



Addendum No. 1
Page 1 of 2

DATE: January 18, 2019

Joliet Junior College
1215 Houbolt Road
Joliet, IL 60431

TO: Prospective Bidders
SUBJECT: Addendum No. 1
PROJECT NAME: S Bldg AHU Replacement
JJC PROJECT NO.: B18030

This Addendum forms a part of the Bidding and Contract Documents and modifies the original bidding document as posted on the JJC website. Acknowledge receipt of this addendum in the space provided on the Bid Form. FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.

-
1. It was mentioned in the pre-bid that isolation valves would be installed by JJC. However, all valves shown in the bid documents shall be installed by this contractor.
 2. This addendum includes a revised bid form to incorporate a line item for Alternate 1 (AHU 17 & 18).
 3. This addendum includes the following changes to the specifications;
 - a. Section 23 09 23 – Direct-Digital Control System for HVAC –
 - i. Paragraph 1.04 A.; Delete “Delta Controls Enteliweb Enterprise” from first sentence and replace with “Johnson Controls, Inc.”.
 - ii. Paragraph 2.01 A.; Add the following after Johnson Controls, Inc., “Jim Pierson – 708-418-2268”
 - b. Section 23 33 00 – Air Duct Accessories
 - i. Add Paragraph 1.01 E. Fire Dampers.
 - ii. Add Article 2.06 as follows:
 1. 2.06 FIRE DAMPERS
 - A. Manufacturers:
 1. Ruskin Company.
 2. Greenheck.
 3. Potorff.
 - B. Fabricate in accordance with NFPA 90A and UL 555, and as indicated.
 - C. Curtain Type Dampers: Galvanized steel with interlocking blades. Provide stainless steel closure springs and latches for horizontal installations. Configure with blades out of air stream except for 1.0 inch pressure class ducts up to 12 inches in height.
 - D. Fusible Links: UL33, separate at 160 degrees F with adjustable link straps.
 - E. Rating: Dampers shall be marked with 1-1/2 or 3-hour fire protection rating as required for damper location.



Addendum No. 1
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4. This addendum includes the following changes to these drawings;
 - a. Drawing M311 – First Floor Enlarged Mechanical Plans: Add items and keynotes as shown in attached Drawing M311.
 - b. Drawing M321 – Second Floor Enlarged Mechanical Plans: Add fire damper as shown in attached Drawing M321.
 - c. Drawing M510 – Mechanical Details: Change equipment rail from 6 inches to 8 inches in Air Handling Unit (AHU-20) Detail and in Air Handling Unit (AHU-21) Detail.
 - d. Drawing M610 – Mechanical Schedule and Details: Add Detail 7 Wall Fire Damper Detail as shown in attached Drawing M610.

End of Addendum #1

EXECUTE AND ATTACH TO PROPOSAL FORM

JOLIET JUNIOR COLLEGE – REQUEST FOR BID

DRAWINGS ARE AVAILABLE ON THE FOLLOWING WEBSITE:

WWW.JJC.EDU/COMMUNITY/VENDORS

BID FORM

To: Joliet Junior College
1215 Houbolt Road
Joliet, IL 60431-8938

Project: _____

Date: _____

Submitted by:

(Full Name)

(Address)

(City, State, Zip)

(Phone) (Fax) (Email)

PART 1 OFFER

Having examined the site and having familiarized itself with the conditions affecting the cost of the work associated with the _____, and with the bidding documents, Bidder hereby proposes to perform everything required and to furnish all labor, materials, necessary tools, expendable equipment and transportation services necessary to complete in a workmanlike manner the subdivision of work stated above in accordance with the bidding documents for the following sums:

Base Bid:	
Allowance:	\$5,000.00
Total Base Bid with Allowance:	

Base Bid (with Allowance):

Dollars(\$ _____)

Write amount in both alpha and numeric, in case of discrepancy the lesser amount shown will govern.

Alternate Bid (AHU 17 & 18):

Dollars(\$ _____)

Write amount in both alpha and numeric, in case of discrepancy the lesser amount shown will govern.

We have included herewith, the Security Deposit as required by the Instructions to Bidders.

PART 2 ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for thirty (30) days from the Bid closing date.

If the bid is accepted by the Owner within the time period stated above, we will:

- A. Execute the Agreement within ten (10) days of receipt of Notice of Award.
- B. Furnish the required bonds within ten (10) days of receipt of Notice of Award in the form described in the Instruction to Bidders.
- C. Furnish the required Certificate of Insurance within ten (10) days of receipt of Notice of Award in the form and amounts described in the Instruction to Bidders.
- D. Commence work as established by the written Notice to Proceed.

If this Bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bonds(s), the Security Deposit shall be forfeited as damages to the Owner by reason of our failures.

In the event our Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

PART 3 CONTRACT TIME

If the Bid is accepted, we will:

- A. Complete the work in manner consistent to meet the requirements of the schedule (_____) consecutive calendar days from the date established as the Date of Commencement in the Notice to Proceed.
- B. Contractor has examined the Schedule included in these documents and takes no exception, or records the following exceptions:

PART 4 CONTRACTOR’S FEES FOR CHANGES IN THE WORK

Lump Sum of Time and Materials Changes: We the undersigned bidder agree that the following percentages for overhead and profit shall be added to job costs for the

net amount of work added to or deleted from the contract by written lump sum or time and material change orders recommended by the Engineer and approved by the Owner:

Add to net extra for job costs for additional work performed by:

Our own forces 12%

Our subcontractor 5% (including assigned subcontractors)

Note: Insurance, bond, and taxes are considered as job cost items and are not included in the percentages listed above.

PART 5 ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Bid Sum.

Addendum # _____ Dated _____

Addendum # _____ Dated _____

Addendum # _____ Dated _____

PART 6 SUBCONTRACTORS

A. The following work will be performed (or provided) by the Subcontractors we have indicated below:

	<u>Name of Subcontractor</u>	<u>Work Performed</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

B. We understand, and hereby agree, that we are obligated to use the indicated subcontractors, unless prior written permission to change has been obtained from the Owner.

PART 7 RELATED WORK EXPERIENCE

List a minimum of three jobs of similar type and scope performed in the last five years:

1. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

2. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

3. Client: _____
Building: _____
Phone: _____
Contact Name: _____
Dollar Amount: _____

PART 8 BID FORM ADDITION

Apprenticeship and Training Certification

In accordance with the Illinois Procurement Code, the Bidder certifies that the work to be performed by it and/or its subcontractors shall, at the time of such bid opening and at the time of the performance of work pursuant to the terms of this Contract, shall have participated in the approved apprenticeship and training programs as provided for above. The bidder shall list, in the space below, the official name of the program sponsor holding the certificate of registration or all types of work or crafts in which the bidder is a participant and that will be performed by the bidder and its sub-contractor's employees. Work that will be sub-contracted shall be indicated to be subcontracted work as provided for herein. **Failure to list required information may result in disqualification of bid.**

PART 9 CONTRACTOR EVALUATION

Upon completion of the project, a Construction Contractor Performance Evaluation form will be completed by the A/E and the JJC Project Coordinator. The contractor will be evaluated in the following categories:

- Professionally Administered and Supervised Work
- Business Practices
- Overall Performance
- Workmanship
- Timeliness
- Project Management

PART 10 BID FORM SIGNATURES(S)

The Corporate Seal of:

(Bidder – please print the full name of your Proprietorship, Partnership, or Corporation)

Was hereunto affixed in the presence of:

(Authorized signing officer) (Title)

(Seal)

(Authorized signing officer) (Title)

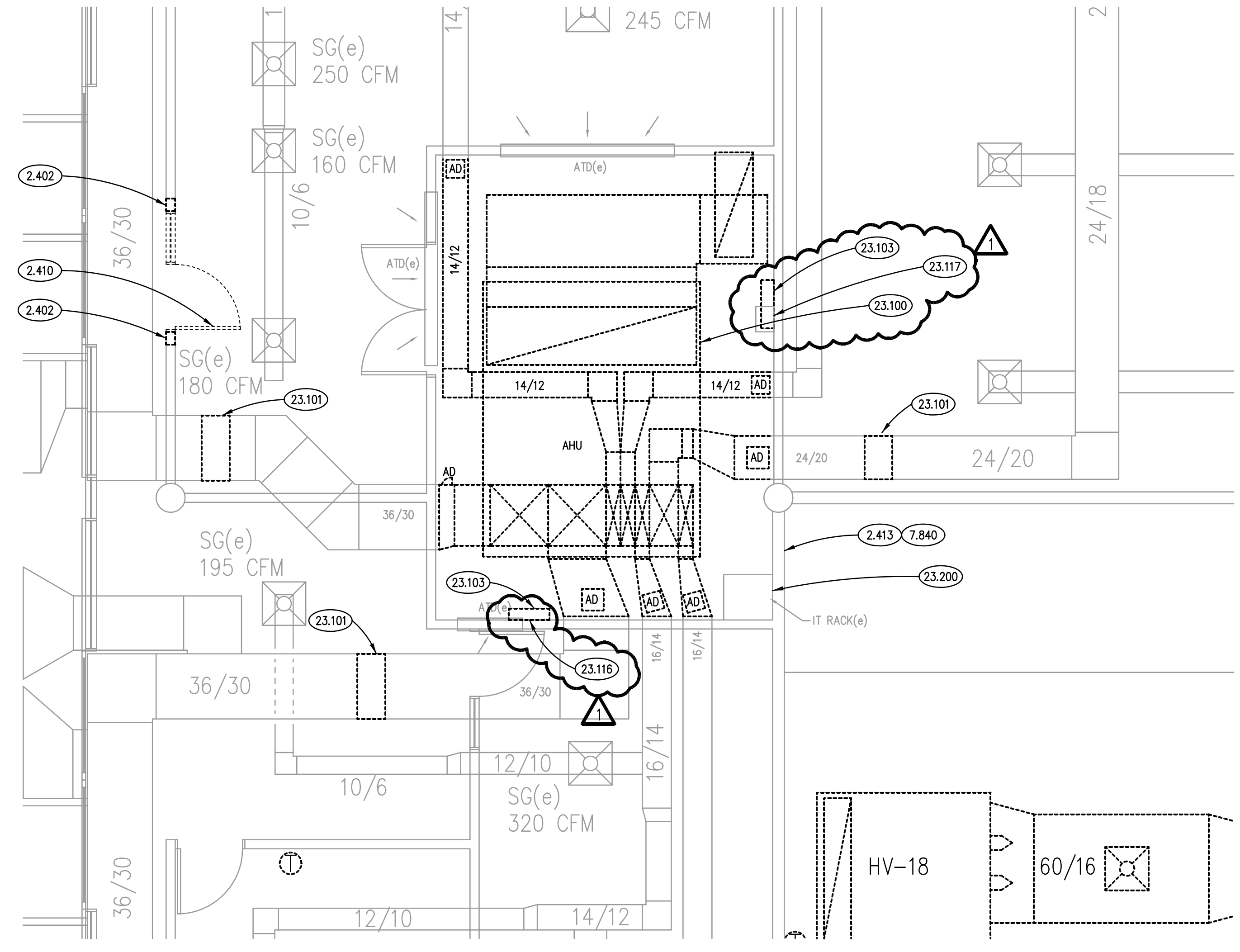
If the bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF SECTION

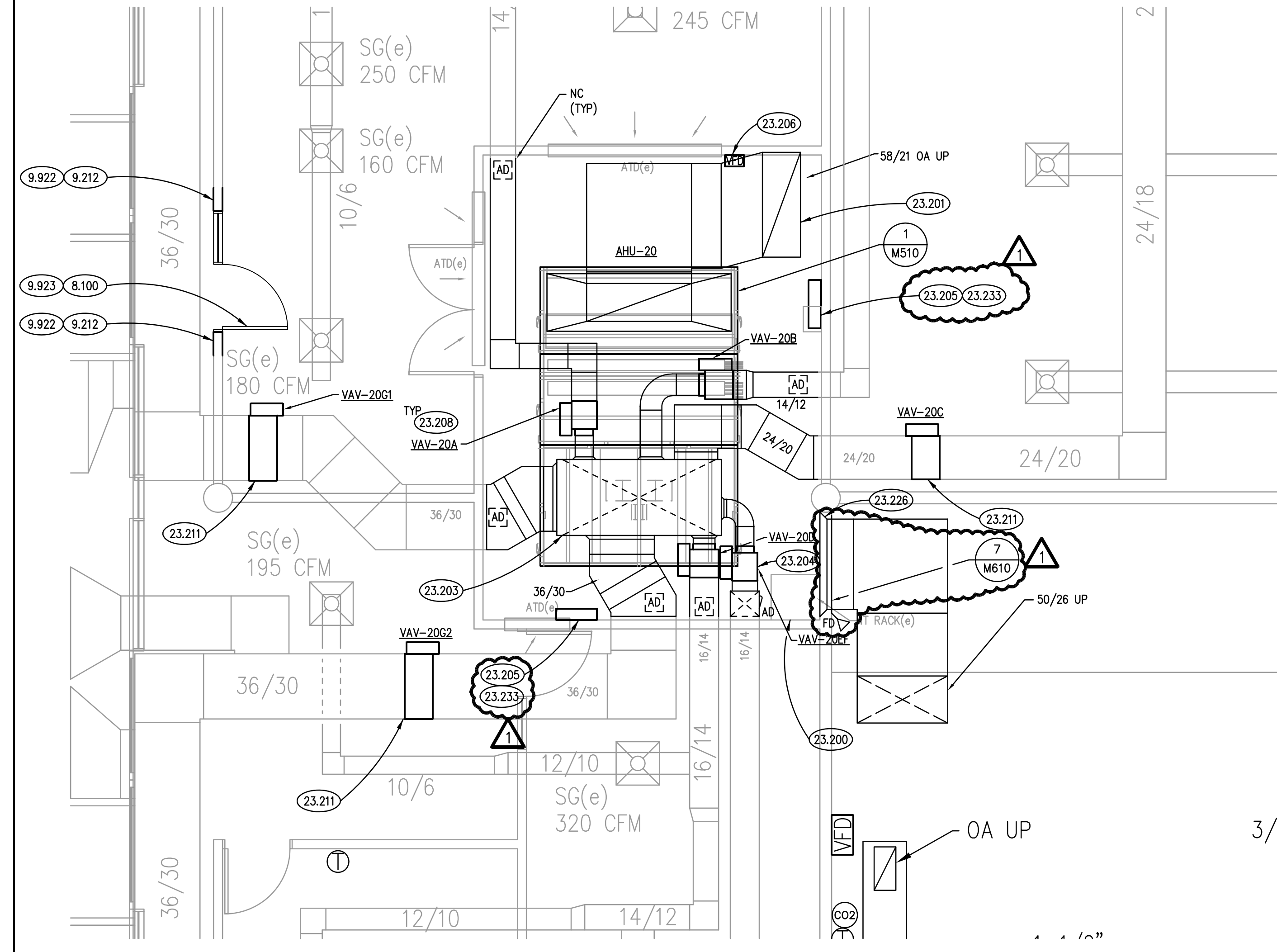
KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

