



**ROCKFORD BOARD OF EDUCATION
INVITATION FOR BID ON SUPPLIES, MATERIALS, EQUIPMENT OR SERVICES
FOR SCHOOL DISTRICT NO. 205
ROCKFORD, ILLINOIS**

IFB No. IFB No. 22-22 HVAC & Roofing at Riverdahl E.S. & West M.S.

DATE: February 7, 2022

RE: **ADDENDUM NO. 3**

To All Bidders:

Included are modifications, clarifications and/or corrections for the Project Manual and are hereby made a part of the contract documents. Please attach this addendum to the Project Manual(s) in your possession. Please note the receipt of this addendum on the bid form. Bidders shall review changes to all portions of this work as changes to one portion may affect the work of another.

If you plan to hand deliver your IFB submission on the due date, please note you must check in on the 1st floor prior to coming to the bid opening. Please allow time for this as late submission will not be accepted.

Refer all questions relative to the business aspect, Instructions to Bidders, Special Conditions, and questions concerning the technical aspect of the documents to the Director of Purchasing by email at purchasingdeptstaff@rps205.com.

ROCKFORD BOARD OF EDUCATION

By: Dane Youngblood
Director of Purchasing

IFB# 22-22
HVAC UPGRADES WEST MIDDLE SCHOOL & RIVERDAHL ELEMENTARY SCHOOL
WEST MIDDLE SCHOOL RE-ROOF
ROCKFORD PUBLIC SCHOOLS 205
ROCKFORD, ILLINOIS

LARSON & DARBY GROUP

ARCHITECTURE-ENGINEERING-INTERIORS

4949 Harrison Avenue, Suite 100
815/484-0739

Rockford, IL 61108
FAX 815.229.9867

TO: ALL BIDDERS

RE: **ADDENDUM #3**

Changes to Bidding Documents Dated January 25, 2022

PROJECT: HVAC System Upgrades
Riverdahl Elementary School
3250 Kishwaukee Street
Rockford, IL 61109

Roof Replacement & HVAC System Upgrades
West Middle School
1900 N. Rockton Ave.
Rockford, IL 61103

RPS PROJECT NO.: 2243; IFB 22-22
LDG PROJECT NO: 32029-01 & 31029-02

February 7, 2022

Please attach this Addendum to the Project Manual and Drawings for the referenced project. Take the changes to the Project Manual and Drawings into consideration in preparing your Bid.

Bidders shall make note in writing on Bid Form that this Addendum has been taken into consideration. Failure to do so may be sufficient cause to reject the Bid.

LARSON & DARBY GROUP

By 
Andrew A. Macklin AIA

This Addendum consists of 2 pages, plus materials itemized herein.

I. ADDITIONS OR CHANGES TO THE PROJECT MANUALS:

None

II. ADDITIONS OR CHANGES TO THE DRAWINGS:

REISSUED DRAWINGS: The following revised Drawings (attached), which replace previous issues of the Drawings, are issued herewith:

31029-02 Riverdahl Elementary School RPS#2243

1. MD0.2 – Revised items identified by revision cloud and tag #3
2. M0.2 - Revised items identified by revision cloud and tag #3
3. M1.1 – Sheet completely reissued

IFB# 22-22
HVAC UPGRADES WEST MIDDLE SCHOOL & RIVERDAHL ELEMENTARY SCHOOL
WEST MIDDLE SCHOOL RE-ROOF
ROCKFORD PUBLIC SCHOOLS 205
ROCKFORD, ILLINOIS

4. M1.2 - Sheet completely reissued
5. M1.3 – Sheet completely reissued
6. M3.1 – Revised items identified by revision cloud and tag #3
7. M5.1 - Revised items identified by revision cloud and tag #3

ADDITIONAL DRAWINGS: The following Drawings (attached) have been issued herewith and shall be included as part of the construction documents.

31029-02 Riverdahl Elementary School RPS#2243

1. M3.2 – New sheet added to the project bidding documents.
2. M3.3 – New sheet added to the project bidding documents
3. M3.4 – New sheet added to the project bidding documents
4. M5.2 – New sheet added to the project bidding documents

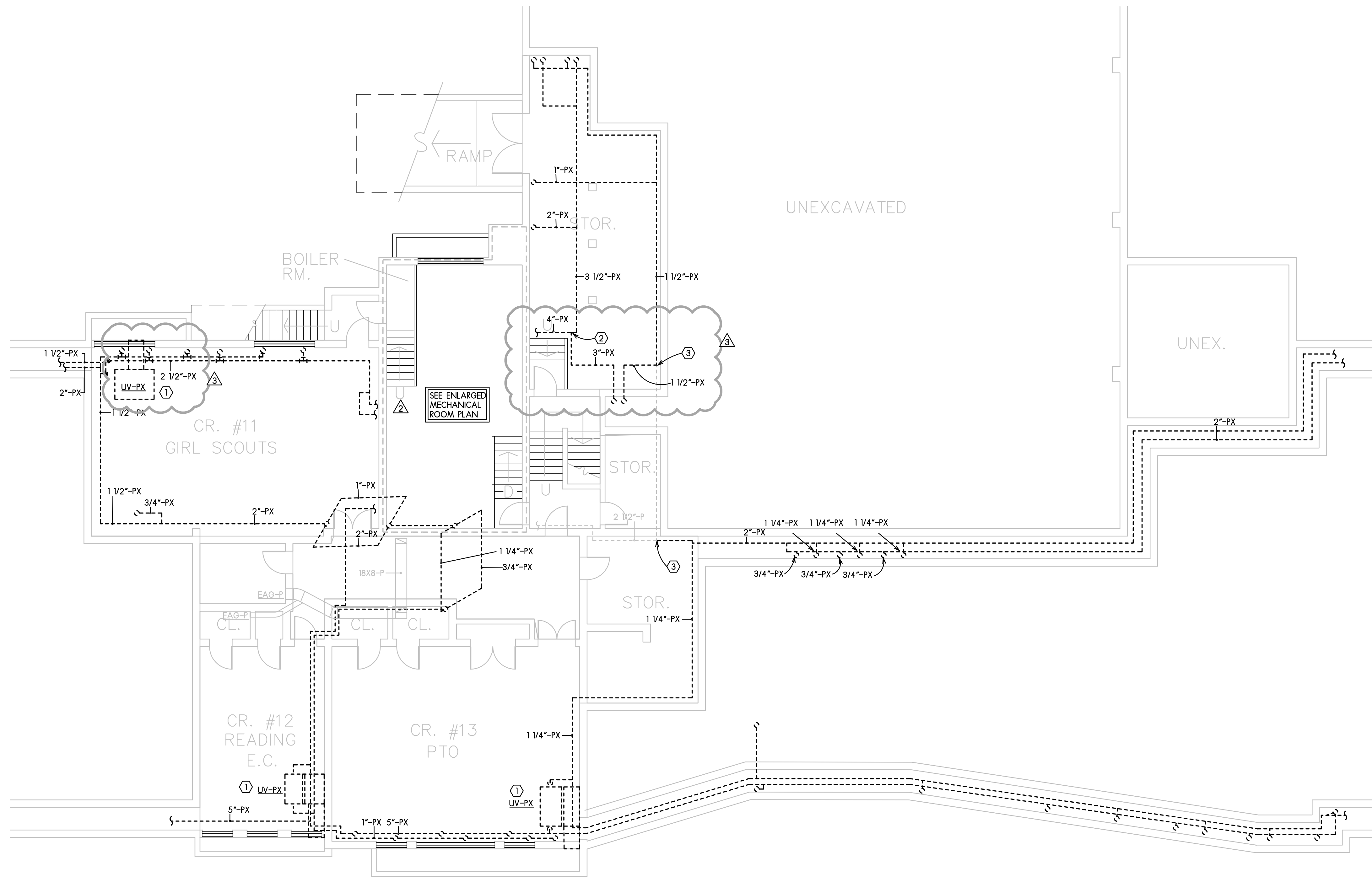
III. CONTRACTOR QUESTIONS AND CLARIFICATIONS:

None

IV. OTHER ATTACHMENTS:

1. attached revised sheets with changes from addendum 2:
 - a. MD0.2, M2.1, M2.2, M2.3, ED1.0, ED2.0, ED2.1, ED2.2, ED2.3, E0.2, E1.0, E2.0, E2.1, E2.2, E2.3

END OF ADDENDUM #3



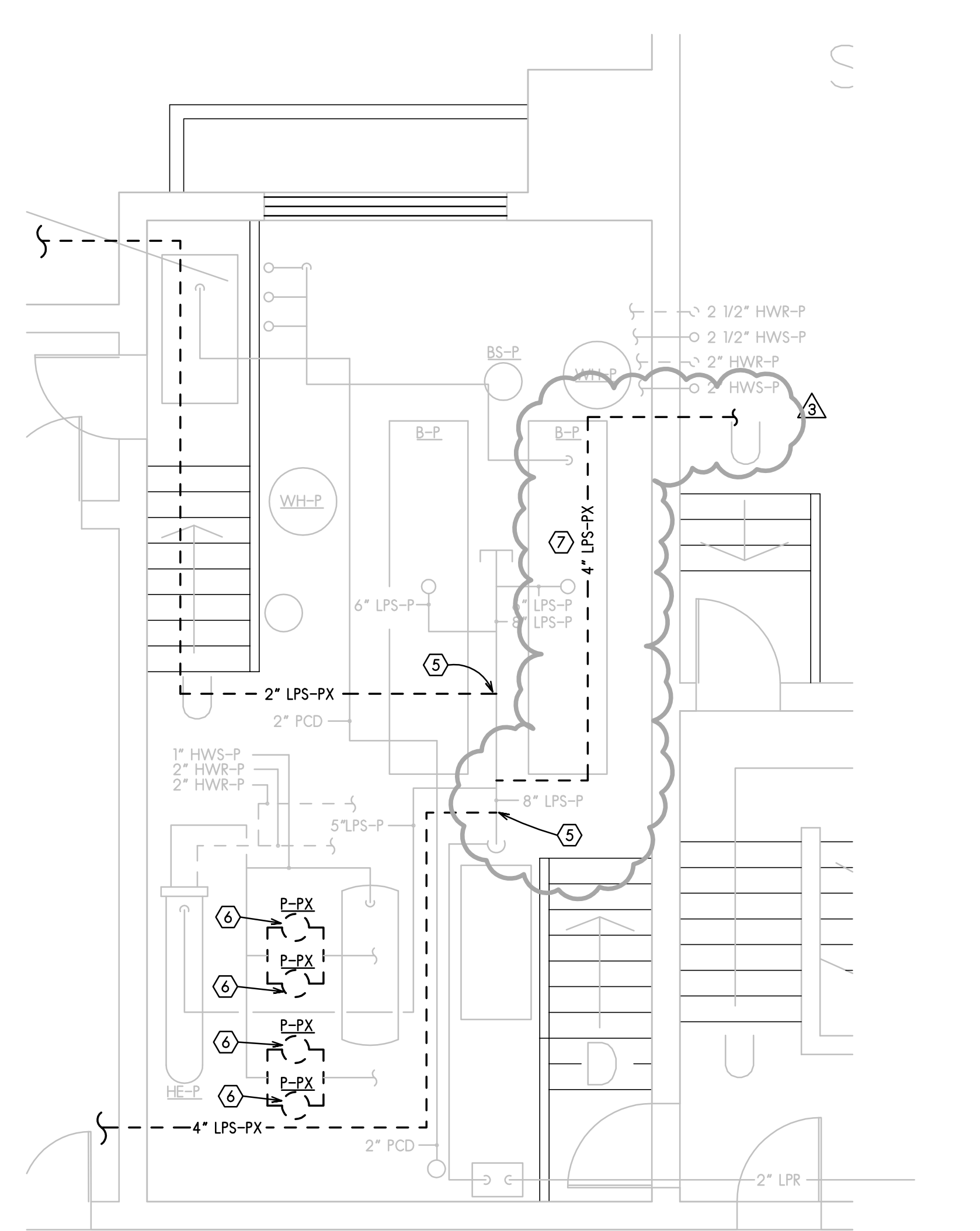
1 BASEMENT MECH. DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL MECH. DEMOLITION NOTES

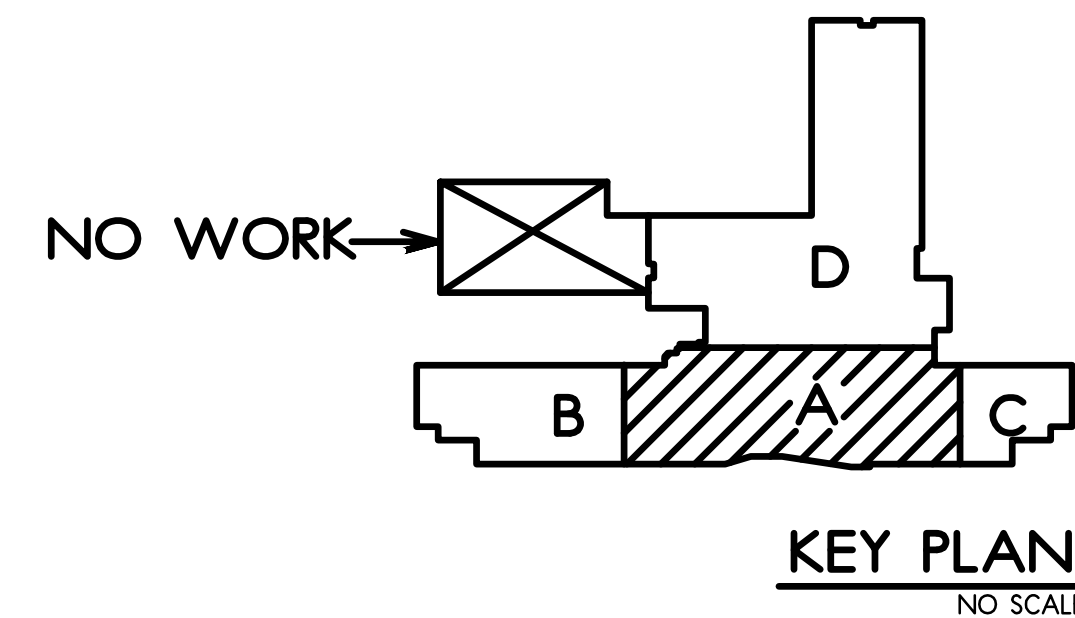
- REMOVAL AND ABATEMENT OF ASBESTOS AND EQUIPMENT OR MATERIAL CONTAINING ASBESTOS IS THE RESPONSIBILITY OF THE SCHOOL DISTRICT AND SHALL BE COMPLETED UNDER A SEPARATE CONTRACT BETWEEN THE DISTRICT AND AN ENVIRONMENTAL SPECIALIST CONTRACTOR.
- THIS CONTRACTOR AND HIS SUBS SHALL STOP WORK AND IMMEDIATELY REPORT TO THE DISTRICT ANY ASBESTOS MATERIAL THEY FIND DURING THERE DEMOLITION AND NEW CONSTRUCTION WORK.
- CONTRACTOR SHALL NOT RESUME WORK UNTIL THE SITUATION IS CLEARED AND REMOVAL/TESTING OF ANY SUSPECTED ASBESTOS MATERIAL IS CONFIRMED BY THE DISTRICT.
- EXISTING STEAM SUPPLY AND CONDENSATE RETURN PIPING SERVING REMOVED EQUIPMENT SHALL BE REMOVED AND/OR DISCONNECTED AND ABANDONED IN PLACE.
- DISCONNECTED PIPING SHALL BE REMOVED AND CAPPED AT MAIN STEAM PIPE.
- ABANDON PIPING IN PLACE SHALL ONLY BE ALLOWED FOR PIPING IN TUNNEL THAT CAN NOT BE REACHED.
- ALL EXPOSED/ ABOVE FLOOR PIPING SHALL BE REMOVED AND REMAINING OPENING BE CAPPED/ PATCHED TO MATCH EXISTING ADJACENT SURFACE.

MECHANICAL DEMOLITION KEYED NOTES

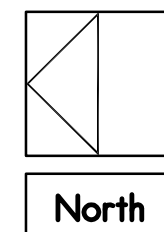
- REMOVE EXISTING CLASSROOM UNIT VENTILATOR IN ITS ENTIRETY. REMOVE UNIT AND ASSOCIATED ACCESSORIES, LOUVER, CONTROLS, PIPING ETC..
- REMOVE EXISTING STEAM SUPPLY AS SHOWN. PREPARE TO RUN NEW 6" STEAM SUPPLY IN SAME ROUTE.
- REMOVE EXISTING STEAM SUPPLY/CONDENSATE BACK TO THIS POINT AND CAP.
- REMOVE EXISTING STEAM SUPPLY/CONDENSATE AS SHOWN.
- REMOVE STEAM MAIN BACK TO STEAM HEADER AS SHOWN AND CAP.
- REMOVE EXISTING INLINE HEATING WATER PUMP. PREPARE TO REPLACE WITH NEW UNIT AS SHOWN ON NEW WORK PLAN.
- REMOVE EXISTING 4" STEAM SUPPLY AS SHOWN. PREPARE TO INSTALL NEW 6" STEAM AT SAME LOCATION AND ROUTE.



