

Ohio Museum Complex HVAC
Lin Hall, The Ridges – Ohio University
Athens, Ohio

02/27/2024

ADDENDUM 02

Addendum to the drawings and specifications for: **Ohio Museum Complex HVAC**

This addendum supplements and amends the drawings and specifications and shall become part of the contract documents. The contractor shall acknowledge receipt of this addendum on the Bid Form and incorporate the information herein contained in the preparation of his/her proposal.

PRE-BID MEETING

1. **Sign In Sheet:** Attached
2. **Pre-Bid Meeting Agenda:** Attached

SPECIFICATIONS

1. Competitive Sealed Bid Documents – HAPCAP Front End – Article 15 Payment
 - a. Remove Article 15 and replace with the following:

Payment to the Contractor shall be made as follows: The Contractor may submit a Contractor Payment Request for Work performed based upon the Schedule of Values to the A/E each month or upon another interval approved by the Contracting Authority. When the rate of Work and amount involved is sufficient that it is considered appropriate by the Contracting Authority, the Contractor may submit Contractor Payment Requests twice a month.

The Owner's Representative shall certify on the pay request that he approved the completed work prior to the Owner making payment. Upon receipt of an approved invoice from the Contractor, the Owner shall submit a drawdown request to the Ohio Department of Development for CDBG funds to pay the Contractor. A turnaround time of 30 - 45 days is expected before said funds are forwarded to the Owner.
2. Solicitation
 - a. Replace previous Solicitation with revised.
 - b. Increase Alternate 1 estimate amount

DRAWINGS

1. Sheet D101 – General Notes

Add General note 11. CONTRACTOR TO ASSUME THAT LEAD PAINT IS PRESENT IN THE BUILDING AND PROVIDE CONTROLS DURING CORING OF EXISTING WALLS
2. Sheet D104

Mechanical room finish revisions.
3. Sheet D105

Mechanical room finish revisions.

- 4. Sheet P5**
Removed reference to pressed fittings on piping schedule.
- 5. Sheet H0**
Added note to turn over refrigerant to OU if chiller alternate is accepted.
- 6. Sheet H2**
Removed all fin tube radiation.
- 7. Sheet H3.1**
Relocated AHU-5A and RAF-5A to reduce size of mechanical room.
Relocated VFDs, Temperature Control Panel and Humidifier unit H-9 in this room.
Added note to install full size drain pan under AHU units and coil piping connections.
- 8. Sheet H3.2**
Relocated piping connections to AHU-5A.
- 9. Sheet H4.1**
Relocated AHU-6A and RAF-6A to reduce size of mechanical room.
Relocated VFDs, Temperature Control Panel and Humidifier unit H-9 in this room.
Added note to install full size drain pan under AHU units and coil piping connections.
- 10. Sheet H4.2**
Relocated piping connections to AHU-A.
- 11. Sheet H5**
Removed fin tube radiation piping detail.
Added detail 3/H-5 to clarify Heating Water System Pump replacement is base bid work.
- 12. Sheet E3**
Revisions for AHU.
- 13. Sheet E4**
Revisions for AHU.
- 14. Sheet E6**
Panel revisions.

CONTRACTOR QUESTIONS

- 1. Can solder be used for copper piping in lieu of "Silfos"?**
Response: If copper piping is used for chilled water and heating water system then Bridgit lead-free nickel-bearing alloy solder must be used. Copper piping larger than 2" diameter must have joints "tinned" prior to final soldering of joint.
- 2. If there are no ceilings in space can temperature control wiring be exposed?**
Response: Rooms/spaces north of main stairs will have future ceilings and wiring may be exposed in these locations. Rooms south of main stairs (310-318, 410-418) may not have future ceilings and ductwork and wiring will be painted flat black. Wiring should be concealed in conduit for these spaces to allow painting of conduits.

ATTACHED

Revised Solicitation

Sheets: D104, D105, P5, H0, H2, H3.1, H3.2, H4.1, H5, E3, E4, E6

END OF ADDENDUM 02



26 East Park Drive, Ste 101, Athens, Ohio 45701
33 N Grant Ave, Ste 150, Columbus, Ohio 43215

PRE BID AGENDA

Project: Ohio Museum Complex HVAC – Lin Hall
Meeting Date: 02/22/24
Meeting Title: Pre Bid Meeting

1. Project Overview

a) Overview of Project Scope

- HVAC work on B, 2, 3 and 4 including air handler units, piping, ductwork, controls
- Electrical updates to support new HVAC equipment
- Exterior storm water controls
- Exterior building envelope improvements
- Interior building envelope improvements

b) Alternates

- Alternate 01 - New exterior pad mounted chiller
- Alternate 02 – New Replacement Humidifiers

c) Contract Arrangement – GC

d) Completion Time: 300 Days.

e) No ACM identified

2. Addendum 01

a) Bid date extension issued 2/16/24

3. Project Restrictions

- a) Building will be partially occupied during project.
- b) Maintaining building conditioning for B, 1 and 2 throughout is a requirement
- c) Site Utilization and Protection / Access to Site. Contractor to have full access
- d) Job Storage/Staging: As agreed to by OU
- e) Parking
- f) Work Restrictions – No restrictions on hours of work or work days
- g) Work Restrictions - Dust and Vibration

4. Temporary Facilities

a) Utility Usage – Water, Sewer, Electric

5. Utility and Service Interruptions - Sequencing

a) Protection of existing utilities to retain continuity and services

6. Bid Questions Deadline: 02/29/2024 by 2:00 pm

7. Bids Due 03/05/2024 by 2:00 pm.

8. Questions - Additional Items



26 East Park Drive, Ste 101, Athens, Ohio 45701
33 N Grant Ave, Ste 150, Columbus, Ohio 43215

MEETING SIGN IN SHEET

Name <i>Tom Dispensa</i>	Company <i>BDT</i>	Email
Address	Phone/ Cell	Fax
Name <i>BRIAN OGLE</i>	Company <i>PRATER</i>	Email
Address	Phone/ Cell	Fax
Name <i>Jeff Jenkins</i>	Company <i>HAPCAP</i>	Email
Address	Phone/ Cell	Fax
Name <i>Ryan Hanson</i>	Company <i>A.S. STOCKMEISTER INC</i>	Email <i>Rhanson@stockmeister.com</i>
Address	Phone/ Cell <i>740-577-8684</i>	Fax
Name <i>Dirk Walter</i>	Company <i>KAL ELE</i>	Email <i>d.walter@kalelectronics.com</i>
Address	Phone/ Cell <i>740-541-4547</i>	Fax



26 East Park Drive, Ste 101, Athens, Ohio 45701
33 N Grant Ave, Ste 150, Columbus, Ohio 43215

Name <i>Eric Male</i>	Company <i>BCI</i>	Email <i>emale@bcicontrols.com</i>
Address	Phone/ Cell <i>614-306-0227</i>	Fax
Name <i>Ryan Holbrook</i>	Company <i>BCI</i>	Email <i>rhelbrook@bcicontrols.com</i>
Address	Phone/ Cell <i>614-506-6357</i>	Fax
Name	Company	Email
Address	Phone/ Cell	Fax
Name	Company	Email
Address	Phone/ Cell	Fax
Name	Company	Email
Address	Phone/ Cell	Fax

INVITATION TO BIDDERS

Sealed Bids will be received by Athens County Commissioners, at the Commissioner's office, 15 South Court Street, Athens, Ohio 45701 until **March 5, 2024, at 2:00 p.m.** local time, for the following project:

**Ohio Museum Complex HVAC Improvements
Lin Hall, Ohio University
Athens, Ohio 45701**

Sealed Bids will be received for a general contract for all material, labor and services as described in the Drawings and Specifications. Bids will be opened publicly at a date and time determine by the owner. All bids must be accompanied by a bid guaranty as noted in the project specifications.

A pre-bid meeting is scheduled for 2/22/2024 at 10:00am at Lin Hall. Meet at the main building entrance. All bidders are encouraged to attend this opportunity to inspect the area of work.

Drawings and Specifications prepared by:

BDT Architects and Interior Designers (BDTAID, Inc.)
26 E. Park Drive, Suite 101
Athens, Ohio 45701
Telephone: 740.592.2420

The project is for building renovations to Lin Hall at The Ridges including Abatement, General Trades, HVAC, Plumbing, Electric, Fire Alarm, Fire Sprinkler and Site Work.

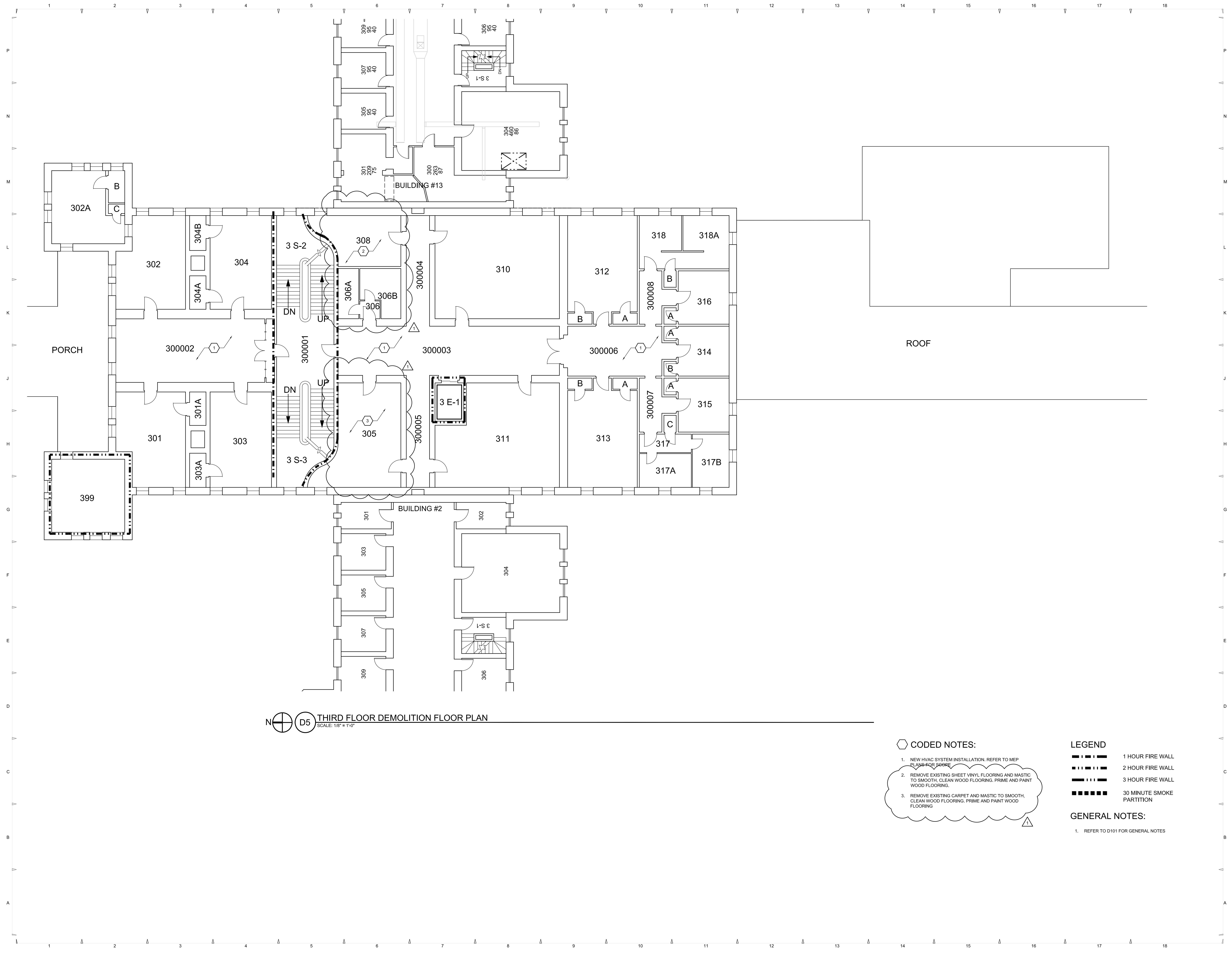
Estimate of Probable Cost for total project is:	\$1,700,000.00
Estimate of Probable Cost for Alternate H1 is:	\$ 210,000.00
Estimate of Probable Cost for Alternate H2 is:	\$ 62,000.00

Bidders may obtain hard copies of complete sets of the Bidding Documents from the Architect for a non-refundable charge of \$150.00 per set. An electronic set of the Bidding Documents can be emailed to bidders at no charge.

END OF INVITATION TO BIDDERS

BLANK PAGE

PROJECT NO: 23002
production & intellectual property rights reserved © 2023
association with:








THIRD FLOOR DEMOLITION FLOOR PLAN
 SCALE: 1/8" = 1'-0"

 CODED NOTES:

1. NEW HVAC SYSTEM INSTALLATION. REFER TO MEP PLANS FOR SCORE
2. REMOVE EXISTING SHEET VINYL FLOORING AND MASTIC TO SMOOTH, CLEAN WOOD FLOORING. PRIME AND PAINT WOOD FLOORING.
3. REMOVE EXISTING CARPET AND MASTIC TO SMOOTH, CLEAN WOOD FLOORING. PRIME AND PAINT WOOD FLOORING

LEGEND

- | | |
|---|------------------------------|
|  | 1 HOUR FIRE WALL |
|  | 2 HOUR FIRE WALL |
|  | 3 HOUR FIRE WALL |
|  | 30 MINUTE SMOKE
PARTITION |

GENERAL NOTES:

1. REFER TO D101 FOR GENERAL NOTES

PROFESSIONAL SEAL

DATES

DATE	DESCRIPTION
01/09/24	BID SET
02/26/24	ADDENDUM 02

ECT TITLE

OHIO MUSEUM COMPLEX
LIN HALL HVAC
RIDGES CIR.
HENS, OHIO 45701

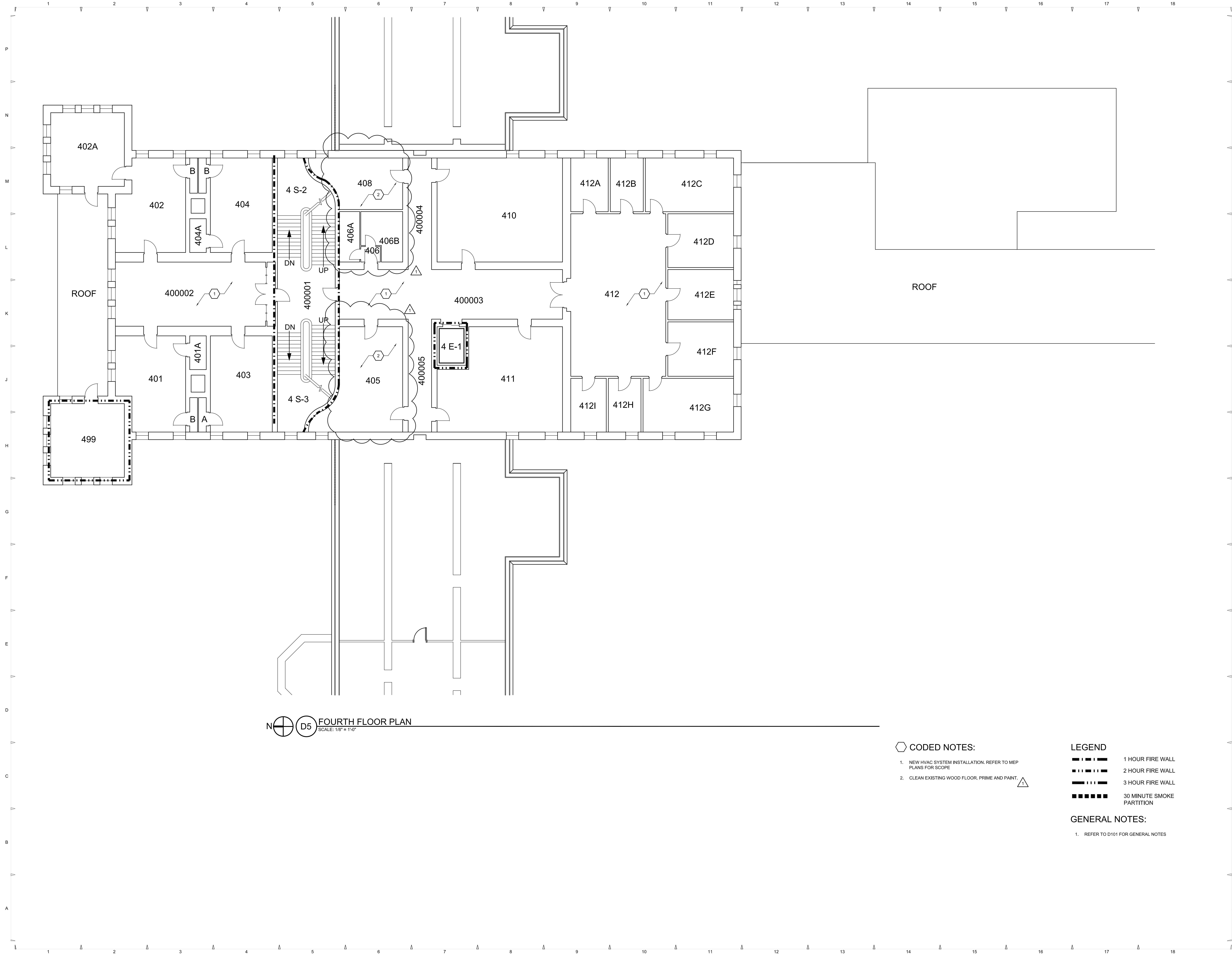
ECT NUMBER 23002

DRAWN

RD FLOOR PLAN

ET

0104



FOURTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

CODED NOTES:

- NEW HVAC SYSTEM INSTALLATION. REFER TO MEP PLANS FOR SCOPE
- CLEAN EXISTING WOOD FLOOR, PRIME AND PAINT.



LEGEND

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- 3 HOUR FIRE WALL
- 30 MINUTE SMOKE PARTITION

GENERAL NOTES:

- REFER TO D101 FOR GENERAL NOTES

bd

t

ARCHITECTS
& DESIGNERS

BDT&D, Inc.

26 E. Park Drive, Athens, Ohio 45701

OFFICE 716.652.2403

ONLINE www.bdt&d.com

EMAIL office@bdt&d.com

BDT PROJECT NO. 23002

All reproduction & intellectual property rights reserved © 2023

In association with:

PROFESSIONAL SEAL

ISSUE DATES		
NO.	DATE	DESCRIPTION
	01/09/24	BID SET
△	02/26/24	ADDENDUM 02

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER

23002

DATE

-

DRAWN

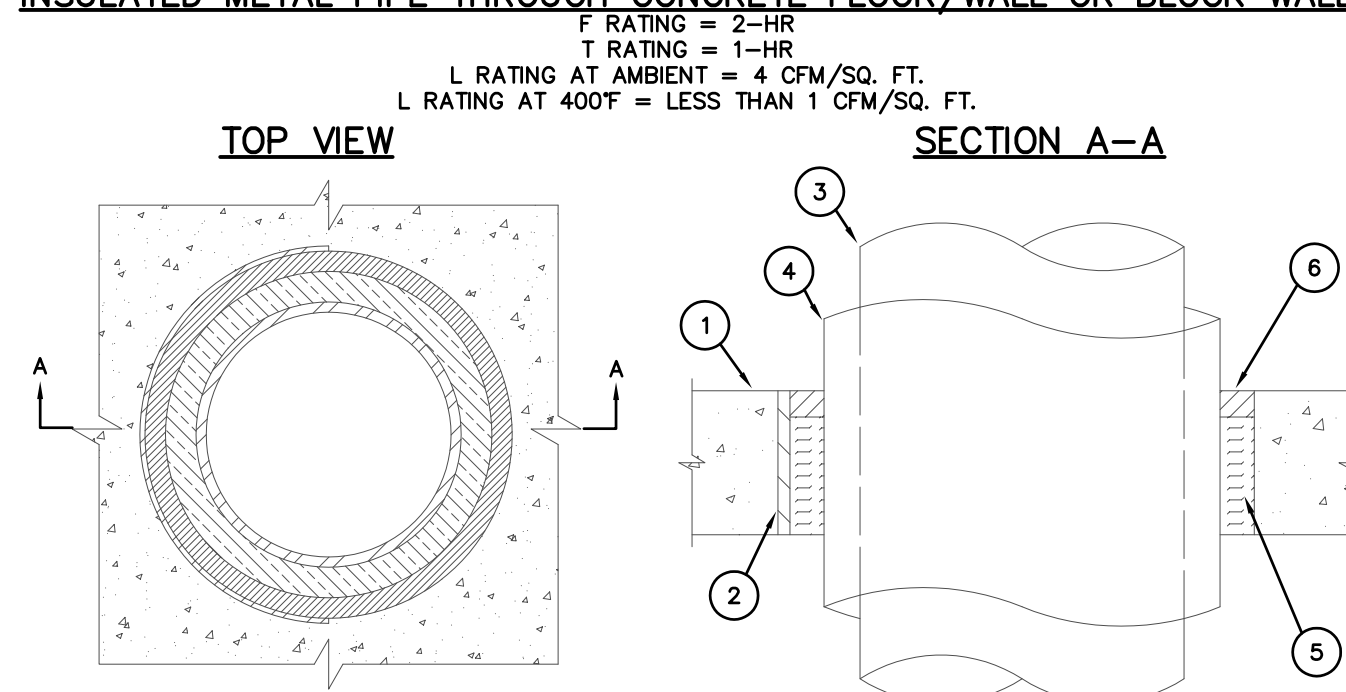
SHEET TITLE

FOURTH FLOOR PLAN

SHEET

D105

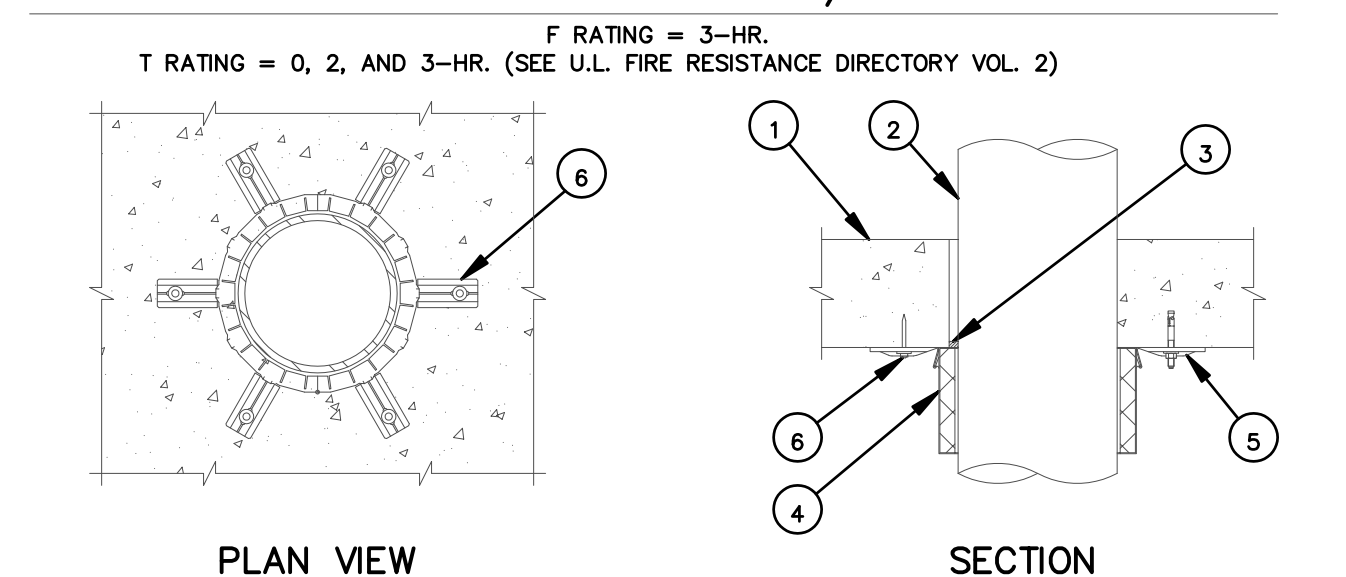
INSULATED METAL PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL



- CONCRETE FLOOR OR WALL ASSEMBLY (3-HR. FIRE-RATING):
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MINIMUM 4-1/2" THICK).
B. ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL.
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
A. MAXIMUM 10" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
B. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE.
C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
D. MAXIMUM 4" NOMINAL DIAMETER EMT.
- BACKER ROD, HILTI CP 128 FILLER FOAM, OR MINERAL WOOL TO BE USED AS BACKER.
- MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT.
- MINIMUM 1/2" BEAD HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

- NOTES:
- MAXIMUM DIAMETER OF OPENING = 20".
 - ANNUAL SPACE = MINIMUM 1/2", MAXIMUM 2-1/4".
 - MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.