- 2.402 DEMOLISH PORTION OF EXISTING STEEL-STUD-FRAMED DRYWALL; CAREFULLY REMOVE ELEMENTS TO PERMIT SALVAGING OF EXISTING DOOR, FRAME AND HARDWARE; DEMOLISH WALL BASE.
- 2.410 SALVAGE EXISTING DOOR, FRAME AND HARDWARE.
- 2.413 CREATE OPENING IN EXISTING STEEL-STUD-FRAMED FIRE-RATED GYPSUM DRYWALL CONSTRUCTION FOR NEW MECHANICAL DUCT TO TIGHTLY FIT SIZE OF DUCT. REFER TO NEW WORK PLAN.
- 7.840 FIRESTOPPING: FIRESTOP NEW PENETRATION(S) THROUGH EXISTING FIRE-RATED GYPSUM DRYWALL ASSEMBLY; REFER TO SPECIFICATIONS.
- 8.100 REINSTALL SALVAGED EXISTING DOOR, FRAME AND HARDWARE.
- 9.212 GYPSUM BOARD ASSEMBLY: RECONSTRUCT DEMOLISHED PORTION OF STEEL-STUD-FRAMED GYPSUM DRYWALL, USING LIKE MATERIALS, TO PERMIT REINSTALLATION OF SALVAGED DOOR, FRAME AND HARDWARE; PROVIDE NEW WALL BASE TO MATCH EXISTING.
- 9.922 RE-PAINT ENTIRE WALL SURFACE, TOP TO BOTTOM, COLUMN TO COLUMN; BLEND PATCHED AREA AROUND DOOR FRAME INTO EXISTING WALL SURFACE.
- 9.923 RE-PAINT ALL SURFACES OF EXISTING DOOR AND FRAME.
- 23.100 REMOVE AIR HANDLING UNIT AND ASSOCIATED DUCTWORK AS SHOWN.
- 23.101 DEMOLISH SECTION OF DUCTWORK AS REQUIRED FOR INSTALLATION OF NEW RETRO-FIT VAV BOX AND HEATING COIL; SALVAGE EXISTING ACOUSTICAL CEILING PANELS AND GRID MEMBERS TO PERMIT DEMOLITION AND NEW CONSTRUCTION; SAVE AND PROTECT SALVAGED CEILING COMPONENTS FOR REINSTALLATION.
- 23.103 REMOVE PNEUMATIC CONTROLS, PANEL AND ALL ASSOCIATED END DEVICES. VERIFY ONLY POINTS IN PANEL ARE ASSOCIATED WITH AHU-20. IF OTHER CONTROLS ARE IN PANEL AFFECTING OTHER EQUIPMENT NOTIFY OWNER. COORDINATE WITH OWNER FOR REMOVAL OF ANY GRAPHICS IN JCI SYSTEM.
- 23.109 EXISTING PIPING INTO MECHANICAL ROOM DOES NOT HAVE ISOLATION VALVES. CHILLED WATER PIPING CONTAINS 30% GLYCOL.
- 23.110 COORDINATE WITH OWNER FOR DRAINING PIPES. OWNER TO DRAIN AND FILL CHILLED WATER AND HEATING WATER PIPING.
- 23.114 REMOVE HWS/R AND CHS/R PIPING AND COIL SPECIALTIES BACK TO WALL AS SHOWN. PROVIDE TEMPORARY CAP FOR NEW CONNECTION.
- 23.116 REMOVE JCI DX5100 AND TURN OVER TO OWNER. MOVE ALL POINTS INTO NEW DDC CONTROLLER.
- 23.117 EXISTING JCI FPU PANEL TO REMAIN.
- 23.200 EXISTING IT RACK. PROTECT RACK AND ALL ASSOCIATED WIRING THROUGHOUT ALL PHASES OF CONSTRUCTION.
- 23.201 PROVIDE NEW CONNECTION BETWEEN OUTSIDE AIR DUCTWORK AND AIR HANDLING UNIT. PROVIDE ALL REQUIRED TRANSITIONS AND FITTINGS TO MAKE THE CONNECTION.
- 23.202 PROVIDE NEW HWS/R AND CHS/R PIPING AND COIL SPECIALTIES TO AHU.
- 23.203 PROVIDE 7'-8" X 3'-6" PLENUM BOX FOR AIR HANDLING UNIT. PROVIDE ALL CONNECTIONS TO VAV BOXES AS SHOWN. PLENUM BOX TO BE INSTALLED UP TO CEILING.
- 23.204 PROVIDE VAV BOX. MOUNT VAV BOX LOWER THAN VAV-200 TO ALLOW FOR SERVICING OF UNIT.
- 23.205 PROVIDE NEW DDC CONTROLLER FOR AHU. PROVIDE GRAPHICS AND INTERFACE INTO CAMPUS BUILDING AUTOMATION SYSTEM.
- 23.206 PROVIDE VARIABLE FREQUENCY DRIVE FOR NEW AHU IN PLACE OF LOCAL DISCONNECT.
- 23.207 PROPOSED ROUTE OF CONDENSATE PIPING. DISCHARGE IN NEAREST FLOOR DRAIN.
- 23.208 PROVIDE NEW VAV BOXES. PROVIDE ALL REQUIRED TRANSITIONS AND FITTINGS. MAINTAIN CLEARANCE AROUND BOXES FOR SERVICING.
- 23.209 PROVIDE NEW HWS/R PIPING AND ASSOCIATED SPECIALTIES FOR VAV BOXES.
- 23.211 PROVIDE NEW RETROFIT VAV BOX FOR THIS ZONE; FIELD VERIFY EXACT DUCT DIMENSIONS PRIOR TO CONSTRUCTION; REINSTALL SALVAGED ACOUSTICAL CEILING PANELS AND GRID MEMBERS.
- 23.226 PROVIDE FLARED AND SCREENED OPENING ON EXHAUST OPENING TO ROOM.
- 23.233 PROVIDE 3/4" EMPTY CONDUIT BETWEEN NEW DDC CONTROLLER AND EXISTING FPU.