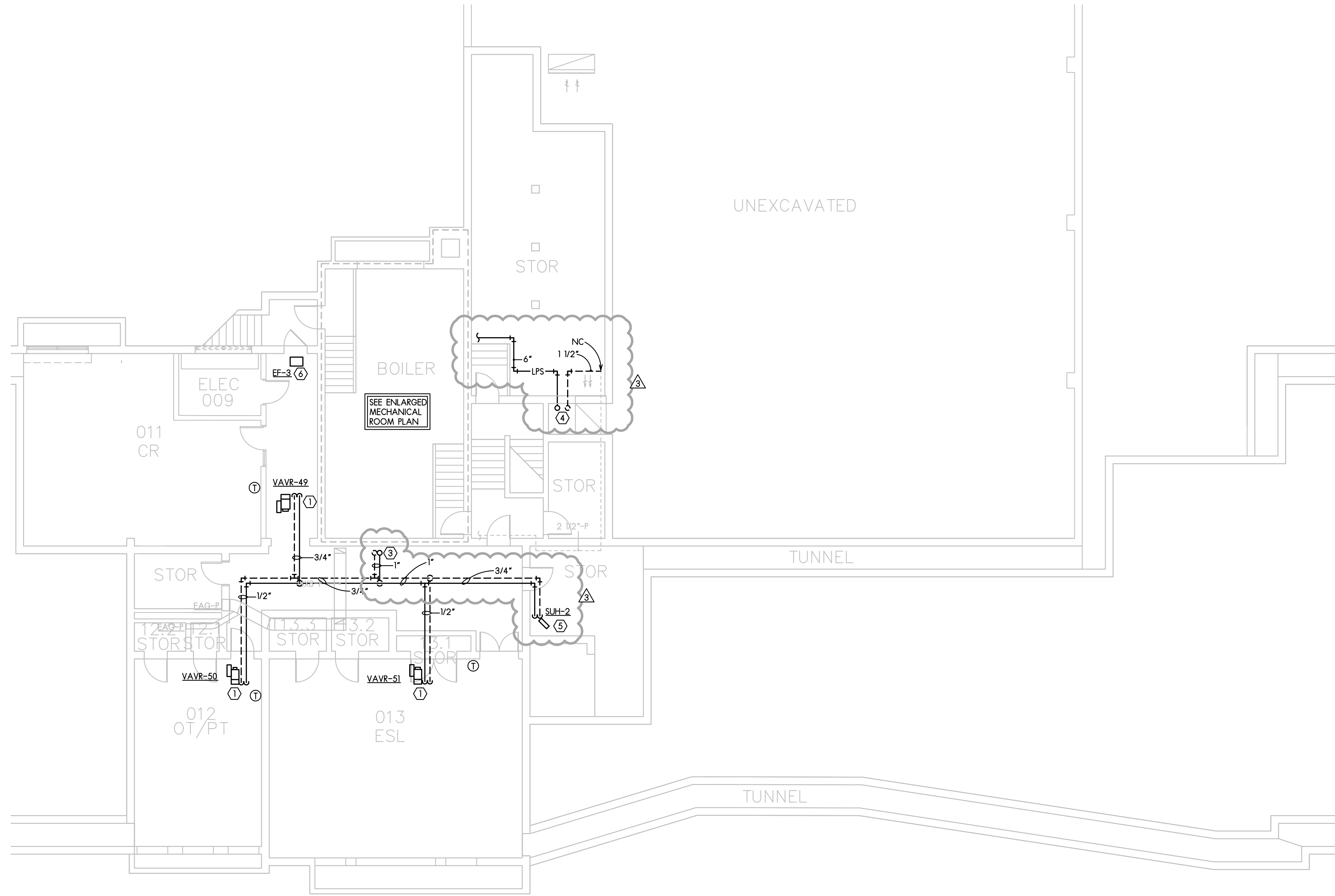
2 ENLARGED MECHANICAL ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



MECH DEMOLITION PLANS
SCALE: AS SHOWN



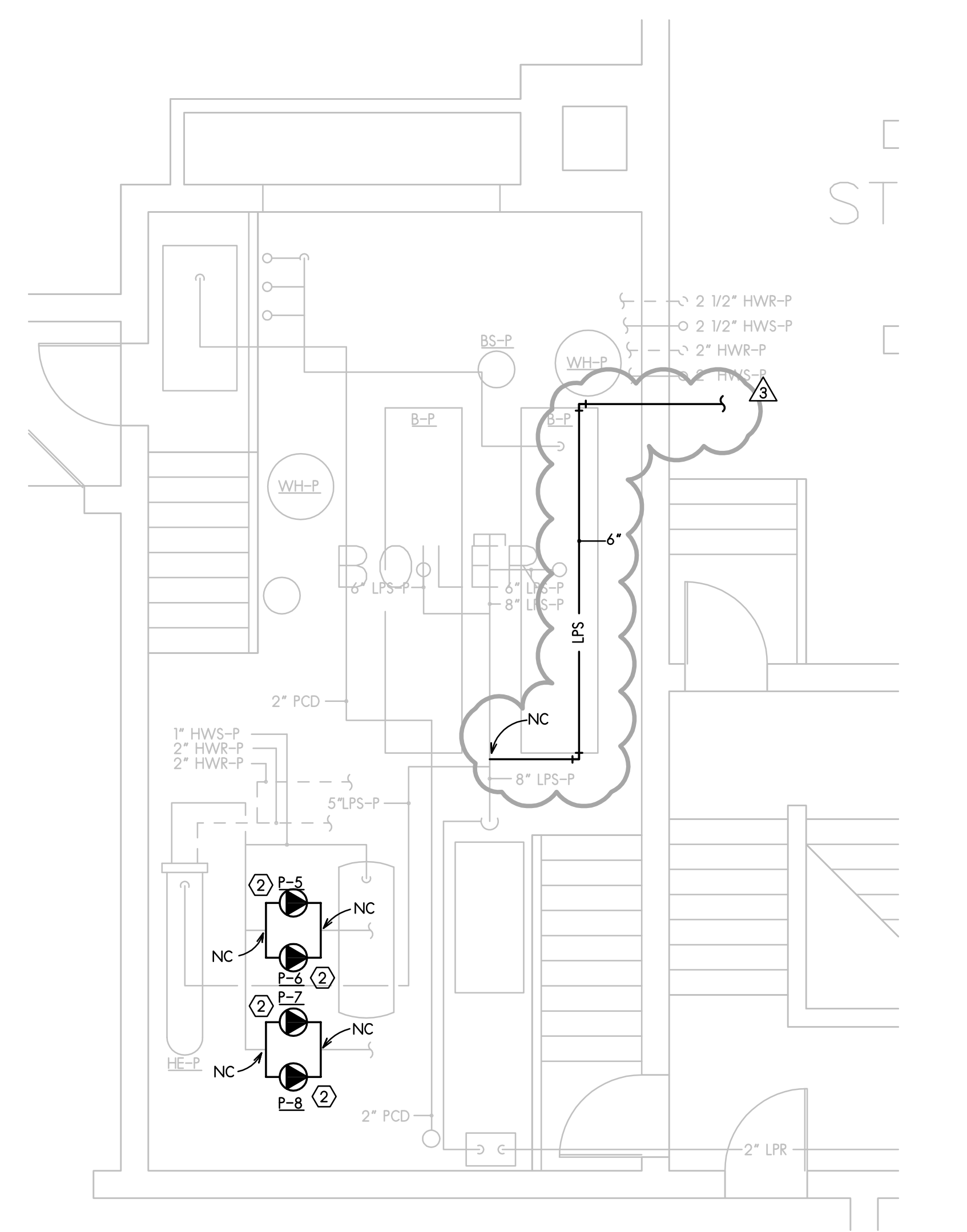
ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
PROJECT NUMBER	ADDENDUM 2 02-XX-22		
SHEET NUMBER	ADDENDUM 3 02-07-22		
DRAWN BY:		CHECKED BY:	APPROVED BY:
JJ			RAS



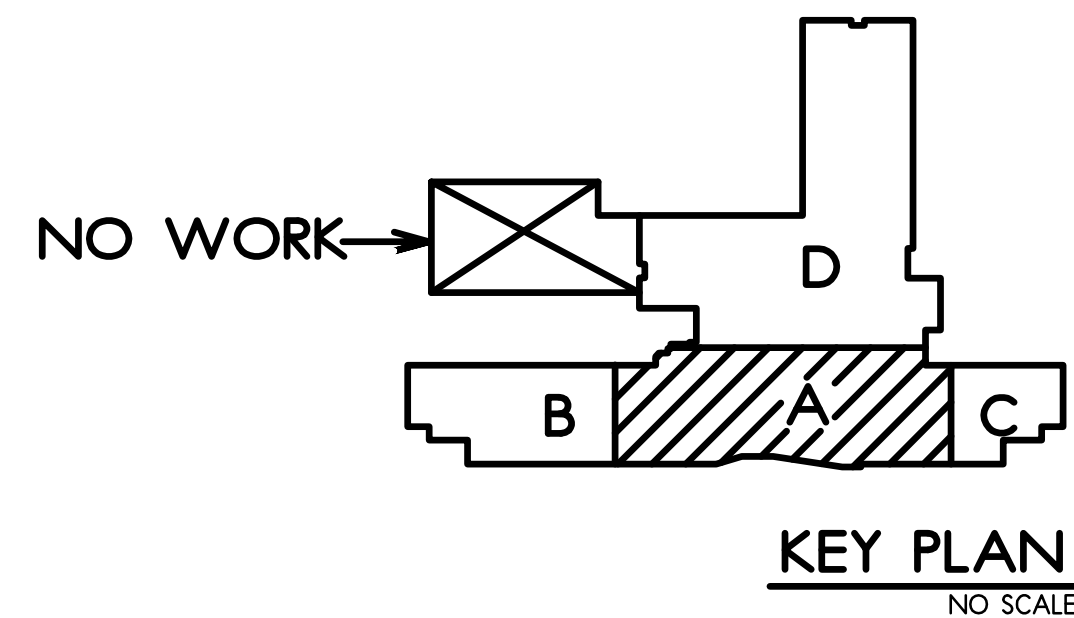
1 MECH. BASEMENT NEW WORK PLAN
SCALE: 1/8" = 1'-0"

MECH KEYED NOTES

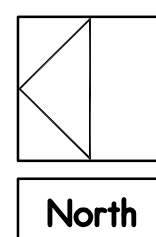
- 1 REFER TO HOT WATER HEATING COIL PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 2 PROVIDE & INSTALL NEW PUMP IN PLACE OF REMOVED PUMP. MODIFY PIPING AS REQUIRED TO INSTALL NEW PUMP PER INLINE PUMP DETAIL.
- 3 1" HWS & HWR IN PIPE CHASE FROM FLOOR ABOVE.
- 4 4" STEAM SUPPLY AND 1-1/4" CONDENSATE RETURN FROM MECH. ROOM ABOVE DOWN IN CHASE TO BOILER ROOM IN FLOOR BELOW.
- 5 REFER TO UNIT HEATER (SUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 6 VENTILATION EQUIPMENT. NO PIPING IS REQUIRED.



2 ENLARGED MECHANICAL ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"



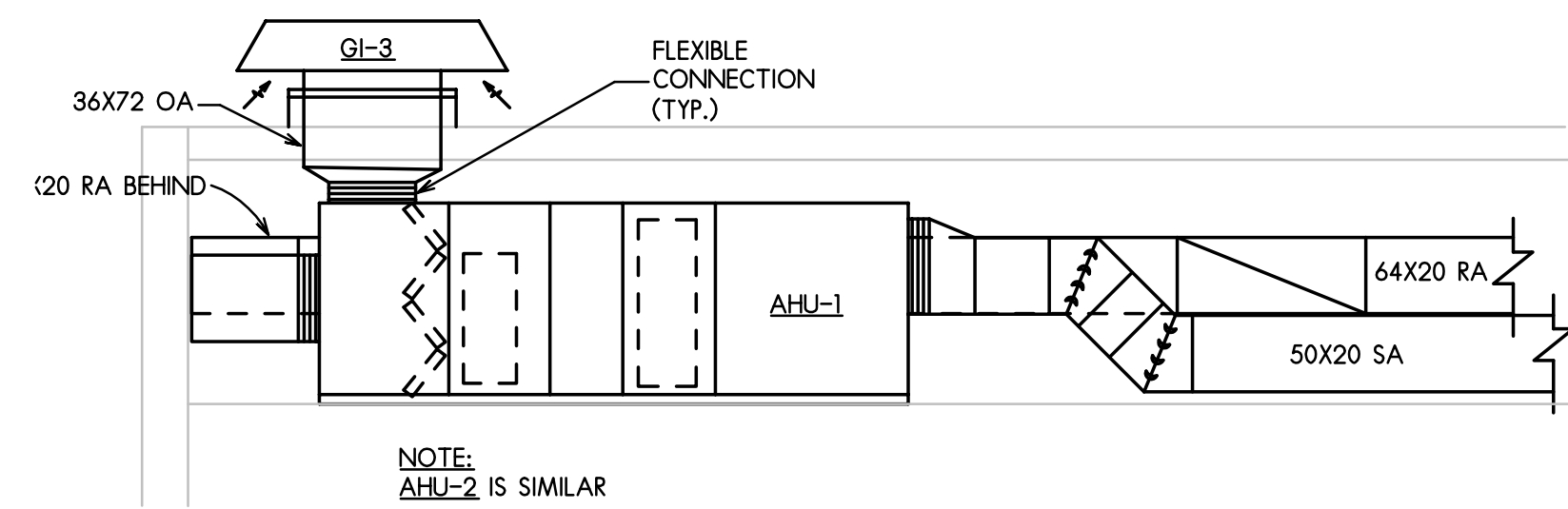
MECH NEW WORK PLANS
SCALE: AS SHOWN



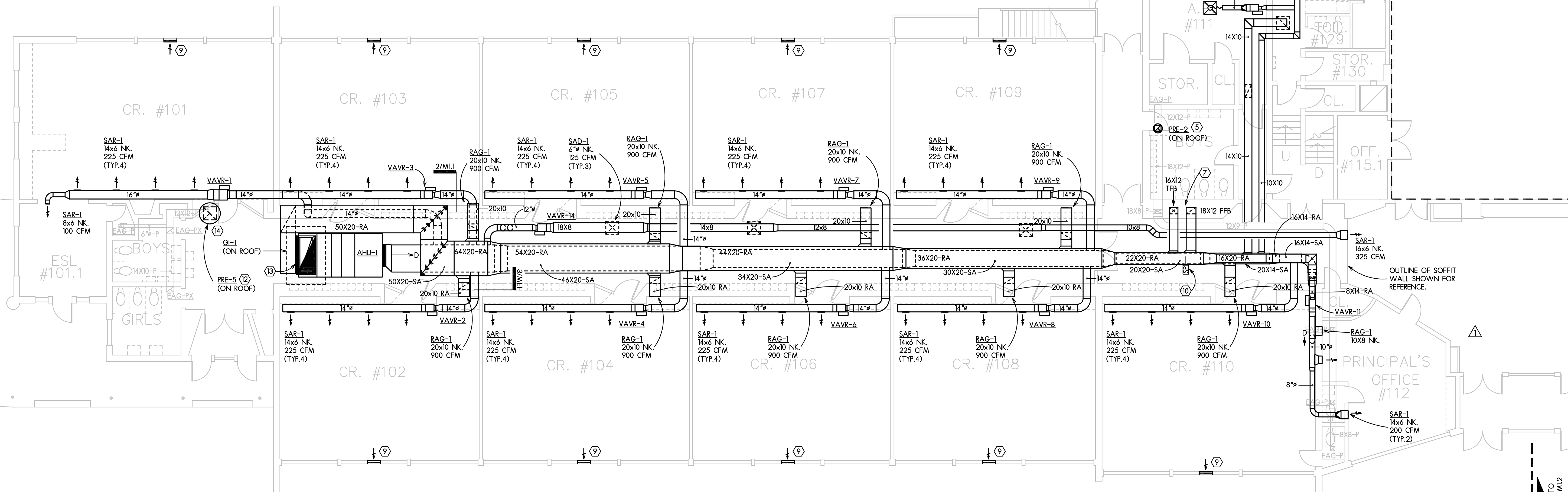


ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
PROJECT NUMBER	ADDENDUM 3	02-07-22	
SHEET NUMBER			
DRAWN BY:	JA	CHECKED BY:	APPROVED BY:
			RAS

DATE: 01-21-2022	PROJECT NUMBER	SHEET NUMBER
31029-02		M1.1



2 HVAC SECTION THRU AHU-1
SCALE: 1/4" = 1'-0"



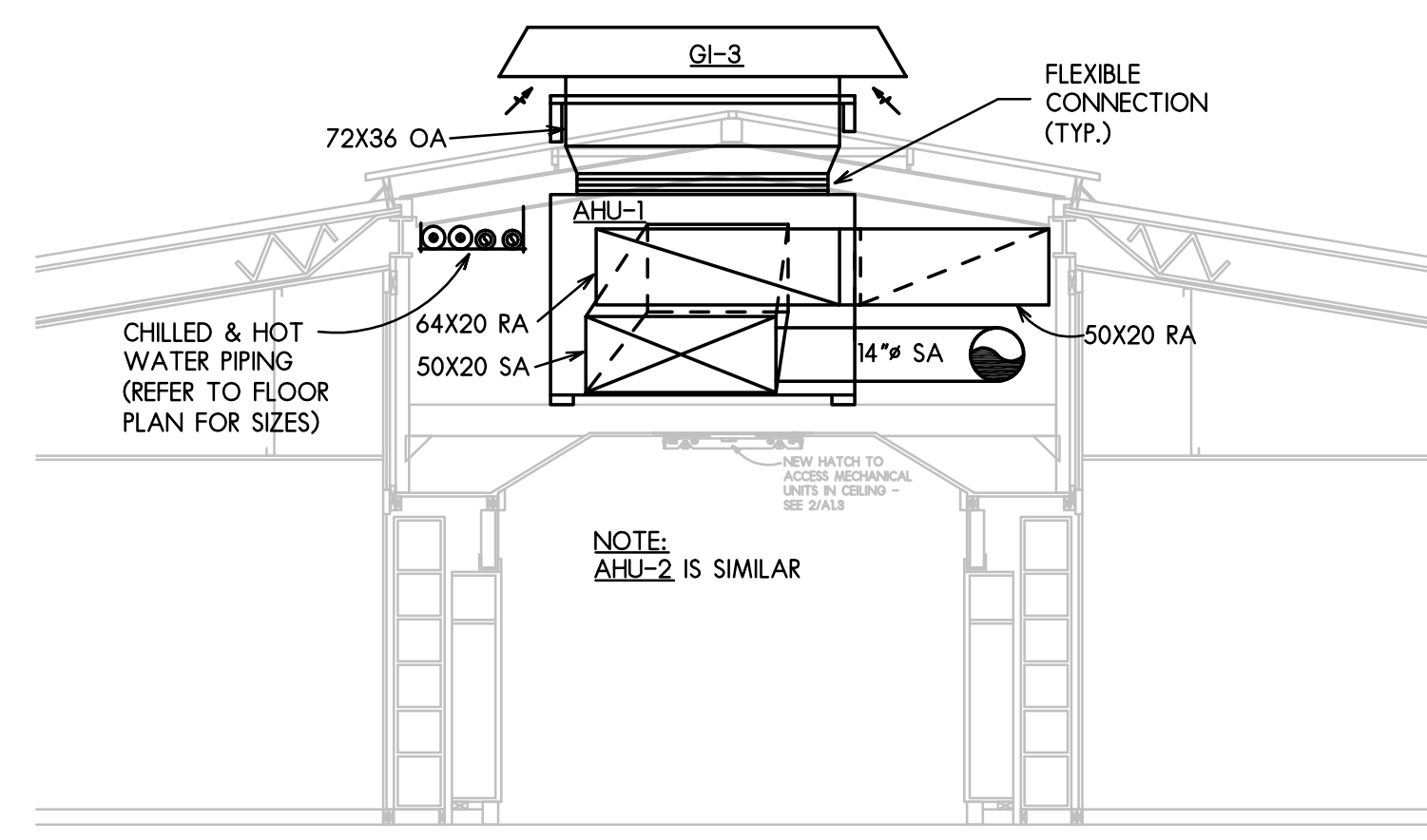
1 HVAC AREA B NEW WORK PLAN
SCALE: 1/8" = 1'-0"