PLASTIC PIPE THROUGH CONCRETE FLOOR/WALL OR BLOCK WALL

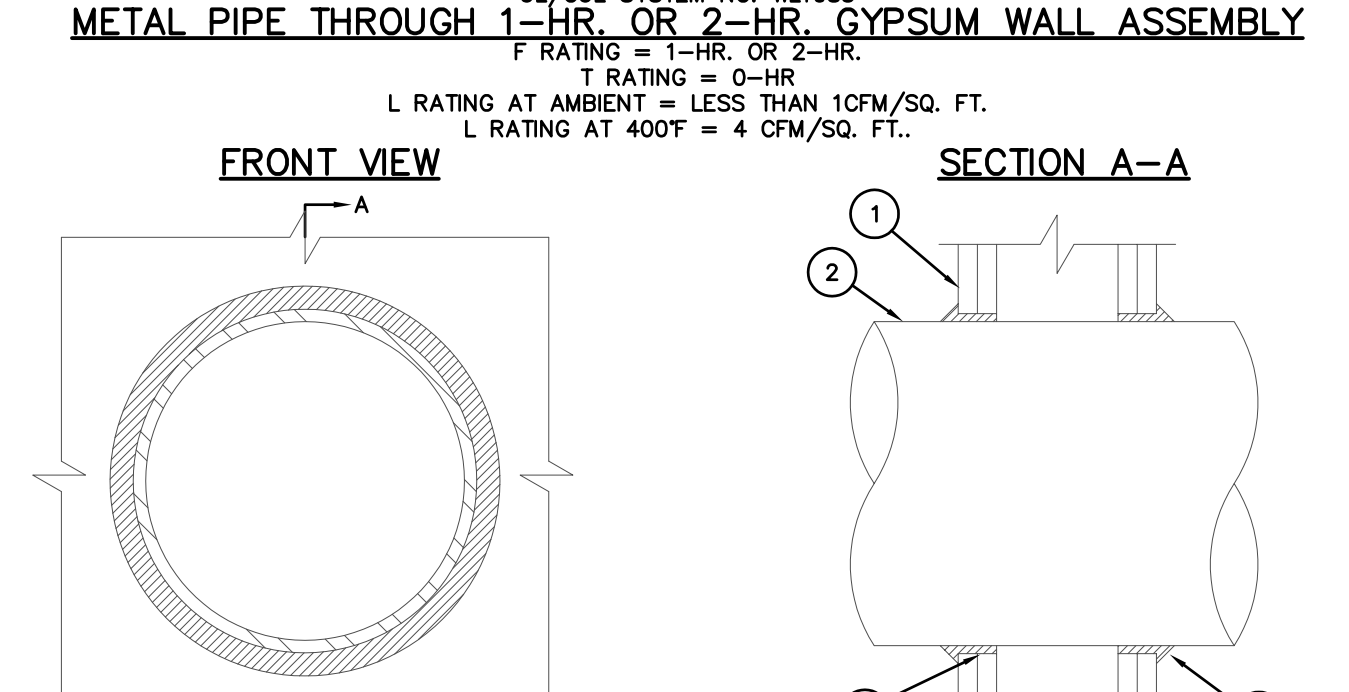


- CONCRETE FLOOR OR WALL ASSEMBLY (3-HR FIRE-RATING):
A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR WALL (MIN. 4-1/2" THICK).
B. ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL.
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING (ALSO SEE NOTE NO. 3 BELOW):
A. MAXIMUM 6" DIAMETER PVC PLASTIC PIPE (CELLULAR AND SOLID CORE).
B. MAXIMUM 6" DIAMETER ABS PLASTIC PIPE (CELLULAR AND SOLID CORE).
C. MAXIMUM 6" DIAMETER FRPP PLASTIC PIPE.
D. MAXIMUM 6" DIAMETER CPVC PLASTIC PIPE.
- MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT.
- HILTI CP 642 OR HILTI CP 643 FIRESTOP COLLAR (SEE TABLE BELOW).
- MOUNTING TAB FOR HILTI CP 642 OR HILTI CP 643 FIRESTOP COLLAR.
- HILTI POWDER ACTUATED FASTENERS (X-27 27 PINS WITH WASHERS) OR 1/4" HILTI HWK-BOLT II ANCHORS TO FASTEN EACH MOUNTING TAB.

PIPE DIAMETER	PRODUCT DESCRIPTION	NO. OF MOUNTING TABS	MAX. HOLE SIZE
1-1/2"	CP 643 50/15"	2	2-1/8"
2"	CP 643 63/2"	2	2-5/8"
3"	CP 643 90/3"	3	4"
4"	CP 643 110/4"	3	5"
6"	CP 642 160/6"	6	7"

- NOTES:
- HILTI CP 642/643 FIRESTOP COLLARS ARE REQUIRED ON BOTH SIDES OF A WALL ASSEMBLY.
 - ANNUAL SPACE = MINIMUM 0", MAXIMUM 1/2".
 - CLOSED OR VENTED PIPING SYSTEMS. (PVC, ABS, FRPP = SCHEDULE 40, CPVC = SDR 17).

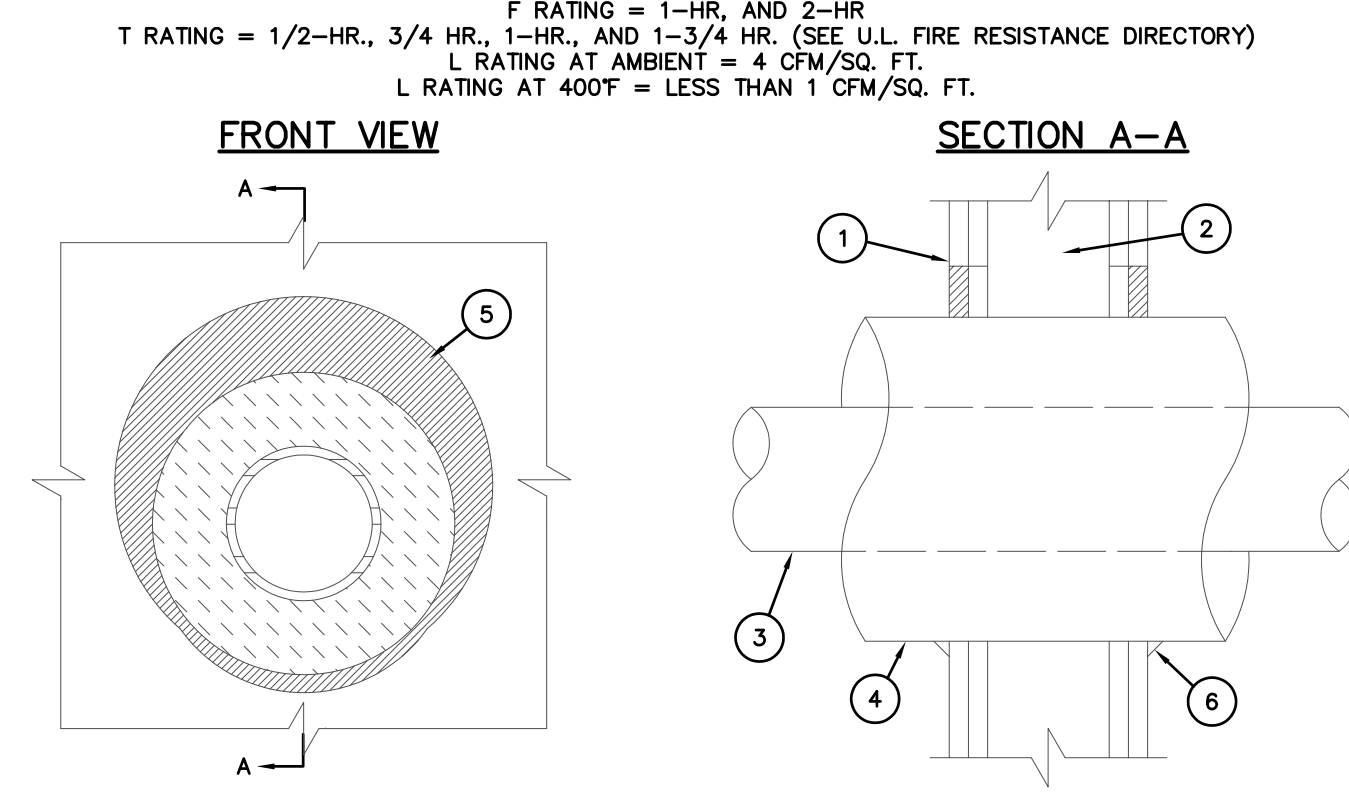
METAL PIPE THROUGH 1-HR. OR 2-HR. GYPSUM WALL ASSEMBLY



- GYPSUM WALL ASSEMBLY (UL/ULC CLASSIFIED U300 OR U400 SERIES) (1-HR OR 2-HR FIRE-RATING) (2-HR SHOWN).
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
B. MAXIMUM 12" NOMINAL DIAMETER CAST IRON PIPE.
C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
D. MAXIMUM 6" NOMINAL DIAMETER EMT.
E. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
- HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT FORCED INTO ANNULAR SPACE TO MAXIMUM EXTENT POSSIBLE.
- MINIMUM 1/2" BEAD HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT TO BE INSTALLED AROUND PIPE, LAPPING 1/4" BEYOND PERIPHERY OF OPENING.

- NOTES:
- MAXIMUM DIAMETER OF OPENING = 13-1/4".
 - ANNUAL SPACE = MINIMUM 0", MAXIMUM 1/4".

INSULATED METAL PIPE THROUGH 1-HR. OR 2-HR. GYPSUM WALL ASSEMBLY

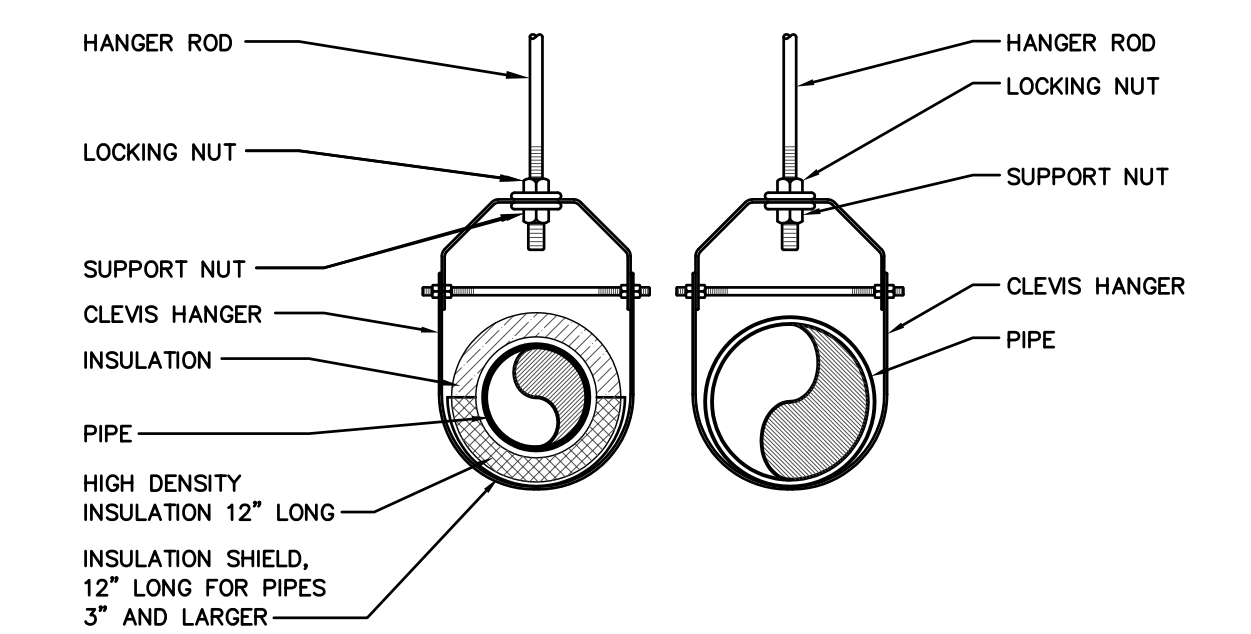


- GYPSUM WALL ASSEMBLY (UL/ULC CLASSIFIED U300 OR U400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR SHOWN).
- ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL.
- PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 20 OR HEAVIER).
B. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
D. MAXIMUM 4" NOMINAL DIAMETER EMT.
- MAXIMUM 2" THICK GLASS-FIBER PIPE INSULATION.
- MINIMUM 5/8" DEPTH HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT.
- MINIMUM 1/2" BEAD HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT AT POINT OF CONTACT.

- NOTES:
- MAXIMUM DIAMETER OF OPENING = 18".
 - ANNUAL SPACE = MINIMUM 0", MAXIMUM 1-7/8".

PLUMBING NOTES

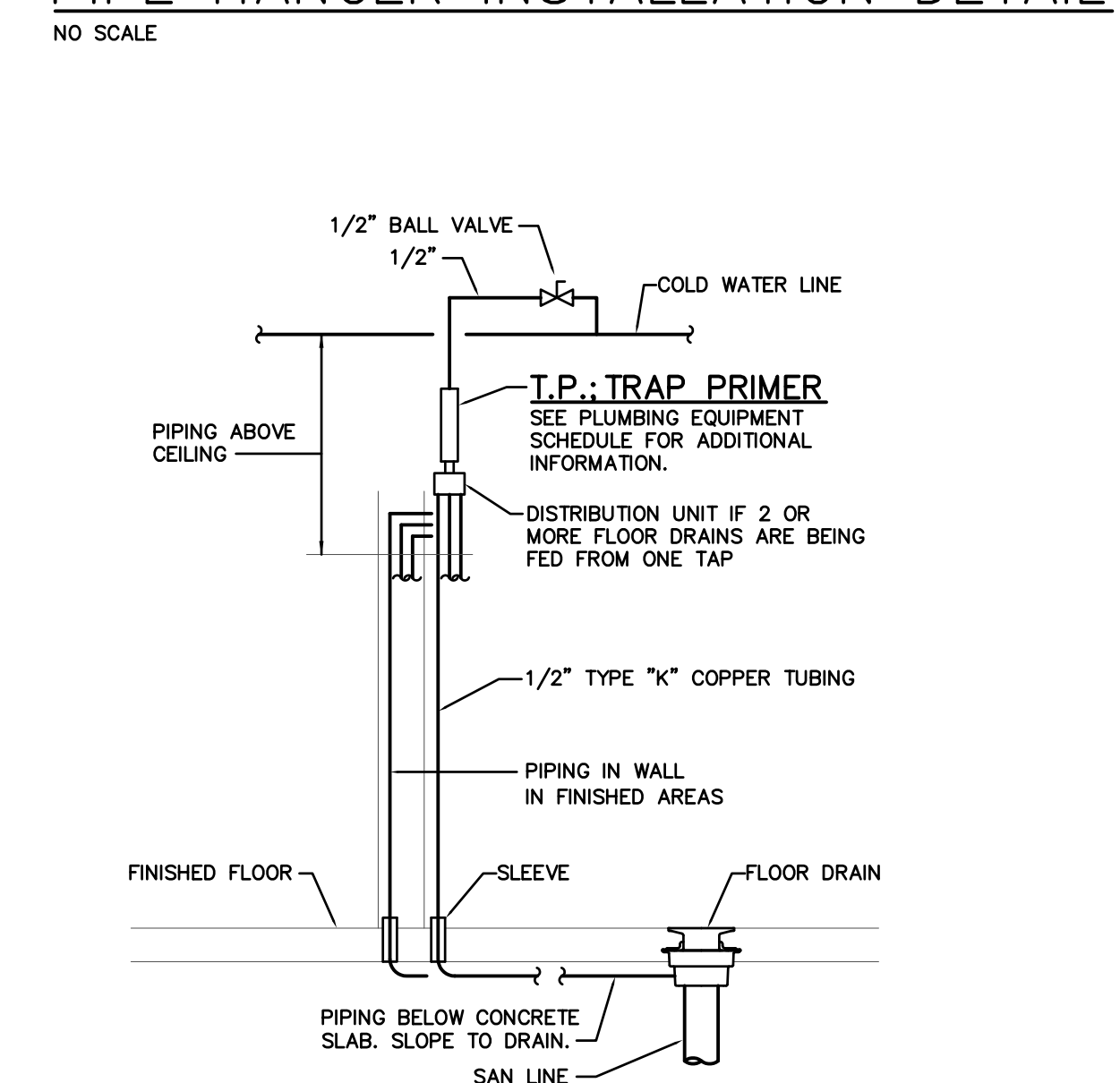
- REFER TO ARCHITECTURAL DOCUMENTATION FOR ADDITIONAL SCOPE/INFORMATION REGARDING DEMOLITION/REMODELING WORK, INCLUDING IDENTIFICATION OF AREAS AND ITEMS/ELEMENTS INVOLVED, AS WELL AS INFORMATION OF BOTH A GENERAL AND SPECIFIC NATURE.
- UNLESS DIRECTED OTHERWISE, WHERE CONCEALING/FINISH STRUCTURE IS PROVIDED UNDER SEPARATE CONTRACT, ALL WORK IN THE PLUMBING CONTRACT NOT SPECIFICALLY INTENDED OR IDENTIFIED FOR EXPOSED/VISIBLE INSTALLATION SHALL BE INSTALLED WITHIN THE CONCEALING STRUCTURE.
- ALL PIPING SHOWN IS ABOVE CEILING IN AREAS WITH DROPPED CEILINGS, OR AT BOTTOM OF OVERHEAD SUPPORT STRUCTURE IN EXPOSED STRUCTURE AREAS, UNLESS INDICATED OTHERWISE.
- THE PLUMBING CONTRACTOR IS TO SECURE AND VERIFY ALL MEASUREMENTS AND CONDITIONS AT THE PROJECT IN ADVANCE OF WORK (INCLUDING FABRICATION).
- THE PLUMBING CONTRACTOR IS TO PROVIDE ALL ADDITIONAL STEEL, HANGERS, RODS, CLAMPS, ETC., AS REQUIRED FOR PROPER INSTALLATION, SUPPORT, AND COORDINATION WITH WORK PROVIDED UNDER SEPARATE CONTRACT, UNLESS INDICATED OTHERWISE IN PROJECT SPECIFICATIONS OR BY THE PIPE MATERIAL MANUFACTURER, SUPPORT PIPING AS FOLLOWS:
A. CAST IRON PIPING (NOT IN EARTH); 5 FT. CENTERS
B. STEEL PIPING: 10 FT. CENTERS
C. COPPER PIPING; 8 FT. CENTERS
D. PLASTIC PIPING; 4 FT. CENTERS
- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR FIRESTOPPING AT ALL PLUMBING RELATED PENETRATIONS OF FIRE, SMOKE AND OTHER RATED STRUCTURES, INCLUDING FLOORS, WALLS, PARTITIONS, ETC.. REFER TO ARCHITECTURAL DOCUMENTATION FOR LOCATIONS OF ALL RATED STRUCTURES, AND SPECIFIC INFORMATION AND REQUIREMENTS PERTAINING TO SAME.
- LAYOUT AND INSTALLATION OF PLUMBING CONTRACT PIPING, EQUIPMENT, ITEMS AND ELEMENTS INDICATED ON PLAN IS SCHEMATIC IN NATURE. EXACT LOCATION, ROUTING AND INSTALLATION TO BE COORDINATED WITH BUILDING STRUCTURE AND ALL OTHER WORK PROVIDED UNDER SEPARATE CONTRACT.
- COORDINATE EXACT LOCATION AND INSTALLATION OF ALL PLUMBING UTILITIES REQUIRED AND PROVIDED FOR WORK UNDER SEPARATE CONTRACT WITH THE APPROPRIATE CONTRACTOR(S) IN ADVANCE OF WORK. THIS INCLUDES SUPPLY AND DRAIN ELEMENTS, FOR DIRECT (PIPED) AND/OR INDIRECT (FLOOR/HUB DRAIN, AIR GAP, ETC.) CONNECTION/SERVICE.
- RUN ALL WATER LINES LEVEL.
- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF ATHENS/ STATE OF OHIO BUILDING CODE, INCLUDING APPLICABLE PLUMBING, MECHANICAL AND HANDICAP ACCESSIBILITY PROVISIONS.
- PROVIDE CLEANOUTS AS FOLLOWS:
A. AT THE BASE OF ALL SANITARY STACKS.
B. IN ALL HORIZONTAL SANITARY PIPING AT INTERVALS NOT TO EXCEED 100 L.F. IN LENGTH.
C. AT EACH CHANGE OF DIRECTION BY SANITARY PIPING BELOW GRADE OR AT THE LOWEST POINT OF THE HORIZONTAL DRAINAGE SYSTEM GREATER THAN 45 DEGREES, UNLESS ANOTHER CLEANOUT IS WITHIN 40 FT. DEVELOPED LENGTH.
D. AT CONNECTION POINTS TO EXISTING STORM, SANITARY AND VENT PIPING (TEST TYPE CLEANOUTS).
- UNLESS INDICATED OTHERWISE, ALL FIXTURES AND EQUIPMENT PROVIDED WITH PLUMBING SUPPLY PIPING TO BE FURNISHED WITH APPROVED/LISTED STOPS IN ACCESSIBLE LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF CASEWORK, EQUIPMENT AND OTHER ITEMS/ELEMENTS PROVIDED UNDER SEPARATE CONTRACT, INCLUDING EXACT LOCATIONS AND UTILITY CONNECTION REQUIREMENTS. COORDINATE PLUMBING UTILITY WORK AS REQUIRED IN ADVANCE, INCLUDING PLACEMENT OF FITTINGS, ACCESSORIES, APPURTENANCES, DRAINS, ETC.
- VERIFY THE EXACT LOCATION AND INSTALLATION REQUIREMENTS FOR ALL DRAINS WITH THE ARCHITECTURAL AND STRUCTURAL DOCUMENTATION FOR PROPER PLACEMENT IN RESPECT TO SLOPES AND STRUCTURE AT EACH DRAIN. COORDINATE INSTALLATION WITH THE APPROPRIATE CONTRACTOR. FINAL INSTALLATION AND LOCATION SUBJECT TO APPROVAL.
- PLUMBING PIPING IS NOT PERMITTED TO RUN ABOVE ANY ELECTRICAL SWITCH- GEAR, MOTOR CONTROL CENTERS OR PANELS (INCLUDING ACCESS/CLEARANCE SPACE 42" IN FRONT OF THESE ITEMS, AND MIN. 30" WIDE), UNDER ANY CIRCUMSTANCES.