S1020 VENTILATION DEMOLITION PLAN
SCALE: 1/4" = 1'-0" 3

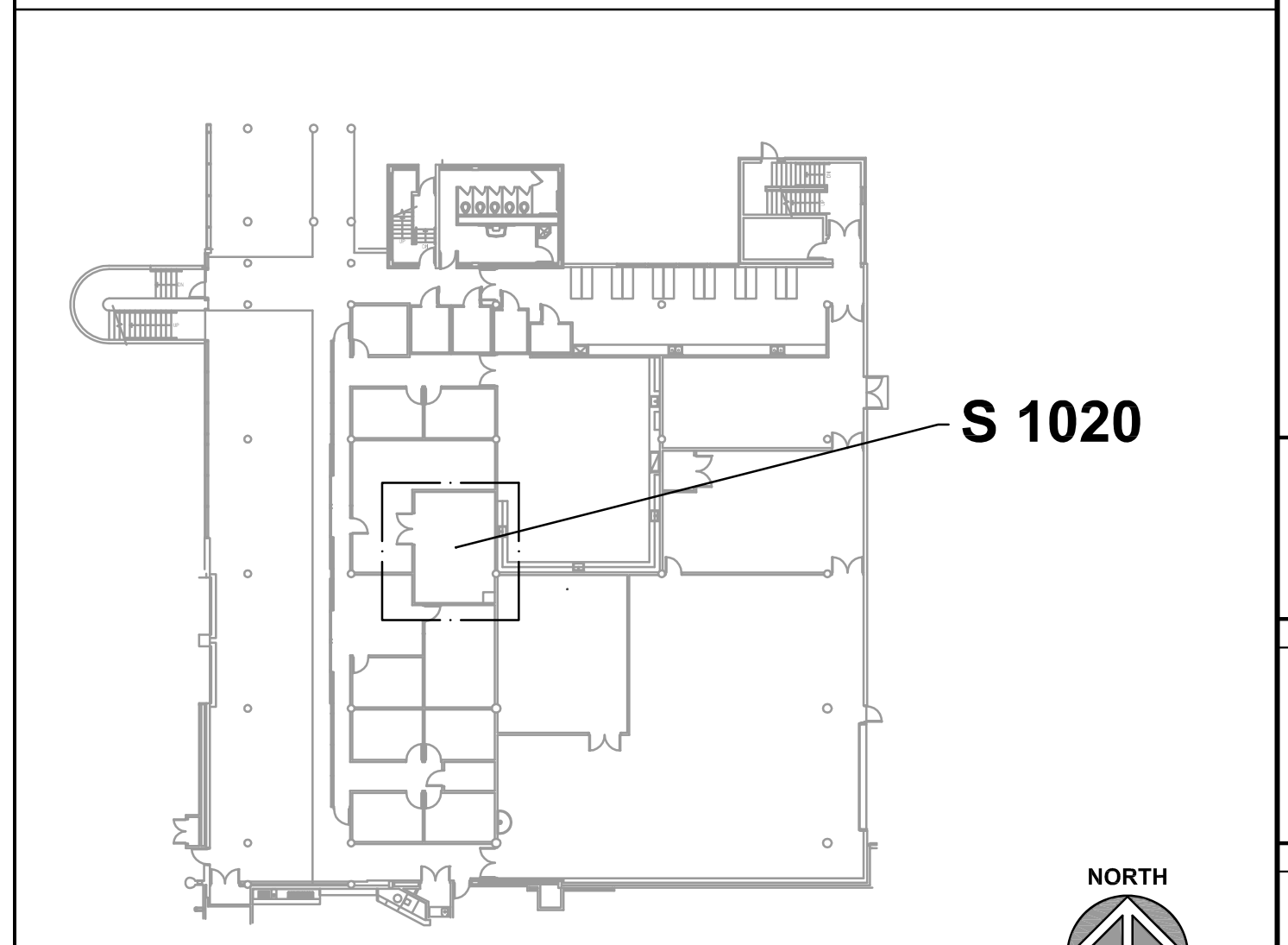


S1020 VENTILATION PLAN
SCALE: 1/4" = 1'-0" 1

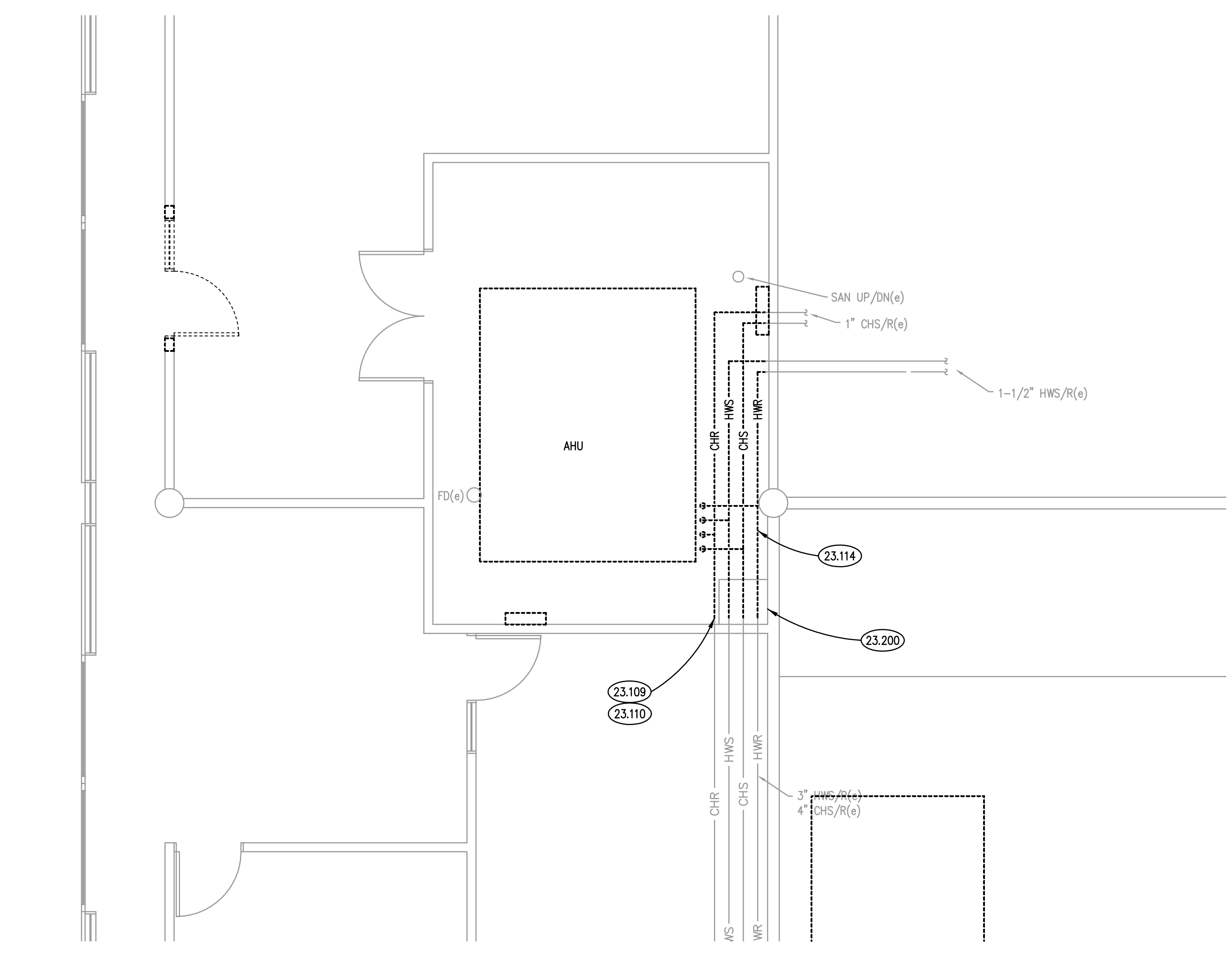
GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISERS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
3. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
4. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5' F DEADBAND.
5. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
6. SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
7. DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
8. HEATING AND COOLING DESIGN LOADS FOR THE BUILDING HAVE BEEN CALCULATED WITH ELITE SOFTWARE, COMMERCIAL HVAC LOADS PROGRAM, VERSION 8.0.24, IN ACCORDANCE WITH ASHRAE STANDARDS. INTERIOR DESIGN TEMPERATURES ARE MAXIMUM 72 DEGREES F FOR HEATING AND A MINIMUM OF 75 DEGREES F FOR COOLING.
9. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.

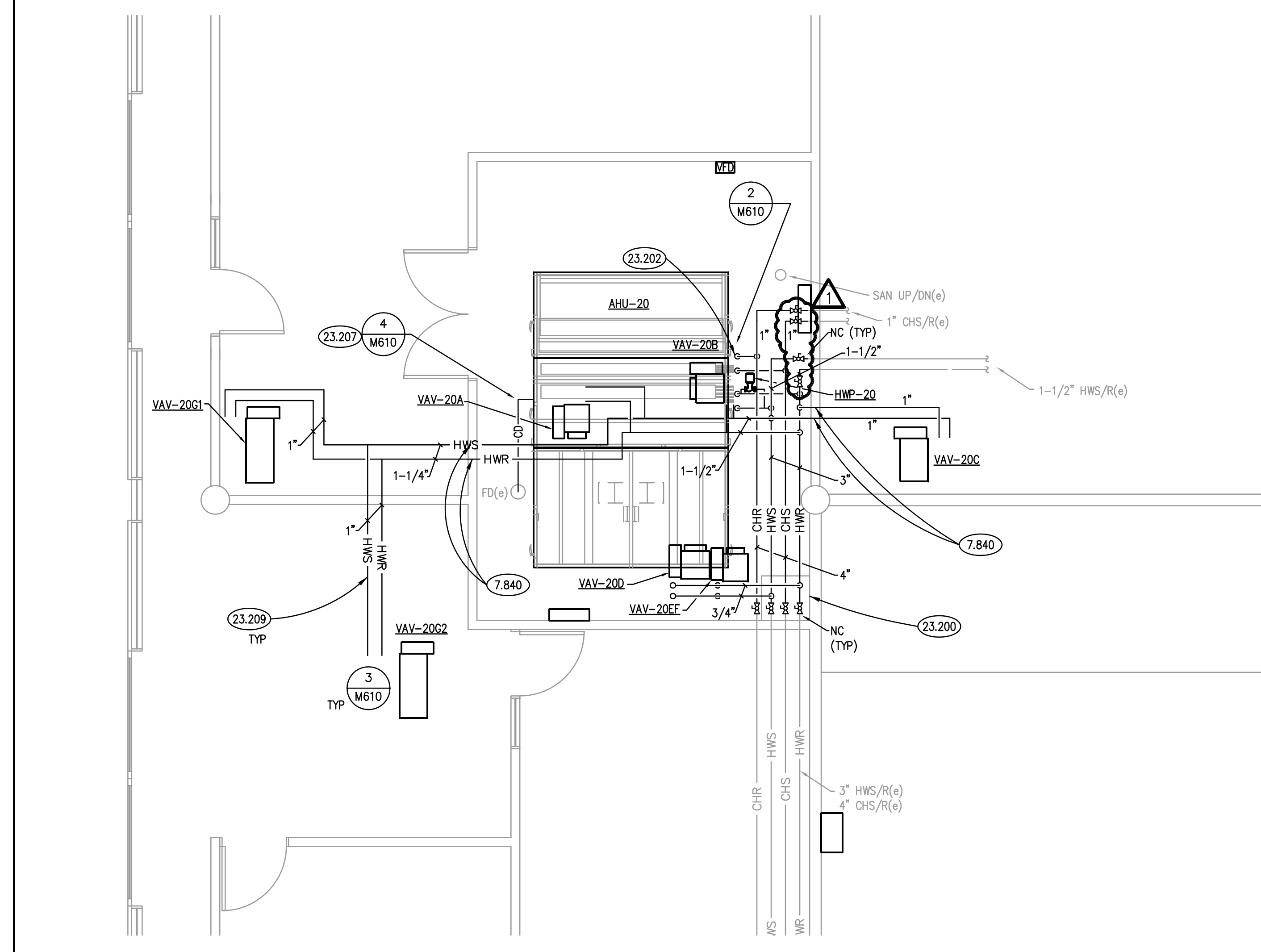
KEY PLAN



BUILDING S
S 1020

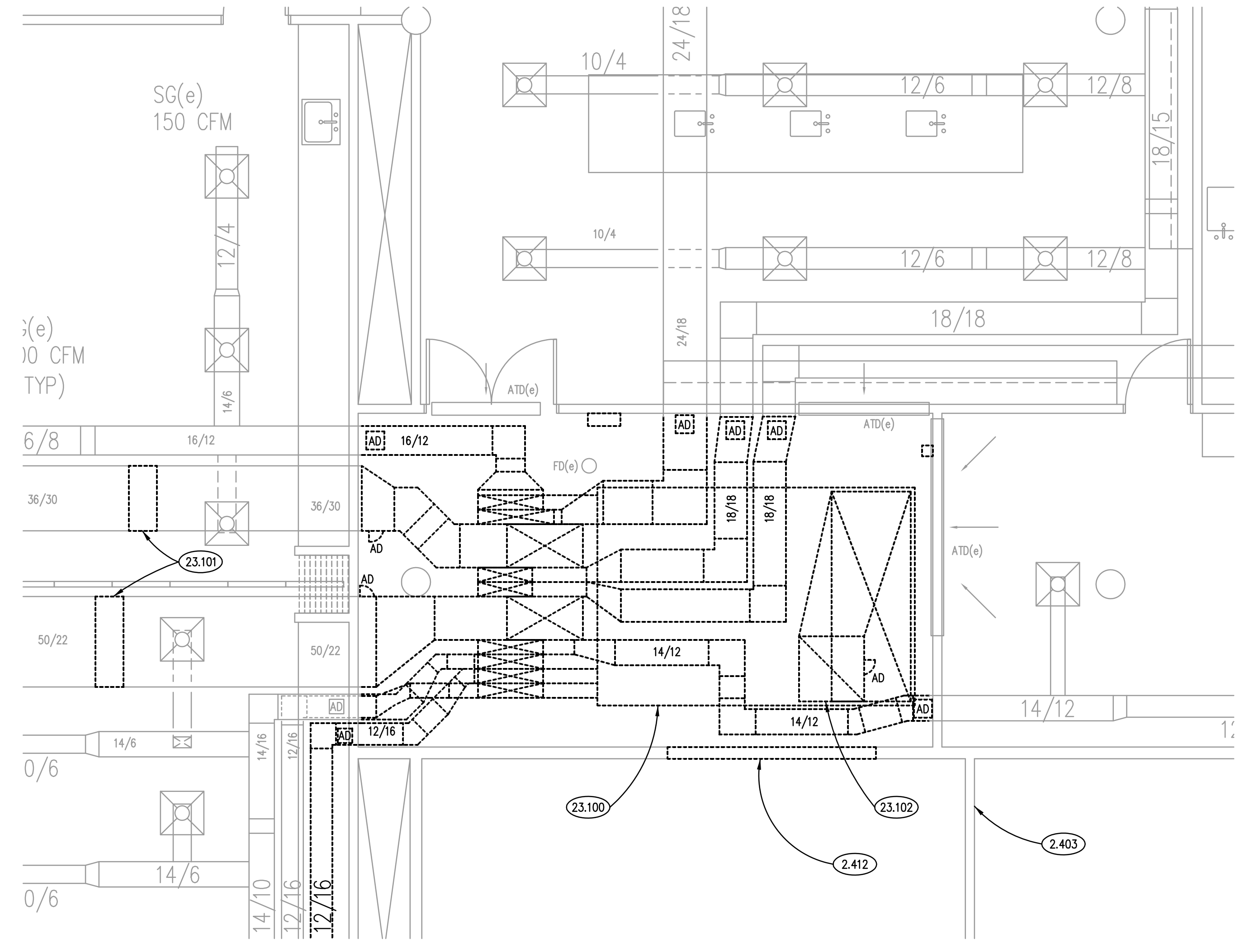


S1020 PIPING DEMOLITION PLAN
SCALE: 1/4" = 1'-0" 4

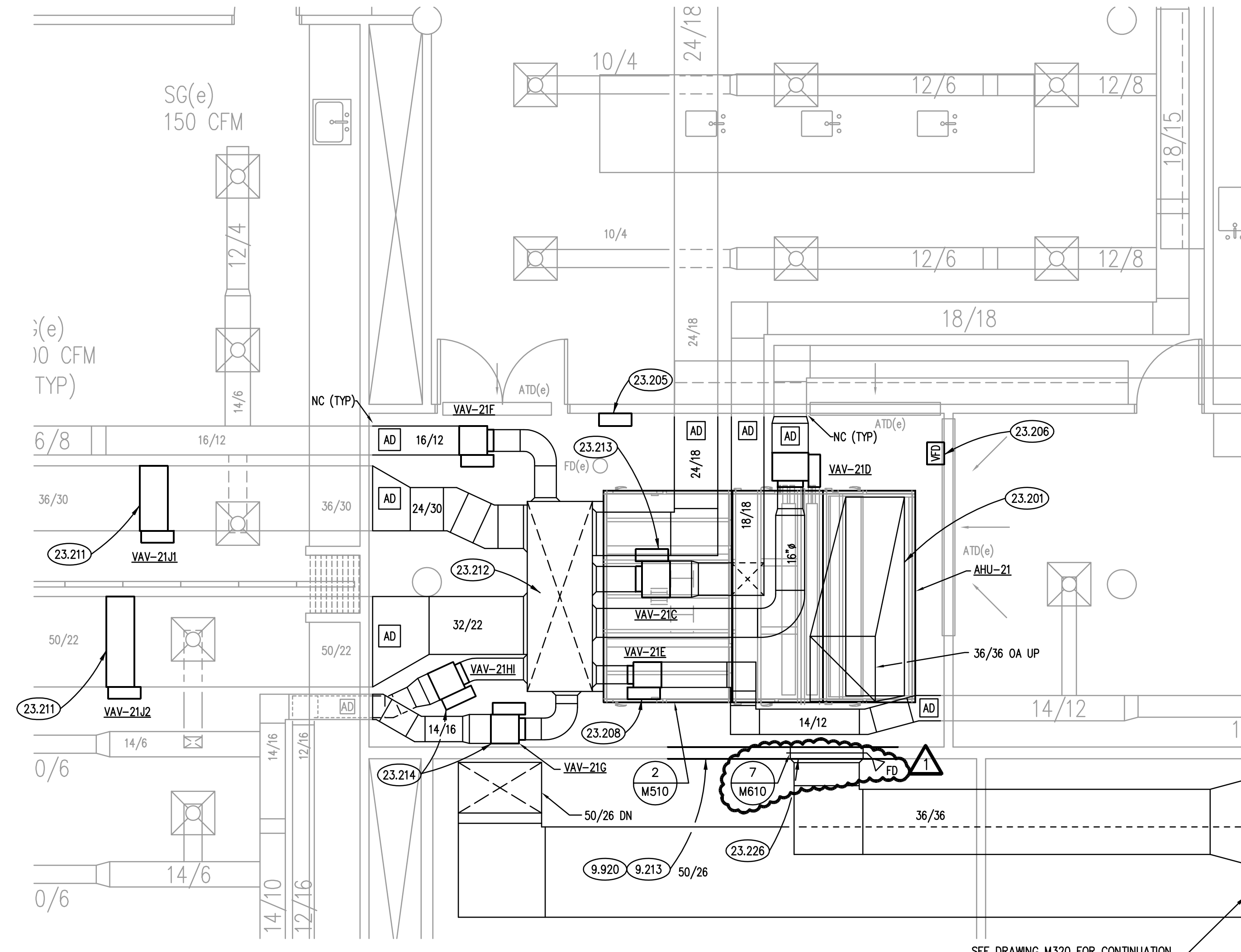


S1020 PIPING PLAN
SCALE: 1/4" = 1'-0" 2

ISSUED	
FOR REVIEW	
DATE	
BY	
APPROVED	
NO.	
JOB NO.	18-292-1195
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW
SHEET TITLE	
FIRST FLOOR ENLARGED MECHANICAL PLANS	
SHEET NUMBER	
M311	



