1/4"=1'-0"

Final Drawing - Released for construction

Floor Plan

**MECHANICAL**  
**DeBoer & Gabriel Builders, Inc**  
**Legacy at Haw River Apts Clubhouse**  
 Burlington, North Carolina

ENGINEERING SERVICES PROVIDED BY  
**HOLLEMAN CORPORATION**  
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 (336) 337-6334; fax: (336) 446-7476  
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04/18/2023

REV	DESCRIPTION	DATE	BY

PLOT SCALE: 1:1 PLOT DATE: 4/20/2023

DRAWN BY: JCV	CHECKED BY: TDH
DATE: 04/18/2023	APPROVED BY: TDH
JOB NO.: HC23036	ACAD NO.: HC23036MECH CH
SCALE: AS NOTED	DWG. NO.: M-2

WITHIN SQUARE OPENING IN METAL OR WOOD STUD FRAMING IN 1 AND 2 HR RATED DRYWALL PARTITIONS

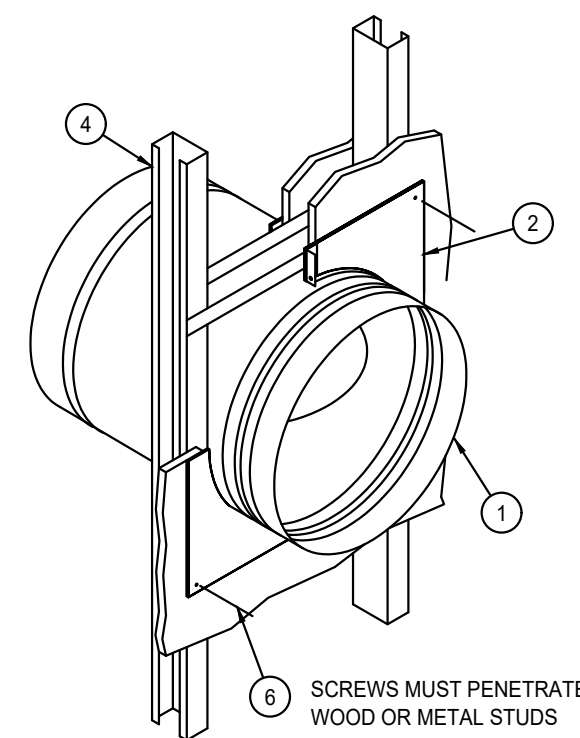


FIGURE 1

- | ITEM | DESCRIPTION                  |
|------|------------------------------|
| 1.   | FDR25 ROUND FIRE DAMPER      |
| 2.   | RETAINING PLATE, 20 GA STEEL |
| 3.   | DUCT                         |
| 4.   | METAL STUD WALL CONSTRUCTION |
| 5.   | WOOD STUD WALL CONSTRUCTION  |
| 6.   | #10 SHEET METAL SCREW        |
| 7.   | 4" DRAW BAND                 |

NOTE: METAL STUD WALLS REQUIRE RETAINING "CINCH" PLATES ON ONLY ONE SIDE OF THE WALL. WOOD STUD WALLS REQUIRE RETAINING "CINCH" PLATES ON BOTH SIDES OF THE WALL.