HVAC KEYED NOTES- SHEETS M1.1 THRU M1.3:

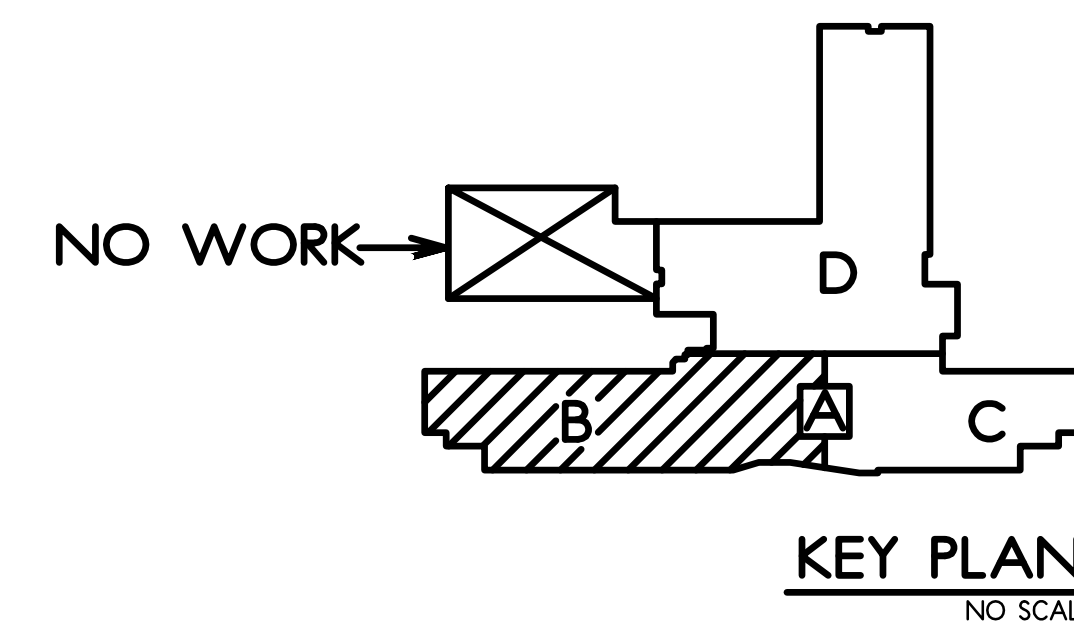
1. PROVIDE & INSTALL BALANCING DAMPER IN DUCT CONNECTION TO SUPPLY REGISTER.
2. CUT ROUND OPENING IN EXISTING CURTAIN TO RUN SUPPLY DUCT AS SHOWN. OPENING SHALL BE 2" LARGER THAN DUCT SIZE AND SHALL ALLOW CURTAIN MOVEMENT WITHOUT RESTRICTION.
3. EXPOSED DUCTWORK IN CAFETERIA SHALL BE PAINTED WHITE OR COLOR SELECTED BY ARCHITECT.
4. 30x48 OA DUCT UP THROUGH ROOF TO GI-4.
5. PROVIDE & INSTALL NEW EXHAUST FAN ON ROOF TO REPLACE EXISTING FAN. EXISTING CURB SHALL REMAIN. PROVIDE CURB ADAPTER AS NEEDED.
6. PROVIDE & INSTALL NEW EXHAUST FAN IN PLACE OF REMOVED FAN. PROVIDE NEW DUCT ADAPTER AS NEEDED TO CONNECT WITH EXISTING EA DUCT AS SHOWN.
7. DROP SUPPLY/RETURN AIR DUCTWORK IN EXISTING PIPE CHASE. FIELD VERIFY EXACT CONDITION AND RE-SIZE DUCT AS NEEDED TO FIT IN EXISTING SPACE. MAINTAIN DUCT CROSS SECTIONAL AREA.
8. PROVIDE & INSTALL COUNTER-BALANCED BACK DRAFT RELIEF DAMPER IN EXISTING OA INTAKE OPENING BEHIND EXISTING LOUVER. DAMPER SHALL BE RUSKIN CBD2 40X40 OR EQUIVALENT SIZE. REMAINING OPENING SHALL BE COVERED WITH INSULATED SHEET METAL PANEL.
9. PROVIDE & INSTALL GRAVITY BACKDRAFT RELIEF DAMPER AND WALL GRILLE OVER PORTION OF EXISTING OA INTAKE OPENING. DAMPER SHALL BE 24X12 RUSKIN B02A2. GRILLE SHALL BE 24X12 TITUS 350R OR EQUIVALENT SIZE.
10. STATIC PRESSURE SENSOR INSTALLED 2/3 DOWN STREAM SUPPLY DUCT FOR FAN VFD CONTROL. SENSOR SHALL BE INSTALLED AND WIRED BY TCC.
11. 36X72 OA INTAKE UP THRU ROOF TO GI-3.
12. CUT NEW OPENING IN EXISTING ROOF AND INSTALL NEW FAN AND CURB. FLASH AND SEAL ROOFING AS REQUIRED TO MATCH EXISTING.
13. 36X72 OA INTAKE UP THRU ROOF TO GI-1.
14. EXTEND NEW 12X12 EA DUCT FROM POINT OF DISCONNECTION AND RUN THRU ROOF TO NEW PRE.
15. 36X72 OA INTAKE UP THROUGH ROOF TO GI-2.

GENERAL CONSTRUCTION NOTES

1. ALL EXPOSED SHEET METAL DUCTWORK SHALL BE EITHER PAINTED AS INDICATED OR PRIMED AND PREPARED TO BE FIELD PAINTED.
2. ALL ROOFING WORK SHALL BE DONE THE ORIGINAL ROOF. INSTALLING CONTRACTOR TO MAINTAIN ANY WARRANTY. CONSULT AND COORDINATE WITH OWNER ON EXISTING ROOFING CONTRACTOR CONTACT INFO.

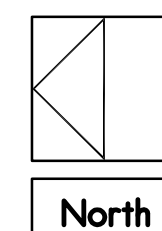


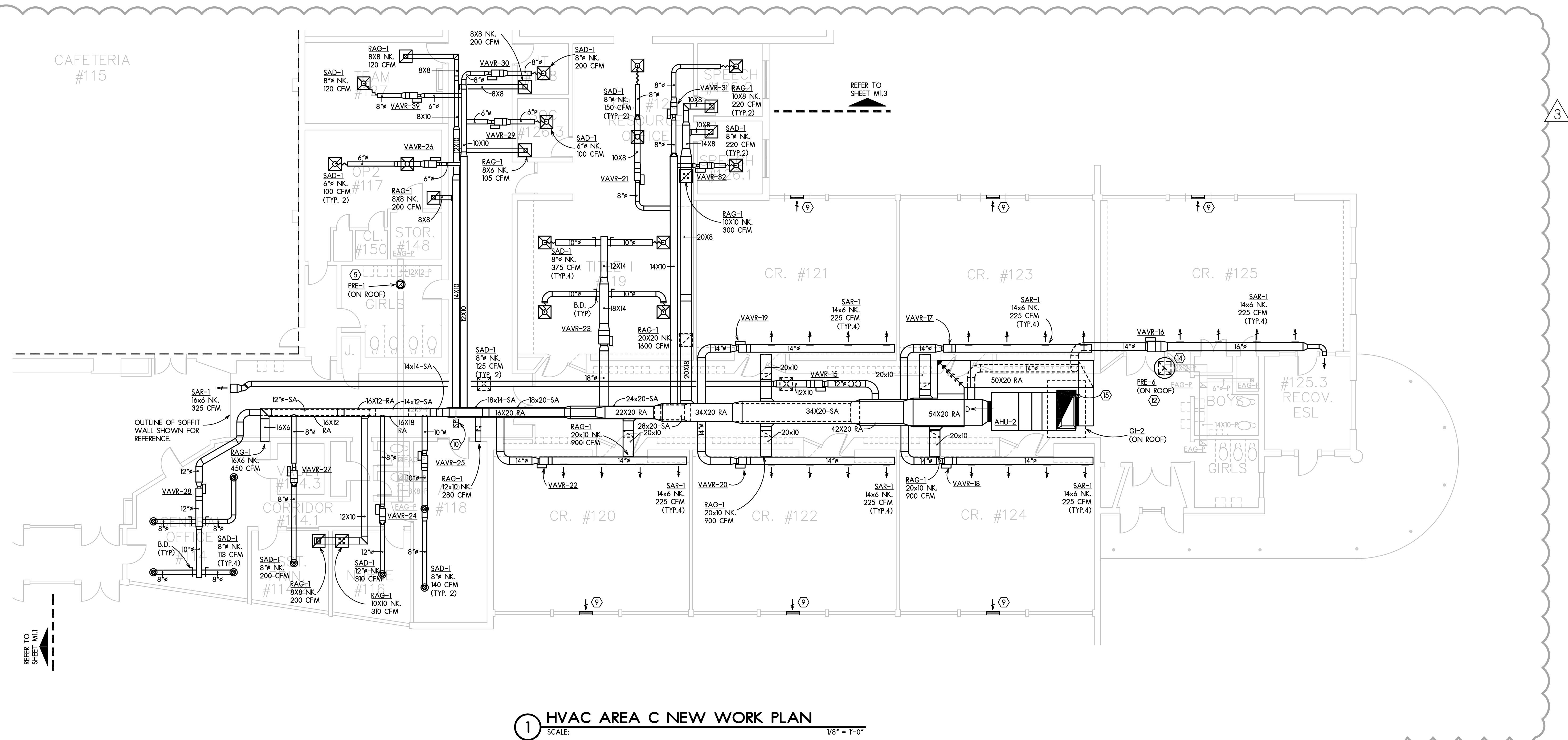
3 HVAC SECTION THRU AHU-1
SCALE: 1/4" = 1'-0"



HVAC NEW WORK PLANS

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



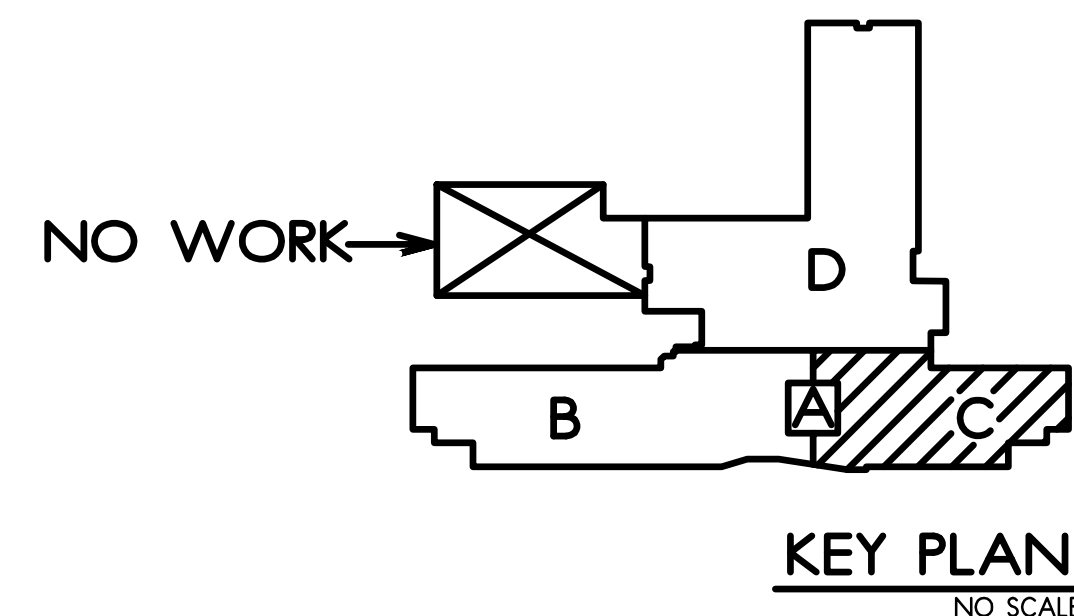
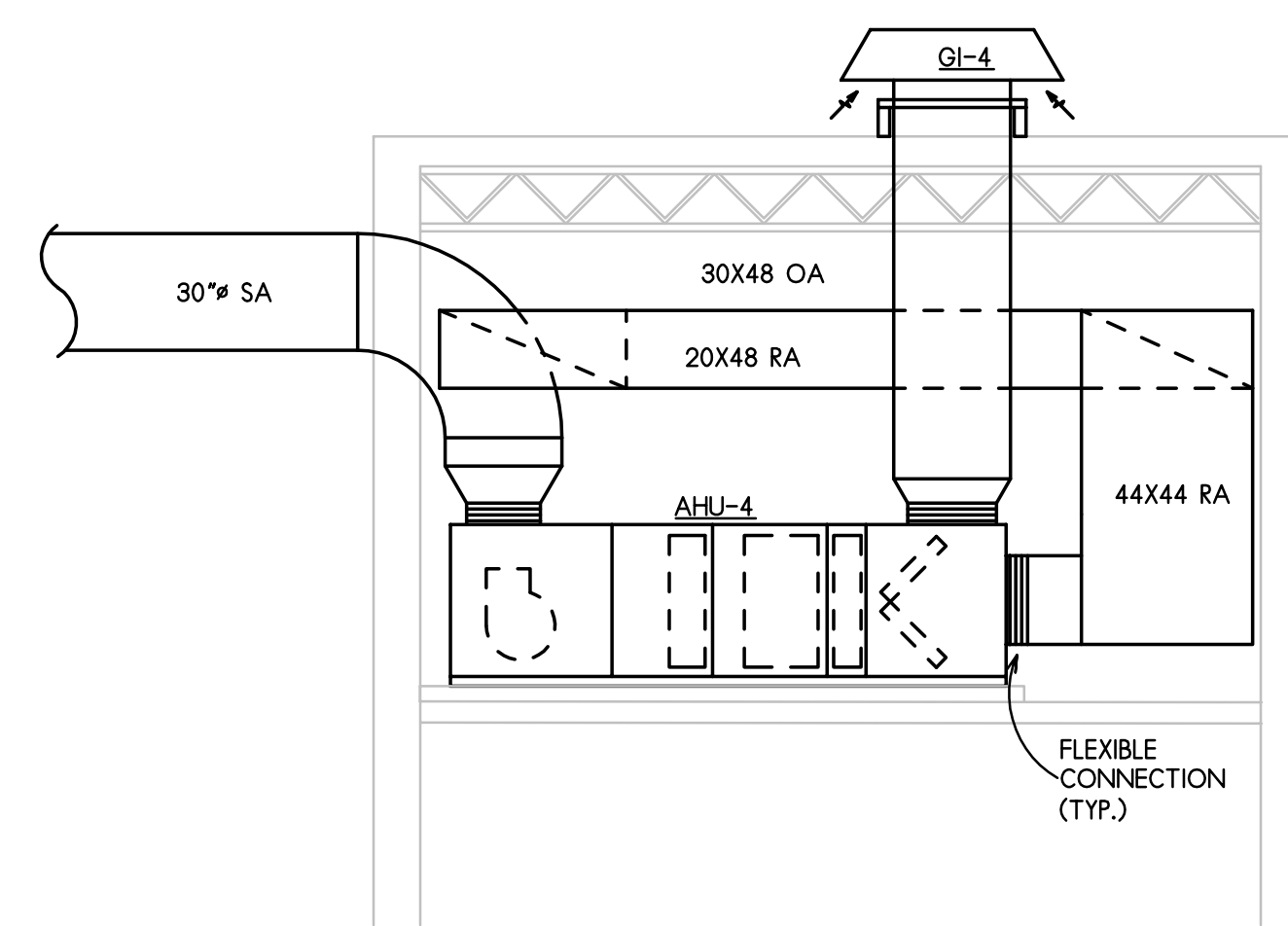


HVAC KEYED NOTES—SHEETS M1.1 THRU M1.3:

- ① PROVIDE & INSTALL BALANCING DAMPER IN DUCT CONNECTION TO SUPPLY REGISTER.
- ② CUT ROUND OPENING IN EXISTING CURTAIN TO RUN SUPPLY DUCT AS SHOWN. OPENING SHALL BE 2" LARGER THAN DUCT SIZE AND SHALL ALLOW CURTAIN MOVEMENT WITHOUT RESTRICTION.
- ③ EXPOSED DUCTWORK IN CAFETERIA SHALL BE PAINTED WHITE OR COLOR SELECTED BY ARCHITECT.
- ④ 30x48 OA DUCT UP THROUGH ROOF TO GI-4.
- ⑤ PROVIDE & INSTALL NEW EXHAUST FAN ON ROOF TO REPLACE EXISTING FAN. EXISTING CURB SHALL REMAIN. PROVIDE CURB ADAPTER AS NEEDED.
- ⑥ PROVIDE & INSTALL NEW EXHAUST FAN IN PLACE OF REMOVED FAN. PROVIDE NEW DUCT ADAPTER AS NEEDED TO CONNECT WITH EXISTING EA DUCT AS SHOWN.
- ⑦ DROP SUPPLY/RETURN AIR DUCTWORK IN EXISTING PIPE CHASE. FIELD VERIFY EXACT CONDITION AND RE-SIZE DUCT AS NEEDED TO FIT IN EXISTING SPACE. MAINTAIN DUCT CROSS SECTIONAL AREA.
- ⑧ PROVIDE & INSTALL COUNTER-BALANCED BACK DRAFT RELIEF DAMPER IN EXISTING OA INTAKE OPENING BEHIND EXISTING LOUVER. DAMPER SHALL BE RUSKIN CBD2 40X40 OR EQUIVALENT SIZE. REMAINING OPENING SHALL BE COVERED WITH INSULATED SHEET METAL PANEL.
- ⑨ PROVIDE & INSTALL GRAVITY BACKDRAFT RELIEF DAMPER AND WALL GRILLE OVER PORTION OF EXISTING OA INTAKE OPENING. DAMPER SHALL BE 24X12 RUSKIN BD2A2. GRILLE SHALL BE 24X12 TITUS 350R OR EQUIVALENT SIZE.
- ⑩ STATIC PRESSURE SENSOR INSTALLED 2/3 DOWN STREAM SUPPLY DUCT FOR FAN VFD CONTROL. SENSOR SHALL BE INSTALLED AND WIRED BY TCC.
- ⑪ 36X72 OA INTAKE UP THRU ROOF TO GI-3.
- ⑫ CUT NEW OPENING IN EXISTING ROOF AND INSTALL NEW FAN AND CURB. FLASH AND SEAL ROOFING AS REQUIRED TO MATCH EXISTING.
- ⑬ 36X72 OA INTAKE UP THRU ROOF TO GI-1.
- ⑭ EXTEND NEW 12X12 EA DUCT FROM POINT OF DISCONNECTION AND RUN THRU ROOF TO NEW PRE.
- ⑮ 36X72 OA INTAKE UP THROUGH ROOF TO GI-2.