S2008 VENTILATION DEMOLITION PLAN
SCALE: 1/4" = 1'-0" **3**



S2008 VENTILATION PLAN
SCALE: 1/4" = 1'-0" **1**

KEYNOTES

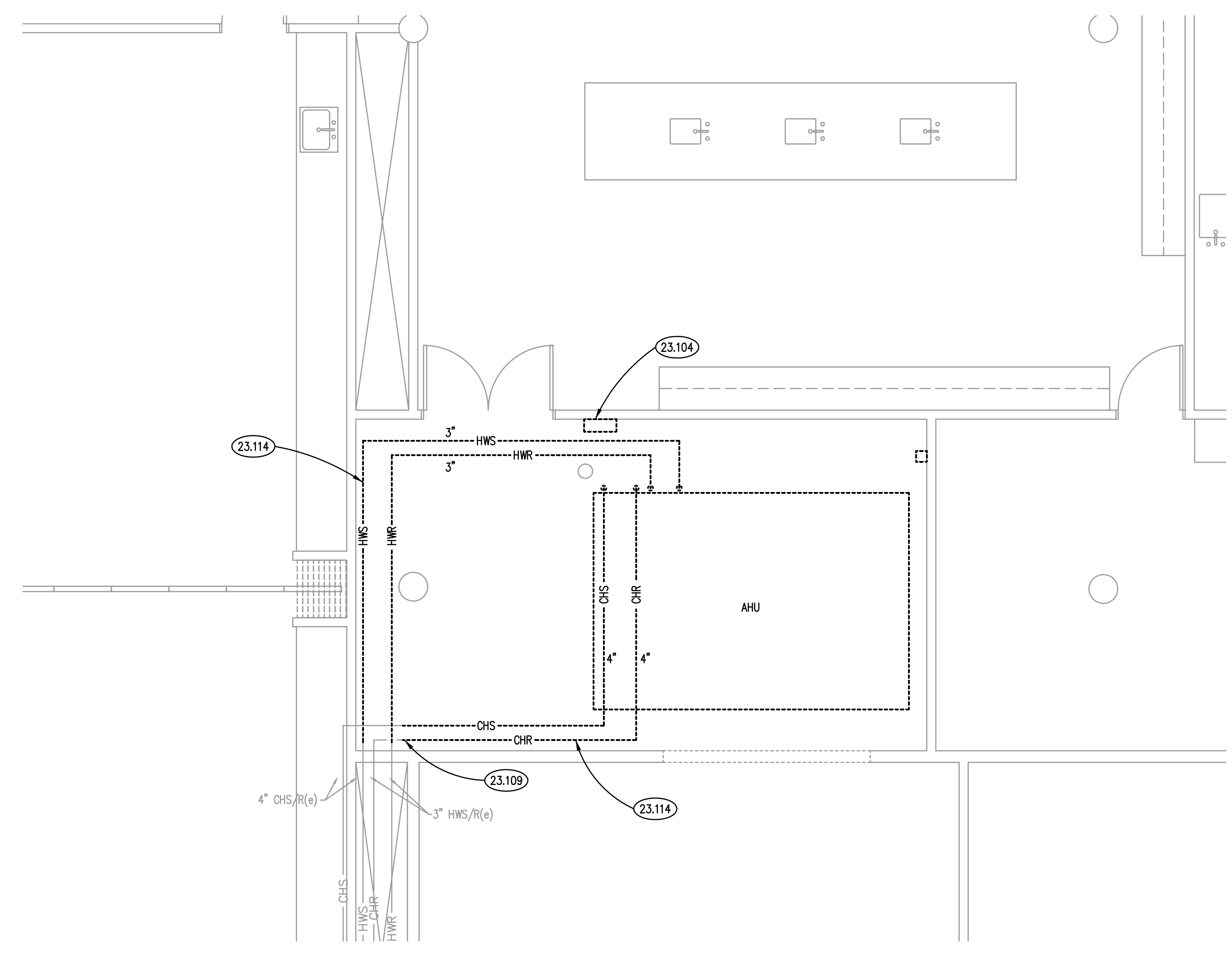
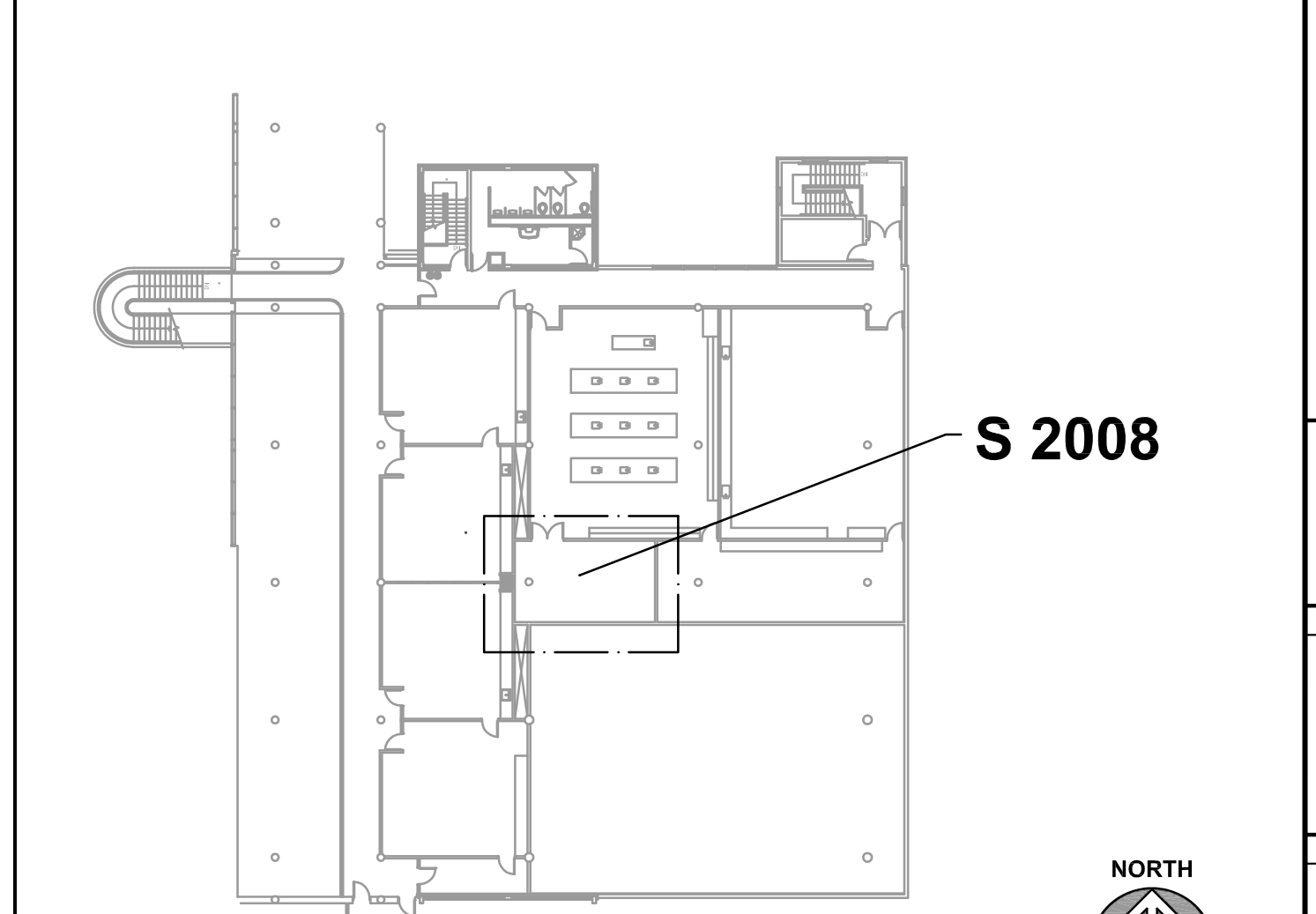
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- 2.403 CREATE OPENING(S) IN STEEL-STUD-FRAMED DRYWALL CONSTRUCTION FOR NEW MECHANICAL DUCT(S)/PIPE(S) TO TIGHTLY FIT TO SIZE(S) OF DUCT(S)/PIPE(S) TO BE PROVIDED; REFER TO NEW WORK PLAN.
- 2.412 CREATE OPENING IN EXISTING STEEL-STUD-FRAMED FIRE-RATED GYPSUM DRYWALL CONSTRUCTION TO PERMIT REMOVAL OF EXISTING MECHANICAL AHU AND INSTALLATION OF NEW MECHANICAL AHU; LOCATE AND SIZE OPENING SO AS TO ENCOMPASS EXISTING HOLE IN WALL.
- 9.213 GYPSUM BOARD ASSEMBLY: RECONSTRUCT DEMOLISHED PORTION OF STEEL-STUD-FRAMED FIRE-RATED GYPSUM DRYWALL, USING LIKE MATERIALS, INCLUDING ACOUSTIC INSULATION BATTS, AND ACOUSTICAL FIBERBOARD AND RESILIENT CHANNELS ON AHU SIDE OF WALL.
- 9.920 PAINT PATCHED AREA AND BLEND INTO EXISTING WALL SURFACE.
- 23.100 REMOVE AIR HANDLING UNIT AND ASSOCIATED DUCTWORK AS SHOWN.
- 23.101 DEMOLISH SECTION OF DUCTWORK AS REQUIRED FOR INSTALLATION OF NEW RETRO-FIT VAV BOX AND HEATING COIL; SALVAGE EXISTING ACOUSTICAL CEILING PANELS AND GRID MEMBERS TO PERMIT DEMOLITION AND NEW CONSTRUCTION; SAVE AND PROTECT SALVAGED CEILING COMPONENTS FOR REINSTALLATION.
- 23.102 REMOVE OUTSIDE AIR DUCTWORK AS SHOWN. REMOVE DUCTWORK BACK TO CEILING AND PROVIDE TEMPORARY CAP FOR NEW CONNECTION.
- 23.104 REMOVE PNEUMATIC CONTROL PANEL AND ALL ASSOCIATED END DEVICES. VERIFY ONLY POINTS IN PANEL ARE ASSOCIATED WITH AHU-21. IF OTHER CONTROLS ARE IN PANEL AFFECTING OTHER EQUIPMENT NOTIFY OWNER. COORDINATE WITH OWNER FOR REMOVAL OF ANY GRAPHICS IN JCI SYSTEM.
- 23.109 EXISTING PIPING INTO MECHANICAL ROOM DOES NOT HAVE ISOLATION VALVES. CHILLED WATER PIPING CONTAINS 30% GLYCOL.
- 23.114 REMOVE HWS/R AND CHS/R PIPING AND COIL SPECIALTIES BACK TO WALL AS SHOWN. PROVIDE TEMPORARY CAP FOR NEW CONNECTION.
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- 23.205 PROVIDE NEW ODC CONTROLLER FOR AHU. PROVIDE GRAPHICS AND INTERFACE INTO CAMPUS BUILDING AUTOMATION SYSTEM.
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- 23.212 PROVIDE 8'-9" x 3'-0" PLENUM BOX FOR AIR HANDLING UNIT. PROVIDE ALL CONNECTIONS TO VAV BOXES AS SHOWN. PLENUM BOX TO BE INSTALLED UP TO CEILING.
- 23.213 PROVIDE NEW HWS/R AND CHS/R PIPING AND MOUNT VAV BOX LOW IN ORDER TO MAINTAIN SERVICE ACCESS AROUND VAV BOX.
- 23.214 DUCTWORK FOR VAV-21H SHALL BE MOUNTED LOWER THAN DUCTWORK FOR VAV-21G FOR IN ORDER TO MAINTAIN SERVICE ACCESS AROUND BOTH VAV-BOXES.
- 23.226 PROVIDE SCREENED OPENING ON EXHAUST OPENING TO ROOM.