PIPE SIZE	ROD SIZE	PIPE SIZE	MAX. ALLOWABLE SPACING
UP TO 2"	3/8" DIA.	1"	7"
2 1/2" THRU 3"	1/2" DIA.	1 1/4"	8"
4" AND 5"	5/8"	1 1/2"	9"
6" THRU 8"	3/4"	2"	10"
12"	7/8"	2 1/2"	11"
		3" THRU 8"	12"

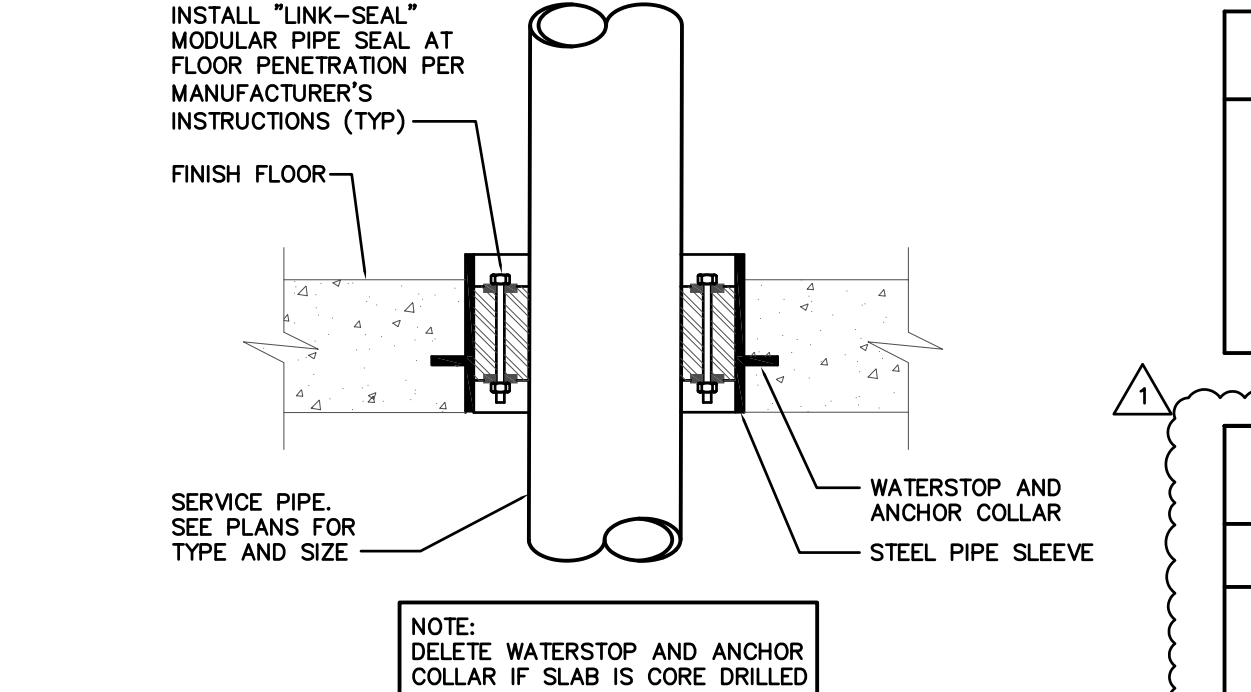
- NOTE:
- REFER TO PIPE HANGER DETAIL FOR HANGER ROD SIZE, FOR CEILING SUSPENDED EQUIPMENT PROVIDE MIN. 3/8" DIA. HANGER ROD (REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS).
 - SOIL, WASTE, AND CONDUCTOR PIPES SHALL BE SUPPORTED ON CLEVIS HANGERS.
 - ALL HANGER PARTS SHALL BE HEAVY ZINC CHROMATED.
 - IF USED FOR INSULATED PIPE, SIZE HANGER PROPERLY AND USED INSULATION SHIELDS FOR COLD LINES AND PROTECTION SADDLES FOR HOT LINES.

PIPE HANGER INSTALLATION DETAIL



T.P.; TRAP PRIMER PIPING DIAGRAM

NO SCALE



WATERTIGHT PENETRATION PIPE THRU FLOOR SLAB

NO SCALE

PLUMBING ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS MAY BE USED

ABV.	ABOVE	INT.	INTERIOR
A.F.F.	ABOVE FINISHED FLOOR	LAV.	LAVATORY
APPROX.	APPROXIMATELY	MFR.	MANUFACTURER
BEL.	BELOW	MECH.	MECHANICAL
BLDG.	BUILDING	N.C.	NORMALLY CLOSED
B.T.	BATH TUB	PE	POLYETHYLENE
C.I.	CAST IRON	P.C.	PLUMBING CONTRACTOR
CLG.	CEILING	PLBG.	PLUMBING
CONC.	CONCRETE	PRESS.	PRESSURE
CO.	CLEAN OUT	REQD.	REQUIRED
CONN.	CONNECT	R.D.	ROOF DRAIN
CONT.	CONTINUATION	RM.	ROOM
CONTR.	CONTRACTOR	T.P.	TRAP PRIMER
DTL.	DETAIL	TYP.	TYPICAL
DIA.	DIAMETER	V.T.R.	VENT THRU ROOF
DN.	DOWN	W.	WASTE
EXT.	EXTERIOR	W/	WITH
FT. HD.	FEET OF HEAD	WC	WATER CLOSET
FLR.	FLOOR	F.V.	FLUSH VALVE
F.D.	FLOOR DRAIN	G.C.	GENERAL CONTRACTOR
FURN.	FURNISH	GEN.	GENERAL

PLUMBING LEGEND

NOTE: NOT ALL SYMBOLS MAY BE USED

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—DWS—	DOMESTIC WATER SERVICE (BEL. FLR.)	—	PIPE BRANCH TOP CONN.
—SAN—	SANITARY (ABV. FLR.)	—	PIPE BRANCH BOTTOM CONN.
---SAN---	SANITARY (BEL. FLR.)	—	PIPE CAP (OR PLUG)
—V—	SANITARY VENT	—	PRESSURE GAUGE
—CW—	DOMESTIC COLD WATER	—	P-TRAP (PLAN VIEW)
—SW—	SOFTENED COLD WATER	—	WALL OR EXPOSED CLEANOUT
—HW—	DOMESTIC HOT WATER	—	FLOOR OR GRADE CLEANOUT
—D—	DRAIN	—	VENT-THRU-ROOF
—B—	BALL VALVE	—	FLOOR DRAIN
—	OS&Y GATE VALVE	—	PIPE THRU FLOOR AS SHOWN
—	PLUG VALVE/GAS COCK	—	PLAN CODED NOTE NUMBER
—	COMB. BALANCE/SHUTOFF VALVE	—	EQUIPMENT NUMBER
—	PRESSURE REDUCING VALVE	—	ROOM NUMBER
—	SOLENOID VALVE	—	STACK SYMBOL
—	CHECK VALVE	—	RISER SYMBOL
—	Y-TYPE STRAINER		
—	PIPE FLANGES		
—	PIPE UNION		
—	PIPE DOWN		
—	PIPE UP		

PLUMBING EQUIPMENT

TP-1; TRAP PRIMER VALVE ASSEMBLY

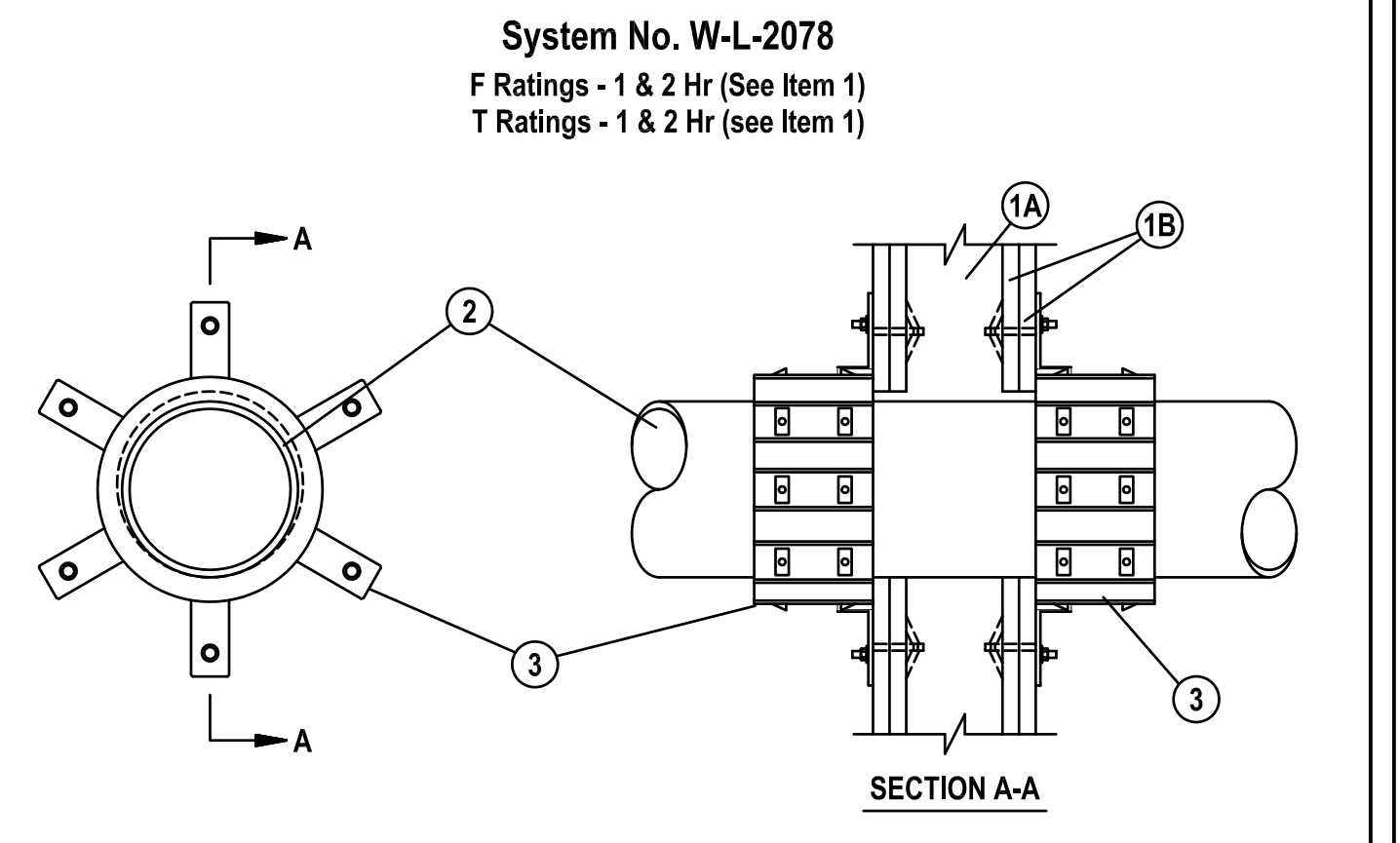
PRECISION PLUMBING PRODUCTS MODEL NO. PR-500 AUTOMATIC PRESSURE DROP ACTIVATED TRAP PRIMER VALVE WILL PRIME UP TO 2 FLOOR DRAINS W/PATENTED DISTRIBUTION DU-U OR DU-4 DISTRIBUTION UNITS. SYSTEM OPERATING RANGE IS 20 PSIG MINIMUM TO 80 PSIG MAXIMUM. THE VALVE REQUIRES A 3 PSIG (21 KPA) PRESSURE DROP ACROSS THE VALVE TO ACTIVATE AND WILL DELIVER A METERED AMOUNT OF WATER TO THE FLOOR DRAIN. TRAP PRIMER IS TO BE CONNECTED TO A COLD WATER SUPPLY ONLY CONSTRUCTED OF 693 BRASS, EPDM E70 O-RINGS, DOW #7 SILICONE, #60 STAINLESS STEEL MESH SCREEN.

PIPING SCHEDULE

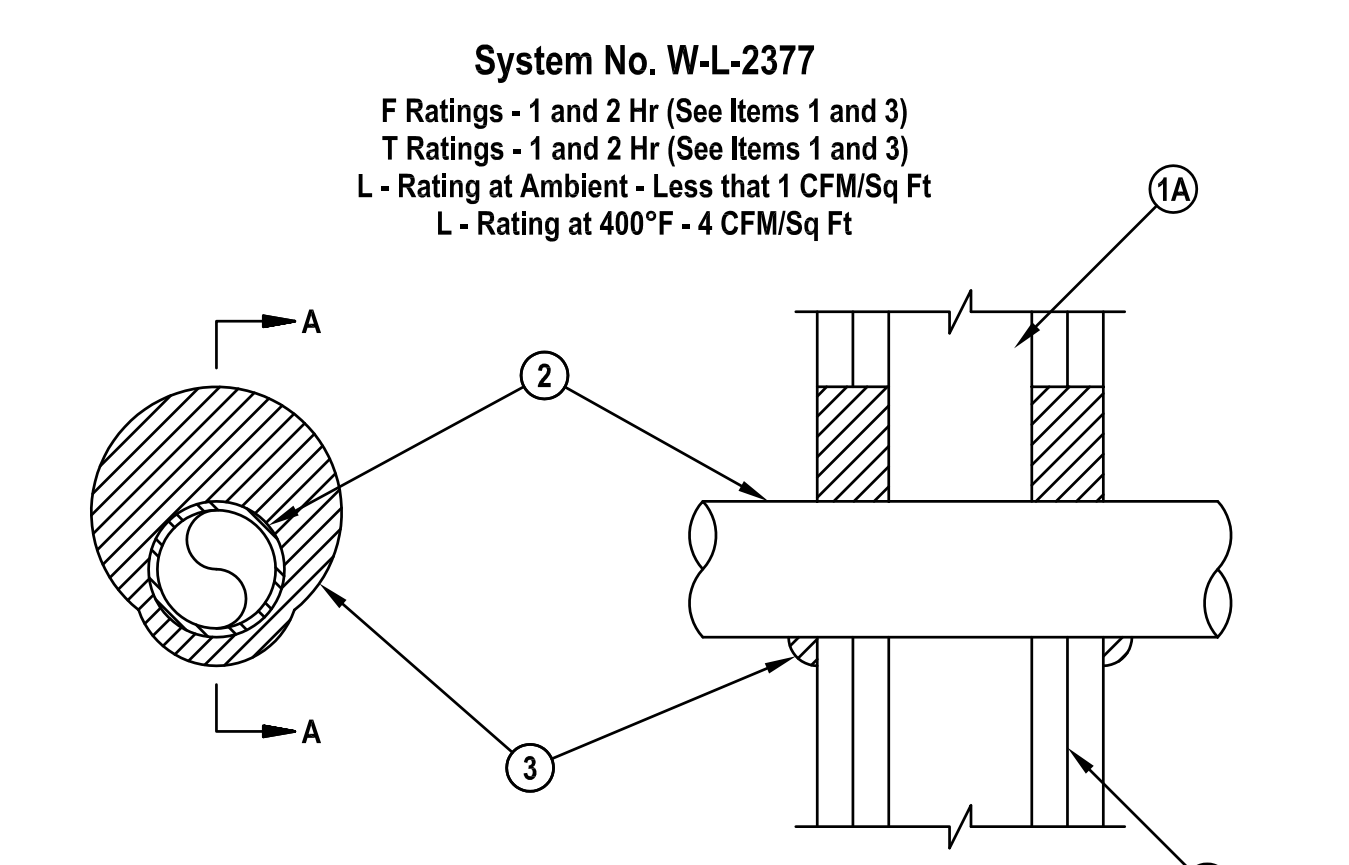
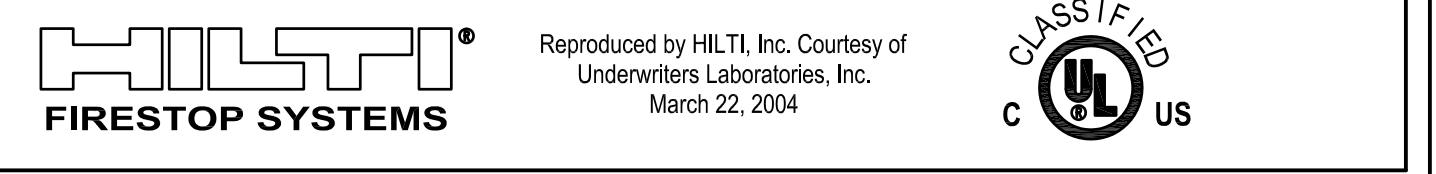
PIPING TYPE	DESCRIPTION
DOMESTIC HOT WATER, DOMESTIC COLD WATER, SOFTENED WATER, AND TRAP PRIMER SUPPLY	TYPE L HARD TEMPER COPPER PIPE WITH WROT COPPER SOCKET SOLDER FITTINGS. SOLDER MATERIALS TO BE "LEAD FREE". PIPING TO BE RATED FOR 125 PSIG WORKING PRESSURE AT 140 DEGREES F. MAXIMUM WATER TEMPERATURE. ALL COPPER PIPING RUN THROUGH STUDS OR OTHER CONSTRUCTION ELEMENTS IN FRAMED STRUCTURES SHALL BE PROVIDED WITH PROTECTIVE STEEL STRIKER PLATES WHEN PIPING IS WITHIN 1 1/2" FROM THE EDGE OF THE FRAMING MEMBER. THE STRIKER PLATES SHALL COMPLY WITH OHIO PLUMBING CODE REQUIREMENTS.
SANITARY WASTE, SANITARY VENT AND STORM DRAIN	STANDARD WEIGHT CAST IRON DWV NO-HUB PIPE WITH CAST IRON DWV NO-HUB FITTINGS AND NEOPRENE GASKET STAINLESS STEEL BAND COUPLINGS.

DRAIN & CLEANOUT SCHEDULE

DES.	LOCATION	DESCRIPTION
FD-1	FLOOR DRAIN	ZURN MODEL NO. Z-610 CAST IRON FLOOR DRAIN WITH SECONDARY DRAINAGE/ANCHOR FLANGE, WEEPHOLES, COATED FRAME & GRATE, 12" SQUARE TOP WITH SLOTTED OPENINGS, REMOVABLE SEDIMENT BUCKET & BOTTOM GASKET CONNECTION OUTLET. DRAINS IN STRUCTURES ABOVE GRADE TO BE FURNISHED WITH CLAMPING COLLAR.
C.O.	CLEANOUTS	ZURN ZB-1470 FLUSH WITH FLOOR OR WALL AND HAVE COUNTER-SUNK BRASS HEADS.

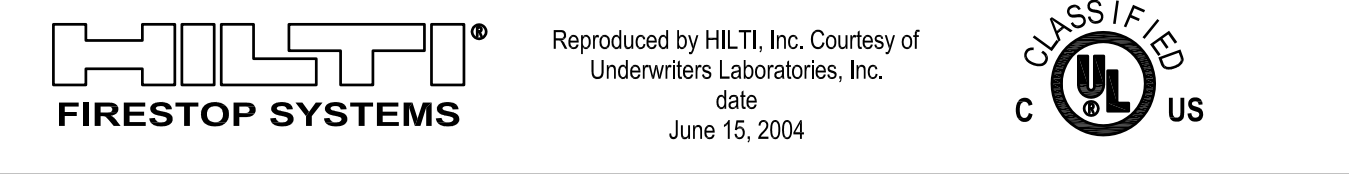


- Wall Assembly - The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the construction features noted below. The hourly F Rating and T Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed:
A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
B. Gypsum Board - Nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 7 in.
- Through-Penetrants - One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to a max 1-1/4 in. Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
A. Nonmetallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to a max 1-1/4 in. Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
B. Gypsum Board - The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3 in.
- Firestop Device - Firestop Collar - Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. diam pipes, 3 anchor hooks for 3 and 4 in. diam pipes, and 4 anchor hooks for 6 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 2-1/2 in. long toggle bolts along with washers. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 643 501/57N, CP 643 632/N, CP 643 903/37N, CP 643 1104/N or CP 643 1606/N Firestop Collar
*Bearing the UL Classification Mark



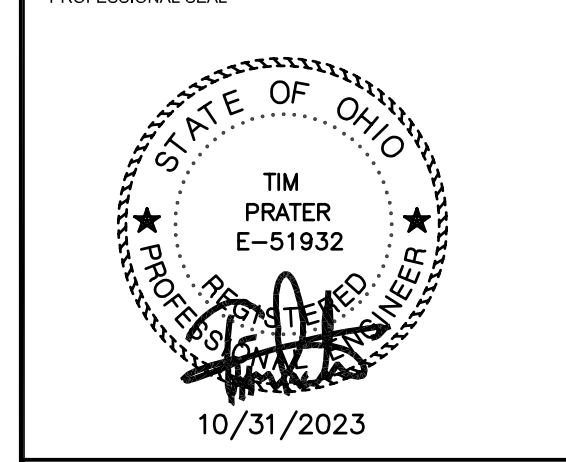
- Wall Assembly - The 1 and 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs - Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.
B. Gypsum Board - The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3 in.
- Through Penetrant - One nonmetallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to a max 1-1/4 in. Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
A. Nonmetallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to a max 1-1/4 in. Pipe to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
B. Gypsum Board - The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 3 in.
- Fill Void or Cavity Material - Sealant - Min 5/8 in. and 1-1/4 in. thickness of fill material applied within annulus, flush with both surfaces of wall for 1 and 2 hr rated assemblies, respectively. At point contact location, a min 1/2 in. diam bead of fill material shall be applied to the wall/penetrant interface on both surfaces of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-ONE Sealant
*Bearing the UL Classification Mark



26 E. Park Drive, Athens, Ohio 45701
OFFICE: 740-593-9400
ONLINE: www.bdtad.com
EMAIL: office@bdtad.com

NOT PROJECT NO. 230002
All reproduction & intellectual property rights reserved © 2023
in consultation with



10/31/2023

ISSUE DATES

NO. DATE DESCRIPTION

1/9/24 ISSUED FOR BIDDING

02/19/24 ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER 23002

DATE 10/31/23 DRAWN

SHEET TITLE

PLUMBING
DETAILS, NOTES, & SCHEDULES

SHEET

P5

PS-23069.DWG

PRATER Engineering Associates, Inc.

6130 Wilcox Road (614) 768 4896
Dublin, Ohio 43016 praterengineering.com

DESIGNED BY	DRAWN BY	CHECKED BY	JOB NUM.
M. KOVALCHIK	M. KOVALCHIK	C. ANDERSON	23069



BASEMENT HVAC PIPING PLAN — EXISTING AND DEMO

SCALE: 1/8"=1'-0"

ALL WORK ON THIS SHEET IS ALT.-H1

CODED NOTES

1. REMOVE EXISTING CHILLER WC-1, CONDENSING UNIT REFER TO NEW WORK PLANS AND NOTES FOR REPLACEMENT UNIT DETAILS.
2. REMOVE EXISTING R-22 REFRIGERANT LINES AND ACCESSORIES. REFER TO NEW WORK PLANS FOR REPLACEMENT LINES. REFRIGERANT TO BE REMOVED BY AN EPA CERTIFIED REFRIGERATION TECHNICIAN IN ACCORDANCE WITH EPA REGULATIONS. REFRIGERANT TO BE TURNED OVER TO OHIO UNIVERSITY HVAC SHOP.
3. EXISTING PNEUMATIC AUTOMATIC CONTROL VALVE TO REMAIN.
4. REMOVE EXISTING PUMPS P-3 AND P-4. REMOVE ALL APPURTENANCES AND PIPING BACK TO A POINT INDICATED ON THE DRAWINGS. REFER TO H-5 CHILLED WATER PIPING SCHEMATIC.

bdt

ARCHITECTS
& DESIGNERS

BDT&D, Inc.