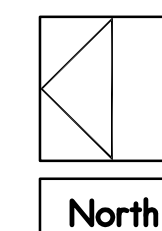
GENERAL CONSTRUCTION NOTES

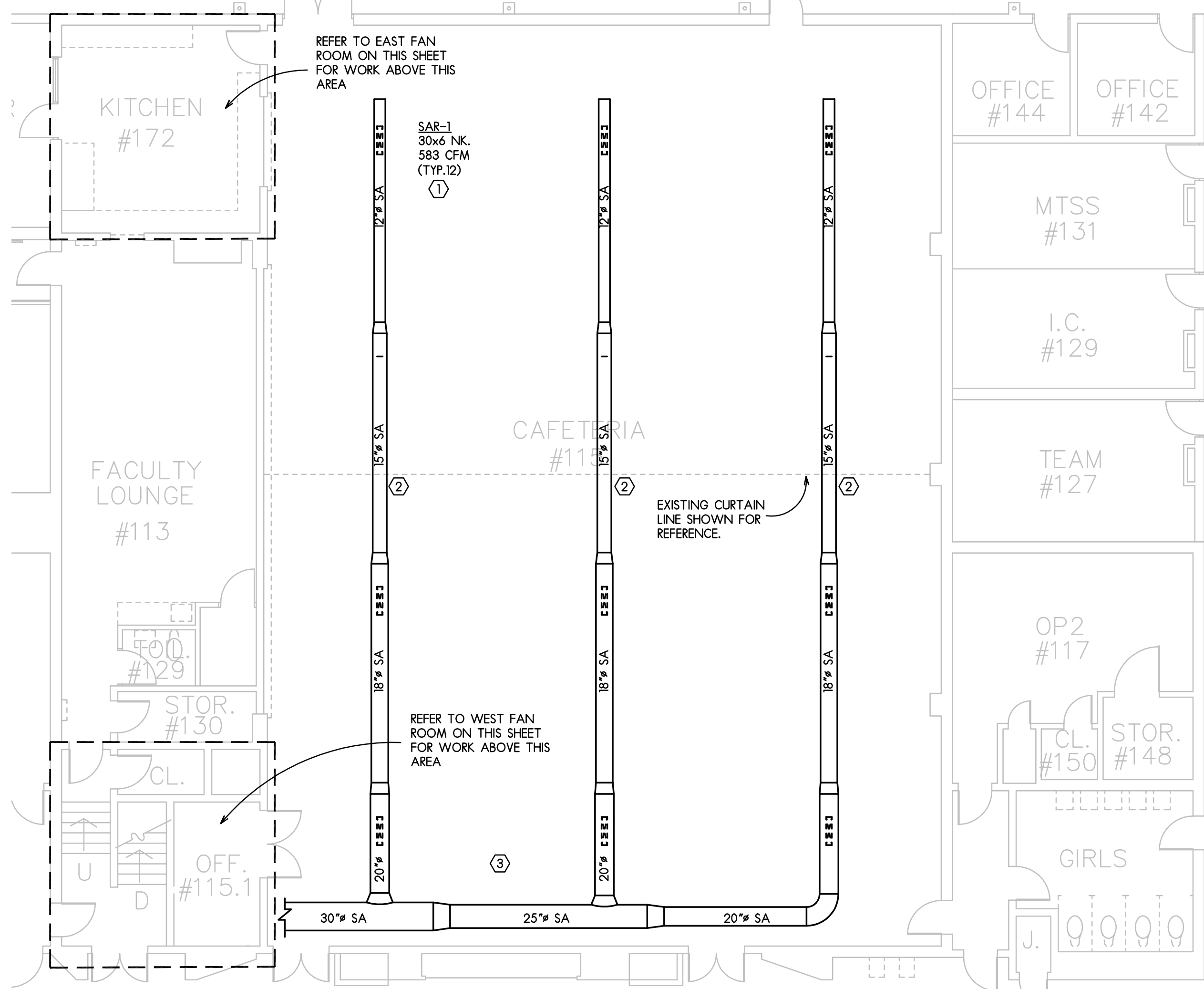
1. ALL EXPOSED SHEET METAL DUCTWORK SHALL BE EITHER PAINTED AS INDICATED OR PRIMED AND PREPARED TO BE FIELD PAINTED.
2. ALL ROOFING WORK SHALL BE DONE THE ORIGINAL ROOF INSTALLING CONTRACTOR TO MAINTAIN ANY WARRANTY. CONSULT AND COORDINATE WITH OWNER ON EXISTING ROOFING CONTRACTOR CONTACT INFO.



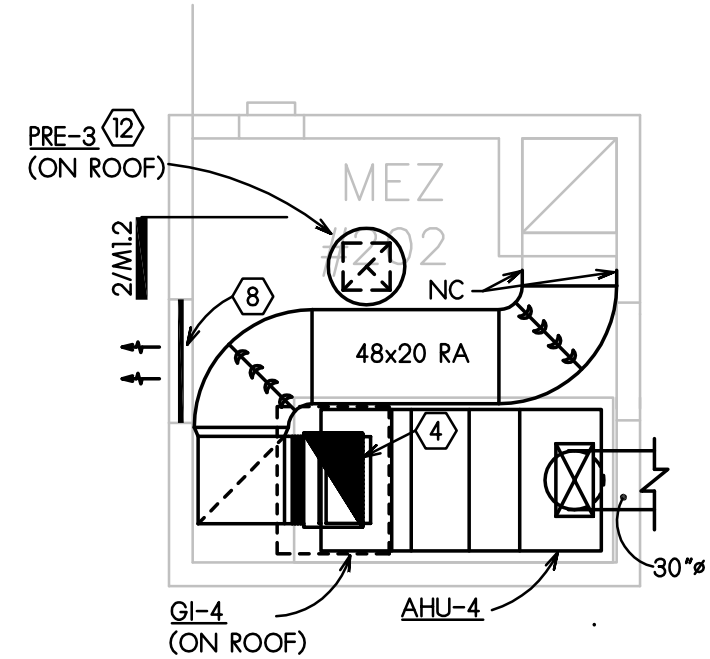
HVAC NEW WORK PLANS

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

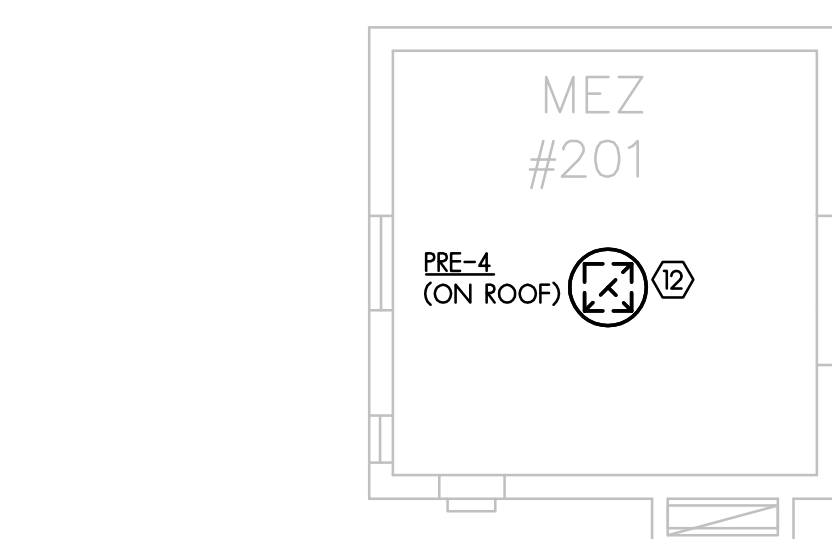




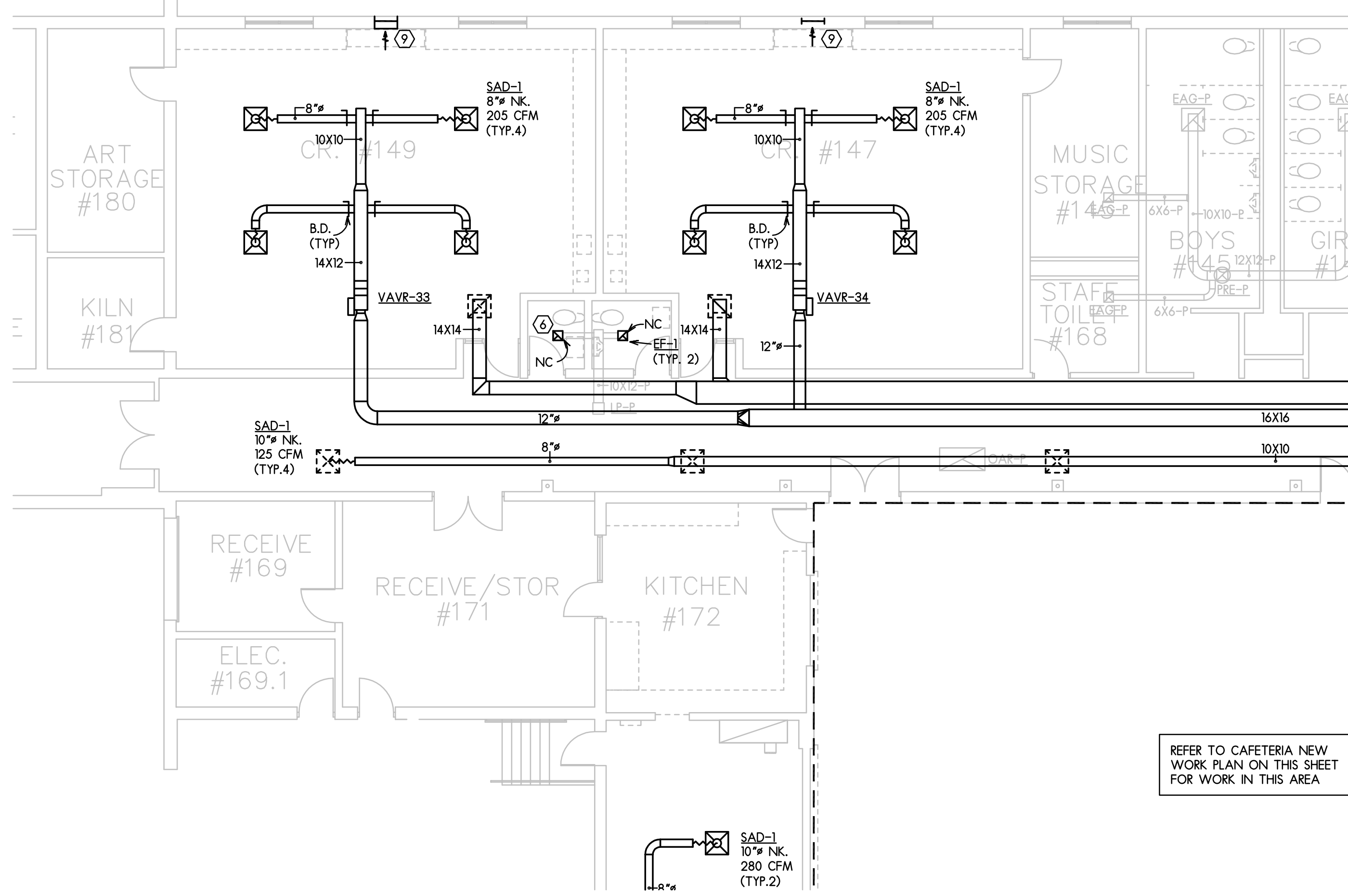
2 CAFETERIA #115 NEW WORK PLAN
SCALE: 1/8" = 1'-0"



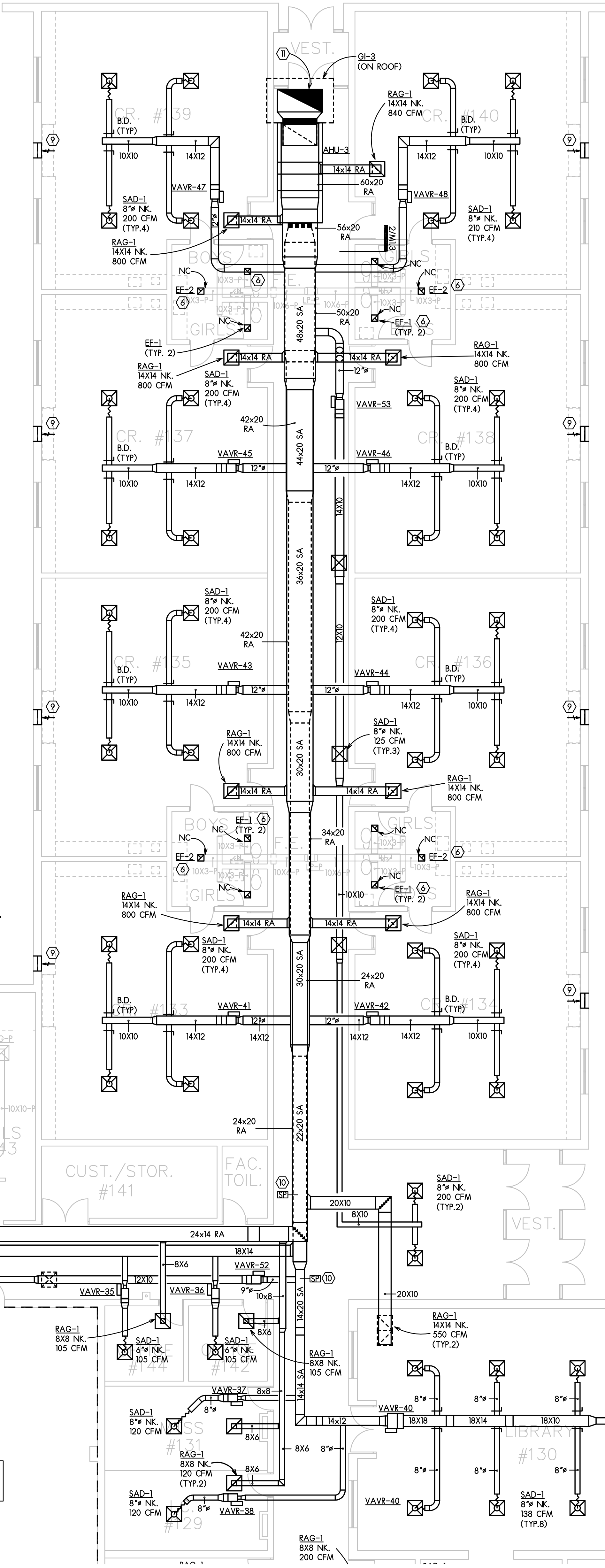
4 WEST FAN ROOM NEW WORK PLAN
SCALE: 1/8" = 1'-0"



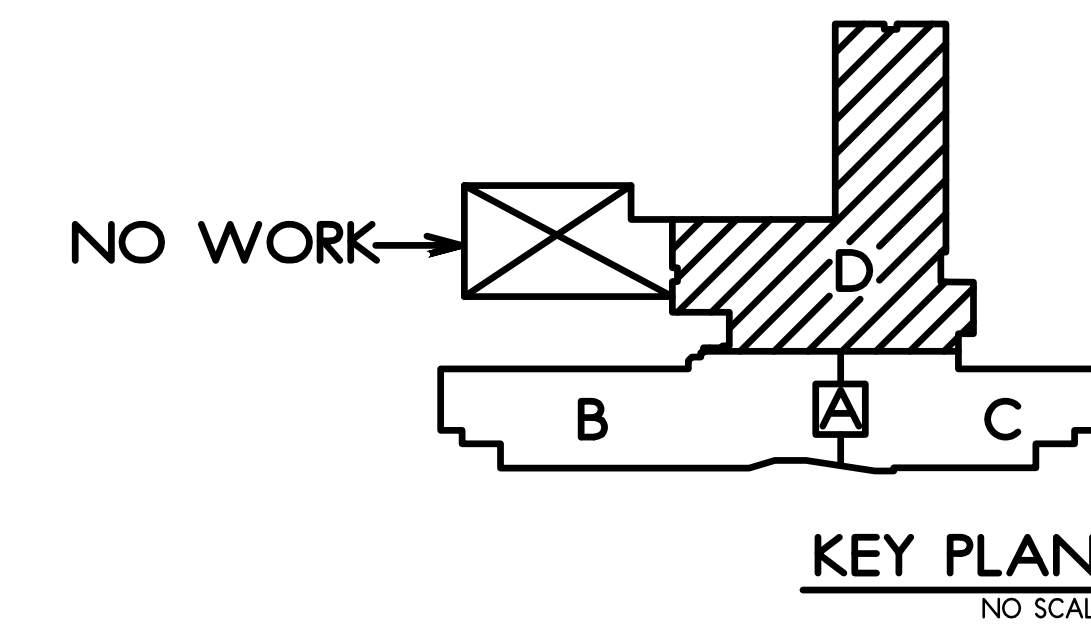
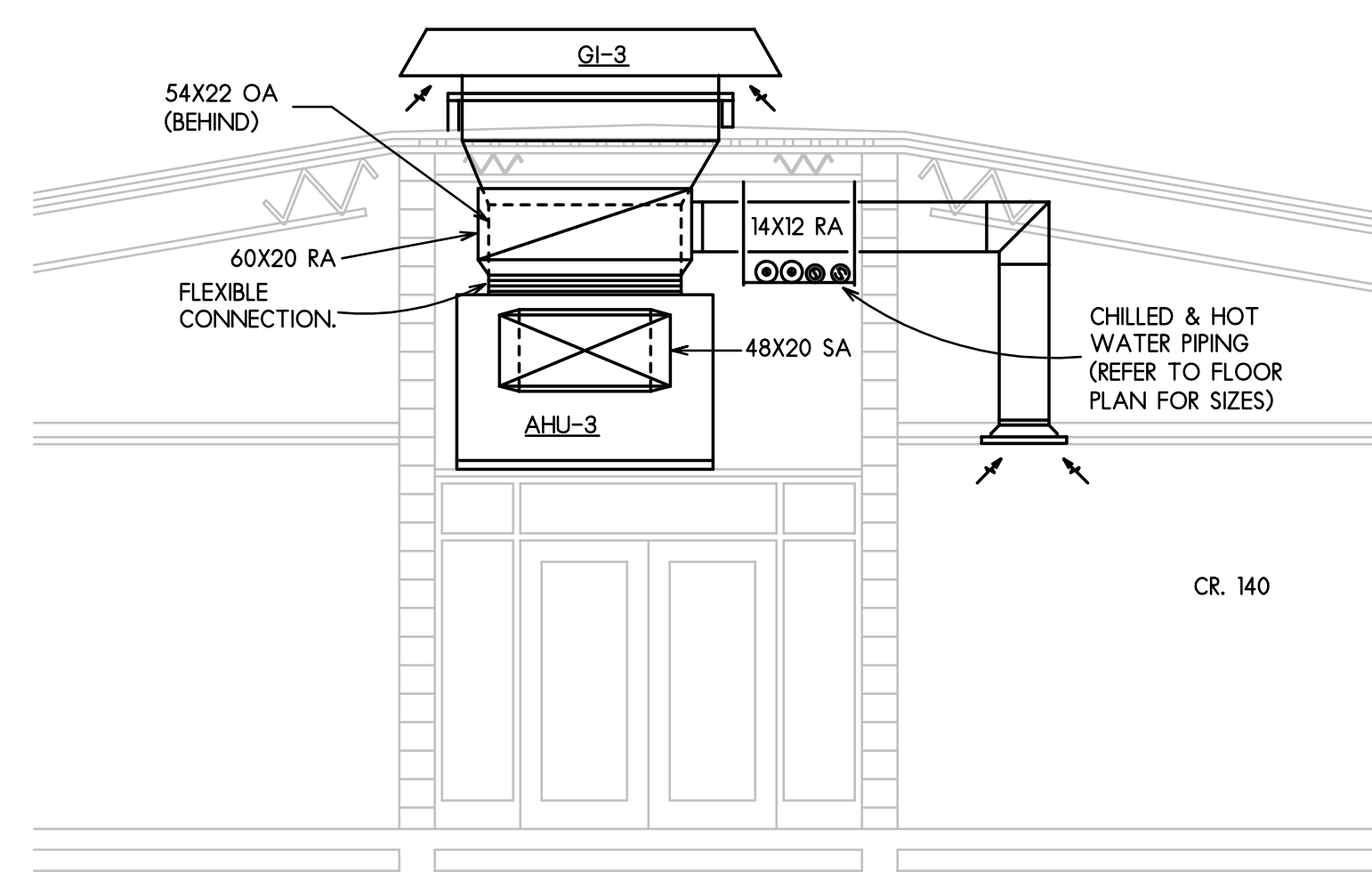
3 EAST FAN ROOM NEW WORK PLAN
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR AREA D NEW WORK PLAN
SCALE: 1/8" = 1'-0"