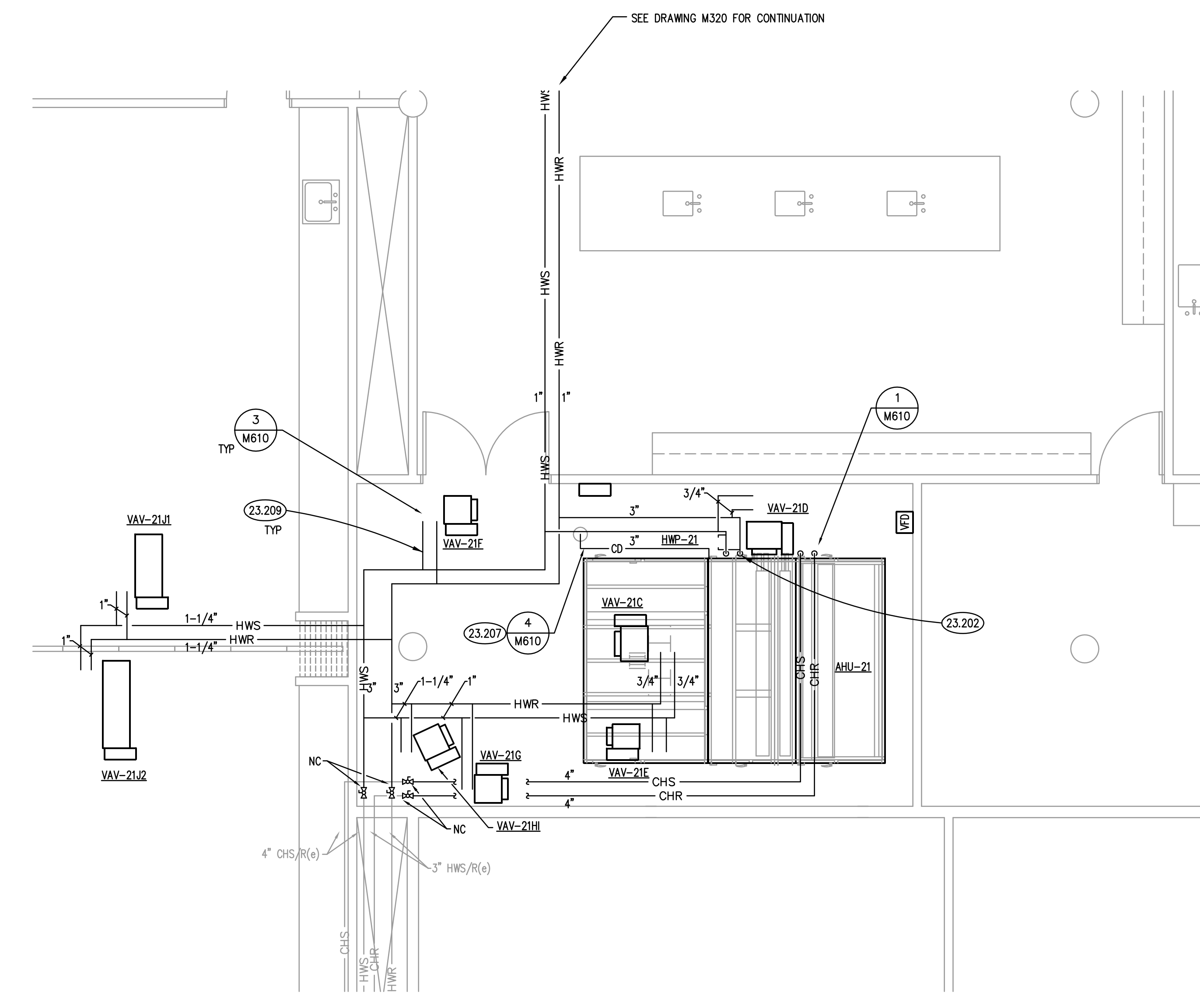
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5. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
6. SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
7. DO NOT CUT THROUGH THE MASONRY BOND BEAMS OR OTHER STRUCTURAL ELEMENT WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.
8. HEATING AND COOLING DESIGN LOADS FOR THE BUILDING HAVE BEEN CALCULATED WITH ELITE SOFTWARE. COMMERCIAL HVAC LOADS PROGRAM, VERSION 8.02.34, IN ACCORDANCE WITH ASHRAE STANDARDS. INTERIOR DESIGN TEMPERATURES ARE MAXIMUM 72 DEGREES F FOR HEATING AND A MINIMUM OF 75 DEGREES F FOR COOLING.
9. OBTAIN AND PAY ALL COSTS FOR PERMITS, LICENSES, CERTIFICATE FILING AND ALL INSPECTIONS BY AUTHORITIES HAVING JURISDICTION.

KEY PLAN



S2008 PPIPING DEMOLITION PLAN
SCALE: 1/4" = 1'-0" **4**



S2008 PIPING PLAN
SCALE: 1/4" = 1'-0" **2**

KLUBER Architects + Engineers
Baltimore, Illinois 60110
Tel. 630.406.1210
Gurnee, Illinois 60031
Tel. 847.236.4226
www.klubertec.com

BUILDING S HVAC UNIT REPLACEMENT
JOLIET JUNIOR COLLEGE
1215 HOBOLT ROAD
JOLIET, ILLINOIS 60431

ISSUED	
FOR REVIEW	
FOR APPROVAL	
FOR CONSTRUCTION	
DATE	01/18/2018
ADDRESS	NO. 1
JOB NO.	18-292-1195
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW
SHEET TITLE	
SECOND FLOOR ENLARGED MECHANICAL PLANS	
SHEET NUMBER	
M321	