26 E. Park Drive, Athens, Ohio 45701

OFFICE: 740.593.2400

ONLINE: www.bdt&d.com

EMAIL: office@bdt&d.com

BDT PROJECT NO: 23002

All reproduction & intellectual property rights reserved © 2023

In association with:

PROFESSIONAL SEAL

STATE OF OHIO

TIM PRATER

E-51932

10/31/2023

ISSUE DATES

NO.	DATE	DESCRIPTION
	1/9/24	ISSUED FOR BIDDING
Δ	02/19/24	ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER

23002

DATE

10/31/23

DRAWN

SHEET TITLE

BASEMENT
EXISTING AND DEMO HVAC PLAN

SHEET

H0

HO-23069.DWG

PRATER

Engineering Associates, Inc.

6130 Wilcox Road (614) 766 4896
Dublin, Ohio 43016 praterengineering.com

DESIGNED BY

B. COLE

DRAWN BY

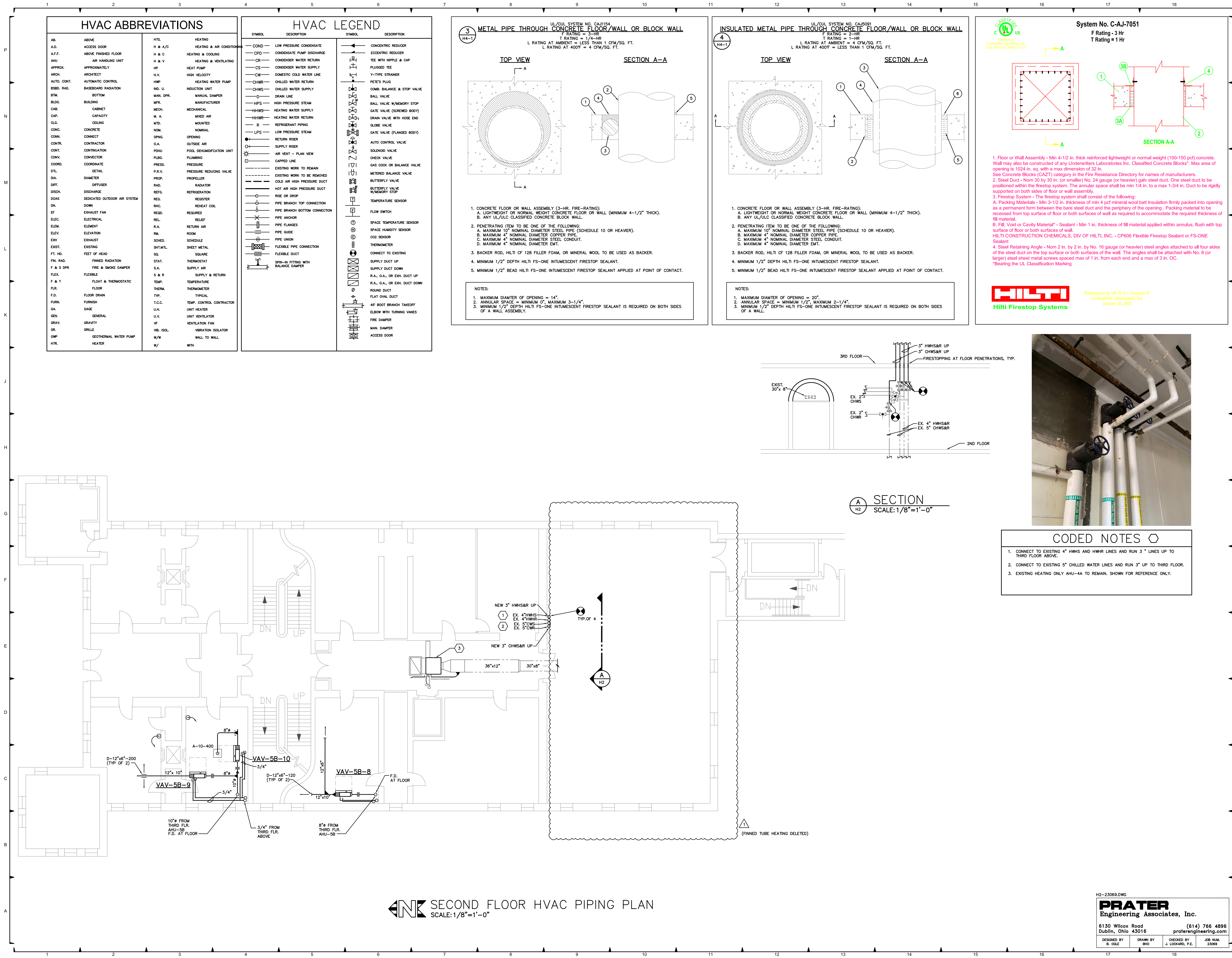
BHO

CHECKED BY

J. LOOKARD P.E.

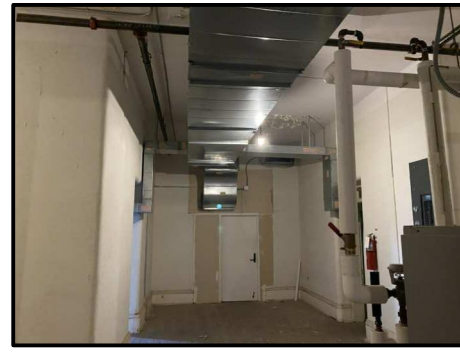
JOB NUM.

23069



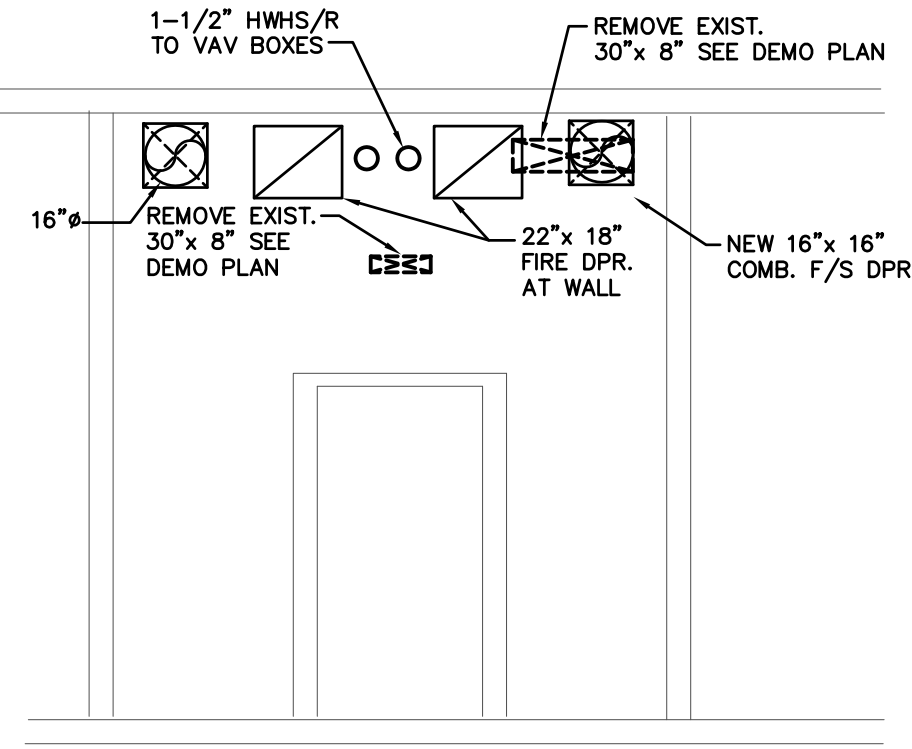


WALL AT MONUMENTAL STAIR
LOOKING SOUTH (EXIST. PHOTO)



WALL AT MONUMENTAL STAIR
LOOKING NORTH (EXIST. PHOTO)

EXISTING DUCTWORK AT
CORRIDOR — SEE DEMO PLAN

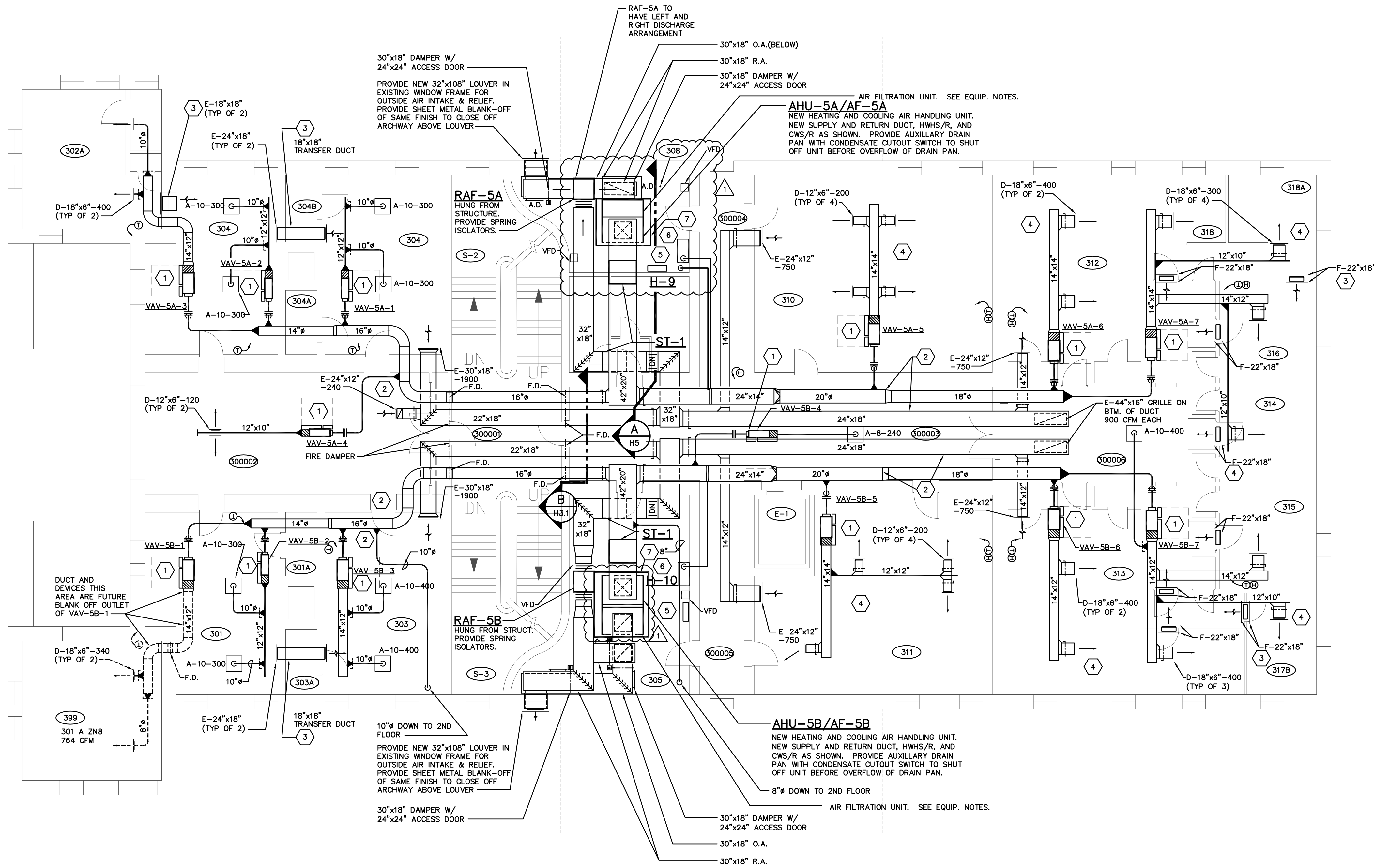


SECTION $\frac{B}{H3.1}$
SCALE: $\frac{1}{4}" = 1'-0"$
(TYPICAL NORTH AND SOUTH WALLS OF
STAIRS FOR THIRD AND FOURTH FLOORS)

CODED NOTES

1. BOTTOM OF DUCT AT 10'-0". BOX TO BE ACCESSIBLE FOR MAINTENANCE.
2. INSTALL DUCT TIGHT TO STRUCTURE ABOVE.
3. TRANSFER DUCT HIGH WITH HIGH SIDEWALL GRILLES. BTM. APPROX. 9'-0" AFF.
4. DUCTS IN GALLERY SPACES WITHOUT SUSPENDED CEILINGS TO BE PAINTED BLACK TO BLEND WITH PAINTED SURFACES
5. TEMPERATURE CONTROL PANEL.
6. UNDER ALTERNATE BID H-2 FURNISH AND INSTALL ELECTRIC HUMIDIFIER, PIPING AND STEAM DISTRIBUTOR FOR GALLERY ZONES. TYPICAL OF 4 UNITS. MOUNT ELECTRIC HUMIDIFIER ON WALL. SUPPLY STEAM PIPING AND DUCT DISTRIBUTOR. SEE EQUIPMENT NOTES AND SCHEMATICS. RUN CONDENSATE TO FLOOR DRAIN.
7. FURNISH AND INSTALL A FULL SIZE DRAIN PAN BELOW UNIT AND PIPING. RUN OUTLET OF DRAIN PAN 3/4" TO FLOOR DRAIN. TYPICAL OF ALL NEW AHUs.

ALT.-H2

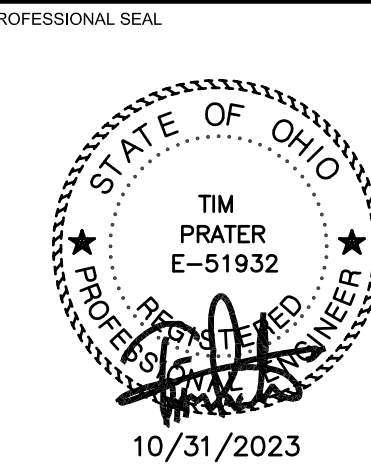


THIRD FLOOR HVAC PLAN
SCALE: $\frac{1}{8}" = 1'-0"$

H3.1-23069.DWG

PRATER
Engineering Associates, Inc.

6130 Wilcox Road (614) 766 4896
Dublin, Ohio 43016 praterengineering.com
DESIGNED BY B. COLE DRAWN BY BHO CHECKED BY J. LOCKARD, P.E. JOB NUM. 23069



ISSUE DATES		
NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

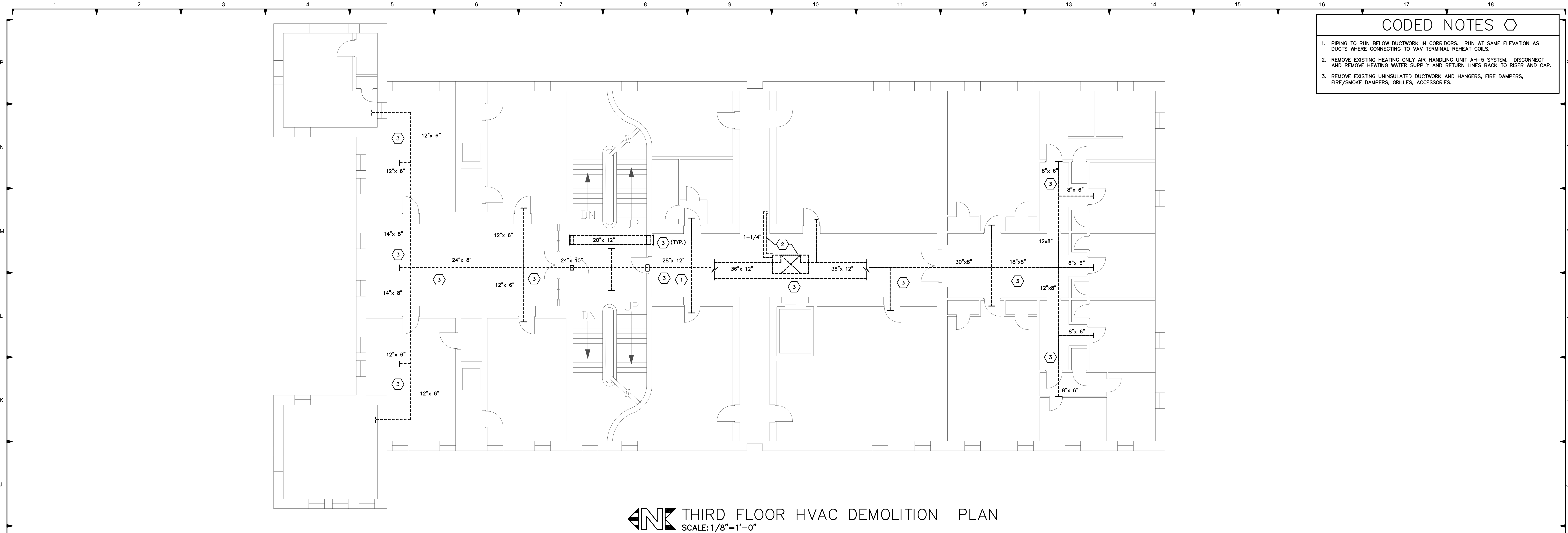
PROJECT TITLE
**OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701**

PROJECT NUMBER 23002
DATE 10/31/23 DRAWN

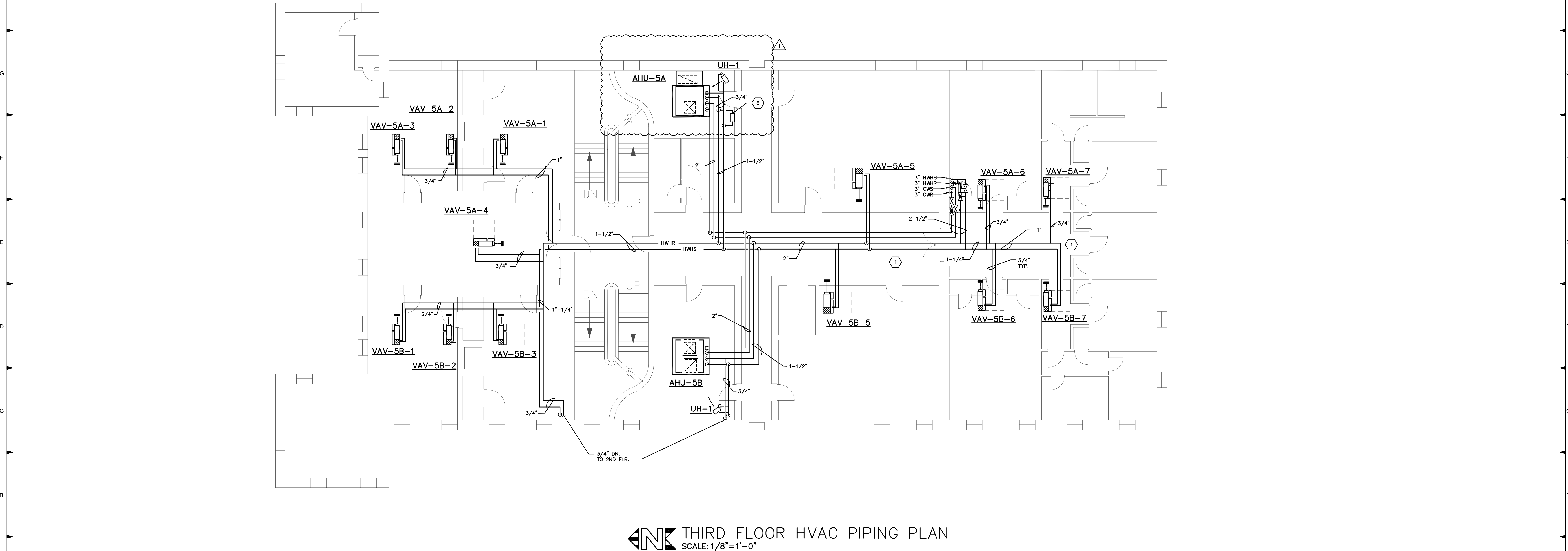
SHEET TITLE
**THIRD FLOOR
HVAC PLAN**

SHEET

H3.1



THIRD FLOOR HVAC DEMOLITION PLAN
SCALE: 1/8"=1'-0"



THIRD FLOOR HVAC PIPING PLAN
SCALE: 1/8"=1'-0"

CODED NOTES

1. PIPING TO RUN BELOW DUCTWORK IN CORRIDORS. RUN AT SAME ELEVATION AS DUCTS WHERE CONNECTING TO VAV TERMINAL REHEAT COILS.

2. REMOVE EXISTING HEATING ONLY AIR HANDLING UNIT AH-5 SYSTEM. DISCONNECT AND REMOVE HEATING WATER SUPPLY AND RETURN LINES BACK TO RISER AND CAP.

3. REMOVE EXISTING UNINSULATED DUCTWORK AND HANGERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, GRILLES, ACCESSORIES.

bdt

ARCHITECTS & DESIGNERS

EDTAD, Inc.

26 E. Park Drive, Athens, Ohio 45701

OFFICE 740.593.2403

ONLINE www.bdtad.com

EMAIL office@bdtad.com

NOT PROJECT NO: 23002

All reproduction & intellectual property rights reserved © 2023

In association with:

PROFESSIONAL SEAL

STATE OF OHIO

TIM PRATER

E-51932

10/31/2023

ISSUE DATES

NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER

23002

DATE

10/31/23

DRAWN

SHEET TITLE

THIRD FLOOR HVAC DEMO
AND HVAC NEW PIPING PLAN

SHEET

H3.2

H3.2-23069.DWG

PRATER

Engineering Associates, Inc.