D FIRE DAMPER DETAIL

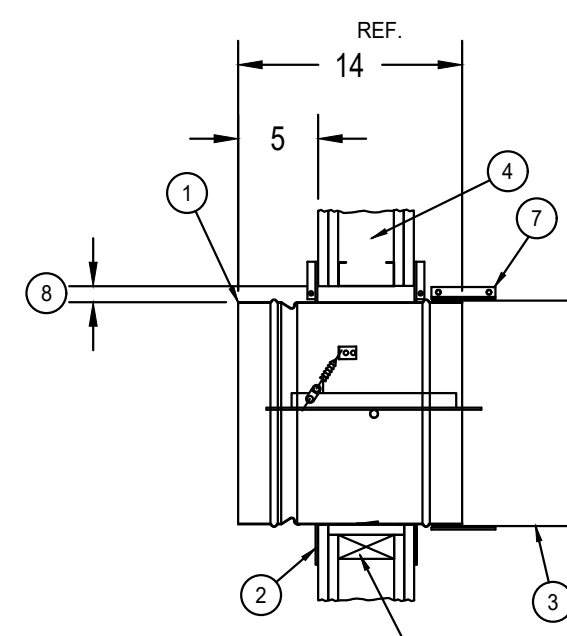
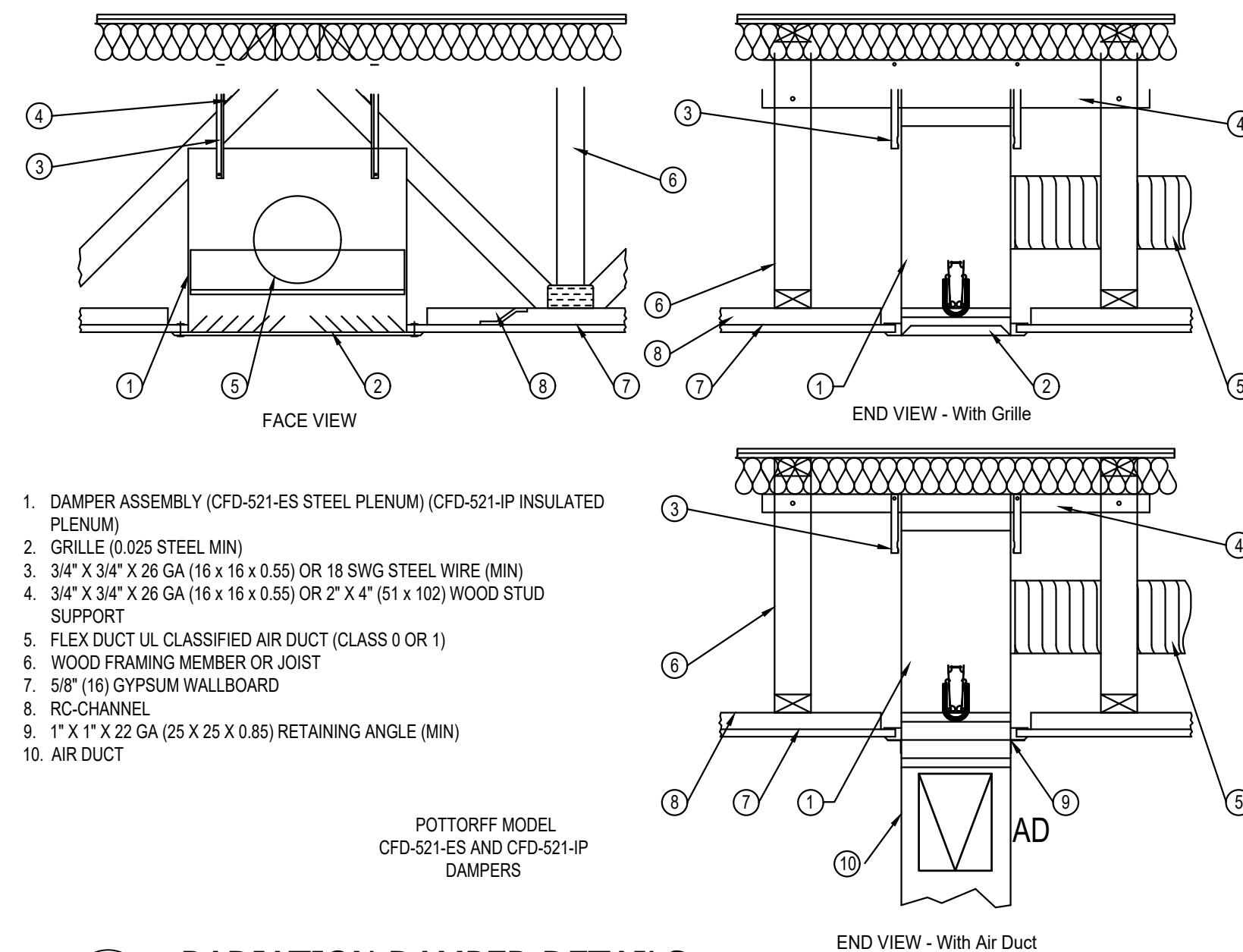