ISSUED	
FOR REVIEW	
1 01/18/2018	ADDENDUM NO. 1

JOB NO.	18-292-1195
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW

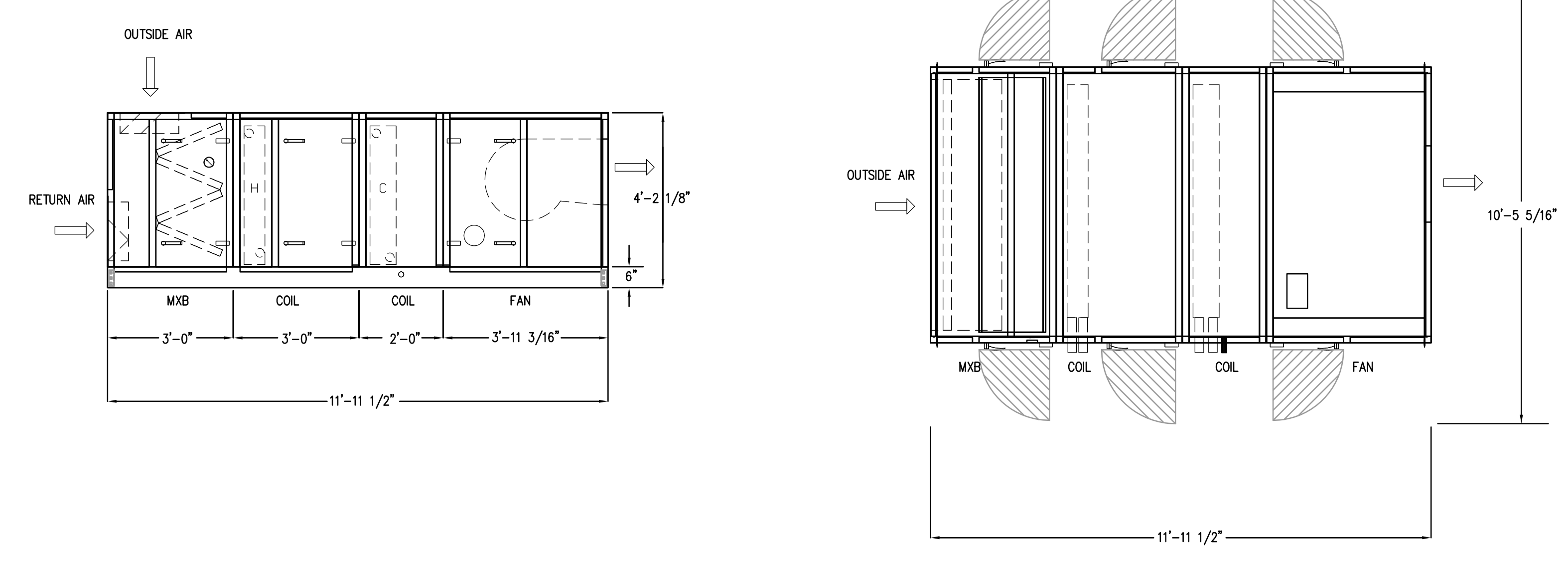
SHEET TITLE
**MECHANICAL
DETAILS**

SHEET NUMBER

M510

SIDE VIEW

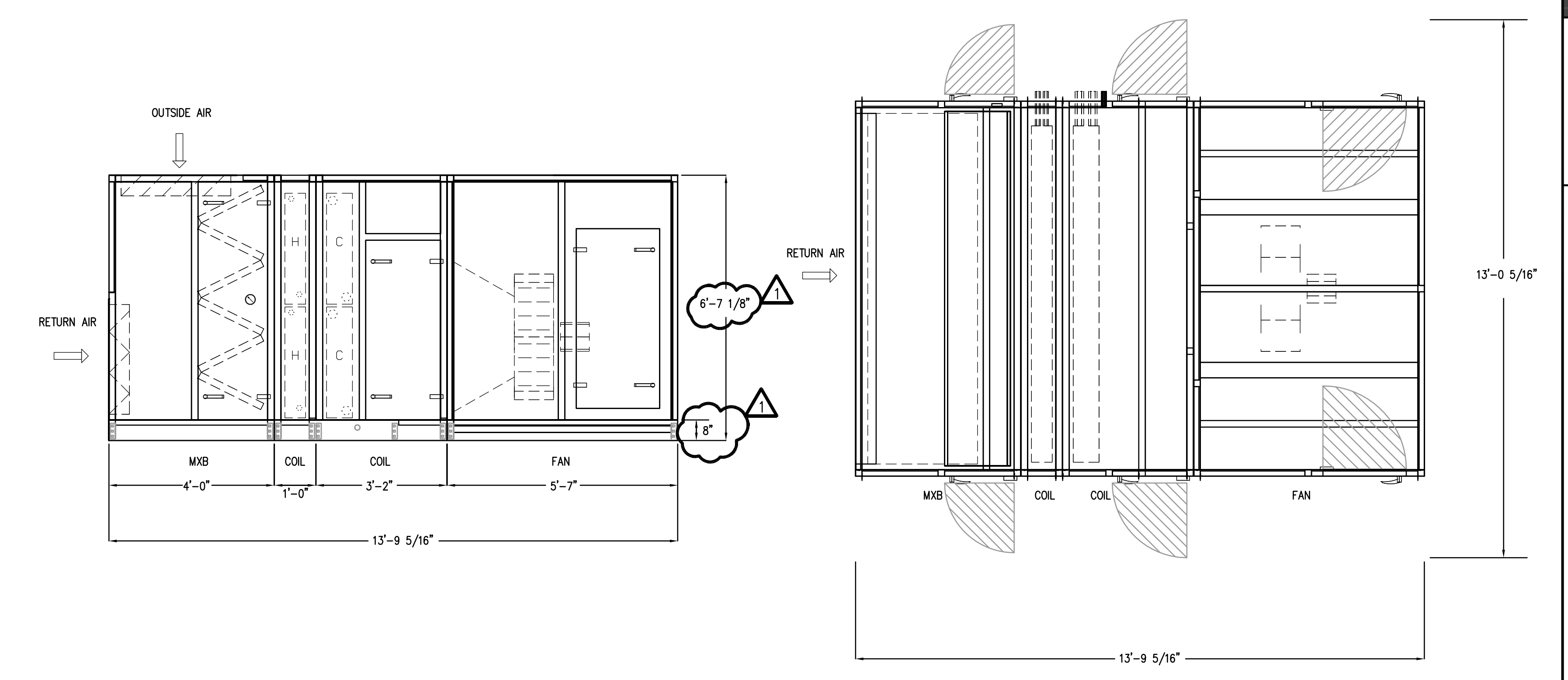
PLAN VIEW



ALTERNATE NO. 1: AIR HANDLING UNIT (AHU-17) DETAIL ③
SCALE: NTS

SIDE VIEW

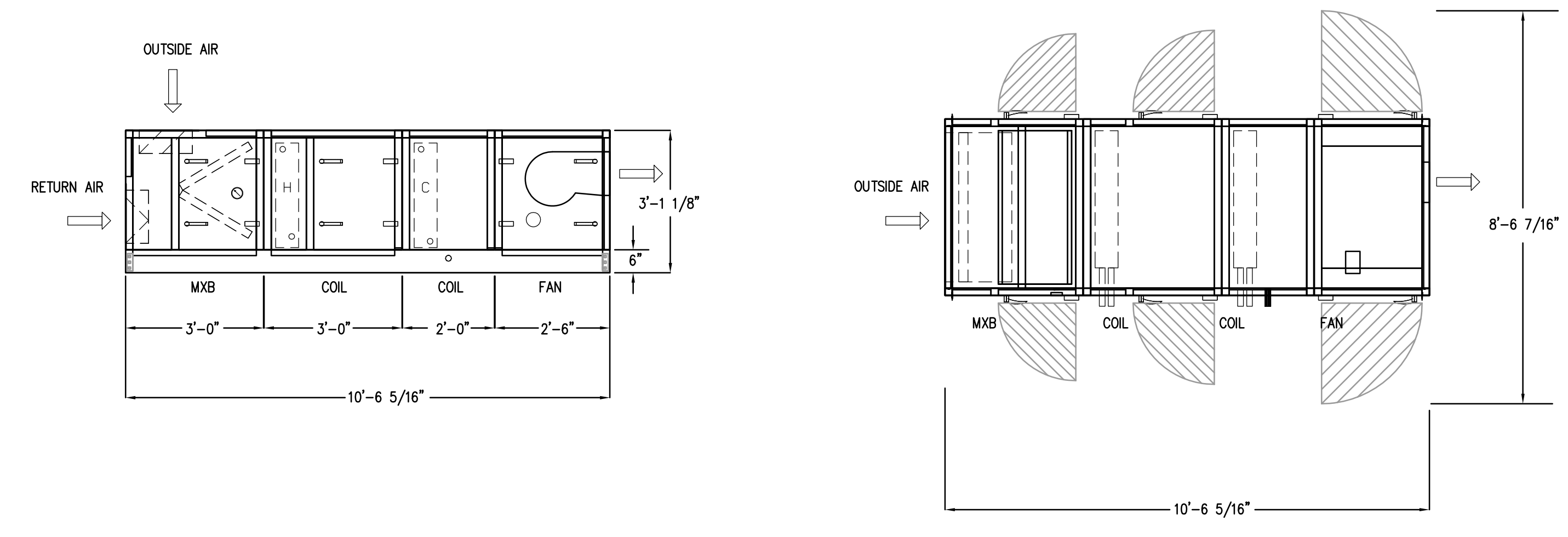
PLAN VIEW



AIR HANDLING UNIT (AHU-20) DETAIL ①
SCALE: NTS

SIDE VIEW

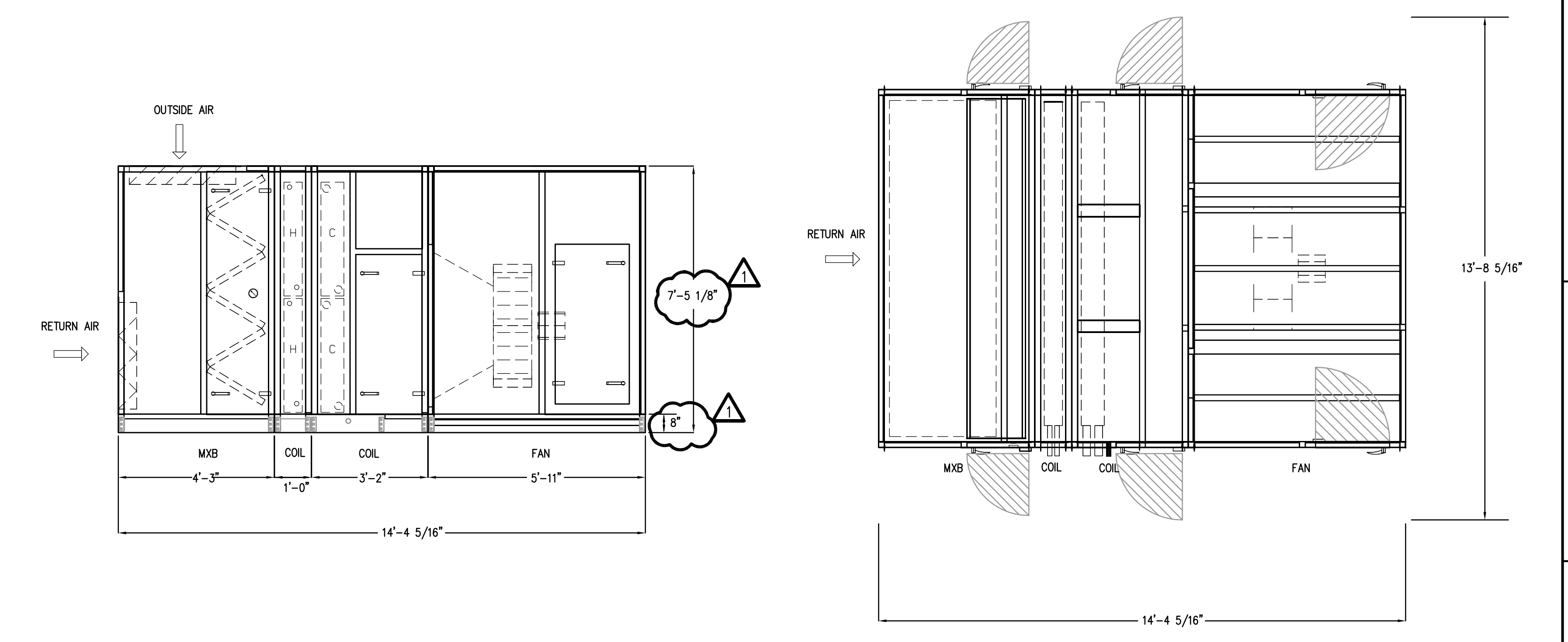
PLAN VIEW



ALTERNATE NO. 1: AIR HANDLING UNIT (AHU-18) DETAIL ④
SCALE: NTS

SIDE VIEW

PLAN VIEW



AIR HANDLING UNIT (AHU-21) DETAIL ②
SCALE: NTS

AIR HANDLING UNIT SCHEDULE

MARK	AIR FLOW (CFM)	MINIMUM OA (CFM)	COOLING					HEATING					SUPPLY FAN (HP)	EXTERNAL STATIC PRESS (IN WG)	ELECTRICAL		MODEL	NOTES		
			ENT AIR TEMP (db / wb °F)	LVG AIR TEMP (db / wb °F)	EWT / LWT (°F)	SENS CAP (MBH)	TOTAL CAP (MBH)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)	TOTAL CAP (MBH)	EWT / LWT (°F)	EAT / LAT (°F)			WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)			VPHHZ	MCA
AHU-20	21,225	3,500	78.3 / 65.5	54.7 / 54.7	45.0 / 54.3	527.0	678.8	160.0	10.3	816.9	180 / 160	48 / 85	66.7	7.7	20	1.5	460/3/60	33.8	39MN-40W	1, 2, 3
AHU-21	24,970	5,100	79.1 / 66.2	54.2 / 54.2	45.0 / 54.4	651.2	875.4	204.0	12.9	816.9	180 / 160	45 / 83	63.6	9.3	25	1.5	460/3/60	42.5	39MN-50W	1, 2, 4
AHU-17	7,750	1,500	79.0 / 66.0	54.9 / 54.6	45.0 / 55.0	198.6	260.1	57.0	8.5	388.3	180 / 160	50 / 94.4	40	6.1	7.5	0.75	460/3/60	12.1	39MN-17W	1, 2, 5
AHU-18	2,070	1,000	81.4 / 68.5	54.6 / 54.5	45.0 / 55.0	58.7	87.1	19.0	9.3	163.5	180 / 160	0.0 / 63.6	17	2.5	2.0	1.5	460/3/60	3.6	39MN-06W	1, 2, 5

- MODEL BASED ON CARRIER.
- COOLING COIL BASED ON 30% EG.
- HEATING CFM = 15,920.
- HEATING CFM = 18,970.
- ALTERNATE NO. 1.

VARIABLE AIR VOLUME BOX SCHEDULE

MARK	AIR FLOW (CFM)	MIN AIR FLOW (CFM)	INLET SIZE (IN)	REHEAT COIL										MODEL	AREA SERVED	NOTES
				AIR FLOW (CFM)	MAX APD (IN WG)	EAT / LAT (°F)	WATER (GPM)	EWT/LWT (°F)	MAX WPD (FT)	ROWS / FPI	CAPACITY (MBH)					
VAV-20A	1000	750	10	750	0.28	55 / 95	1.8	180 / 143	0.22	2 / 10	32.5	DESV	-	1		
VAV-20B	1280	425	12	960	0.25	55 / 95	1.9	180 / 134	0.28	2 / 10	41.5	DESV	-	1		
VAV-20C	3205	1050	24/20	2400	0.48	55 / 94	4.5	180 / 134	2.6	2 / 8	100.9	DOCV	-	1		
VAV-20D	1450	485	12	1090	0.31	55 / 95	2.4	180 / 139	0.45	2 / 10	47.3	DESV	-	1		
VAV-20E	770	250	10	580	0.18	55 / 95	1.2	180 / 134	0.16	2 / 10	25.2	DESV	-	1		
VAV-20G1	6760	2250	36/30	5070	0.53	55 / 95	6.0	180 / 106	8.4	2 / 10	219.3	DOCV	-	1		
VAV-20G2	6760	2250	36/30	5070	0.53	55 / 95	6.0	180 / 160	8.4	2 / 10	219.3	DOCV	-	1		
VAV-21A	1140	380	20/10	855	0.34	55 / 95	2.0	180 / 142	0.4	2 / 8	37.2	DOCV	-	1		
VAV-21B	1765	1325	18/15	1325	0.46	55 / 95	3.4	180 / 145	1.0	2 / 8	57.7	DOCV	-	1		
VAV-21C	2000	675	14	1500	0.28	55 / 95	3.0	180 / 135	0.39	2 / 10	65.1	DESV	-	1		
VAV-21D	2000	675	14	1500	0.28	55 / 95	3.0	180 / 135	0.39	2 / 10	65.1	DESV	-	1		
VAV-21E	960	325	10	720	0.26	55 / 95	1.7	180 / 141	0.21	2 / 10	31.2	DESV	-	1		
VAV-21F	1100	370	12	825	0.19	55 / 95	1.5	180 / 131	0.24	2 / 10	35.8	DESV	-	1		
VAV-21G	1100	370	12	825	0.19	55 / 95	1.5	180 / 131	0.24	2 / 10	35.8	DESV	-	1		
VAV-21H1	1455	485	12	1320	0.31	55 / 95	3.7	180 / 148	1.0	2 / 10	57.3	DESV	-	1		
VAV-21H2	6810	2270	36/30	5100	0.54	55 / 95	6.0	180 / 106	8.0	2 / 10	219.6	DOCV	-	1		
VAV-21I2	6640	2215	50/22	5000	0.51	55 / 95	6.0	180 / 106	7.3	2 / 10	219.1	DOCV	-	1		
VAV-18A	990	330	10	500	0.27	55 / 95	1.0	180 / 136	0.12	2 / 10	21.7	DESV	-	1, 2		
VAV-18B	1080	360	12	800	0.12	55 / 95	1.4	180 / 129.9	0.22	2 / 10	34.7	DESV	-	1, 2		

- MODEL BASED ON TITUS.
- ALTERNATE NO. 1.

FAN SCHEDULE

MARK	AIR FLOW RATE (CFM)	EXTERNAL S.P. (IN WG)	TYPE	MOTOR (HP)	ELECTRICAL (V/PHHZ)	AREA SERVED	LOCATION	MODEL	NOTES
EF-20	15,000	0.75	CENTRIFUGAL	7.5	208/3/60	AHU-20	RM S1020	SQN-B	1, 2, 3
EF-21	17,000	0.75	CENTRIFUGAL	7.5	208/1/60	AHU-21	RM S2008	SQN-B	1, 2, 3

- MODEL BASED ON COOK.
- PROVIDE WITH SPACE STATIC PRESSURE SPEED CONTROL.

PUMP SCHEDULE

MARK	WATER FLOW RATE (GPM)	HEAD (FT)	TYPE	MOTOR POWER (HP)	ELECTRICAL (V/PHHZ)	MOTOR SPEED (RPM)	SERVICE	MODEL	NOTES
HWP-20	15	15	INLINE	1/6	115/1/60	2963	AHU-20	ECOCIRC-XL	1
HWP-21	20	15	INLINE	1/6	115/1/60	3086	AHU-21	ECOCIRC-XL	1
HWP-17	15	10	INLINE	1/6	115/1/60	2963	AHU-17	ECOCIRC-XL	1, 2
HWP-18	10	10	INLINE	1/6	115/1/60	2393	AHU-18	ECOCIRC-XL	1, 2

- MODEL BASED ON BELL & GOSSETT.
- ALTERNATE NO. 1.