5 HVAC SECTION THRU AHU-3
SCALE: 1/4" = 1'-0"



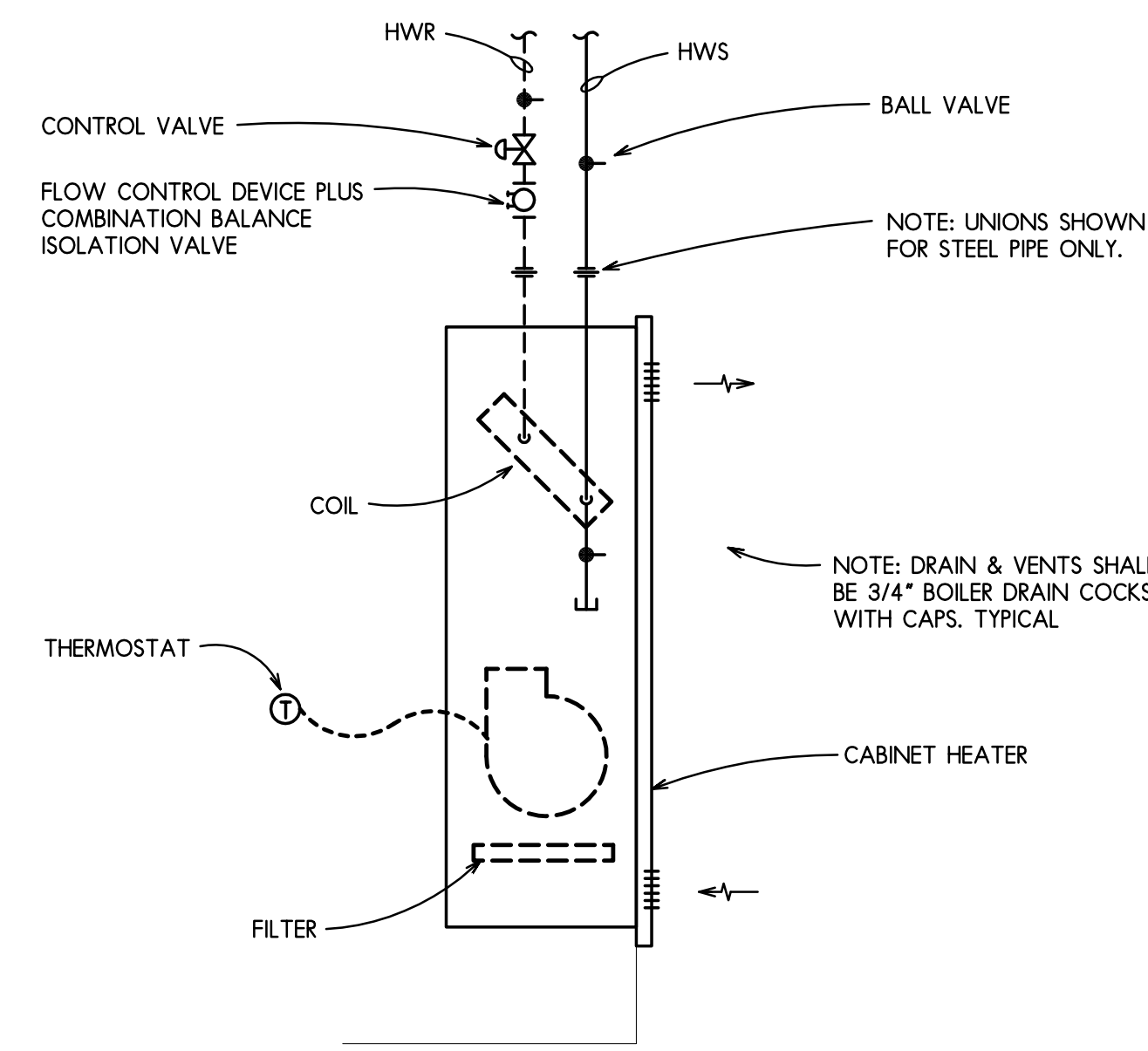
HVAC NEW WORK PLANS
SCALE: 1/8" = 1'-0"

GENERAL CONSTRUCTION NOTES

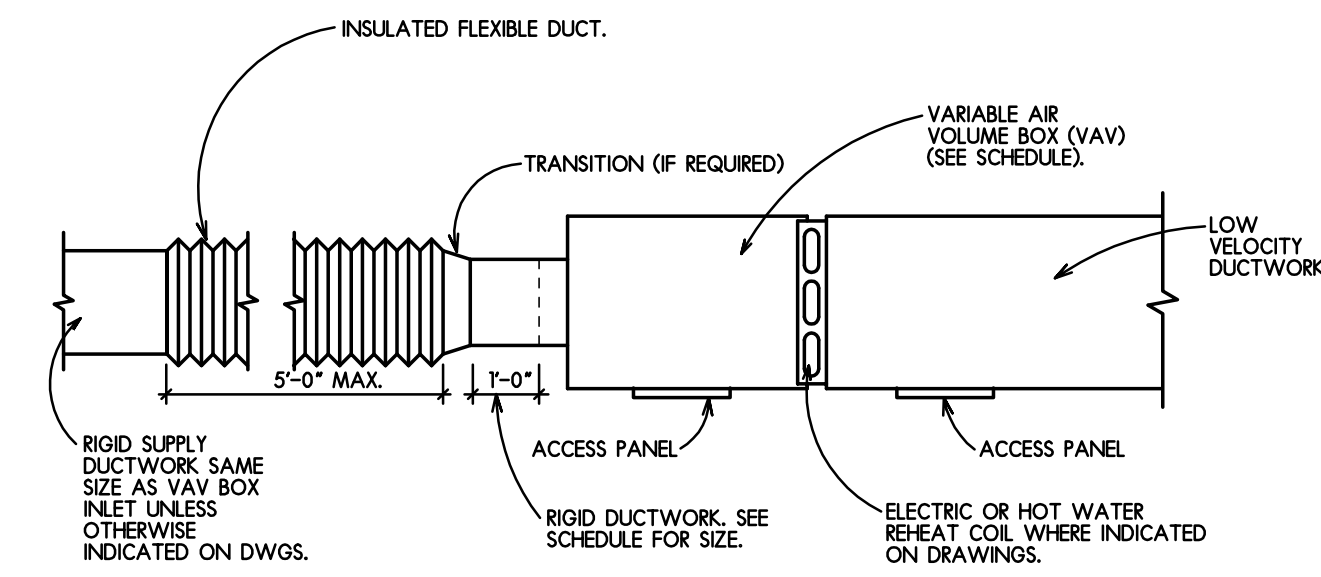
- ALL EXPOSED SHEET METAL DUCTWORK SHALL BE EITHER PAINTED AS INDICATED OR PRIMED AND PREPARED TO BE FIELD PAINTED.
- ALL ROOFING WORK SHALL BE DONE THE ORIGINAL ROOF. INSTALLING CONTRACTOR TO MAINTAIN ANY WARRANTY. CONSULT AND COORDINATE WITH OWNER ON EXISTING ROOFING CONTRACTOR CONTACT INFO.

HVAC KEYED NOTES-SHEETS M1.1 THRU M1.3:

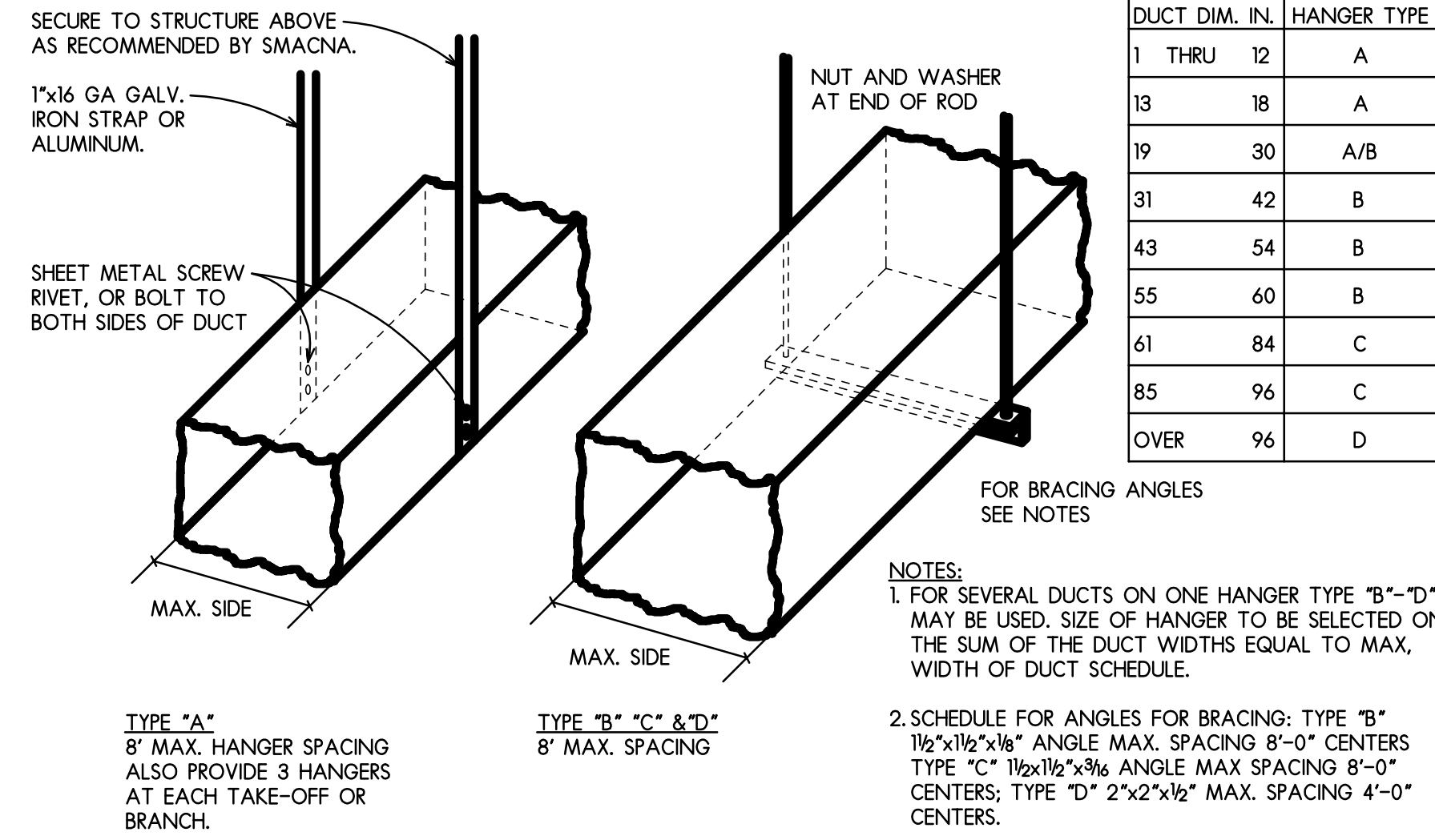
- PROVIDE & INSTALL BALANCING DAMPER IN DUCT CONNECTION TO SUPPLY REGISTER.
- CUT ROUND OPENING IN EXISTING CURTAIN TO RUN SUPPLY DUCT AS SHOWN. OPENING SHALL BE 2" LARGER THAN DUCT SIZE AND SHALL ALLOW CURTAIN MOVEMENT WITHOUT RESTRICTION.
- EXPOSED DUCTWORK IN CAFETERIA SHALL BE PAINTED WHITE OR COLOR SELECTED BY ARCHITECT.
- 30x48 OA DUCT UP THROUGH ROOF TO GI-4.
- PROVIDE & INSTALL NEW EXHAUST FAN ON ROOF TO REPLACE EXISTING FAN. EXISTING CURB SHALL REMAIN. PROVIDE CURB ADAPTER AS NEEDED.
- PROVIDE & INSTALL NEW EXHAUST FAN IN PLACE OF REMOVED FAN. PROVIDE NEW DUCT ADAPTER AS NEEDED TO CONNECT WITH EXISTING EA DUCT AS SHOWN.
- DROP SUPPLY/RETURN AIR DUCTWORK IN EXISTING PIPE CHASE. FIELD VERIFY EXACT CONDITION AND RE-SIZE DUCT AS NEEDED TO FIT IN EXISTING SPACE. MAINTAIN DUCT CROSS SECTIONAL AREA.
- PROVIDE & INSTALL COUNTER-BALANCED BACK DRAFT RELIEF DAMPER IN EXISTING OA INTAKE OPENING BEHIND EXISTING LOWER DAMPER SHALL BE RUSKIN C302 40X40 OR EQUIVALENT SIZE. REMAINING OPENING SHALL BE COVERED WITH INSULATED SHEET METAL PANEL.
- PROVIDE & INSTALL GRAVITY BACKDRAFT RELIEF DAMPER AND WALL GRILLE OVER PORTION OF EXISTING OA INTAKE OPENING. DAMPER SHALL BE 24X12 RUSKIN BD2A2. GRILLE SHALL BE 24X12 TITUS 550R OR EQUIVALENT SIZE.
- STATIC PRESSURE SENSOR INSTALLED 2/3 DOWN STREAM SUPPLY DUCT FOR FAN VFD CONTROL. SENSOR SHALL BE INSTALLED AND WIRED BY TCC.
- 36X72 OA INTAKE UP THRU ROOF TO GI-3.
- CUT NEW OPENING IN EXISTING ROOF AND INSTALL NEW FAN AND CURB. FLASH AND SEAL ROOFING AS REQUIRED TO MATCH EXISTING.
- 36X72 OA INTAKE UP THRU ROOF TO GI-1.
- EXTEND NEW 12X12 EA DUCT FROM POINT OF DISCONNECTION AND RUN THRU ROOF TO NEW PRE.
- 36X72 OA INTAKE UP THROUGH ROOF TO GI-2.