6130 Wilcox Road

Dublin, Ohio 43016

(614) 766 4896

praterengineering.com

DESIGNED BY

B. COLE

DRAWN BY

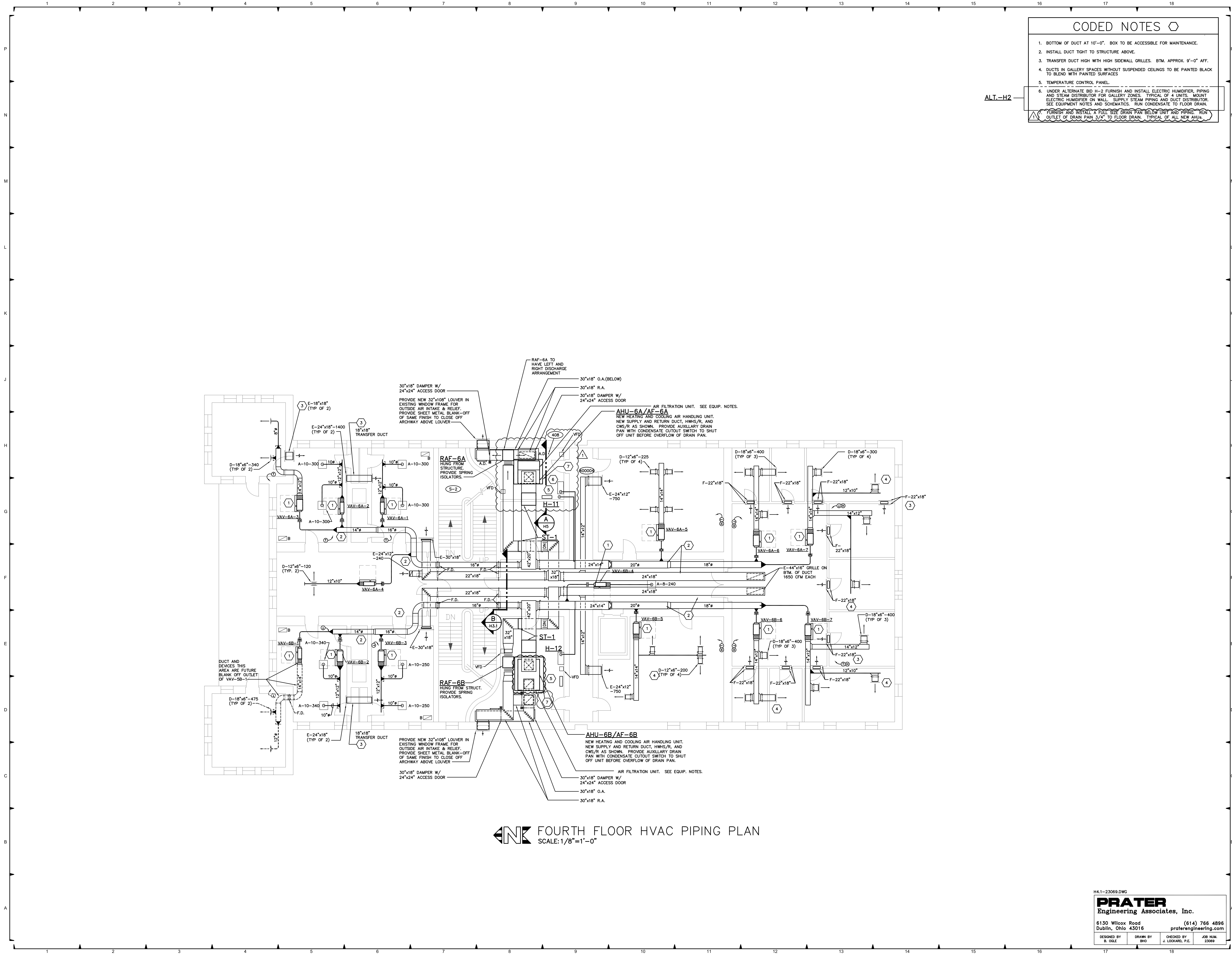
BHO

CHECKED BY

J. LOCKARD, P.E.

JOB NUM.

23069



- CODED NOTES
1. BOTTOM OF DUCT AT 10'-0". BOX TO BE ACCESSIBLE FOR MAINTENANCE.

2. INSTALL DUCT TIGHT TO STRUCTURE ABOVE.

3. TRANSFER DUCT HIGH WITH HIGH SIDEWALL GRILLES. BTM. APPROX. 9'-0" AFF.

4. DUCTS IN GALLERY SPACES WITHOUT SUSPENDED CEILINGS TO BE PAINTED BLACK TO BLEND WITH PAINTED SURFACES

5. TEMPERATURE CONTROL PANEL.

6. UNDER ALTERNATE BID H-2 FURNISH AND INSTALL ELECTRIC HUMIDIFIER, PIPING AND STEAM DISTRIBUTOR FOR GALLERY ZONES. TYPICAL OF 4 UNITS. MOUNT ELECTRIC HUMIDIFIER ON WALL. SUPPLY STEAM PIPING AND DUCT DISTRIBUTOR. SEE EQUIPMENT NOTES AND SCHEMATICS. RUN CONDENSATE TO FLOOR DRAIN.

FURNISH AND INSTALL A FULL SIZE DRAIN PAN BELOW UNIT AND PIPING. RUN OUTLET OF DRAIN PAN 3/4" TO FLOOR DRAIN. TYPICAL OF ALL NEW AHU's.

ALT.-H2

FOURTH FLOOR HVAC PIPING PLAN
SCALE: 1/8"=1'-0"

H4.1-23069.DWG

PRATER
Engineering Associates, Inc.

6130 Wilcox Road
Dublin, Ohio 43016

(614) 766 4896
praterengineering.com

DESIGNED BY B. COLE	DRAWN BY BHO	CHECKED BY J. LOCKARD, P.E.	JOB NUM. 23069
------------------------	-----------------	--------------------------------	-------------------

bdt

ARCHITECTS
& DESIGNERS

BDTAD, Inc.

26 E. Park Drive, Athens, Ohio 45701

OFFICE: 765.693.2400

ONLINE: www.bdtad.com

EMAIL: office@bdtad.com

BDT PROJECT NO: 23002

All reproduction & intellectual property rights reserved © 2023

In consultation with:

PROFESSIONAL SEAL

STATE OF OHIO

TIM PRATER

E-51932

10/31/2023

ISSUE DATES		
NO.	DATE	DESCRIPTION
	1/9/24	ISSUED FOR BIDDING
Δ	02/19/24	ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER

23002

DATE

10/31/23

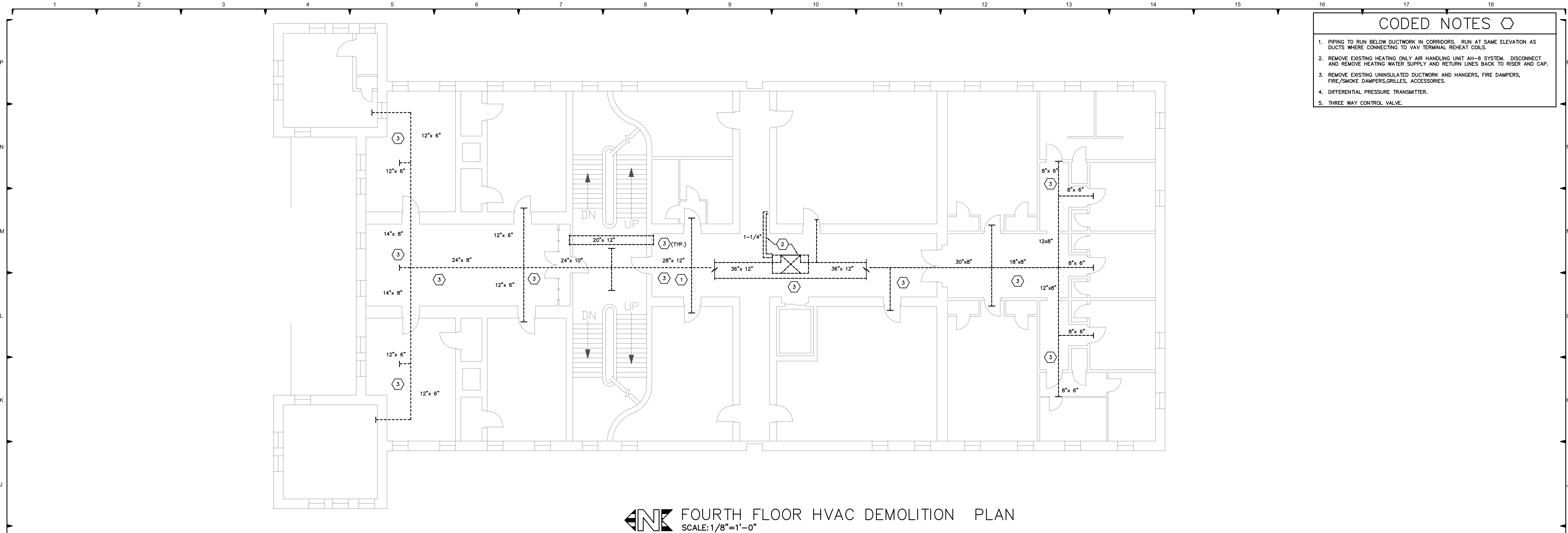
DRAWN

SHEET TITLE

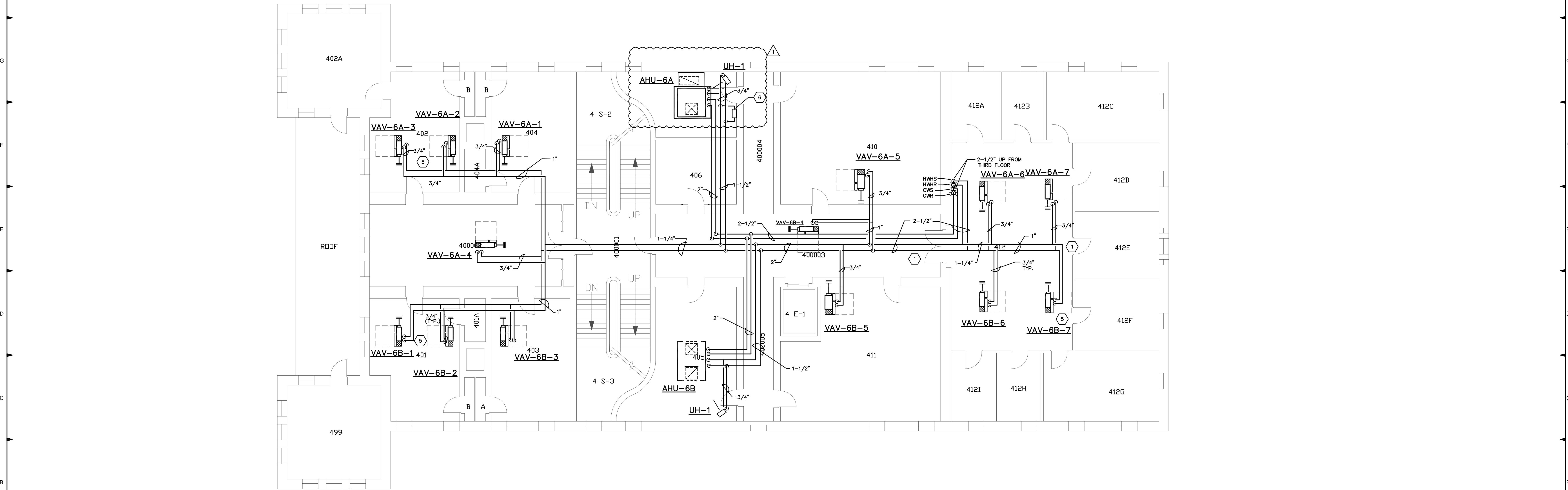
FOURTH FLOOR
HVAC PLAN

SHEET

H4.1



FOURTH FLOOR HVAC DEMOLITION PLAN
SCALE: 1/8"=1'-0"



FOURTH FLOOR PIPING HVAC PLAN
SCALE: 1/8"=1'-0"

CODED NOTES

1. PIPING TO RUN BELOW DUCTWORK IN CORRIDORS. RUN AT SAME ELEVATION AS DUCTS WHERE CONNECTING TO VAV TERMINAL REHEAT COILS.
2. REMOVE EXISTING HEATING ONLY AIR HANDLING UNIT AH-6 SYSTEM. DISCONNECT AND REMOVE HEATING WATER SUPPLY AND RETURN LINES BACK TO RISER AND CAP.
3. REMOVE EXISTING UNINSULATED DUCTWORK AND HANGERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, GRILLES, ACCESSORIES.
4. DIFFERENTIAL PRESSURE TRANSMITTER.
5. THREE WAY CONTROL VALVE.

bdt ARCHITECTS
& DESIGNERS
BDTAD, Inc.
26 E. Park Drive, Athens, Ohio 45701
OFFICE: 765-593-2403
ONLINE: www.bdtad.com
EMAIL: office@bdtad.com

BDT PROJECT NO: 23002
All reproduction & intellectual property rights reserved © 2023
In association with:

PROFESSIONAL SEAL
STATE OF OHIO
TIM PRATER
E-51932
10/31/2023

ISSUE DATES		
NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

PROJECT TITLE
**OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701**

PROJECT NUMBER: 23002
DATE: 10/31/23
DRAWN:

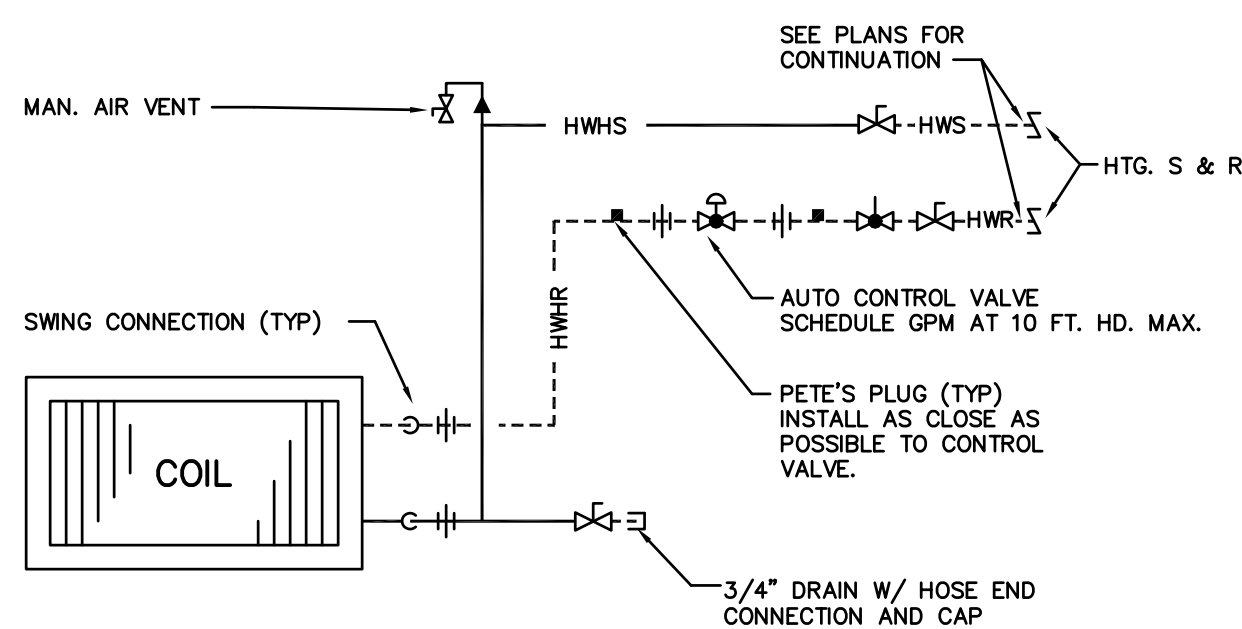
SHEET TITLE
**FOURTH FLOOR HVAC DEMO
AND HVAC NEW PIPING PLAN**

SHEET

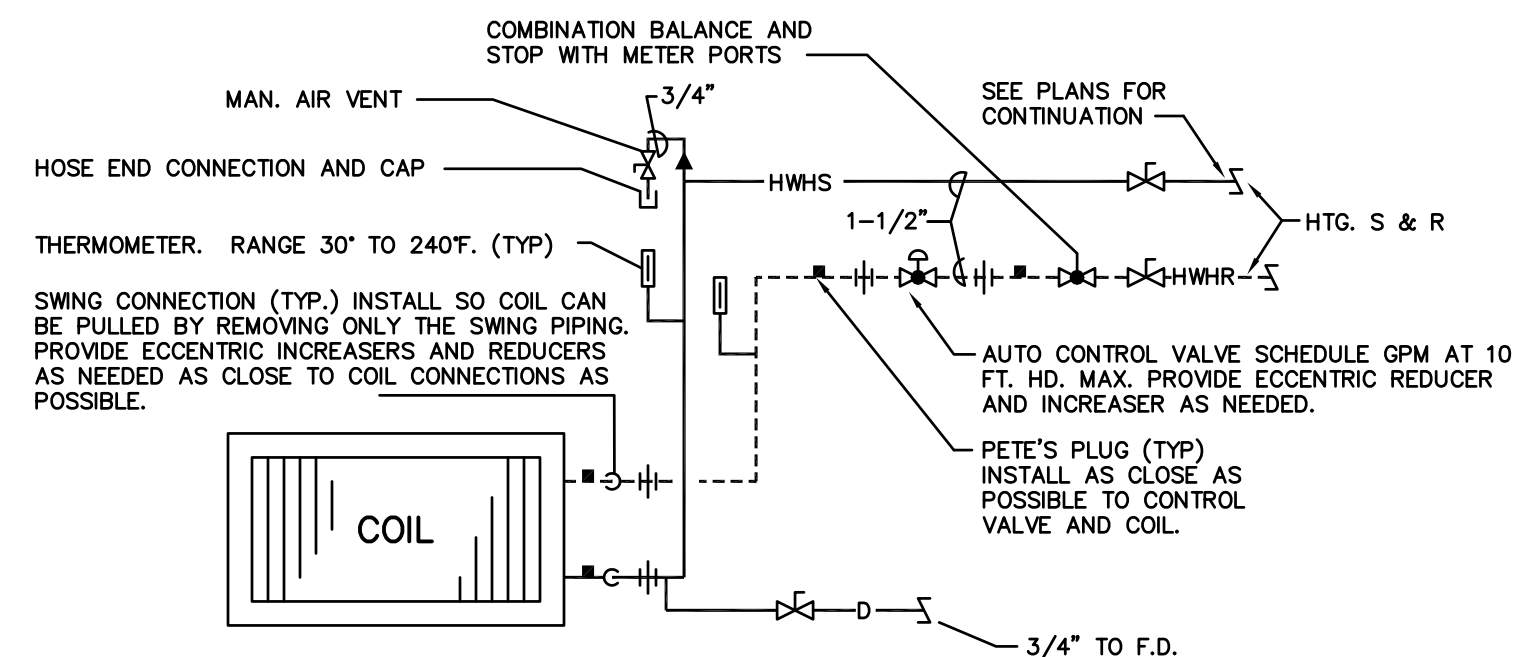
H4.2-23069.DWG
PRATER
Engineering Associates, Inc.
6130 Wilcox Road (614) 766 4896
Dublin, Ohio 43016 praterengineering.com
DESIGNED BY: B. COLE
DRAWN BY: BHO
CHECKED BY: J. LOCKARD, P.E.
JOB NUM: 23069

H4.2

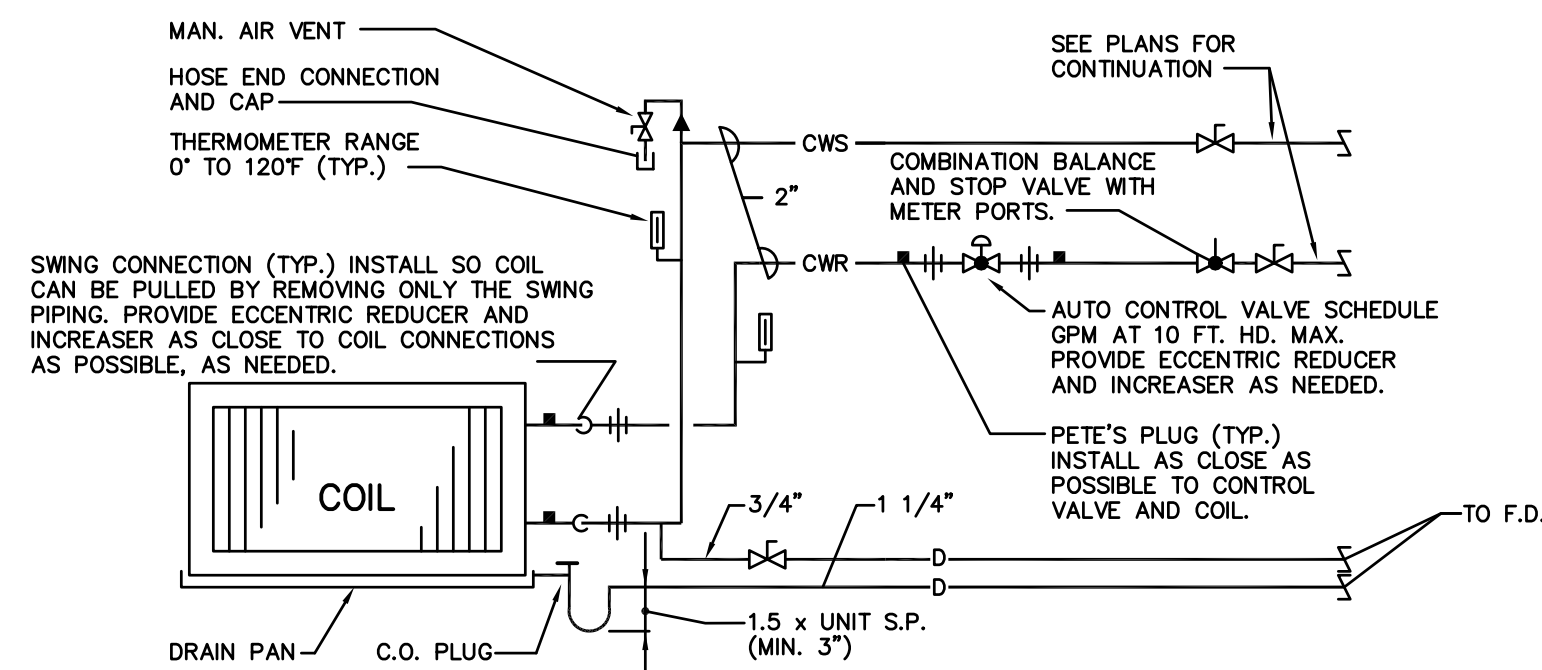
NOTE:
1. PIPE SIZES AS LISTED IN VAV BOX SCHEDULE.