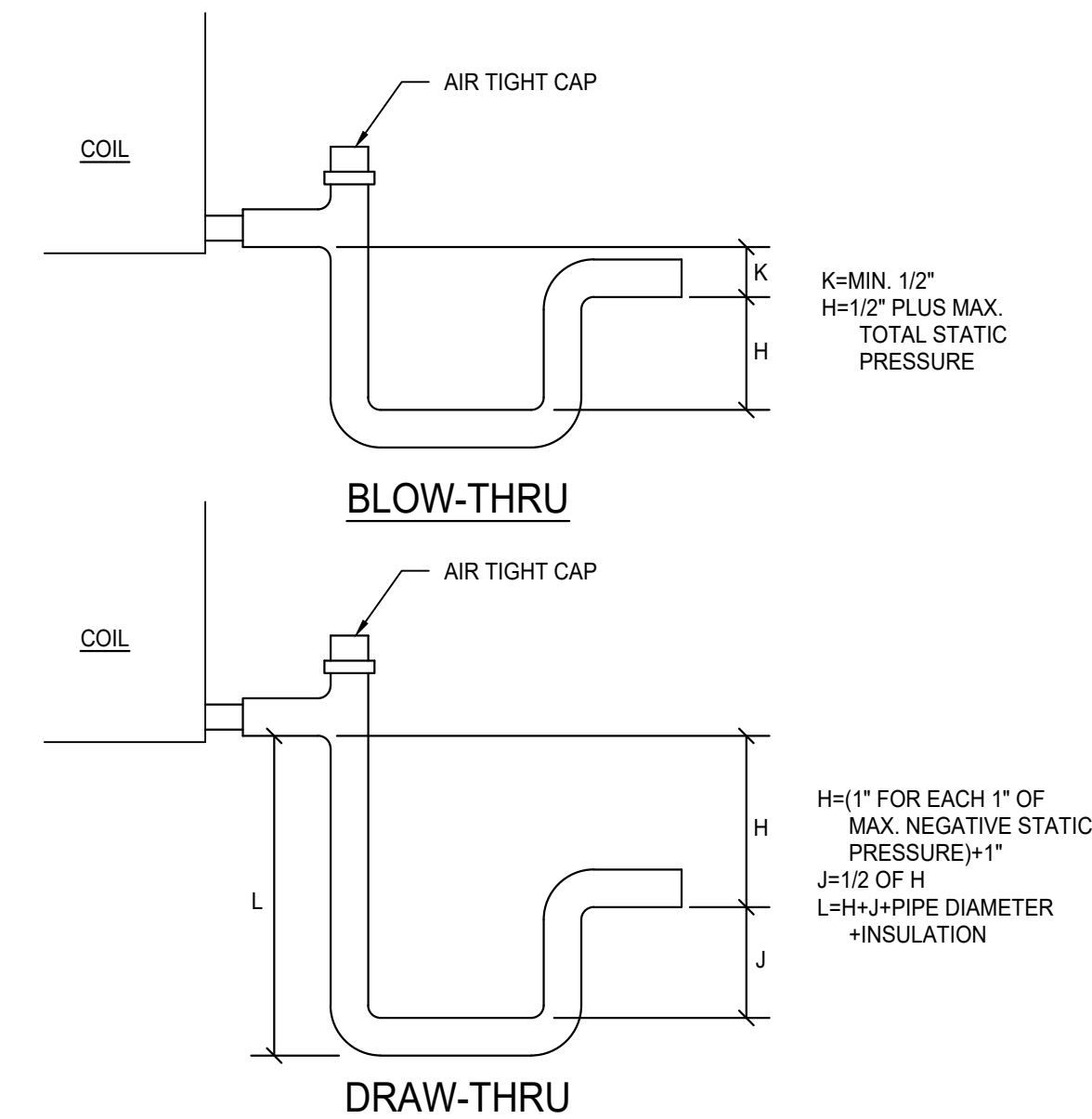
FIGURE 2

NOT TO SCALE



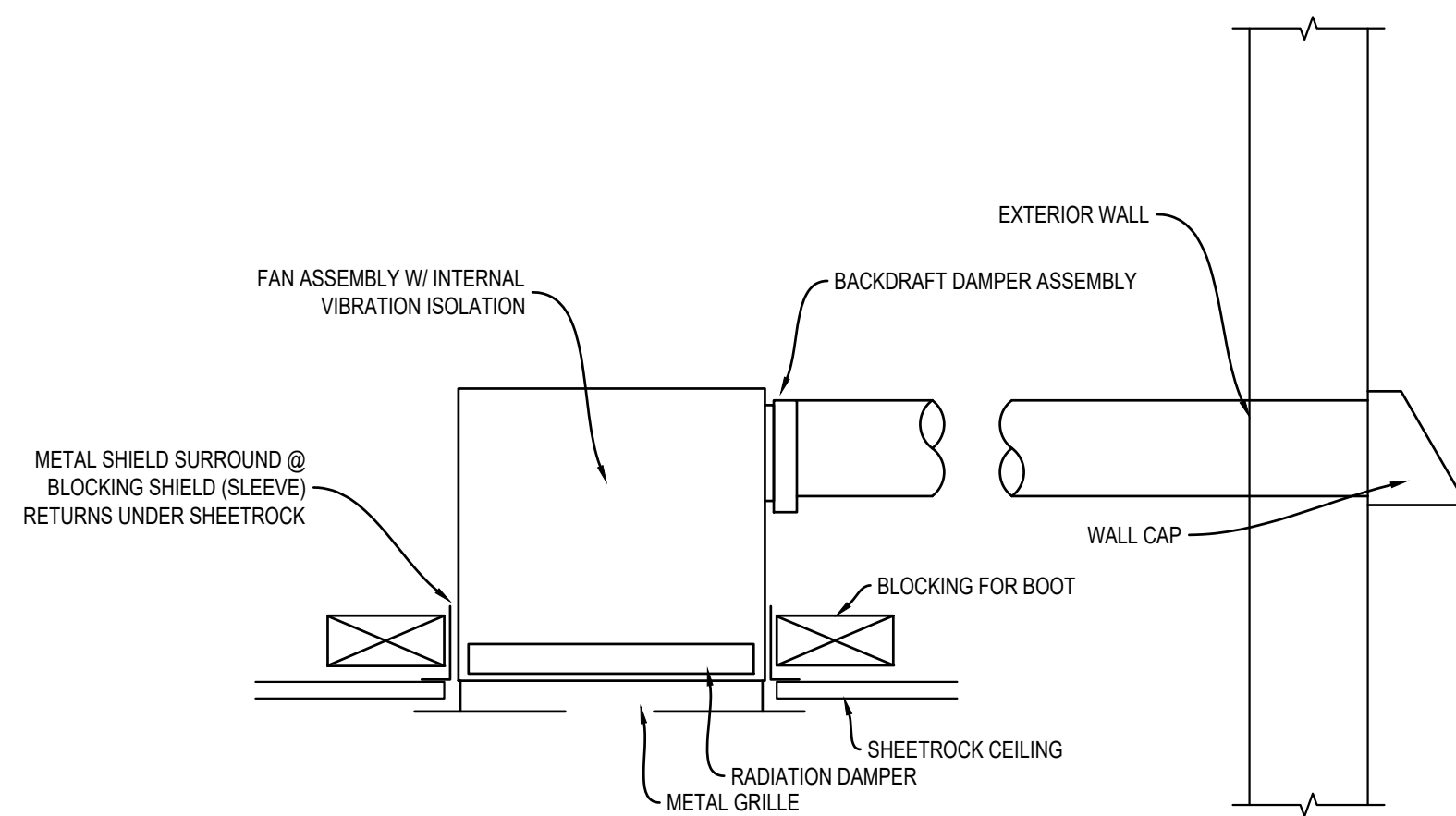
C RADIATION DAMPER DETAILS

NOT TO SCALE



B CONDENSATE DRAIN DETAIL

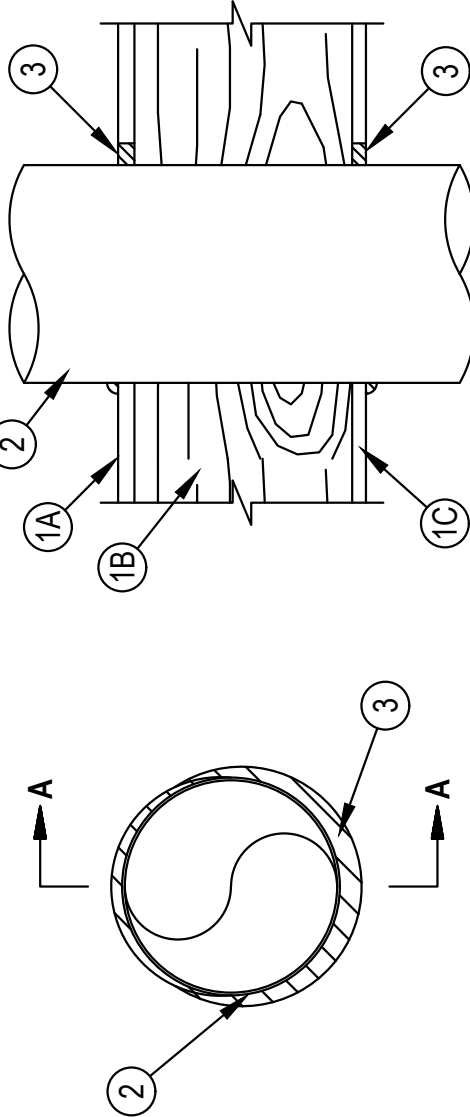
NOT TO SCALE



E CEILING EXHAUST FAN DETAIL

NOT TO SCALE

System No. F-C-7025  
F Rating - 1 Hr  
T Rating - 0 Hr

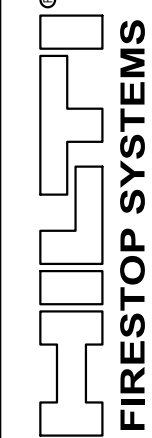


SECTION AA

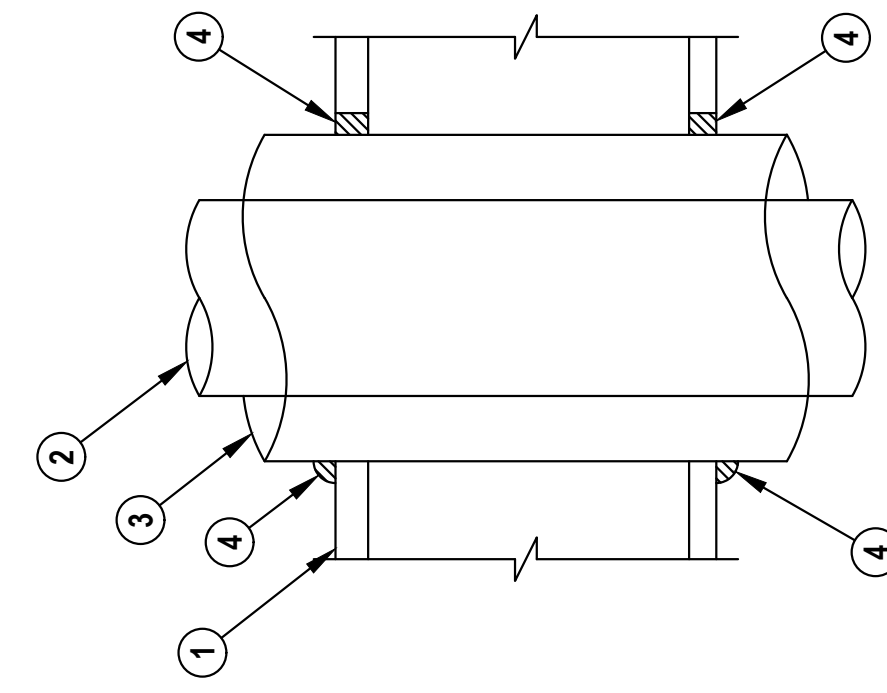
1. Floor-Ceiling Assembly - The 1 hr fire-rated solid or tussled lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual UL500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
- A. Floor System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 1 1/2 in. (279 mm).
  - B. Floor Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Joists. Max spacing shall be 16 in. (406 mm).