WALL LOUVER SCHEDULE

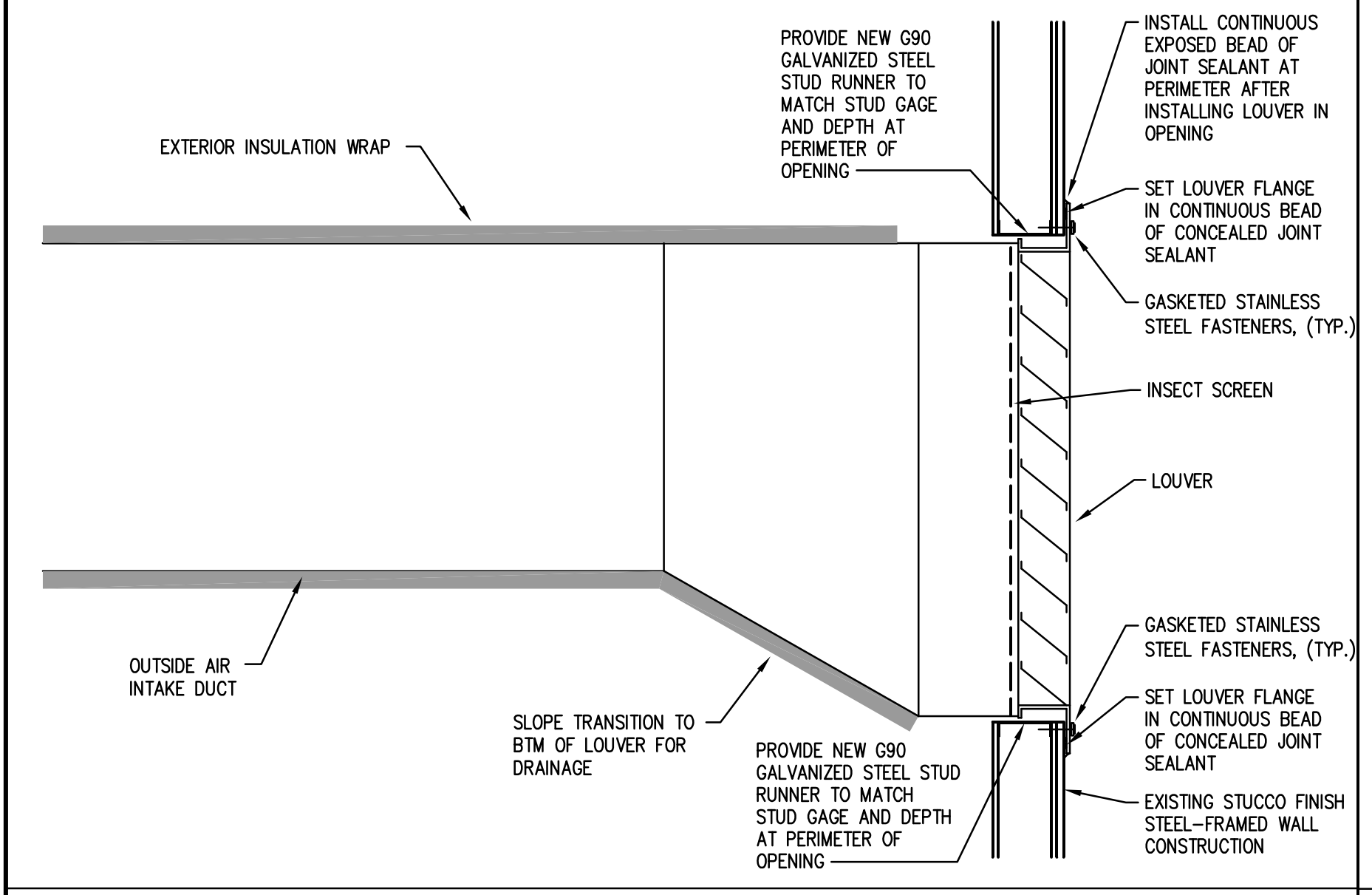
MARK	AIR FLOW RATE (CFM)	SIZE H x L (IN x IN)	VELOCITY (FPM)	PRESSURE DROP (IN WG)	APPLICATION	SERVED BY	LOCATION	MODEL	NOTES
WL-1	41,000	127 X 84	912	0.1	EXHAUST	-	AG-SHOP	ELF6375DX	1, 2, 3, 4.

- MODEL BASED ON RUSKIN.
- PROVIDE INSECT SCREEN.
- COLOR = WHITE.
- SERVED BY EF-20, EF-21, AHU-18, AHU-17.

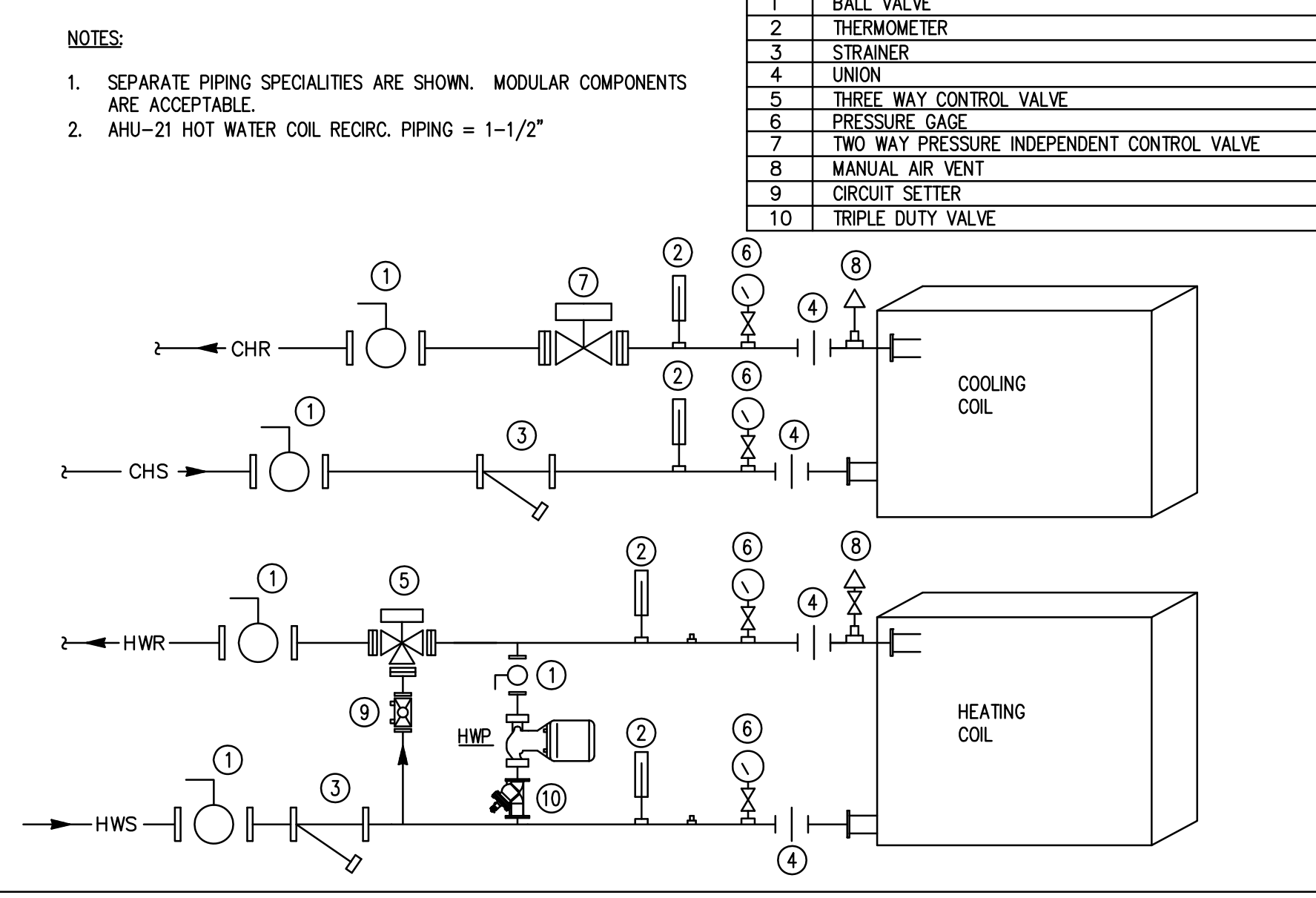
DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

MARK	MODEL	SIZE	NECK	DAMPER	MATERIAL	REMARKS
S-1	300RL	12 / 8	-	OBD	ST	1, 2
S-2	300RL	12 / 10	-	OBD	ST	1, 2
S-3	300RL	18 / 10	-	OBD	ST	1, 2
S-4	300RL	24 / 16	-	OBD	ST	1, 2
R-1	350RL	20 / 20	-	-	ST	1, 2

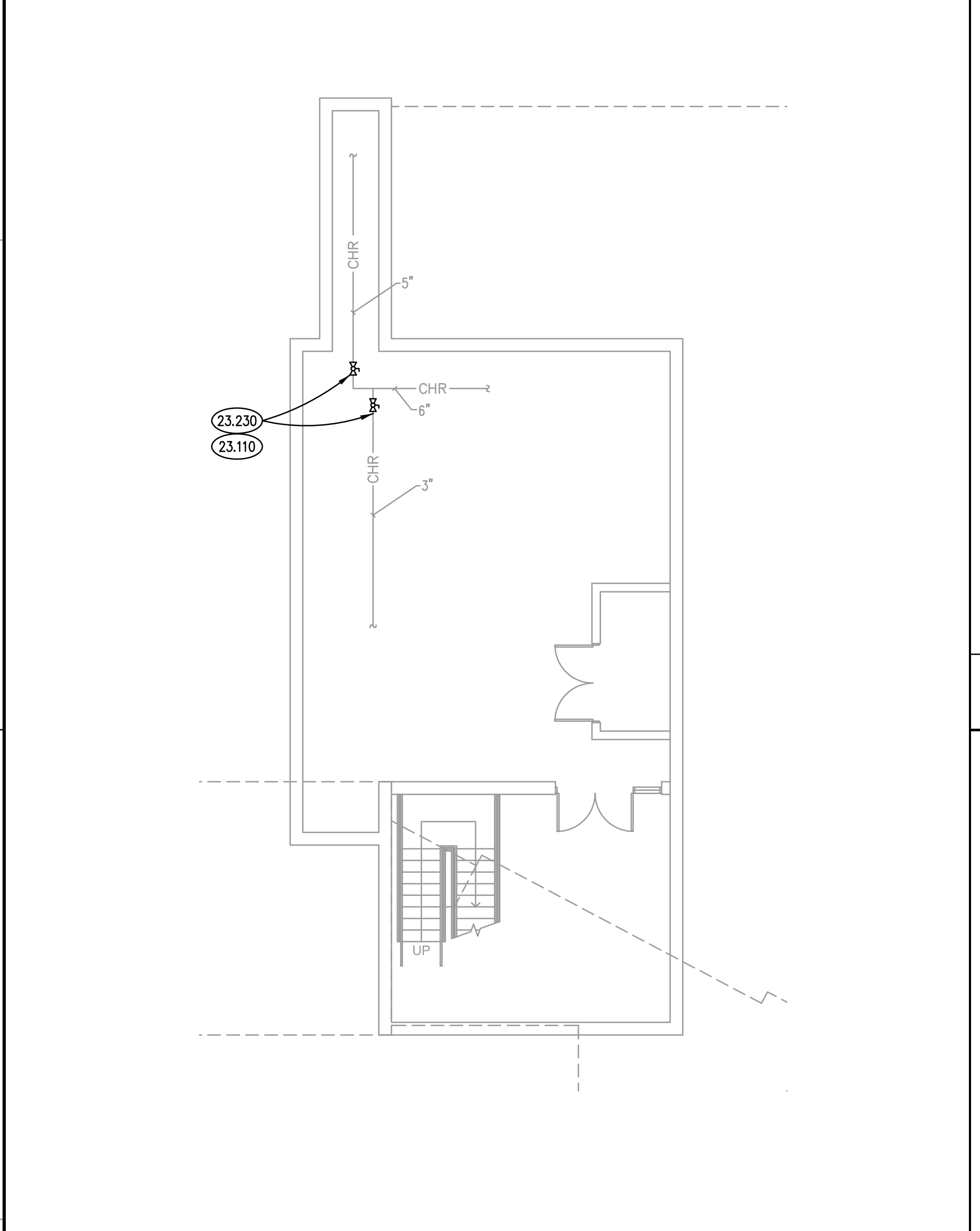
- MODEL BASED ON TITUS.
- ALTERNATE NO. 1.