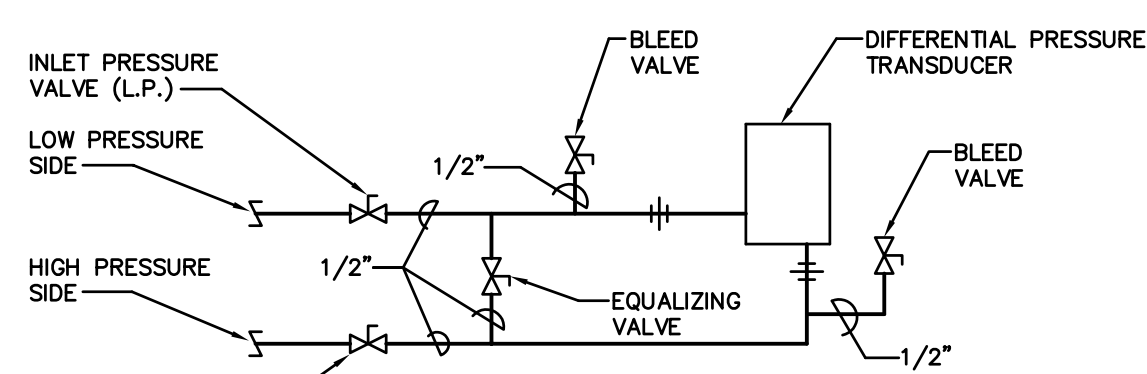
BOX REHEAT COIL PIPING
(2-WAY CONTROL VALVE)



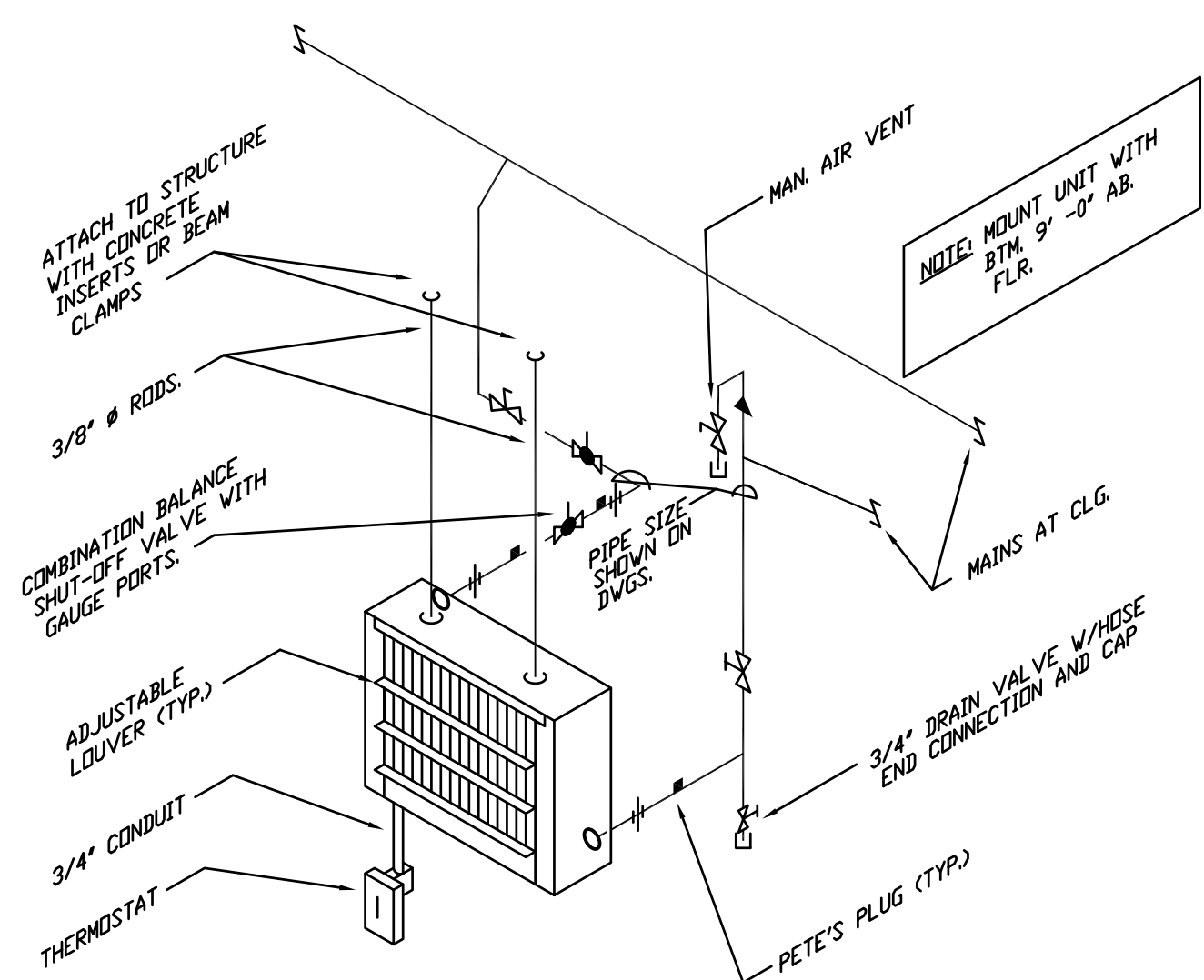
HEATING COIL PIPING DETAIL
(2-WAY CONTROL VALVE)



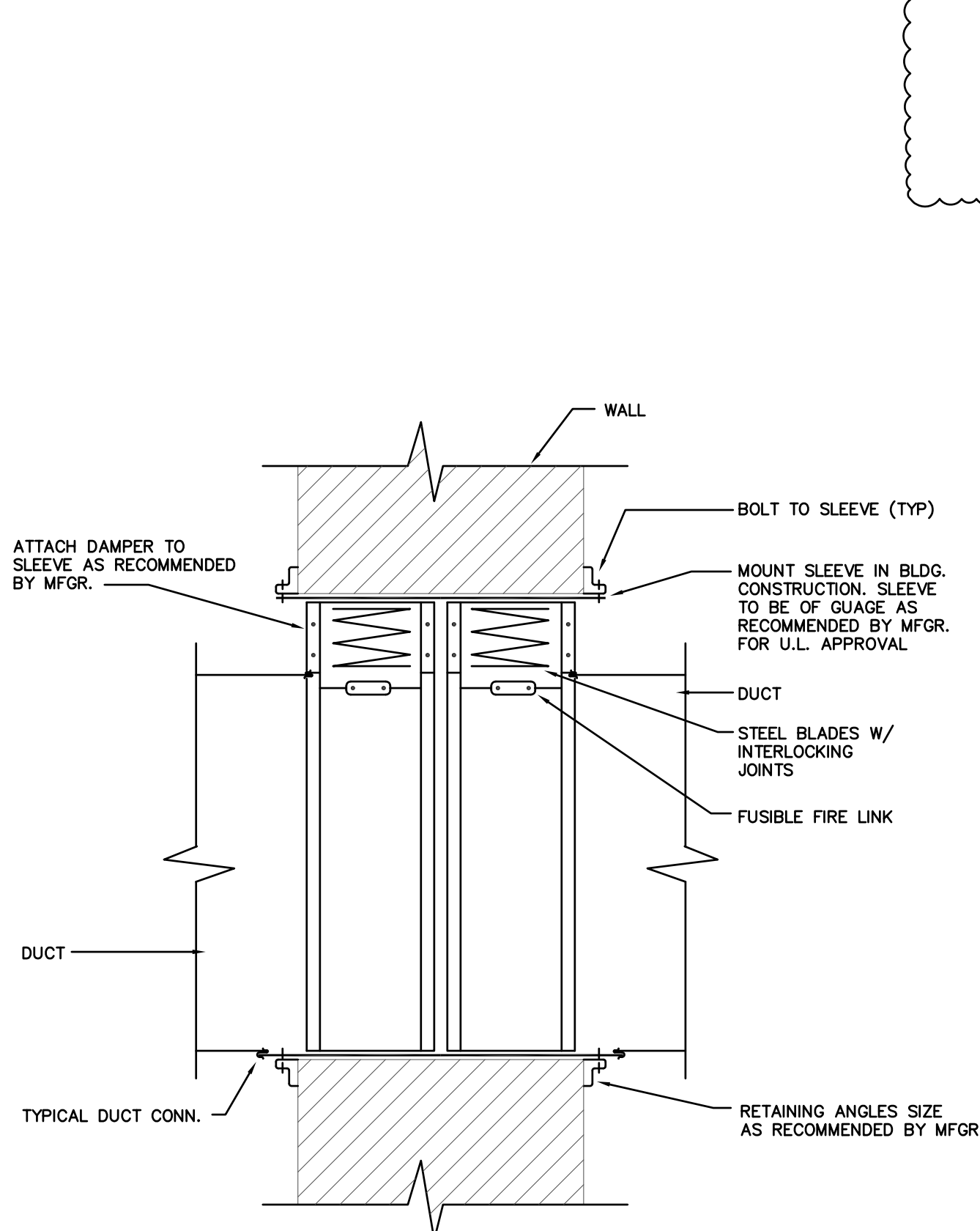
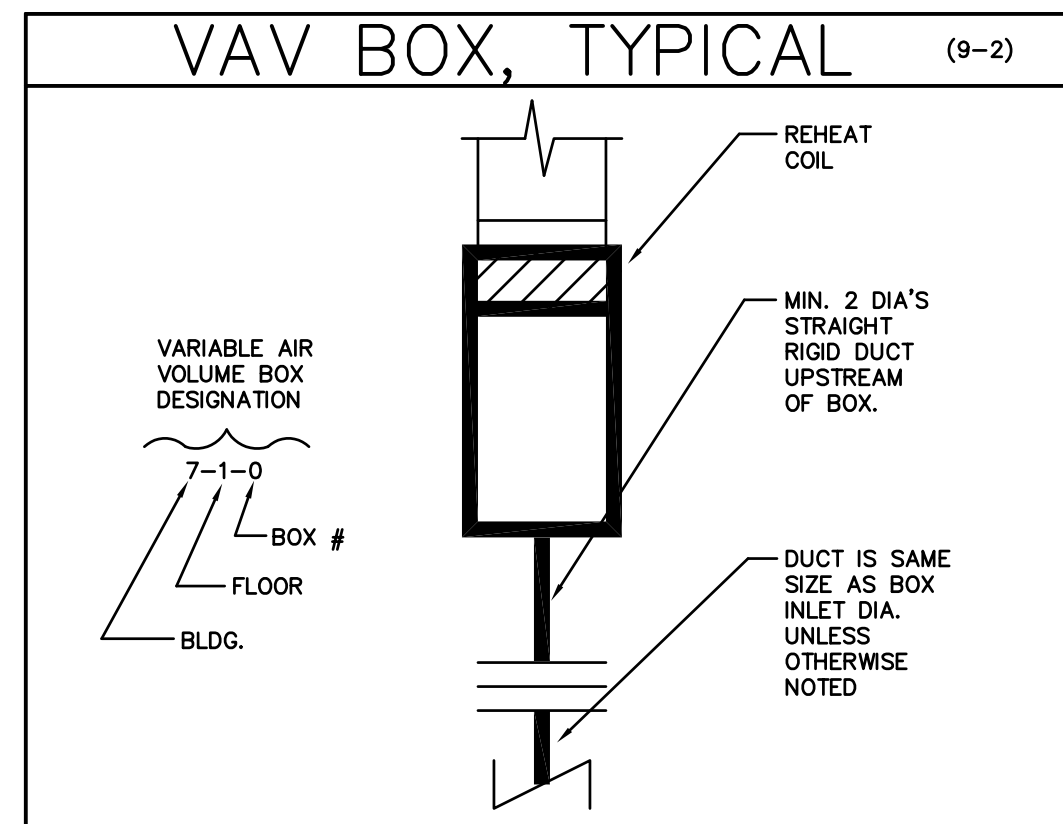
COOLING COIL PIPING
(2-WAY CONTROL VALVE)



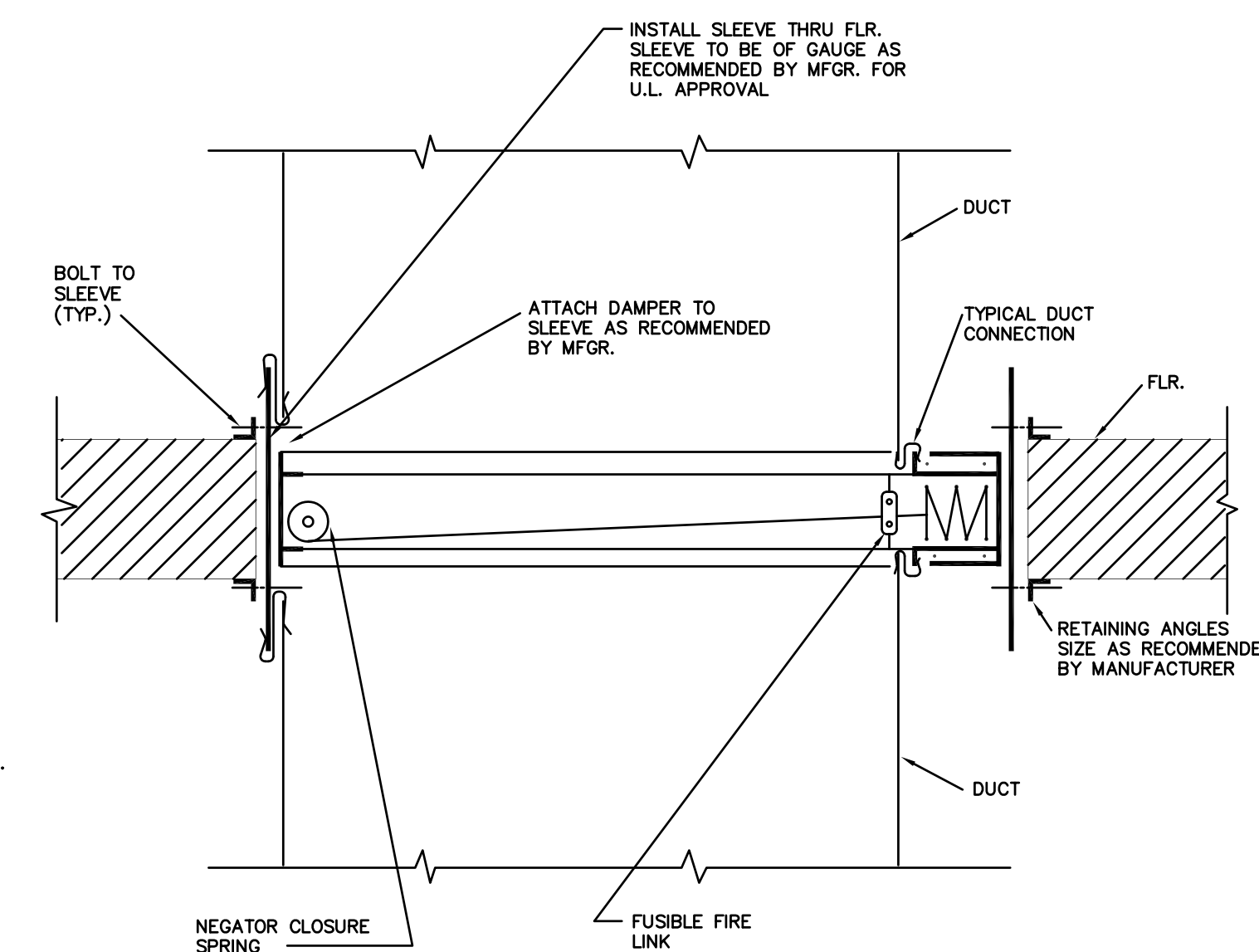
DIFFERENTIAL PRESSURE
SENSOR PIPING DETAIL



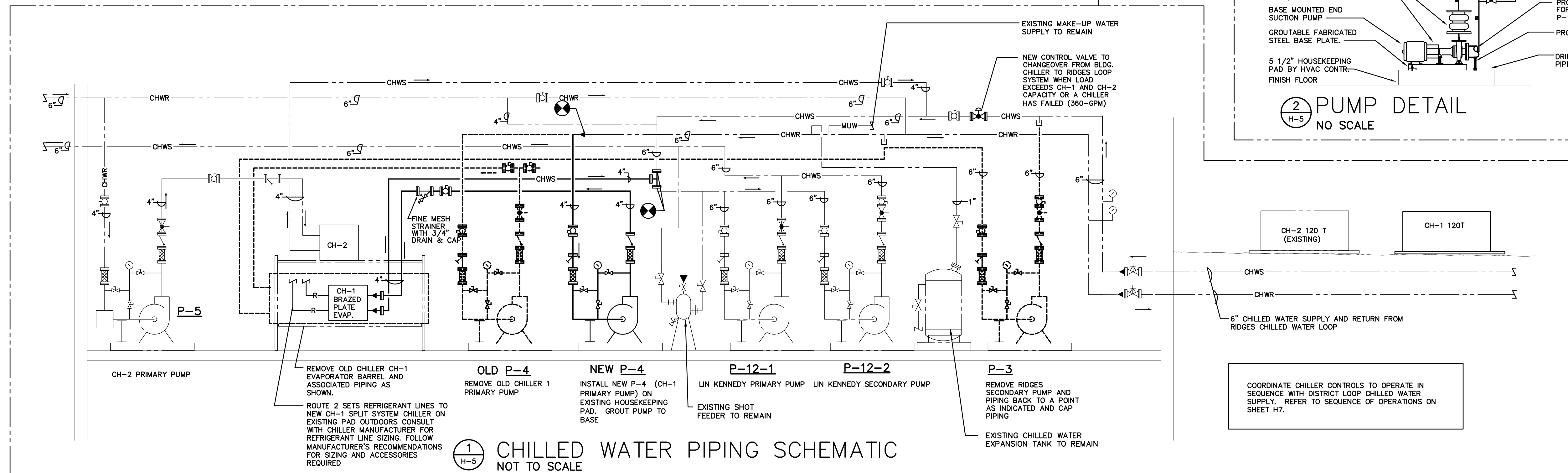
HORIZONTAL PROJECTION
UNIT HEATER PIPING
(3 WAY VALVE)



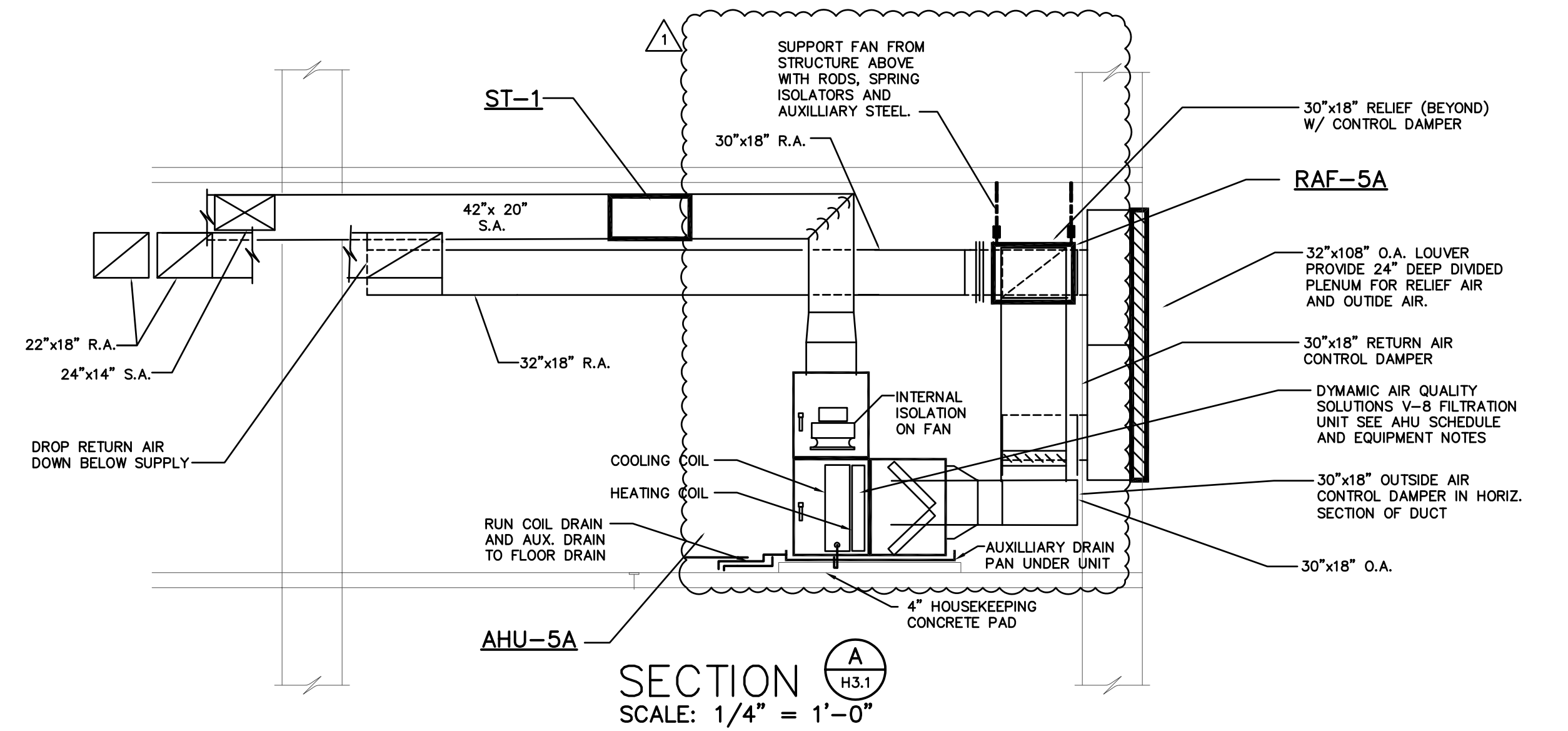
VERTICAL FIRE DAMPER
TYPE "B" INSTALLATION
(AT MONUMENTAL STAIR)



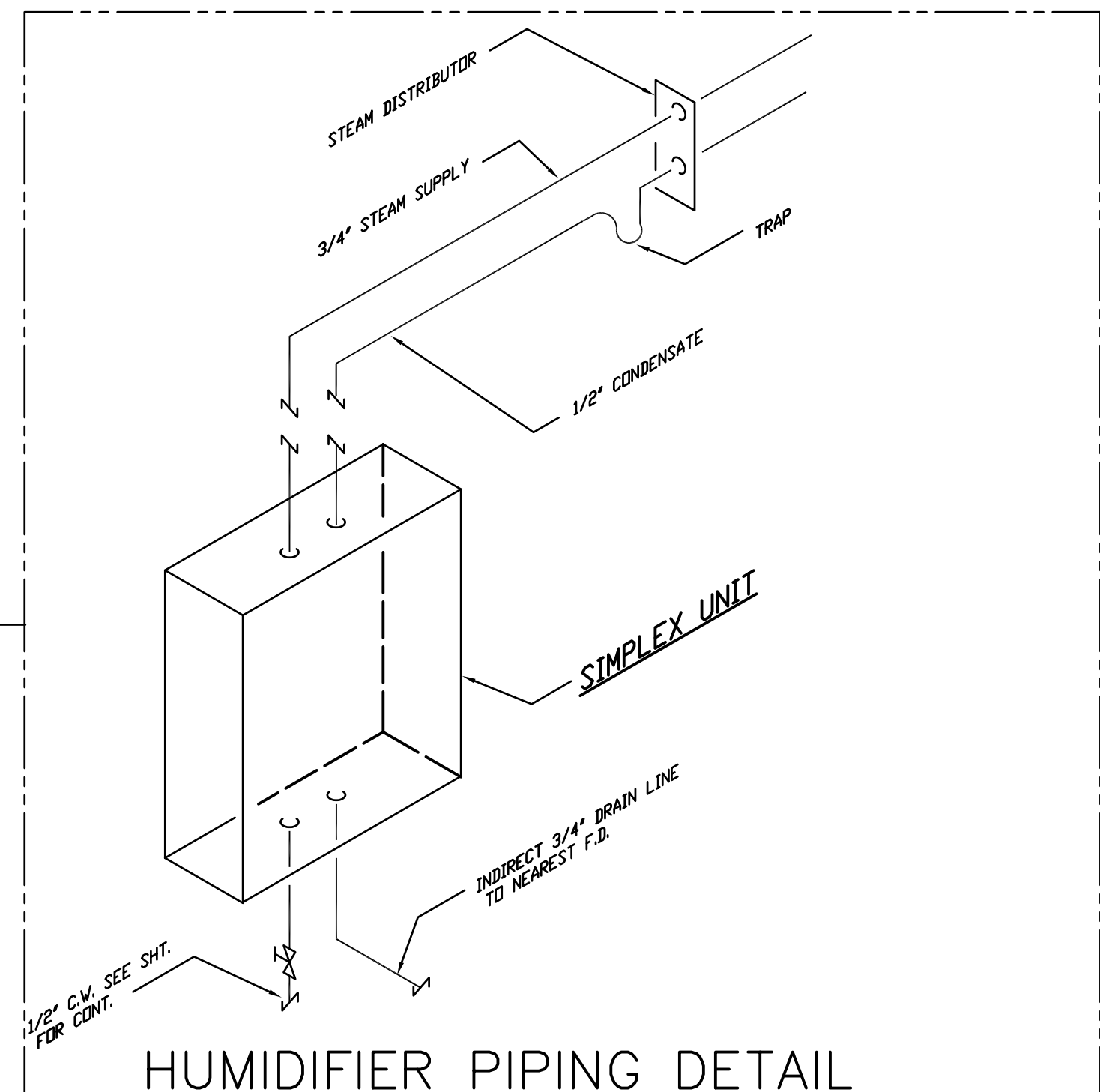
HORIZONTAL FIRE DAMPER
TYPE "B" INSTALLATION