  - C. Gypsum Board - Nom 4 ft (1.22 m) wide by 5/8 in. (16 mm) thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or lurring channels as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 1 1/2 in. (279 mm).
- 1A. Chase Wall - Optional. Not Shown - The through penetrants (Item 2) may be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. (13 mm) greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual UL500 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm), 2 by 10 in. (51 by 254 mm) or 2 by 12 in. (51 by 305 mm) lumber studs or plates or parallel mts 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm) or 2 by 10 in. (51 by 254 mm) or 2 by 12 in. (51 by 305 mm) lumber plates or parallel mts 2 by 4 in. (51 by 102 mm) lumber plates, lightly beveled. Max diam of opening is 1 1/2 in. (279 mm).
  - B. Sole Plate - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), two nom 2 by 6 in. (51 by 152 mm), two nom 2 by 10 in. (51 by 254 mm) or two nom 2 by 12 in. (51 by 305 mm) lumber plates or parallel mts 2 by 4 in. (51 by 102 mm) lumber plates, lightly beveled. Max diam of opening is 1 1/2 in. (279 mm).
  - C. Top Plate - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), two nom 2 by 6 in. (51 by 152 mm), two nom 2 by 10 in. (51 by 254 mm) or two nom 2 by 12 in. (51 by 305 mm) lumber plates or parallel mts 2 by 4 in. (51 by 102 mm) lumber plates, lightly beveled. Max diam of opening is 1 1/2 in. (279 mm).
  - D. Gypsum Board - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.
2. Steel Duct - One steel duct to be installed concentrically or eccentrically within the opening. The annular space between the steel duct and the assembly shall be filled with sealant. The sealant shall be:
- A. Max 4 in. (102 mm) diam by min 0.016 in. (0.40 mm) thick steel duct.
  - B. Max 4 in. (102 mm) diam by min 0.016 in. (0.40 mm) thick steel duct.
  - C. Fill, Void or Cavity Material - Sealant - Min 3/4 in. (19 mm) thickness of sealant applied within the annulus flush with the top surface of the floor or sole plate. Min 5/8 in. (16 mm) thickness of sealant applied within the annulus flush with the bottom surface of gypsum board or lower top plate.
- A min 1/2 in. (13 mm) diam bead of sealant to be applied at the duct/subflooring or sole plate interface and the duct/gypsum board or top plate interface.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - CP 606 Flexible Firestop Sealant  
\*Bearing the UL Classification Mark



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System No. F-C-5066  
F Rating - 1 Hr  
T Rating - 1 Hr