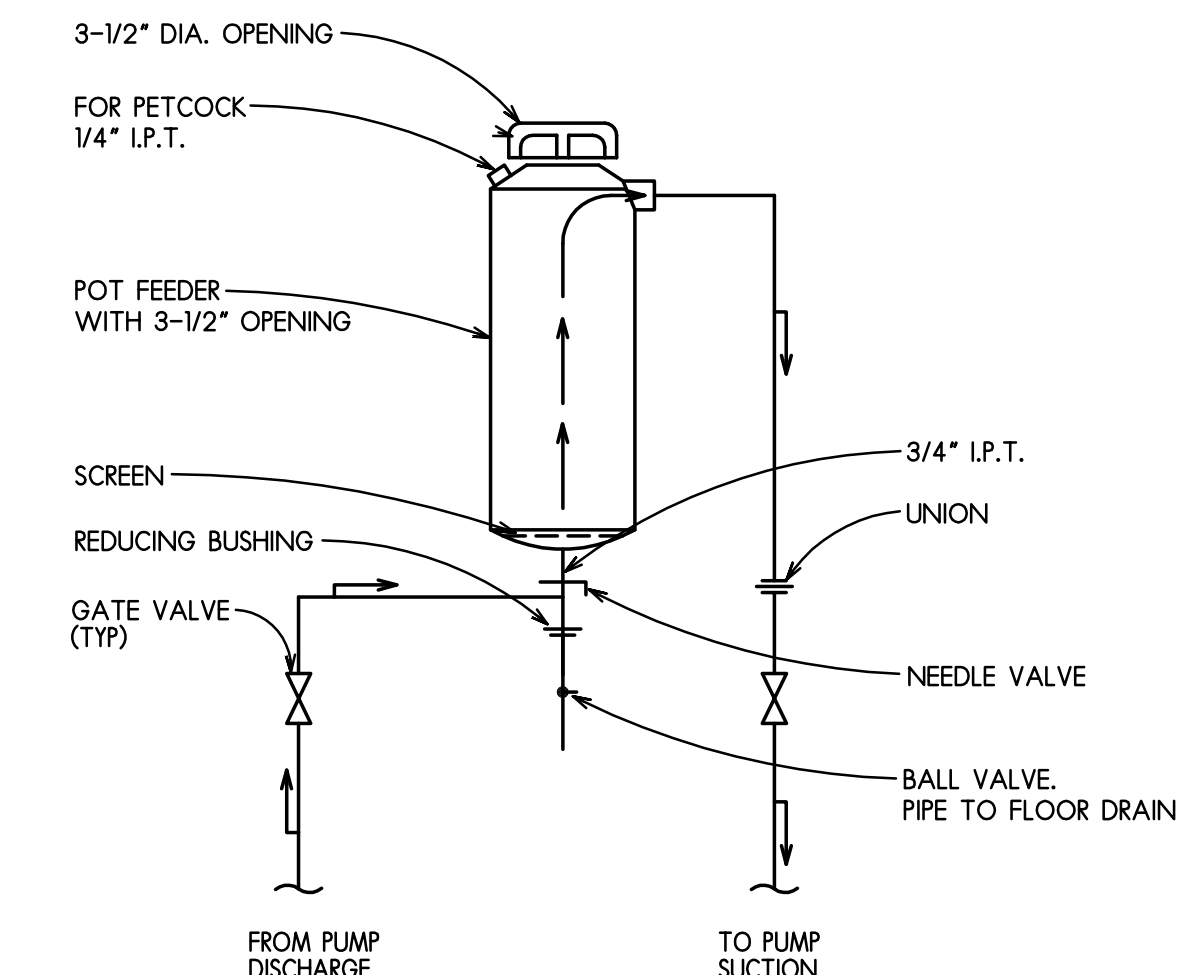
1 VERTICAL CABINET HEATER PIPING
NTS



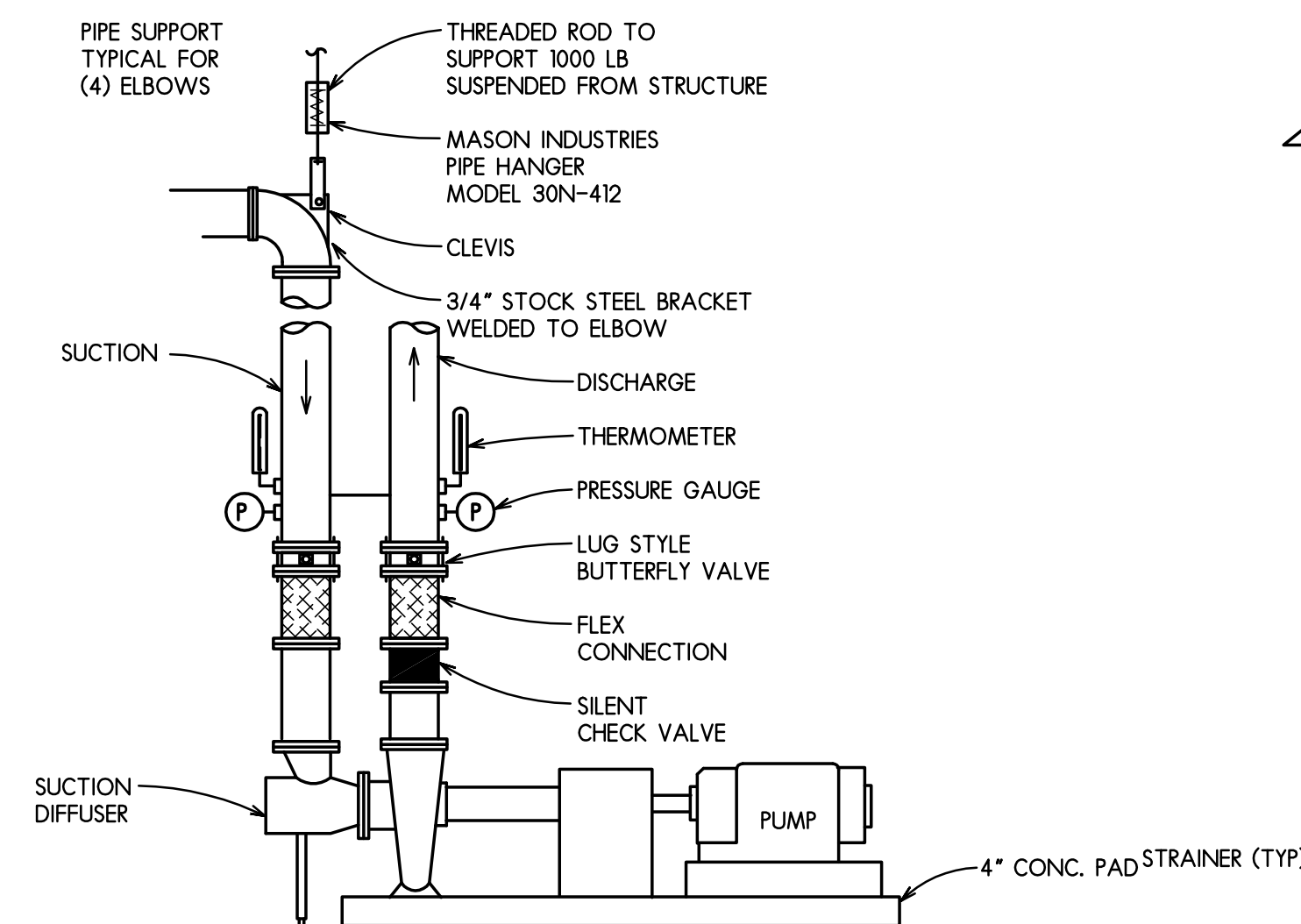
2 VARIABLE AIR VOLUME BOX DETAIL
NTS



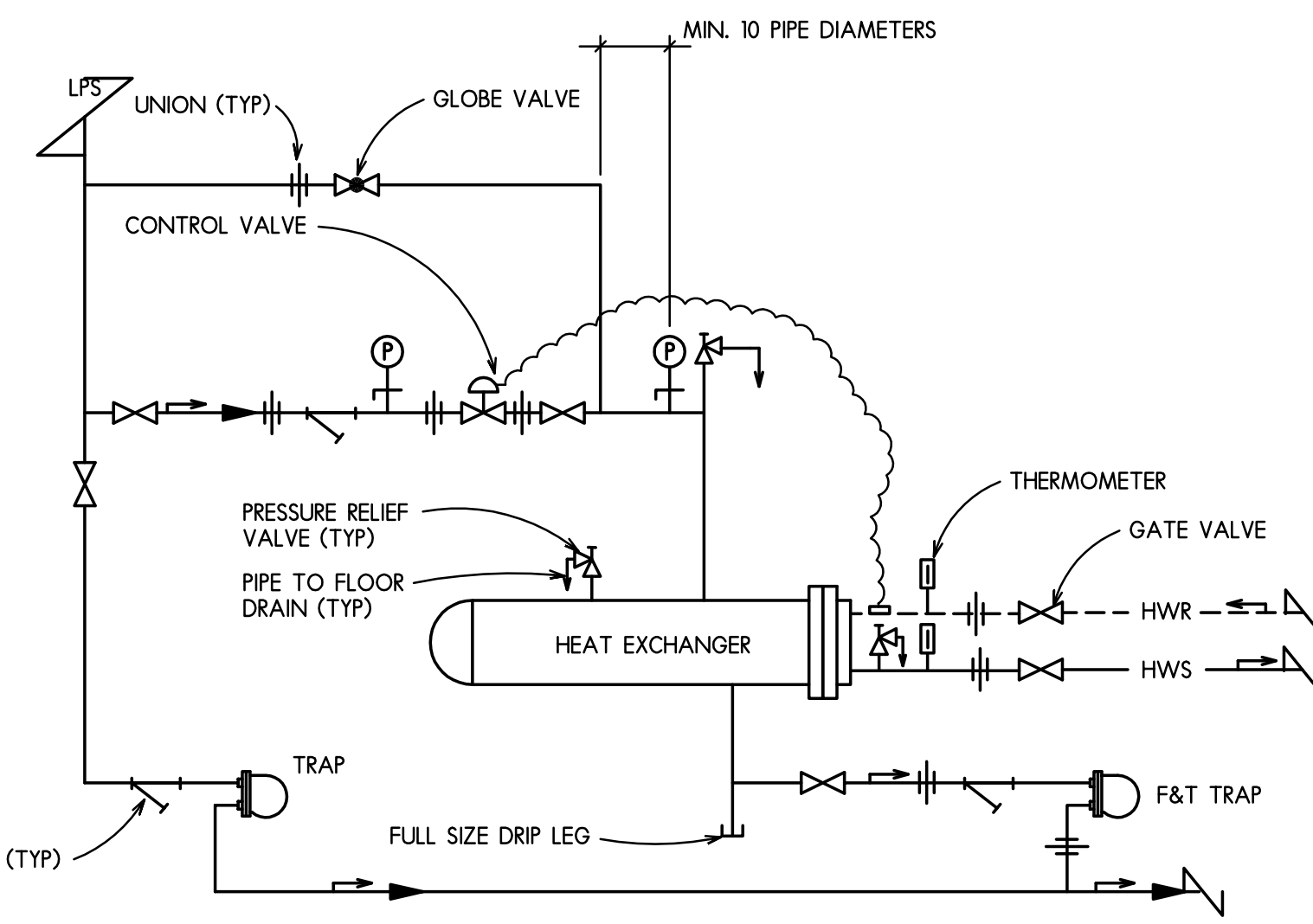
3 DUCT HANGERS DETAIL WITH SCHEDULE
NTS



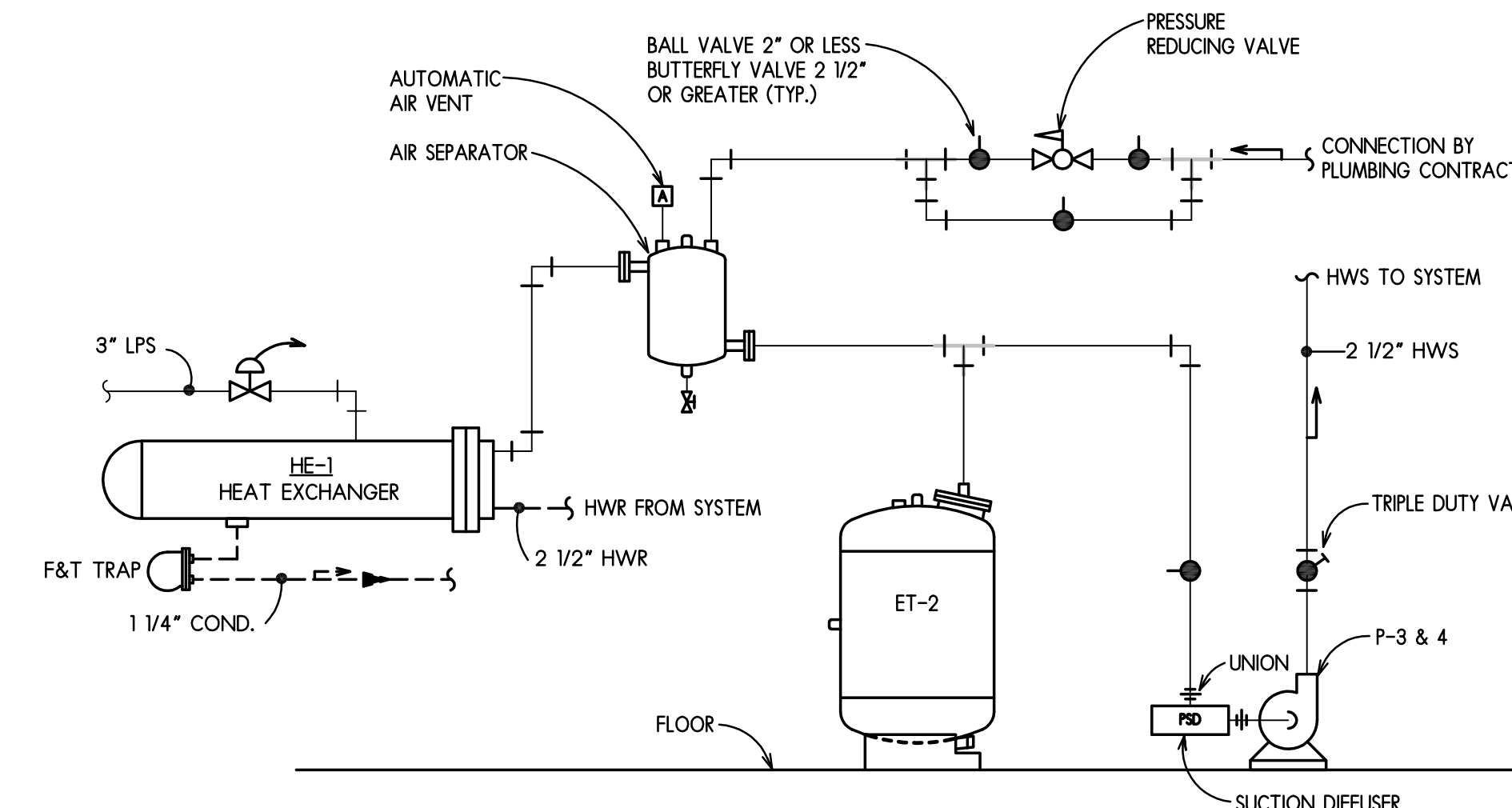
4 CHEMICAL BY-PASS FEEDER DETAIL
NTS



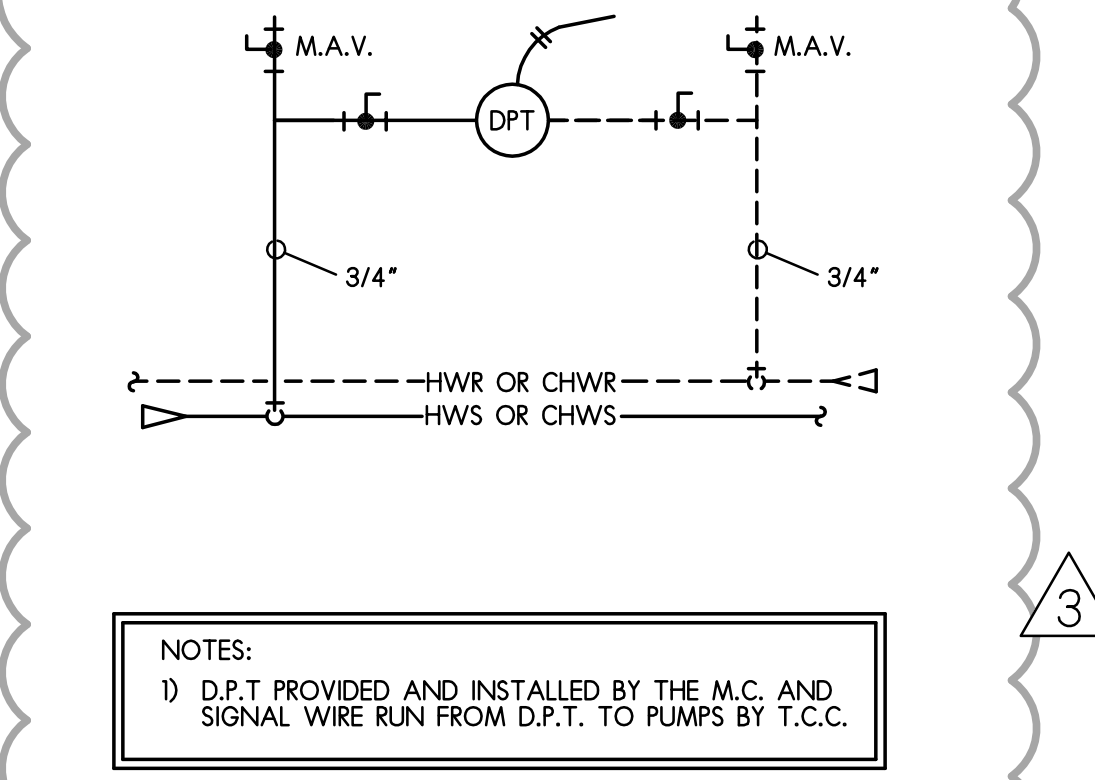
5 BASE-MOUNTED PUMP DETAIL
NTS



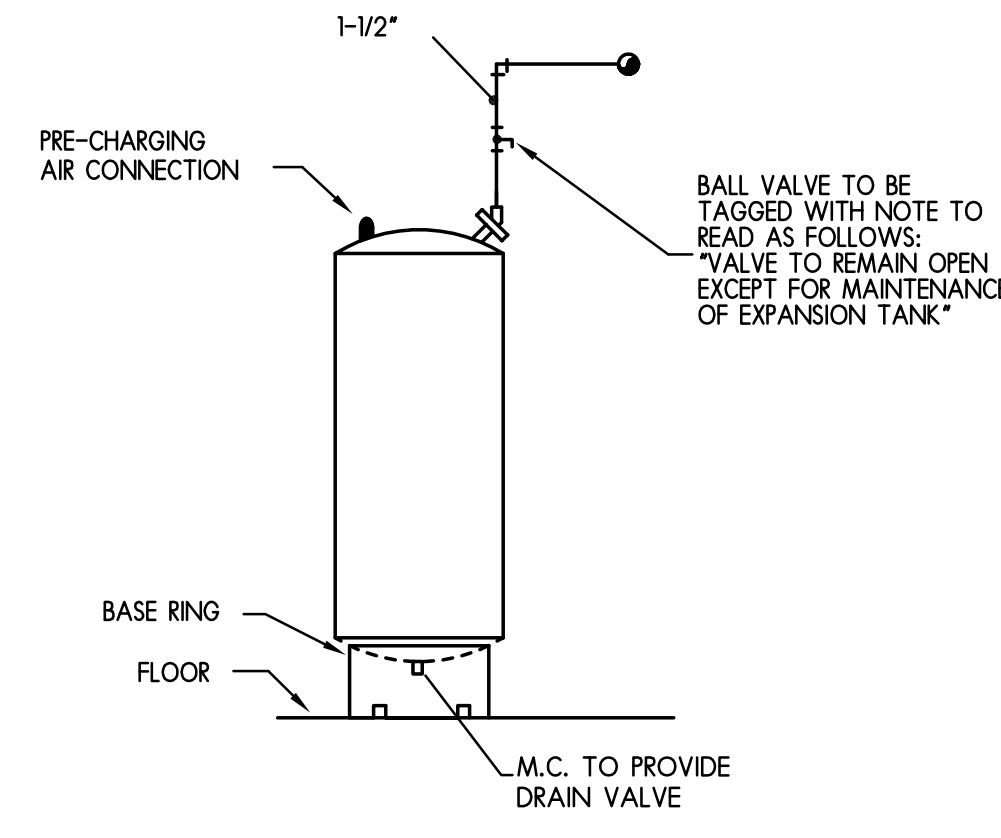
6 HEAT EXCHANGER PIPING
NTS