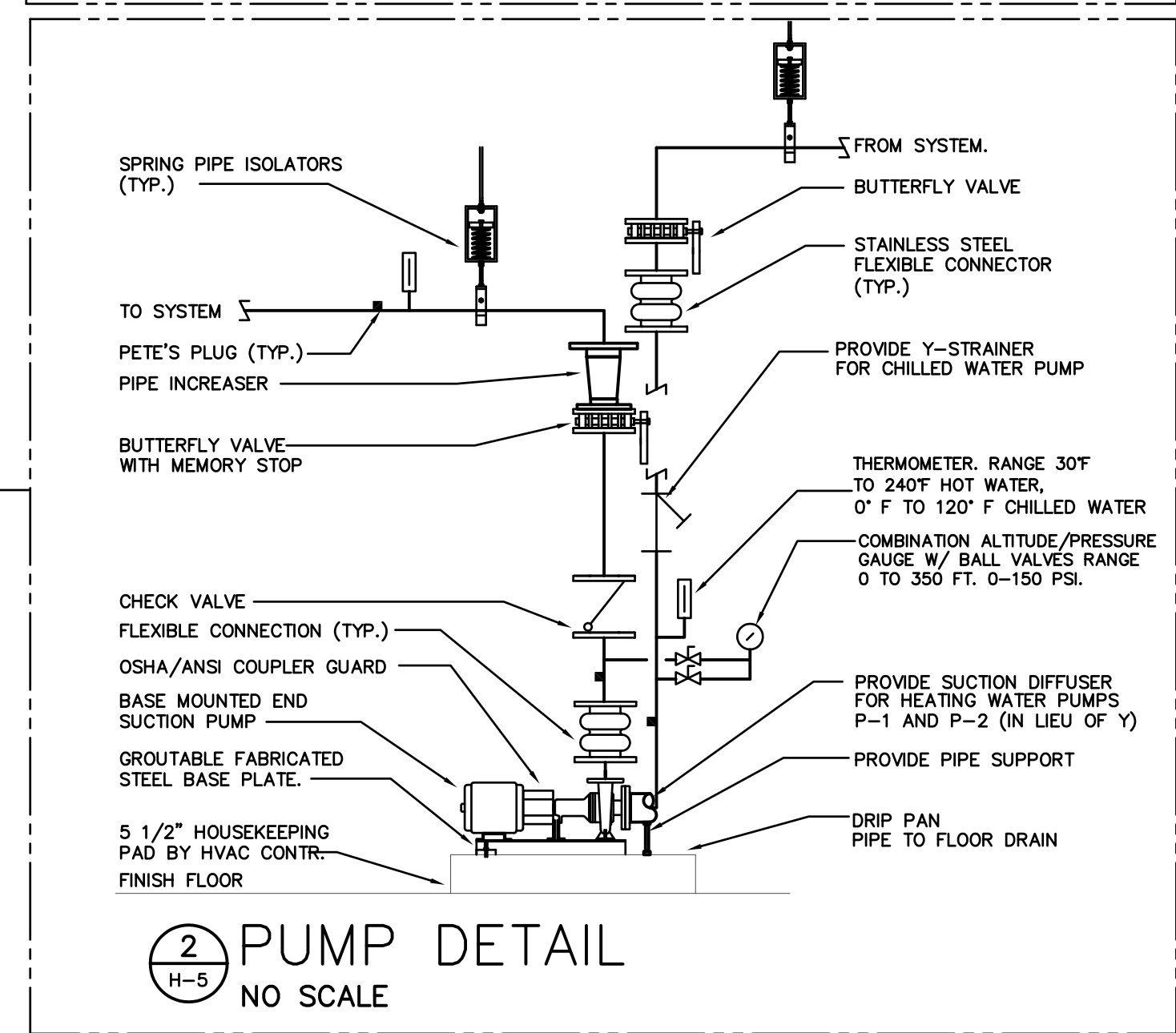
CHILLED WATER PIPING SCHEMATIC
NOT TO SCALE



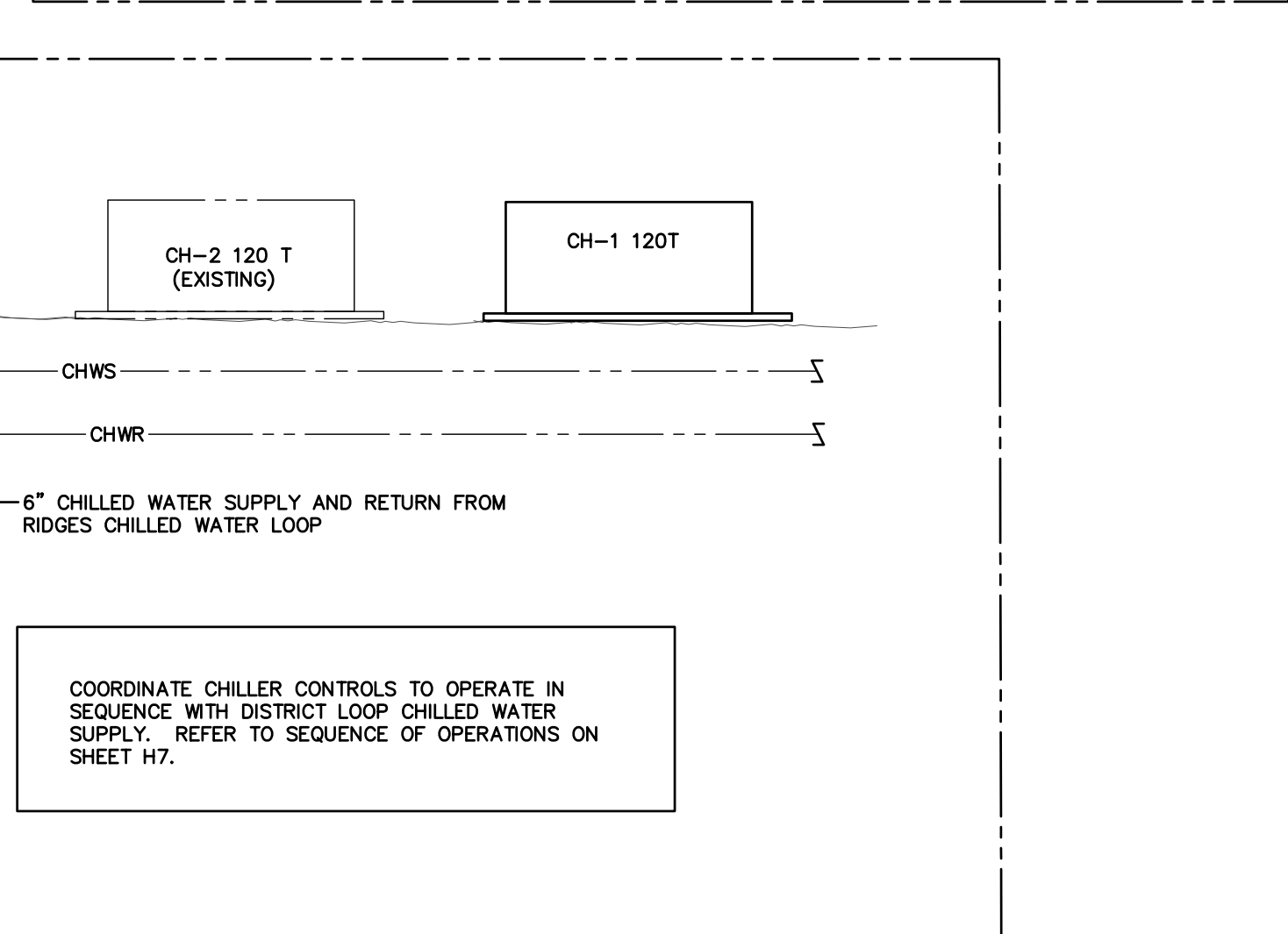
SECTION A
SCALE: 1/4" = 1'-0"



HUMIDIFIER PIPING DETAIL



PUMP DETAIL
NO SCALE



COORDINATE CHILLER CONTROLS TO OPERATE IN
SEQUENCE WITH DISTRICT LOOP CHILLED WATER
SUPPLY. REFER TO SEQUENCE OF OPERATIONS ON
SHEET H7.

H5-23069.DWG

PRATER
Engineering Associates, Inc.

6130 Wilcox Road
Dublin, Ohio 43016
(614) 766-4896
praterengineering.com

DESIGNED BY
B. COLE

DRAWN BY
BHO

CHECKED BY
J. LOCKARD, P.E.

JOB NO.
23069

PROFESSIONAL SEAL

ISSUE DATES

NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER

230002

DATE

10/31/23

SHEET TITLE

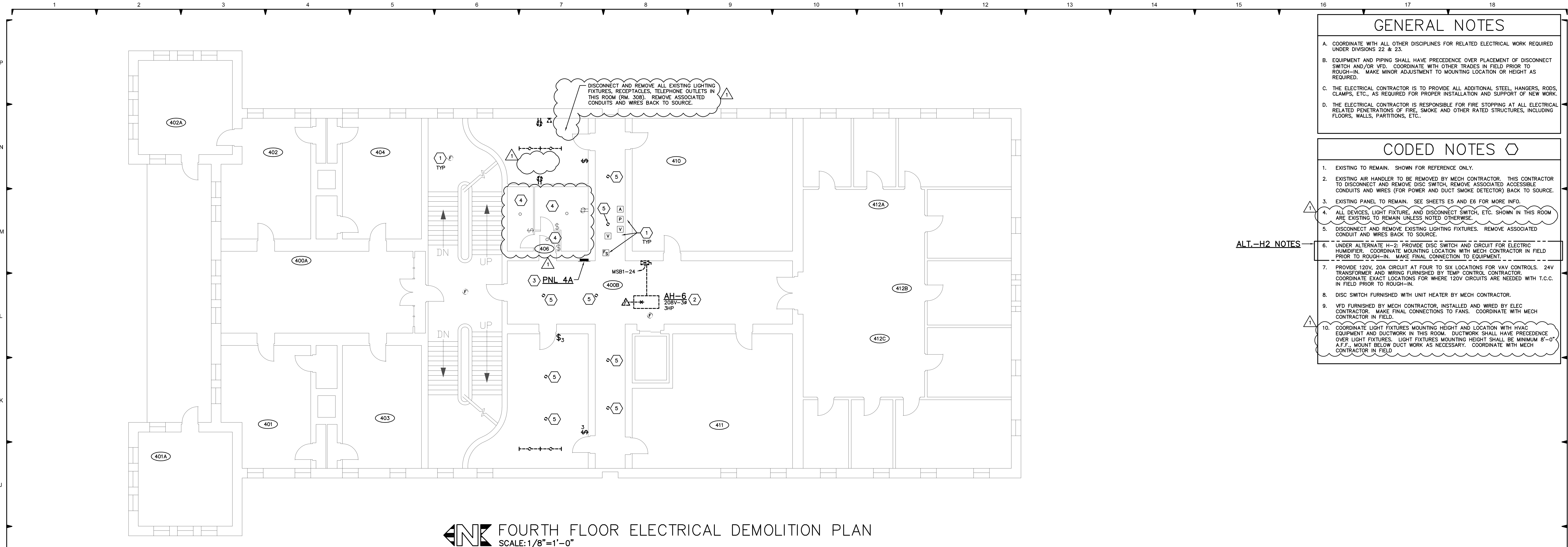
FOURTH FLOOR
HVAC PLAN

SHEET

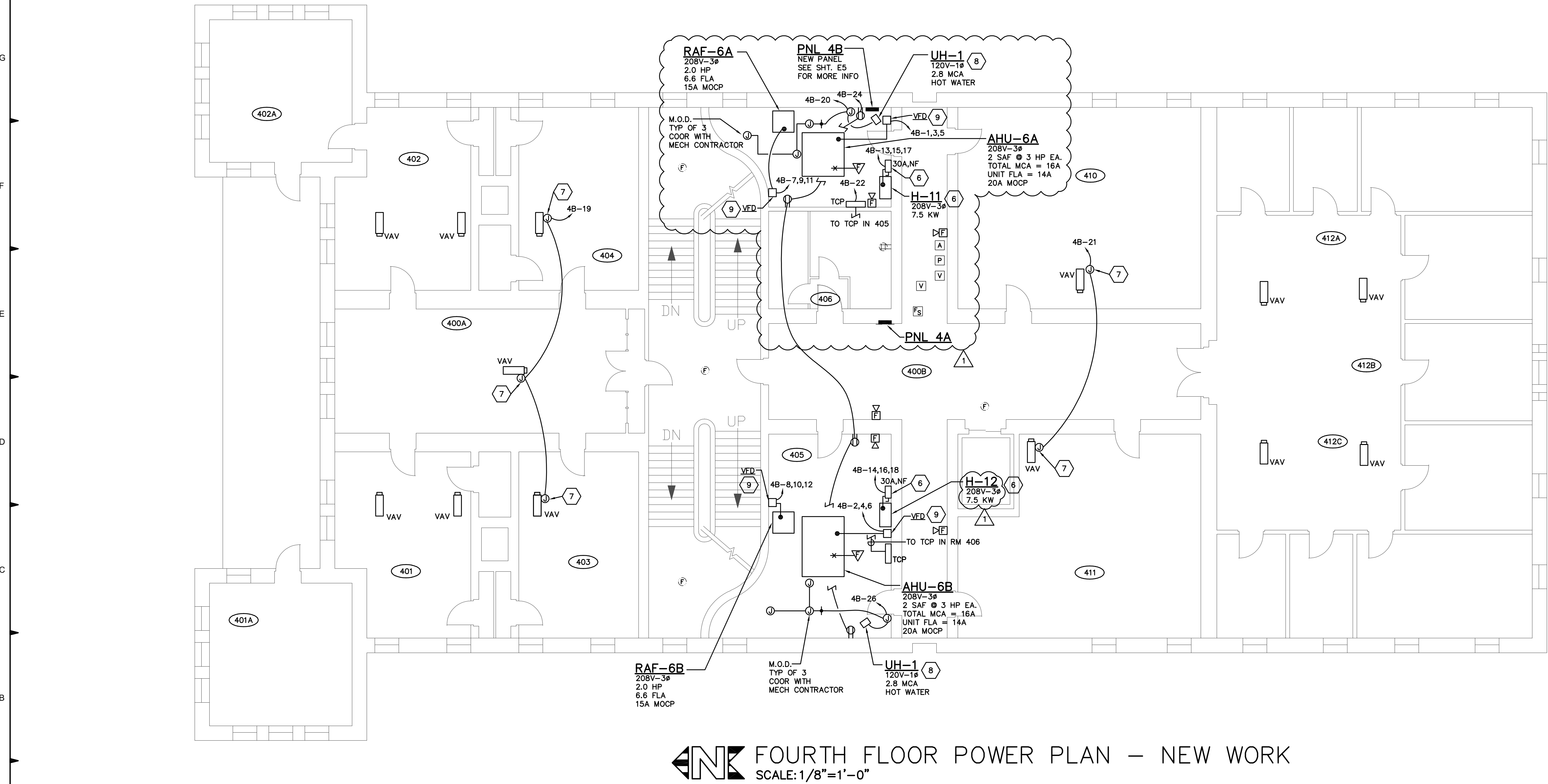
H5



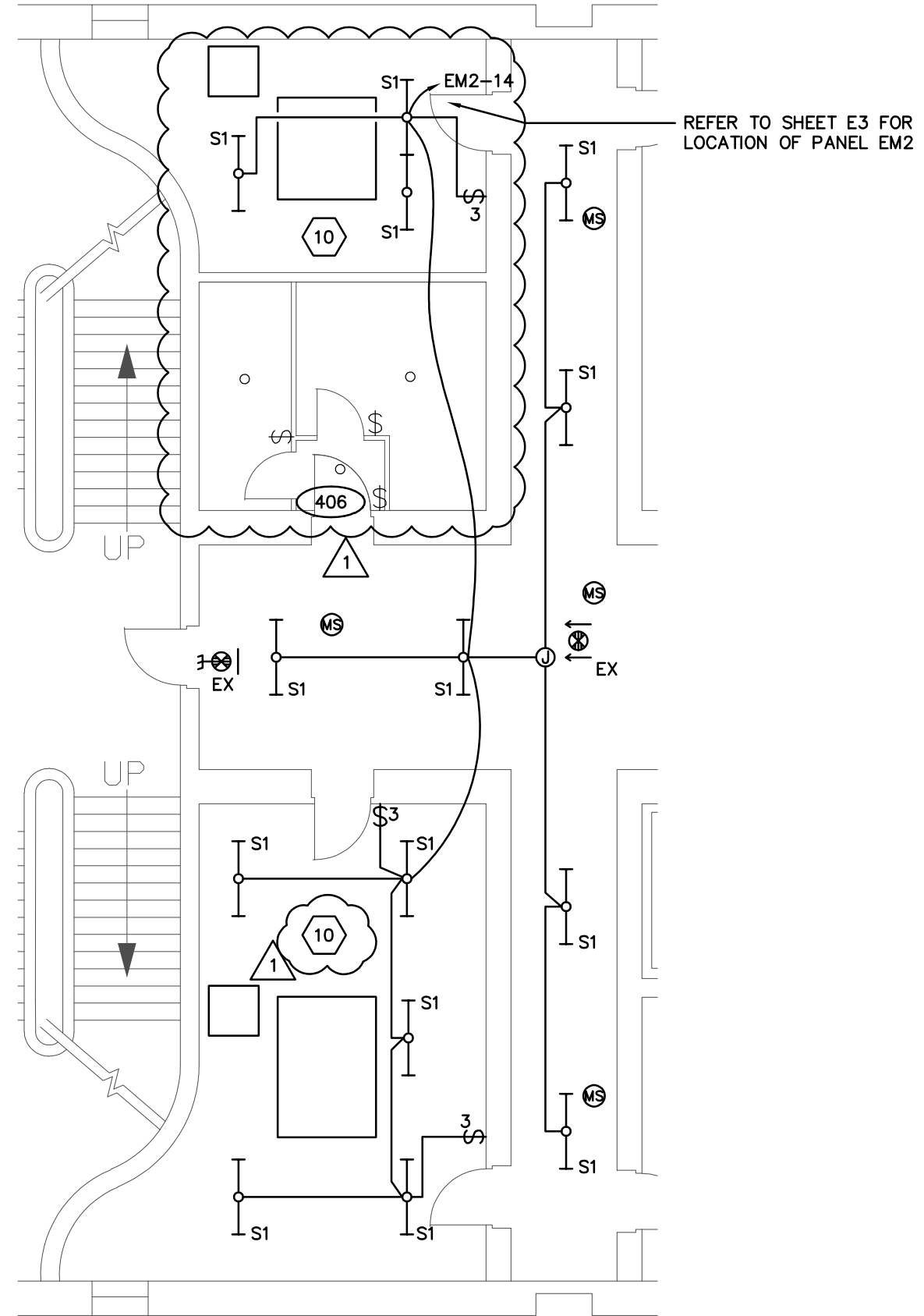
DESIGNED BY C. TONG	DRAWN BY CKT	CHECKED BY DLP	JOB NUM. 23069
------------------------	-----------------	-------------------	-------------------



FOURTH FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8"=1'-0"



FOURTH FLOOR POWER PLAN - NEW WORK
SCALE: 1/8"=1'-0"



PARTIAL FOURTH FLOOR LIGHTING PLAN - NEW WORK
SCALE: 1/8"=1'-0"

E4-23069.DWG

PRATER
Engineering Associates, Inc.

6130 Wilcox Road
Dublin, Ohio 43016
(614) 766 4896
praterengineering.com

DESIGNED BY
C. TONG

DRAWN BY
DUP

CHECKED BY
OKT

JOB NO.
23069

GENERAL NOTES

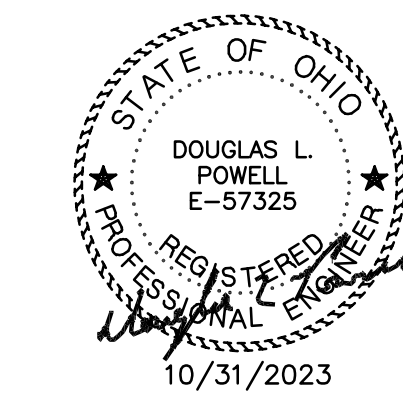
- COORDINATE WITH ALL OTHER DISCIPLINES FOR RELATED ELECTRICAL WORK REQUIRED UNDER DIVISIONS 22 & 23.
- EQUIPMENT AND PIPING SHALL HAVE PRECEDENCE OVER PLACEMENT OF DISCONNECT SWITCH AND/OR VFD. COORDINATE WITH OTHER TRADES IN FIELD PRIOR TO ROUGH-IN. MAKE MINOR ADJUSTMENT TO MOUNTING LOCATION OR HEIGHT AS REQUIRED.
- THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL ADDITIONAL STEEL HANGERS, RODS, CLAMPS, ETC., AS REQUIRED FOR PROPER INSTALLATION AND SUPPORT OF NEW WORK.
- THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIRE STOPPING AT ALL ELECTRICAL RELATED PENETRATIONS OF FIRE, SMOKE AND OTHER RATED STRUCTURES, INCLUDING FLOORS, WALLS, PARTITIONS, ETC..

CODED NOTES

- EXISTING TO REMAIN. SHOWN FOR REFERENCE ONLY.
- EXISTING AIR HANDLER TO BE REMOVED BY MECH CONTRACTOR. THIS CONTRACTOR TO DISCONNECT AND REMOVE DISC SWITCH, REMOVE ASSOCIATED ACCESSIBLE CONDUITS AND WIRES (FOR POWER AND DUCT SMOKE DETECTOR) BACK TO SOURCE.
- EXISTING PANEL TO REMAIN. SEE SHEETS E5 AND E6 FOR MORE INFO.
- ALL DEVICES, LIGHT FIXTURE, AND DISCONNECT SWITCH, ETC. SHOWN IN THIS ROOM ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE EXISTING LIGHTING FIXTURES. REMOVE ASSOCIATED CONDUIT AND WIRES BACK TO SOURCE.
- UNDER ALTERNATE H-2, PROVIDE DISC SWITCH AND CIRCUIT FOR ELECTRIC HUMIDIFIER. COORDINATE MOUNTING LOCATION WITH MECH CONTRACTOR IN FIELD PRIOR TO ROUGH-IN. MAKE FINAL CONNECTION TO EQUIPMENT.
- PROVIDE 120V, 20A CIRCUIT AT FOUR TO SIX LOCATIONS FOR VAV CONTROLS. 24V TRANSFORMER AND WIRING FURNISHED BY TEMP CONTROL CONTRACTOR. COORDINATE EXACT LOCATIONS FOR WHERE 120V CIRCUITS ARE NEEDED WITH T.C.C. IN FIELD PRIOR TO ROUGH-IN.
- DISC SWITCH FURNISHED WITH UNIT HEATER BY MECH CONTRACTOR.
- VFD FURNISHED BY MECH CONTRACTOR, INSTALLED AND WIRED BY ELEC CONTRACTOR. MAKE FINAL CONNECTIONS TO FANS. COORDINATE WITH MECH CONTRACTOR IN FIELD.
- COORDINATE LIGHT FIXTURES MOUNTING HEIGHT AND LOCATION WITH HVAC EQUIPMENT AND DUCTWORK IN THIS ROOM. DUCTWORK SHALL HAVE PRECEDENCE OVER LIGHT FIXTURES. LIGHT FIXTURES MOUNTING HEIGHT SHALL BE MINIMUM 8'-0" A.F.F. MOUNT BELOW DUCT WORK AS NECESSARY. COORDINATE WITH MECH CONTRACTOR IN FIELD.