1. Floor-Ceiling Assembly - The 1 hr fire-rated solid or tussled lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual UL500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
- A. Floor System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture\* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 1 1/2 in. (279 mm).
  - B. Floor Joists - Nom 10 in. (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members\* with bridging as required and with ends firestopped.
  - C. Gypsum Board - Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or lurring channels as specified in the individual Floor-Ceiling Design.
- 1A. Chase Wall - Optional. Not Shown - The through penetrants (Item 2) may be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual UL500 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
- A. Studs - Nom 2 by 4 in. (51 by 102 mm), 2 by 6 in. (51 by 152 mm), 2 by 10 in. (51 by 254 mm) or 2 by 12 in. (51 by 305 mm) lumber studs or plates or parallel mts 2 by 4 in. (51 by 102 mm) lumber plates, lightly beveled. Max diam of opening is 1 1/2 in. (279 mm).
  - B. Sole Plate - The double top plate shall consist of two nom 2 by 4 in. (51 by 102 mm), two nom 2 by 6 in. (51 by 152 mm), two nom 2 by 10 in. (51 by 254 mm) or two nom 2 by 12 in. (51 by 305 mm) lumber plates or parallel mts 2 by 4 in. (51 by 102 mm) lumber plates, lightly beveled. Max diam of opening is 1 1/2 in. (279 mm).
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  - D. Gypsum Board - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.
2. Through Penetrants - One metallic tube or pipe to be installed concentrically or eccentrically within the opening. Tube or pipe to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
- A. Copper Tube - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.
  - B. Cast Iron Pipe - Nom 4 in. (102 mm) diam (or smaller) cast iron pipe.
  - C. Steel Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
  - D. Iron Pipe - Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
3. Pipe Covering - Nom 1-1/2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units, jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied SSI tape. Transverse joints secured with metal fasteners or with built tape supplied with the product. The diam of opening shall be 4 in. larger than the nom diam of penetrant. The annular space between the insulated pipe and the periphery of the opening shall be min 0 in. (point contact) to max 7/8 in. (20 mm).
- See Pipe and Equipment Covering Materials (PECM) category in the Building Materials Directory for names of manufacturers. Any pipe covering covering the pipe shall be fire-rated and bearing the UL Classification Mark with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Fill, Void or Cavity Material - Sealant - Min 3/4 in. thickness of sealant applied within the annulus flush with the top surface of the floor or sole plate and min 5/8 in. thickness of sealant applied within the annulus flush with the bottom surface of gypsum board or lower top plate. A min 1/2 in. diameter bead of sealant applied at the insulation/subflooring or sole plate interface and the insulation/gypsum board or top plate interface at point contact locations.
- HLTI CONSTRUCTION CHEMICALS, DIV OF HLTI INC. - CP 606 Flexible Firestop Sealant  
\*Bearing the UL Classification Mark

1. DAMPER ASSEMBLY (CFD-521-ES STEEL PLENUM) (CFD-521-IP INSULATED PLENUM)
2. GRILLE (0.025 STEEL MIN)
3. 3/4" X 3/4" X 26 GA (16 x 16 x 0.55) OR 18 SWG STEEL WIRE (MIN)
4. 3/4" X 3/4" X 26 GA (16 x 16 x 0.55) OR 2" X 4" (51 x 102) WOOD STUD SUPPORT
5. FLEX DUCT UL CLASSIFIED AIR DUCT (CLASS 0 OR 1)
6. WOOD FRAMING MEMBER OR JOIST
7. 5/8" (16) GYPSUM WALLBOARD
8. RC-CHANNEL
9. 1" X 1" X 22 GA (25 X 25 X 0.85) RETAINING ANGLE (MIN)
10. AIR DUCT

REV	DESCRIPTION	DATE	BY

PLOT SCALE: 1:1

PLOT DATE: 4/20/2023

**Details**

**MECHANICAL**  
**DeBoer & Gabriel Builders, Inc**  
**Legacy at Haw River Apts Clubhouse**  
Burlington, North Carolina

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DRAWN BY: JCV  
DATE: 04/18/2023  
JOB NO.: HC23036  
SCALE: AS NOTED

CHECKED BY: TDH  
APPROVED BY: TDH  
ACAD NO.: HC23036MECH CH  
DWG. NO.: M-3

04/18/2023



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