WALL LOUVER IN STUD WALL DETAIL
SCALE: NTS **5**

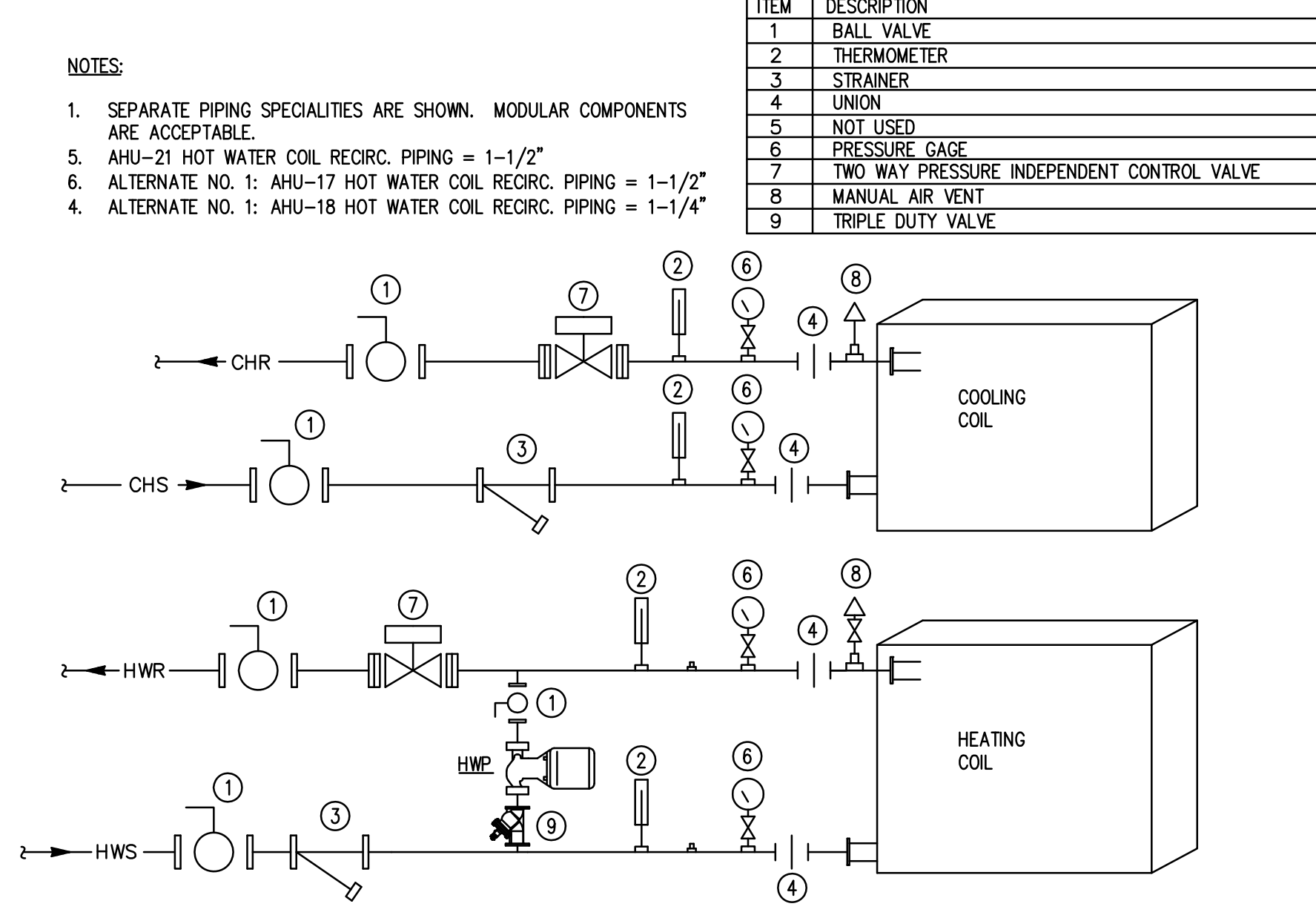


AHU-21 COIL PIPING DETAIL
SCALE: NTS **1**

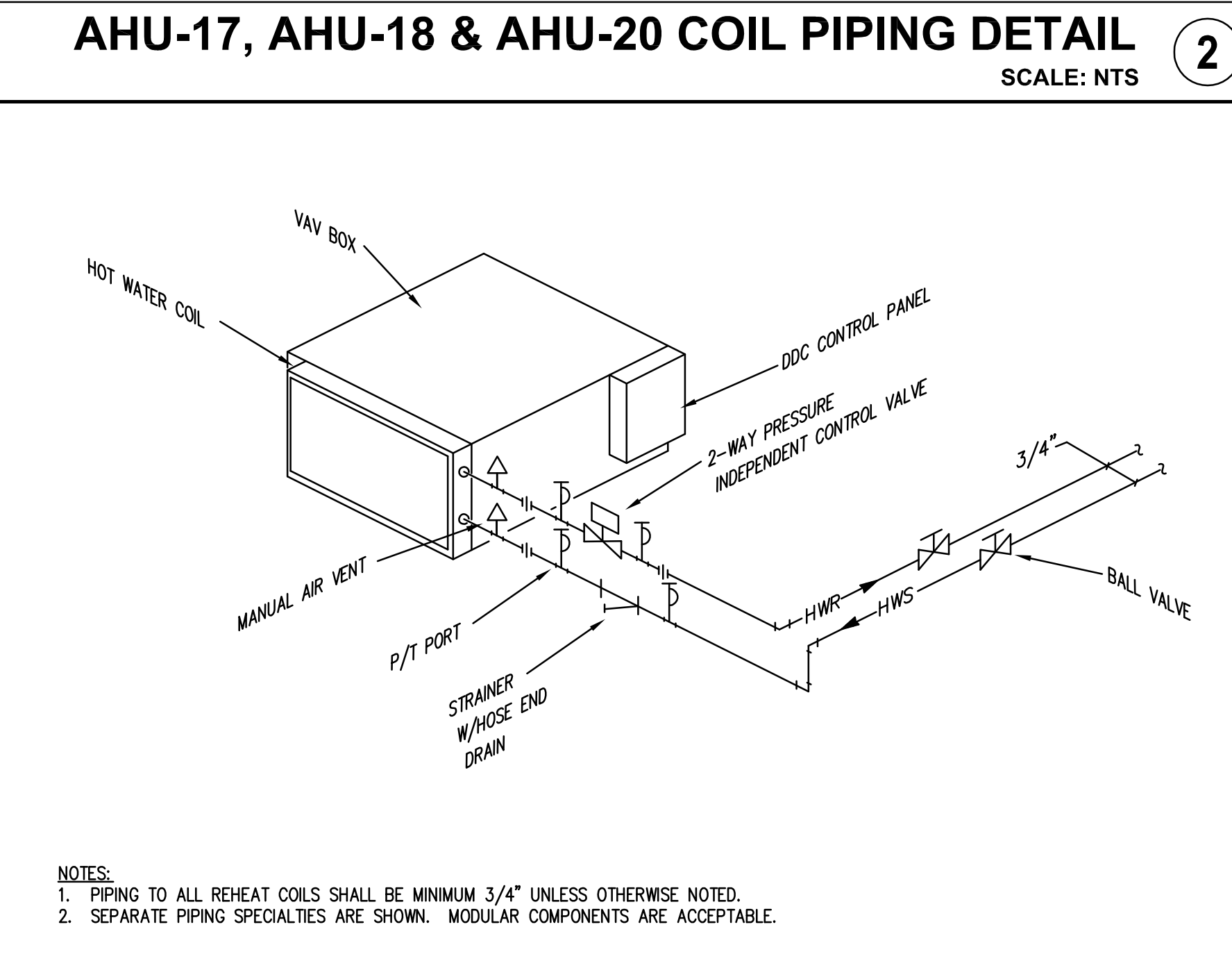


- KEYNOTES:
- 23.110 COORDINATE WITH OWNER FOR DRAINING PIPES. OWNER TO DRAIN AND FILL CHILLED WATER AND HEATING WATER PIPING.
 - 23.230 PROVIDE ALL MATERIALS AND LABOR TO INSTALL NEW ISOLATION VALVES ON EXISTING CHILLED WATER RETURN PIPING.

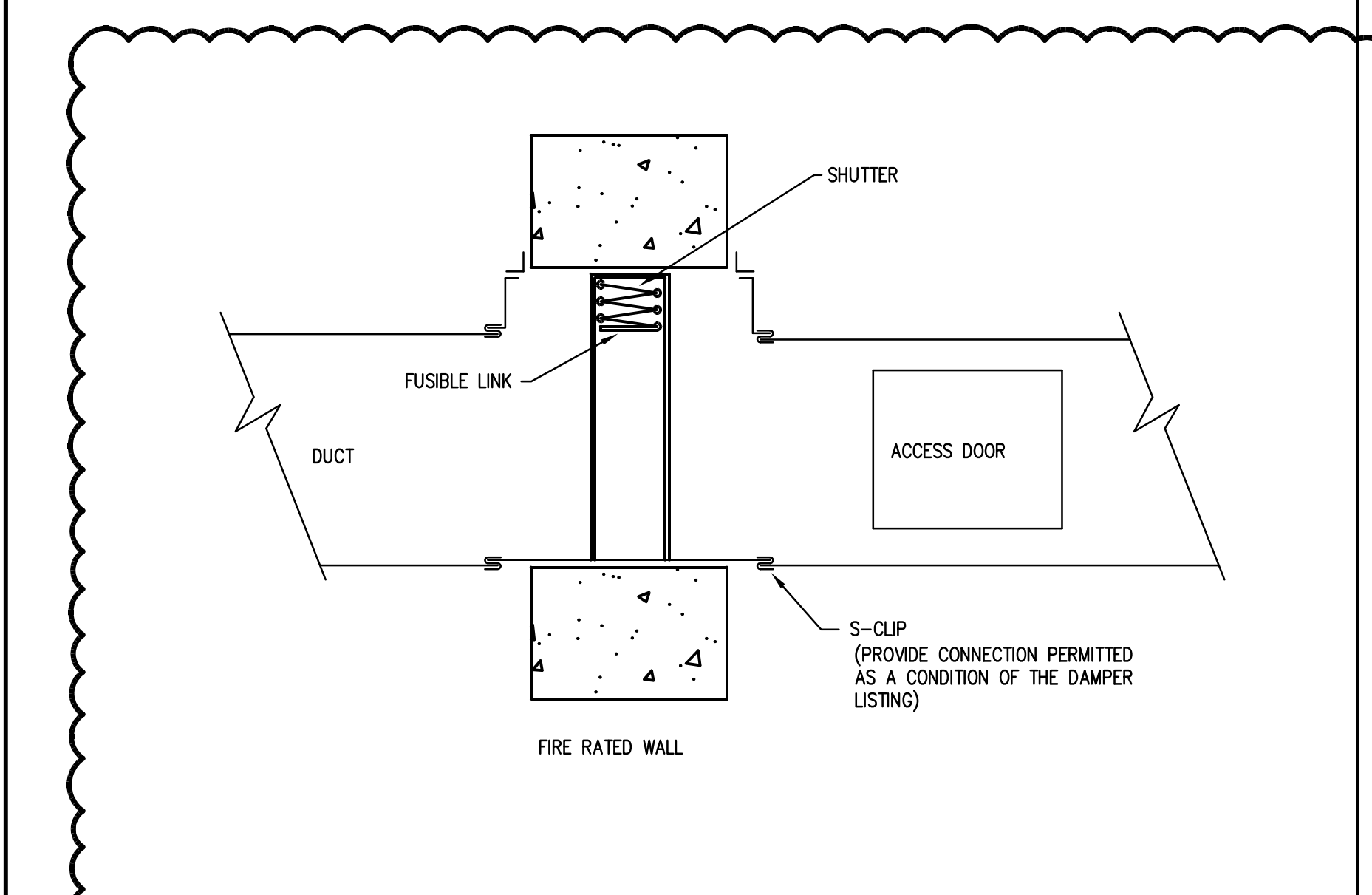
SUBSTATION A NEW WORK PLAN
SCALE: NTS **6**



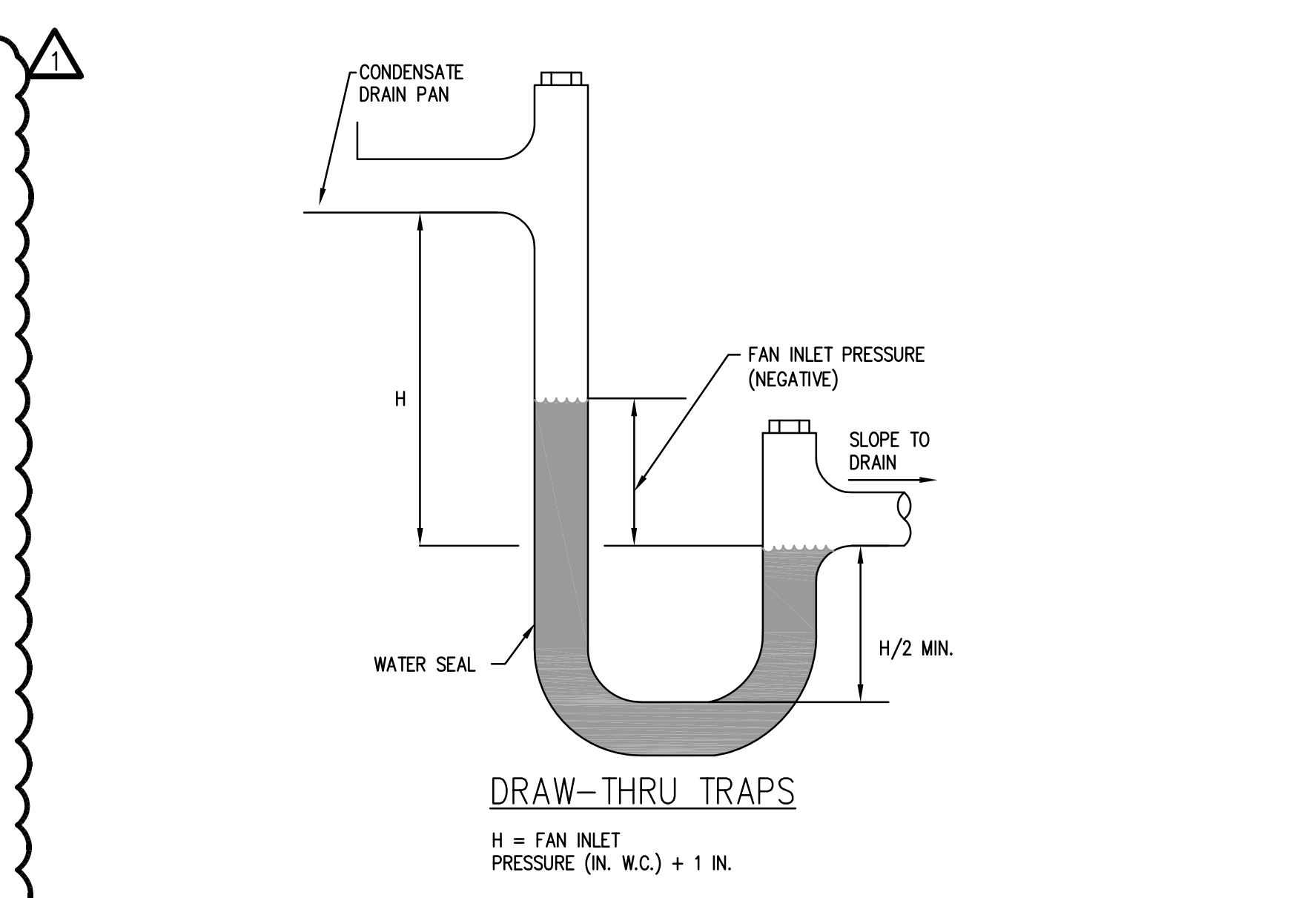
AHU-17, AHU-18 & AHU-20 COIL PIPING DETAIL
SCALE: NTS **2**



REHEAT COIL PIPING DETAIL
SCALE: NTS **3**



WALL FIRE DAMPER DETAIL
SCALE: NTS **7**



COOLING COIL CONDENSATE TRAP DETAILS
SCALE: NTS **4**