ALT.-H2 NOTES

PROFESSIONAL SEAL



ISSUE DATES

NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

PROJECT TITLE
**OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701**

PROJECT NUMBER
23002

DATE
10/31/23

SHEET TITLE
**FOURTH FLOOR
POWER PLAN**

SHEET

E4

STARTER SCHEDULE

KEY: COMB=COMBINATION MAGNETIC ACROSS THE LINE; SB=STAR DELTA;
MAN=MANUAL MAG= MAGNETIC ACROSS THE LINE; S=STAR DELTA;
A.T.=AUTO TRANSFORMER; C.T.=CONTROL TRANSFORMER; H.O.A.=HAND/OFF/AUTO SECTOR
SWITCH; P=PILOT LIGHT; S.S.=START/STOP PUSHBUTTONS; ON-OFF=ON/OFF MAINTAINED
CONTACT SECTOR SWITCH; H.A.= HAND AUTO. SECTOR SWITCH.

EQUIPMENT ITEM	MOTOR HP	POWER VOLT	PHASE	TYPE	NEMA SIZE	AUX. N.O.	CONT. N.C.	DEVICES IN COVER	120 V C.T.	MOUNTING LOCATION	REMARKS
RAF-SA, 5B, RAF-6A, 6B	2.0	208	3	COMB	0	2	2	H.O.A PILOT LIGHT	YES	WALL MOUNT COORDINATE IN FIELD	-

LIGHTING FIXTURE SCHEDULE

NOTE : FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS:
CL=CEILING MOUNTED; S=STEM SUSPENDED; W=WALL MOUNTED; R=CEILING RECESSED;
WP=WALL RECESSED; CO=COVE MOUNTED; UC=UNDER CABINET; RF=ROOF MOUNTED;
SL=SITE LIGHT; GR=GROUND; CH=CHAIN SUSPENDED; P=PENDANT

FIXTURE NUMBER	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS	REMARKS
SI	4" LED STRIPLIGHT SEMI FROST LENSE	COOPER DAYBRITE	45NLED-LD5-53SL-UN-LVW-L840-CD	41W LED 5300 LUMENS 4000K	CHAIN HUNG MOUNT AT 10' A.F.F. COORDINATE WITH HVAC DUCTWORK
EX	LED EXT UNIVERSAL MOUNTED RED LETTERING AC ONLY	SURE-LITES CHLORIDE DAYBRITE	LPX6	1.2W LED	PENDANT MOUNT AT 8' A.F.F. WALL MOUNT AT 1'-0" ABOVE DOOR

ADDITIONAL SPECIFICATIONS: EQUIVALENT FIXTURES, BY THE FOLLOWING MANUFACTURERS, MAY BE FURNISHED AT THE CONTRACTOR'S OPTION: HUBBELL LIGHTING, PHILLIPS LIGHTING, ACUTY BRANDS, GE CURRENT, H.E. WILLIAMS, NORA, LITON OR ABB LIGHTING.

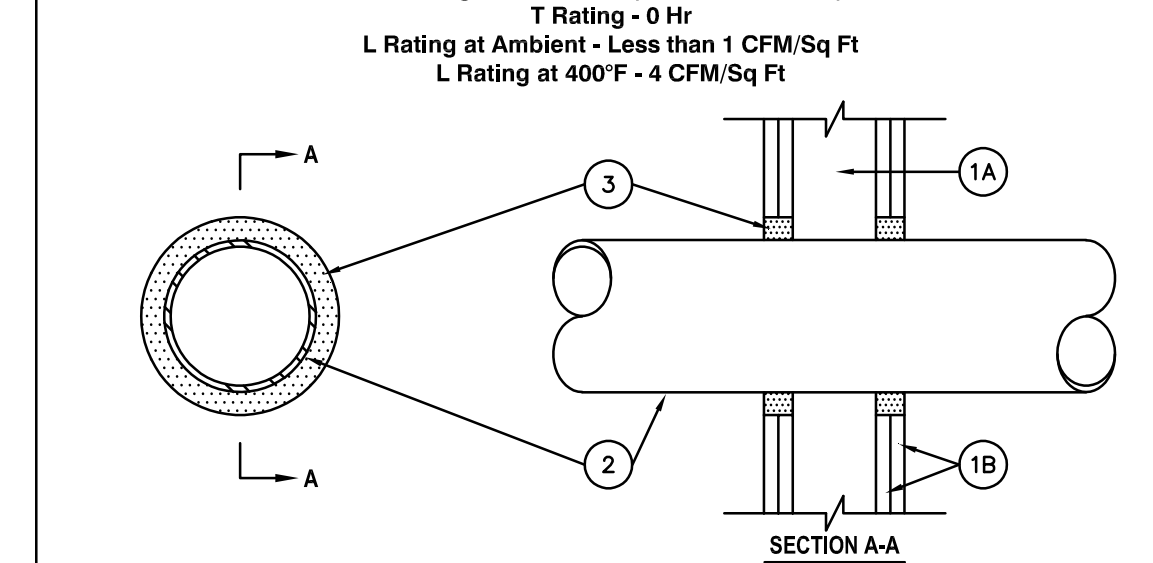
ELECTRICAL ABBREVIATIONS

AWG	AMERICAN WIRE GAUGE	FIX	FIXTURE
A	AMPERE	G.C.	GENERAL CONTRACTOR
AF	ABOVE FINISHED FLOOR	GRD	GROUND
AFG	ABOVE FINISHED GRADE	LTG	LIGHTING
BFG	BELOW FINISHED GRADE	MFR	MANUFACTURER
CLG	CEILING	MECH	MECHANICAL
ORC	CIRCUIT	PNL	PANEL
C	CONDUIT	RECEP	RECEPTACLE
CONN	CONNECTION / CONNECTOR	REQ'D	REQUIRED
CONTR	CONTRACTOR	SW	SWITCH
CONT	CONTROL	TCP	TEMPERATURE CONTROL PANEL
COORD	COORDINATE	TELE	TELEPHONE
DTL	DETAIL	TMR	TRANSFORMER
DISC	DISCONNECT	TYP	TYPICAL
E.C.	ELECTRICAL CONTRACTOR	U.O.N.	UNLESS OTHERWISE NOTED
EXIST	EXISTING TO REMAIN	WP	WEATHERPROOF
FOR	FEEDER		

FIRE STOPPING DETAILS

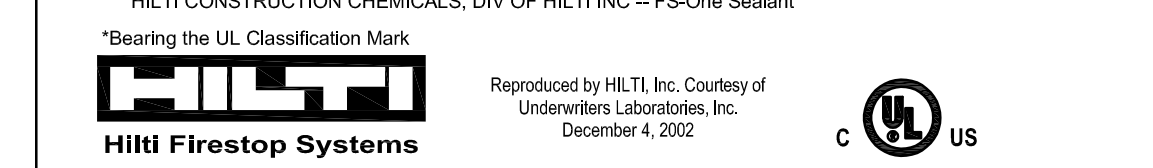
RATED WALLS

METAL PIPE THROUGH GYPSUM WALL ASSEMBLY
System No. W-1054
F Ratings - 1 and 2 Hr (See Items 1 and 3)
F Rating - 0 Hr
L Rating at 400°F - 1 CFM/Sq Ft
L Rating at 400°F - 4 CFM/Sq Ft



- Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/steel wall assembly shall be constructed of the materials and in the manner specified in the UL500 or UL400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nominal 2 x 4 in. lumber spaced 16 in. O.C. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. O.C. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-fastened to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
B. Gypsum Board - 5/8 in. thick, 4-1/2 wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the Individual UL500 or UL400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly.

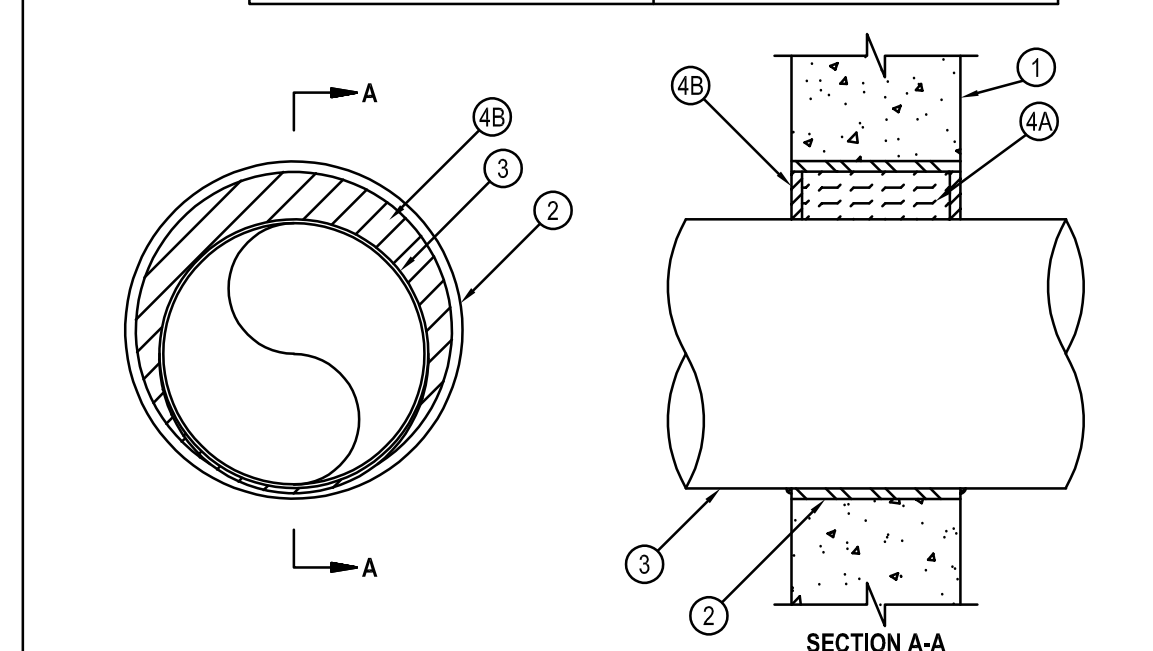
- Through-Penetrations - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipes, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
A. Steel Pipe - Nom 3/4 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
B. Iron Pipe - Nom 3/4 in. diam (or smaller) cast or ductile iron pipe.
C. Conduit - Nom 4 in. diam (or smaller) sheet electrical metallic tubing or 6 in. diam steel conduit.
D. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
E. Copper Pipe - Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
F. Fire-Resistant Material - Sealant - Min 1/8 in. thickness of 98 material applied within the annulus. Flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam hole shall be drilled at the pipe wall interface on both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-One Sealant



METAL PIPE THROUGH CMU WALL ASSEMBLY

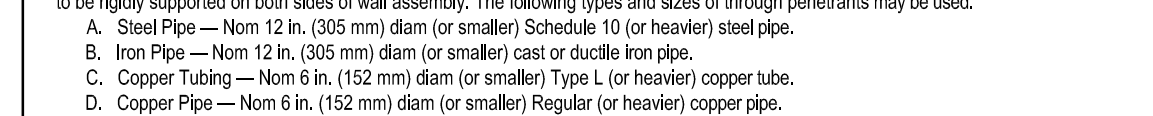
System No. W-J-1193

ANSI/UL 179 (ASTM E84)	CANULC B119
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 0 Hr	T Rating - 0 Hr
L Rating At Ambient - Less Than 1 CFM/Sq Ft	L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400°F - 4 CFM/Sq Ft	L Rating At 400°F - 4 CFM/Sq Ft
	FTI Rating - 0 Hr
	L Rating At Ambient - Less Than 1 CFM/Sq Ft
	L Rating At 400°F - 4 CFM/Sq Ft



- Wall Assembly - Min 6 in. (152 mm) thick reinforced lightweight or normal weight (130-150 pcf or 1800-2400 kg/m³) concrete. Wall may also be constructed of any UL Classified Concrecrete Blocks. Max diam of opening is 16 in. (406 mm). See Concrecrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
- Steel Sleeve - Nom 16 in. (406 mm) diam (or smaller) Schedule 40 (or lighter) steel sleeve fitted into opening. Length of steel sleeve to be equal to the thickness of wall.
- Through Penetrations - One metallic pipe, tubing or conduit to be installed concentrically or eccentrically within the annulus. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (0 mm, point contact) to max 3/16 in. (98 mm). Through penetrant to be rigidly supported on both sides of wall assembly. The following types and sizes of through penetrations may be used:
A. Steel Pipe - Nom 1/2 in. (38 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
B. Iron Pipe - Nom 1/2 in. (38 mm) diam (or smaller) cast or ductile iron pipe.
C. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
D. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
E. Conduit - Nom 6 in. (152 mm) diam (or smaller) electrical metallic tubing (EMT) or rigid steel conduit.
- Firestop System - The firestop system shall consist of the following:
A. Packing Material - Min 5 in. (127 mm) thickness of min 2 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form for packing material to be recessed from both surfaces of wall to accommodate the required thickness of 98 material.
B. Fire-Resistant Material - Sealant - Min 1/8 in. (3 mm) thickness of 98 material applied within the annulus. Flush with both surfaces of wall. Min 1/4 in. (6 mm) diam hole at the pipe wall interface on both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS-One Sealant or FS-One MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada).



NEW LAOD ADDED TO PANEL:

Connected Load Panel Summary
Phase A: 0.0 KVA 0.0 AMPS HT - Handle Tie
Phase B: 0.9 KVA 7.3 AMPS LO - Lock-On Device
Phase C: 0.4 KVA 3.0 AMPS GF - GND Fault CKT Interrupter
Total: 1.2 KVA

Breaker Options (If Used):
HT - Handle Tie
LO - Lock-On Device
GF - GND Fault CKT Interrupter
EX - Existing to Remain
SH - Shunt Trip Breaker

NEW LAOD ADDED TO PANEL:

Connected Load Panel Summary
Phase A: 0.7 KVA 5.5 AMPS HT - Handle Tie
Phase B: 0.0 KVA 0.0 AMPS LO - Lock-On Device
Phase C: 0.7 KVA 5.5 AMPS GF - GND Fault CKT Interrupter
Total: 1.3 KVA

Breaker Options (If Used):
HT - Handle Tie
LO - Lock-On Device
GF - GND Fault CKT Interrupter
EX - Existing to Remain
SH - Shunt Trip Breaker

Connected Load Panel Summary
Phase A: 0.7 KVA 5.5 AMPS HT - Handle Tie
Phase B: 0.0 KVA 0.0 AMPS LO - Lock-On Device
Phase C: 0.7 KVA 5.5 AMPS GF - GND Fault CKT Interrupter
Total: 1.3 KVA

Breaker Options (If Used):
HT - Handle Tie
LO - Lock-On Device
GF - GND Fault CKT Interrupter
EX - Existing to Remain
SH - Shunt Trip Breaker

Connected Load Panel Summary
Phase A: 0.7 KVA 5.5 AMPS HT - Handle Tie
Phase B: 0.0 KVA 0.0 AMPS LO - Lock-On Device
Phase C: 0.7 KVA 5.5 AMPS GF - GND Fault CKT Interrupter
Total: 1.3 KVA

Breaker Options (If Used):
HT - Handle Tie
LO - Lock-On Device
GF - GND Fault CKT Interrupter
EX - Existing to Remain
SH - Shunt Trip Breaker

Connected Load Panel Summary
Phase A: 0.7 KVA 5.5 AMPS HT - Handle Tie
Phase B: 0.0 KVA 0.0 AMPS LO - Lock-On Device
Phase C: 0.7 KVA 5.5 AMPS GF - GND Fault CKT Interrupter
Total: 1.3 KVA

Breaker Options (If Used):
HT - Handle Tie
LO - Lock-On Device
GF - GND Fault CKT Interrupter
EX - Existing to Remain
SH - Shunt Trip Breaker

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING HGT. TO CENTER UNLESS OTHERWISE NOTED
	RECESSED OR SUSPENDED LUMINAIRE/LIGHT FIXTURE REFER TO THE LIGHTING FIXTURE SCHEDULE	SEE DRAWINGS
	POLE MTD. LIGHT FIXTURE	SEE DRAWINGS
	WALL MTD. LIGHT FIXTURE	SEE DRAWINGS
	WALL MTD. EXIT LIGHT	AB DOOR
	CEILING MOUNTED EXIT LIGHT W/ DIRECTIONAL ARROWS	-
	CEILING OR WALL MTD. EXIT-EM LIGHT COMBO UNIT	CLG / AB DOOR
	EMERGENCY REMOTE HEADS	CLG / AB DOOR
	EMERGENCY BATTERY UNIT	90"
	DUPLEX RECEPTACLE	18"
	POWER AND VOICE/DATA POKEY THROUGH	FLOOR MTD.
	DUPLEX RECEPTACLE WEATHERPROOF / GROUND FAULT	18"
	DUPLEX RECEPTACLE W/ GROUND FAULT INTERRUPTER	18"
	220V RECEPTACLE	18"
	DOUBLE DUPLEX RECEPTACLE	18"
	20A POWER ONLY FLOOR BOX	FLOOR
	JUNCTION BOX: WALL / CEILING MOUNTED: FLOOR MOUNTED	SEE DRAWINGS
	PULL BOX	SEE DRAWINGS
	TOGGLE SWITCH - SINGLE, 3-WAY & 4-WAY	42"
	TOGGLE SWITCH - K = OPERATED, WP = WEATHERPROOF	42"
	WALL BOX FOR "VOICE/DATA" OUTLET, 1-PORT, 2-PORT WITH 1"TC TO ABOVE CEILING OR TO 8' A.F.F. WHEN CONDUIT IS SURFACE MOUNTED, UNLESS A LARGER CONDUIT IS INDICATED	18"
	WALL TELEPHONE OUTLET	48"
	WIRELESS ACCESS POINT	CEILING
	MOTOR - 1 PHASE	AS REQUIRED
	MOTOR - 3 PHASE	AS REQUIRED
	MOTORIZED DAMPER - 1 PHASE	AS REQUIRED
	ELECTRICAL PANEL - SURFACE MOUNT, FLUSH MOUNT	6'-0" TO TOP
	PLYWOOD TELEPHONE BACKBOARD	SEE DRAWINGS
	SAFETY SWITCH	AS REQUIRED
	MAGNETIC MOTOR STARTER	AS REQUIRED
	COMBINATION MOTOR STARTER	AS REQUIRED
	MANUAL MOTOR STARTING SWITCH W/ PILOT LIGHT	42"
	LINE VOLTAGE THERMOSTAT	60"
	FIRE ALARM MANUAL PULL STATION	42"
	FIRE ALARM SIGNAL - AUDIO VISUAL	80"
	FIRE ALARM SIGNAL - AUDIO VISUAL	CEILING
	FIRE ALARM SIGNAL - STROGE ONLY	80"
	SMOKE DETECTOR - DUCT MOUNTED	SEE DRAWINGS
	SMOKE DETECTOR - CEILING	SEE DRAWINGS
	HEAT DETECTOR - CEILING	SEE DRAWINGS
	DUCT SMOKE DETECTOR W/ SMOKE DAMPER	SEE DRAWINGS
	SPRINKLER SYSTEM TAMPER SWITCH	SEE DRAWINGS
	SPRINKLER SYSTEM FLOW SWITCH	SEE DRAWINGS
	DUCT SMOKE DETECTOR REMOTE TEST SWITCH	SEE DRAWINGS
	FIRE ALARM BELL	SEE DRAWINGS
	DRY PIPE ALARM SWITCH	SEE DRAWINGS
	DRY PIPE LOW AIR PRESSURE SWITCH	SEE DRAWINGS
	VALVE SUPERVISORY SWITCH	SEE DRAWINGS
	PUSH BUTTON	SEE DRAWINGS
	GROUND BAR	18"
	FIRE ALARM TELEPHONE JACK	48"
	WIRED FURNITURE FEED JUNCTION BOX - WALL	18" U.N.O.
	FURNITURE FEED VOICE/DATA CONNECTION - WALL	18" U.N.O.
	DOOR AUTO OPERATOR PUSH PAD	42"
	DOOR HARDWARE AUTO OPERATOR	AB. DOOR
	ELECTRIC POWER TRANSFER	AS REQUIRED
	ACCESS CONTROL CARD READER	46"
	CONTACT SWITCH	TOP DOOR FRAME
	ELECTRIC STRIKE/LOCK	AS REQUIRED
	ELECTRIC HINGE	AS REQUIRED
	MAGNETIC LOCK	AS REQUIRED
	DOOR HARDWARE POWER SUPPLY	AS REQUIRED
	PANIC HARDWARE	AS REQUIRED
	ACCESS CONTROL SAFE CONTACT SWITCH	AT EQUIPMENT
	FLUSH WALL BOX FOR "OCCT" UNLESS OTHERWISE (WITH 3/4" C. TO HEADEND EQUIPMENT)	SEE DRAWINGS
	POWER METER	SEE DRAWINGS

EF-1 CONTROL DIAGRAM

SCALE: NONE



OCCUPANCY SENSOR LEGEND

- LOW VOLTAGE CEILING MOUNTED SELF-ADJUSTING DUAL TECHNOLOGY VACANCY SENSOR WITH 360° FIELD OF VIEW. SET TO AUTO ON/AUTO OFF. GREENWAVE OAC-OT-1000 OR APPROVED EQUAL.
- JUNCTION BOX MOUNTED POWER PACK (AS REQUIRED). 120/277 VOLT INPUT. 20A LOAD RATING, 24VAC, 150 mA OUTPUT OR COMPATIBLE WITH OCCUPANCY SENSOR. INSTALL ABOVE ACCESSIBLE CEILING. POWER PACKS MAY NOT SHOWN ON PLANS, PROVIDED AS REQUIRED.

NOTES:

- FIELD ADJUST SETTINGS.
- INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
- APPROVED EQUALS SHALL BE BY PHILLIPS, WATT-STOPPER, ACUTY BRANDS.
- CEILING AND/OR WALL MOUNTED VACANCY SENSORS, SENSOR SWITCHES/DIMMERS AND POWER PACKS SHALL BE COMPATIBLE WITH LIGHT FIXTURES.
- ALL SWITCH/DIMMER COVER PLATES SHALL BE WHITE.

EF-1 CONTROL DIAGRAM

SCALE: NONE

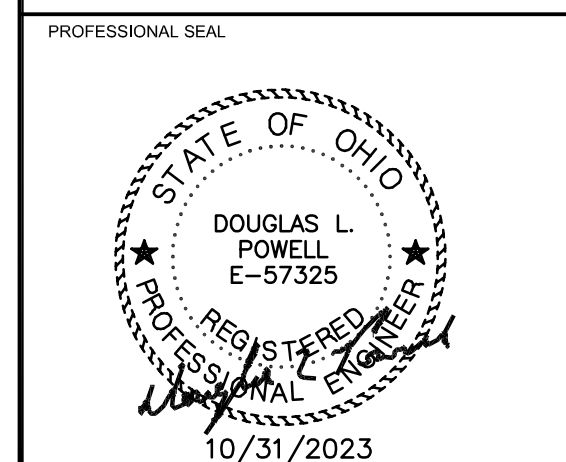
EF-1 CONTROL DIAGRAM

SCALE: NONE



BDT, Inc.
26 E. Park Drive, Athens, Ohio 45701
OFFICE: 765.692.2400
ONLINE: www.bdt.com
EMAIL: office@bdt.com

BDT PROJECT NO: 23002
All reproduction & intellectual property rights reserved © 2023
In consultation with:



ISSUE DATES

NO.	DATE	DESCRIPTION
1	1/9/24	ISSUED FOR BIDDING
2	02/19/24	ADDENDUM 2

PROJECT TITLE

OHIO MUSEUM COMPLEX
OU LIN HALL HVAC
100 RIDGES CIR.
ATHENS, OHIO 45701

PROJECT NUMBER: 23002

SHEET TITLE

ELECTRICAL LEGEND
ABBREVIATIONS
SCHEDULES

SHEET

E6