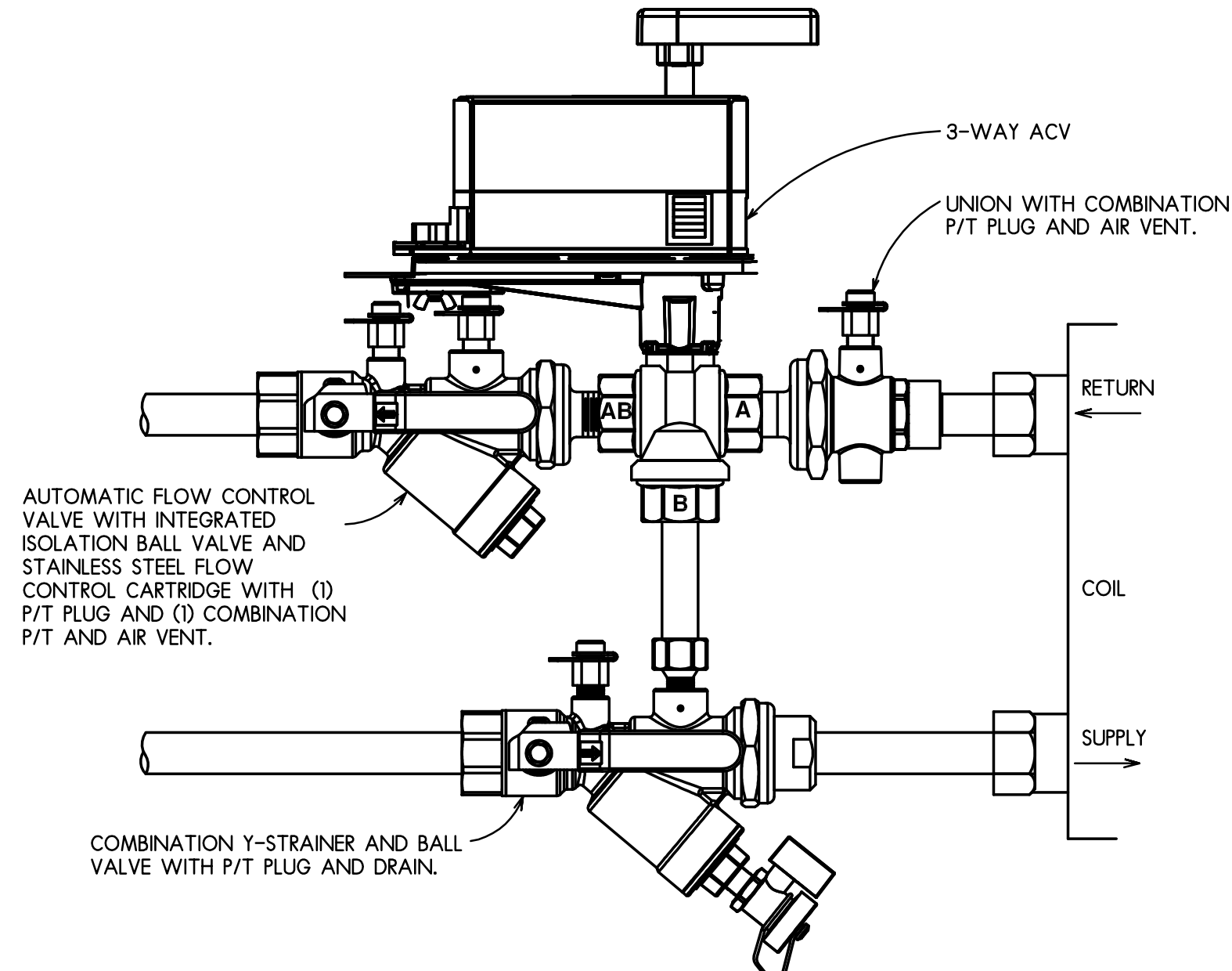
7 HOT WATER PUMPING STATION
NTS



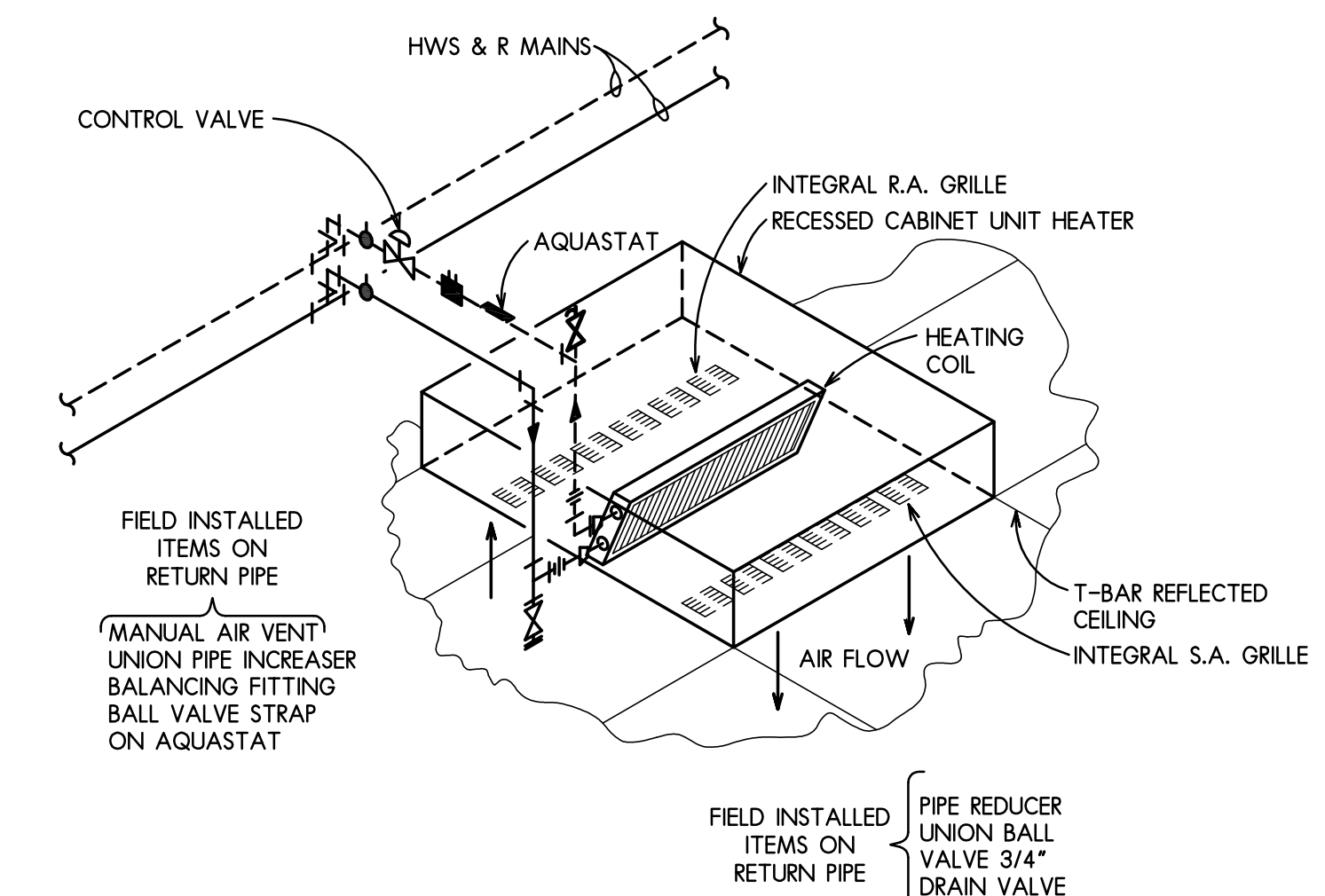
8 DIFFERENTIAL PRESSURE TRANSMITTER (DPT)
NO SCALE



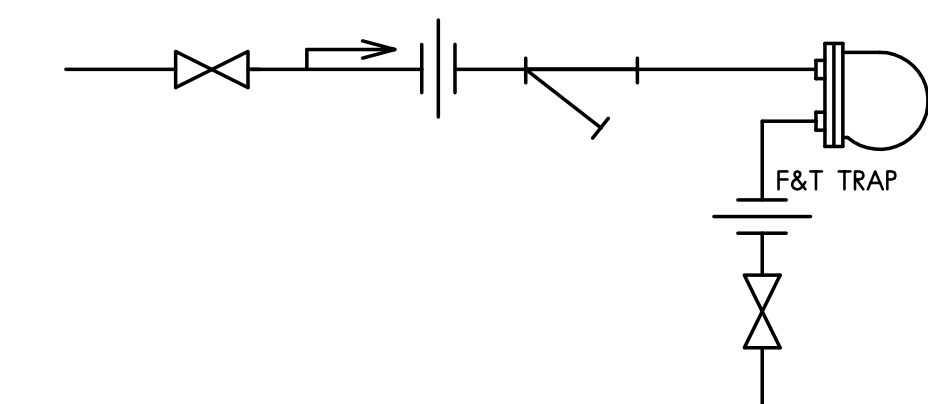
9 EXPANSION TANK (ET) PIPING DETAIL
NTS



10 HOT WATER HEATING COIL PIPING DETAIL - 3-WAY VALVE
NTS



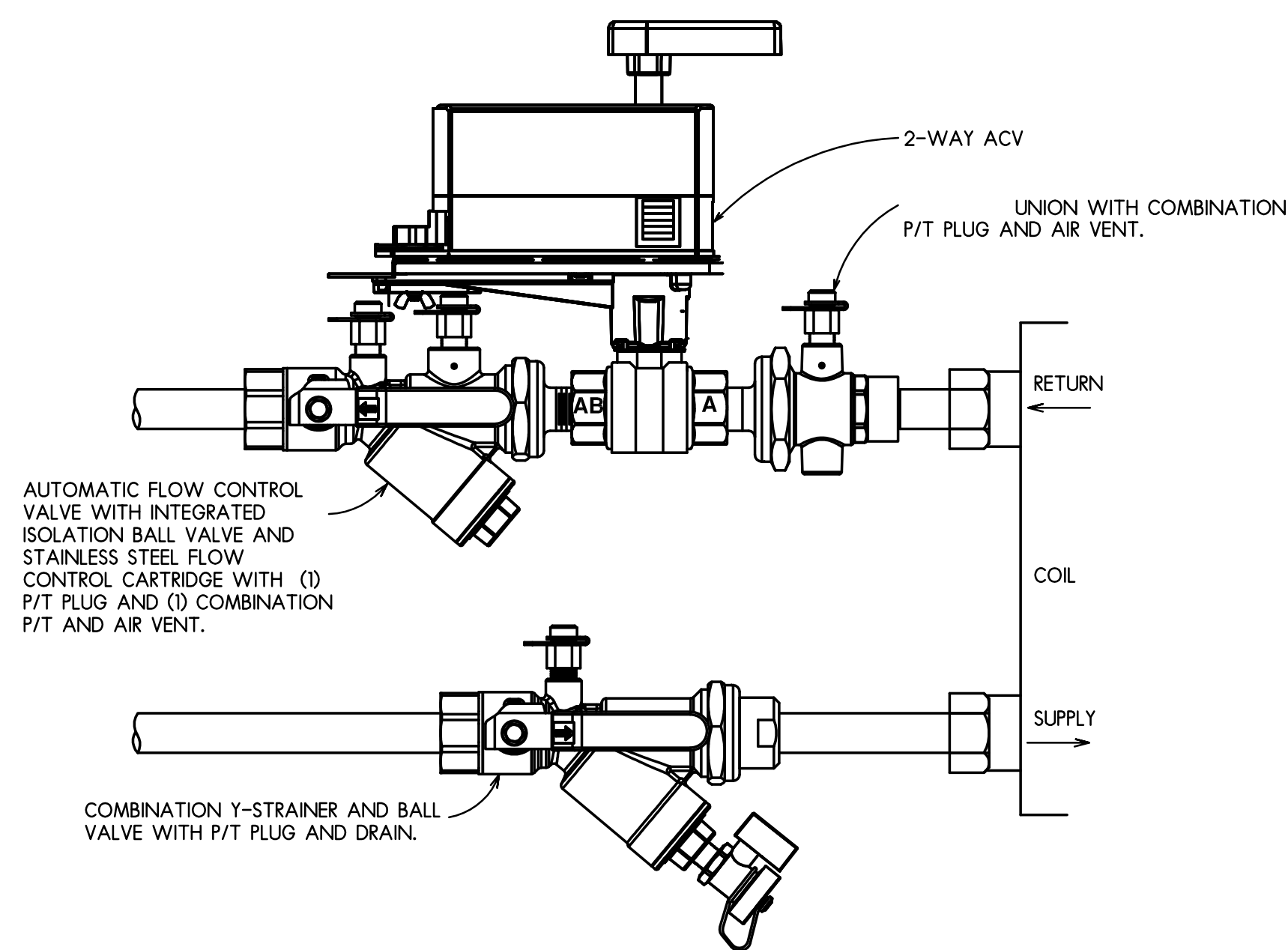
11 HORIZONTAL CABINET UNIT HEATER (CUH) PIPING DETAIL
NO SCALE



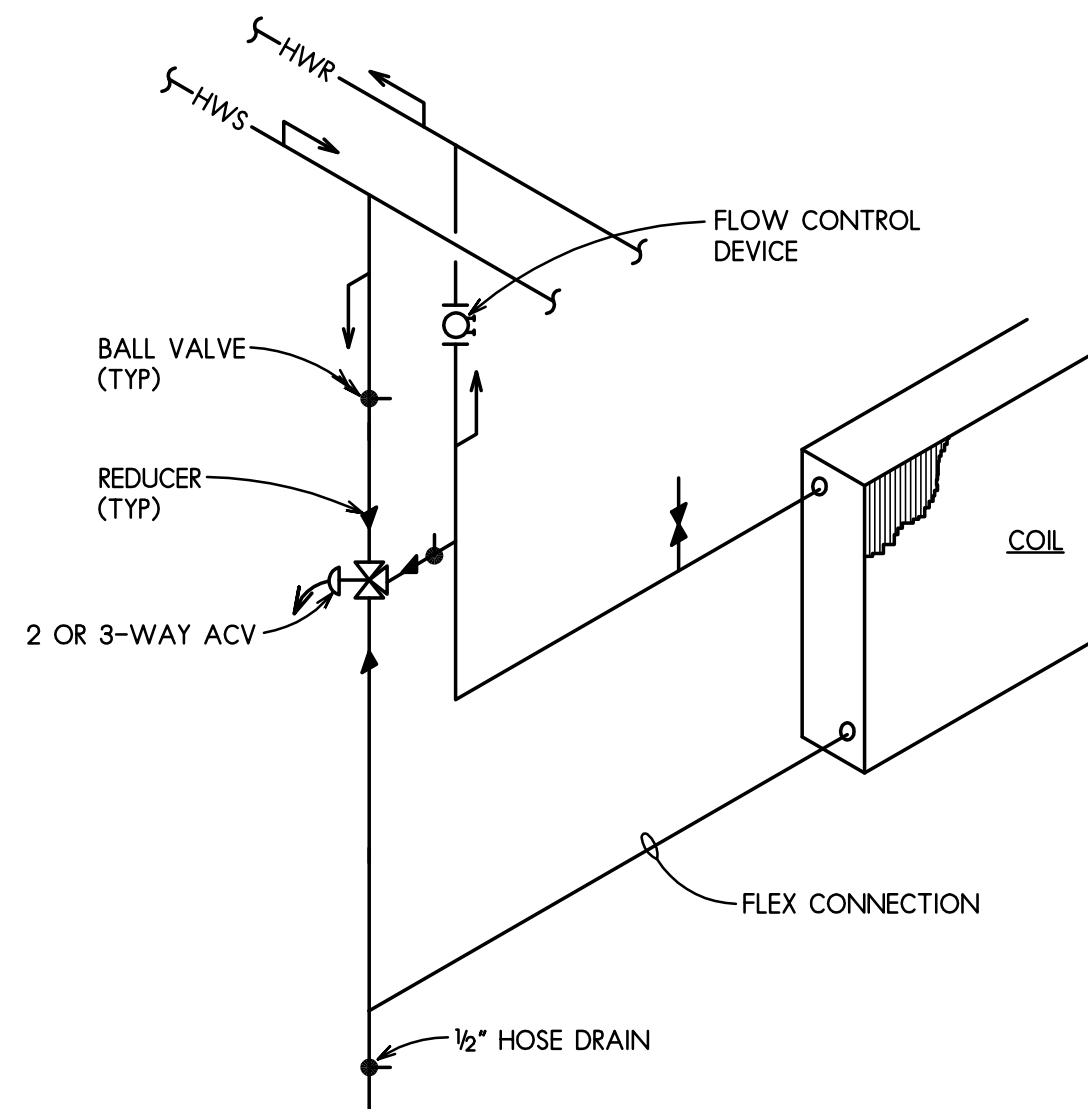
12 STEAM TRAP CONNECTION DETAIL
NTS

HVAC DETAILS

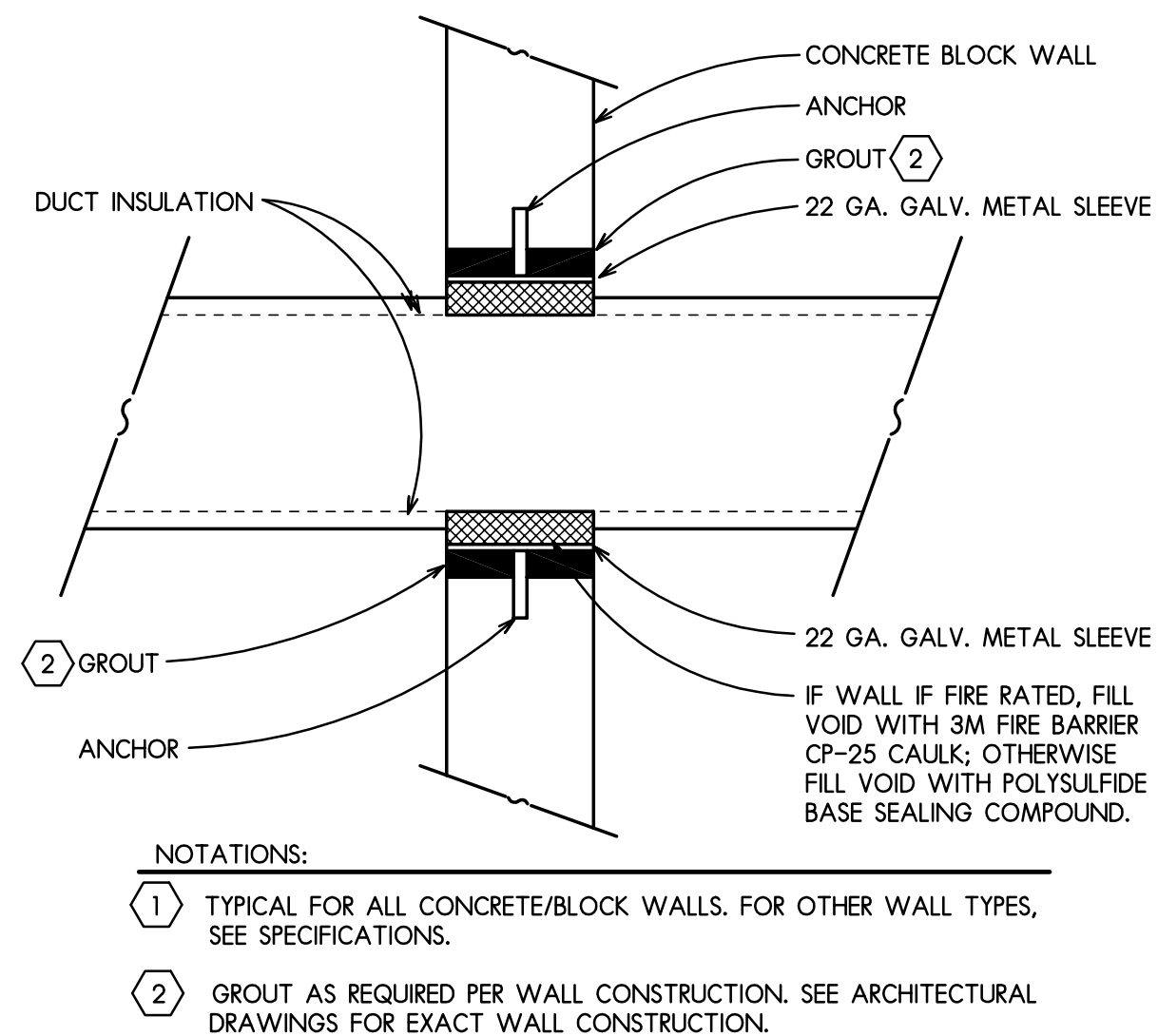
SCALE: AS NOTED



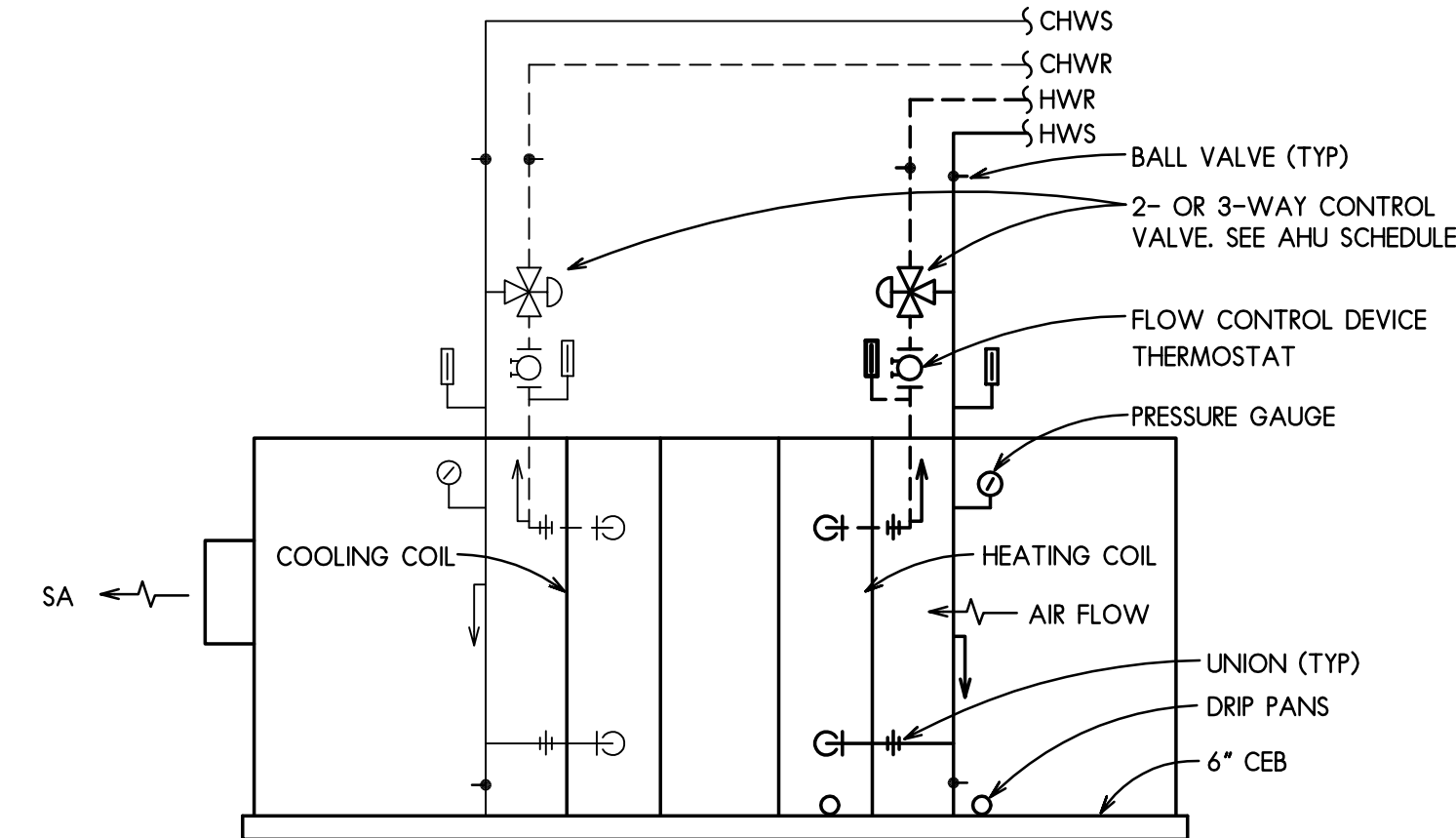
13 2-WAY VALVE PIPING DETAIL
NTS



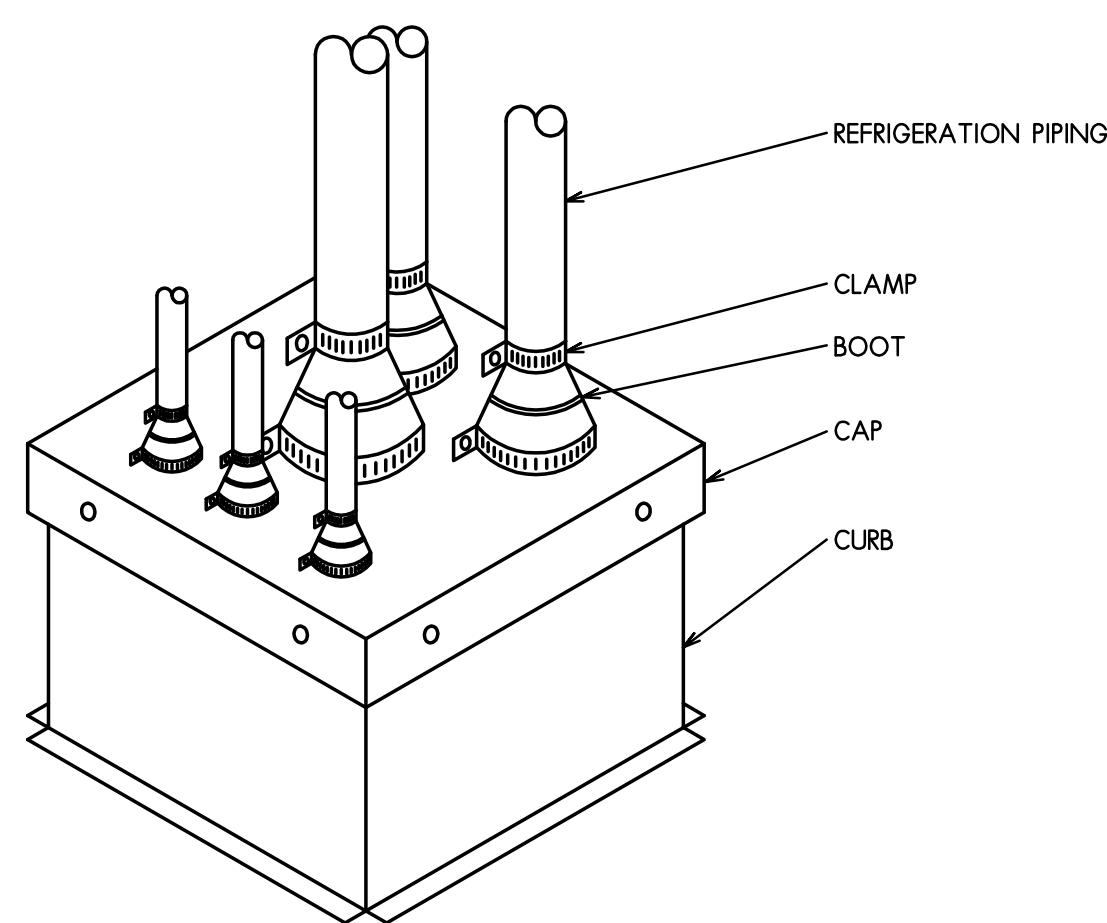
14 HEATING COIL PIPING DETAIL
NTS



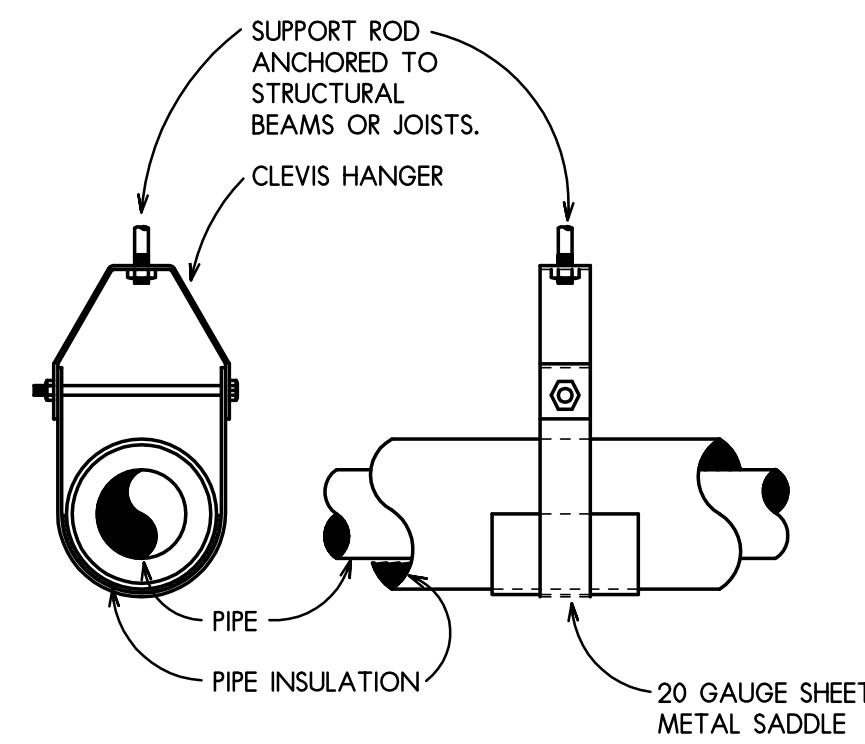
15 DUCT PASSING THROUGH WALL DETAIL
NO SCALE



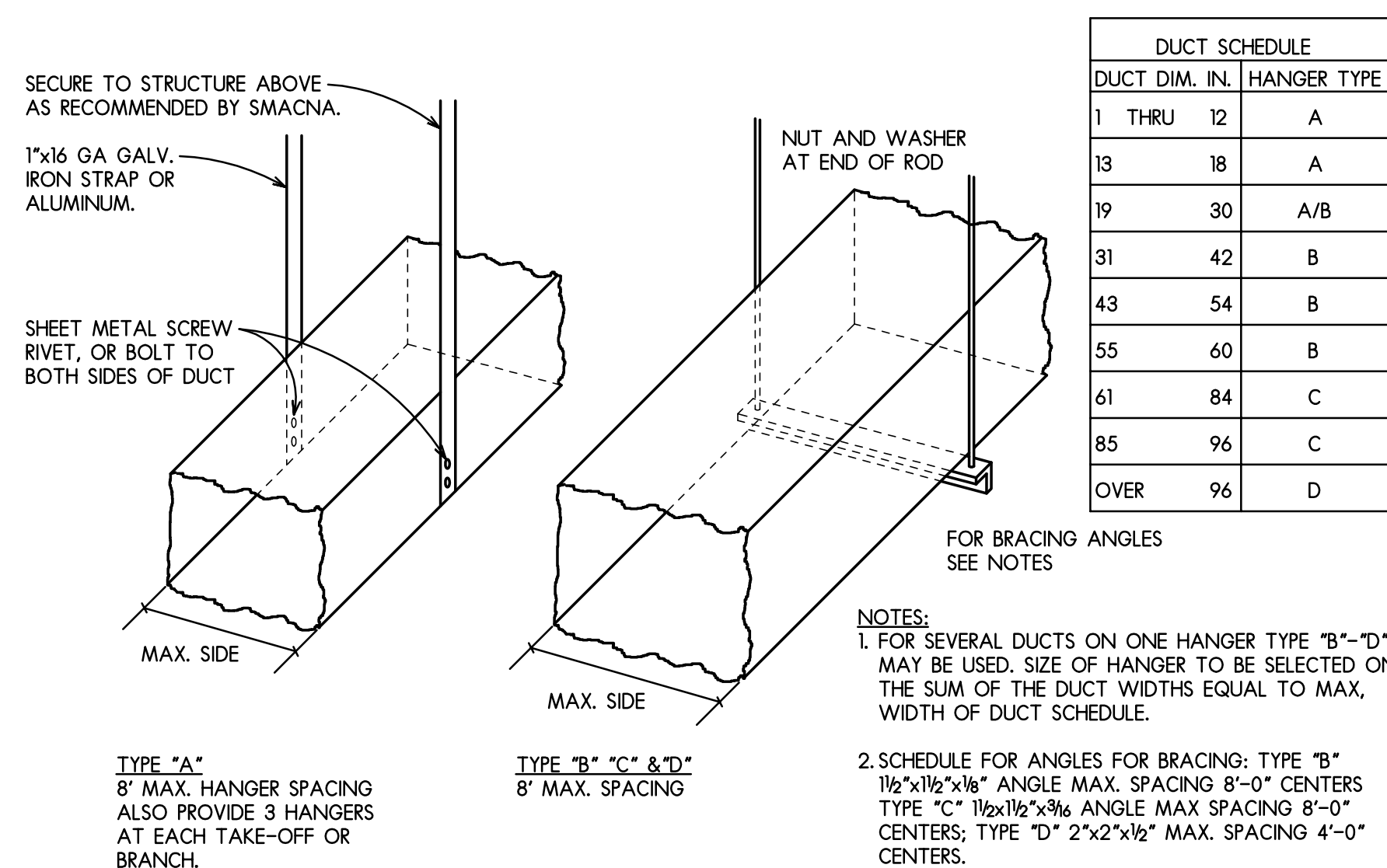
16 TYPICAL AHU COIL PIPING
NTS



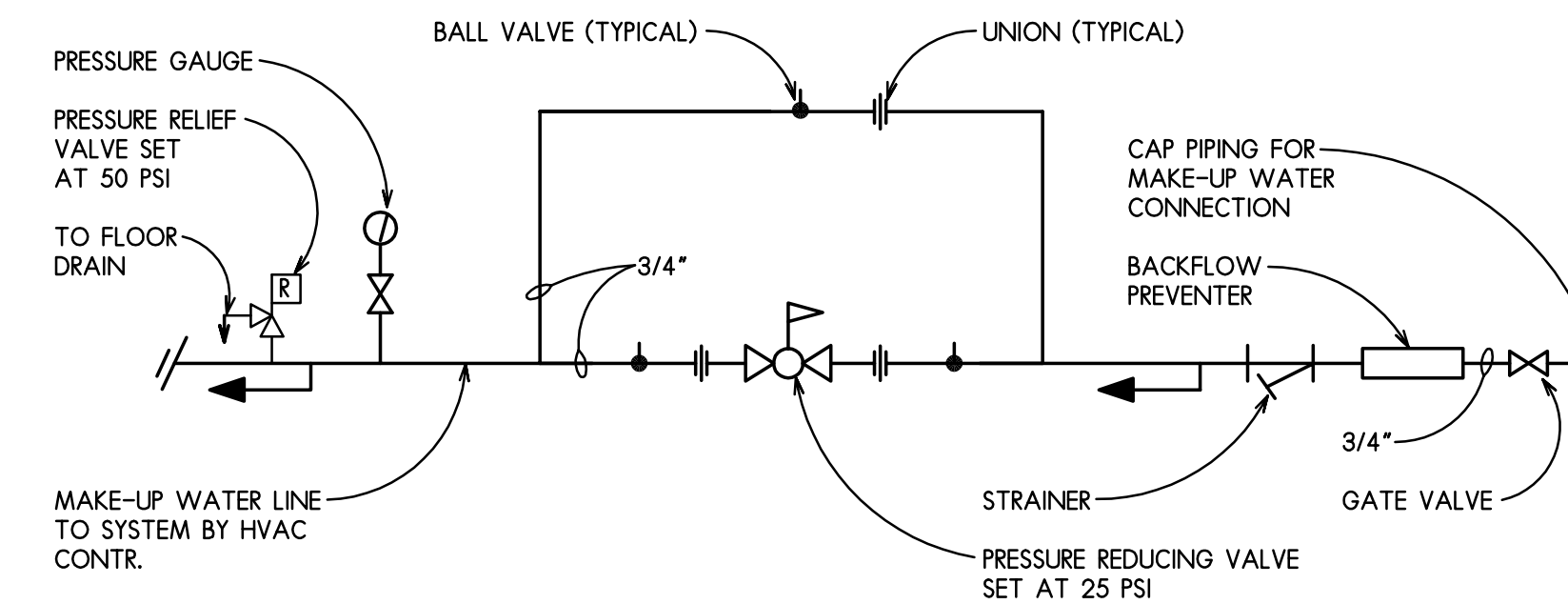
17 PIPING THRU ROOF DETAIL
NTS



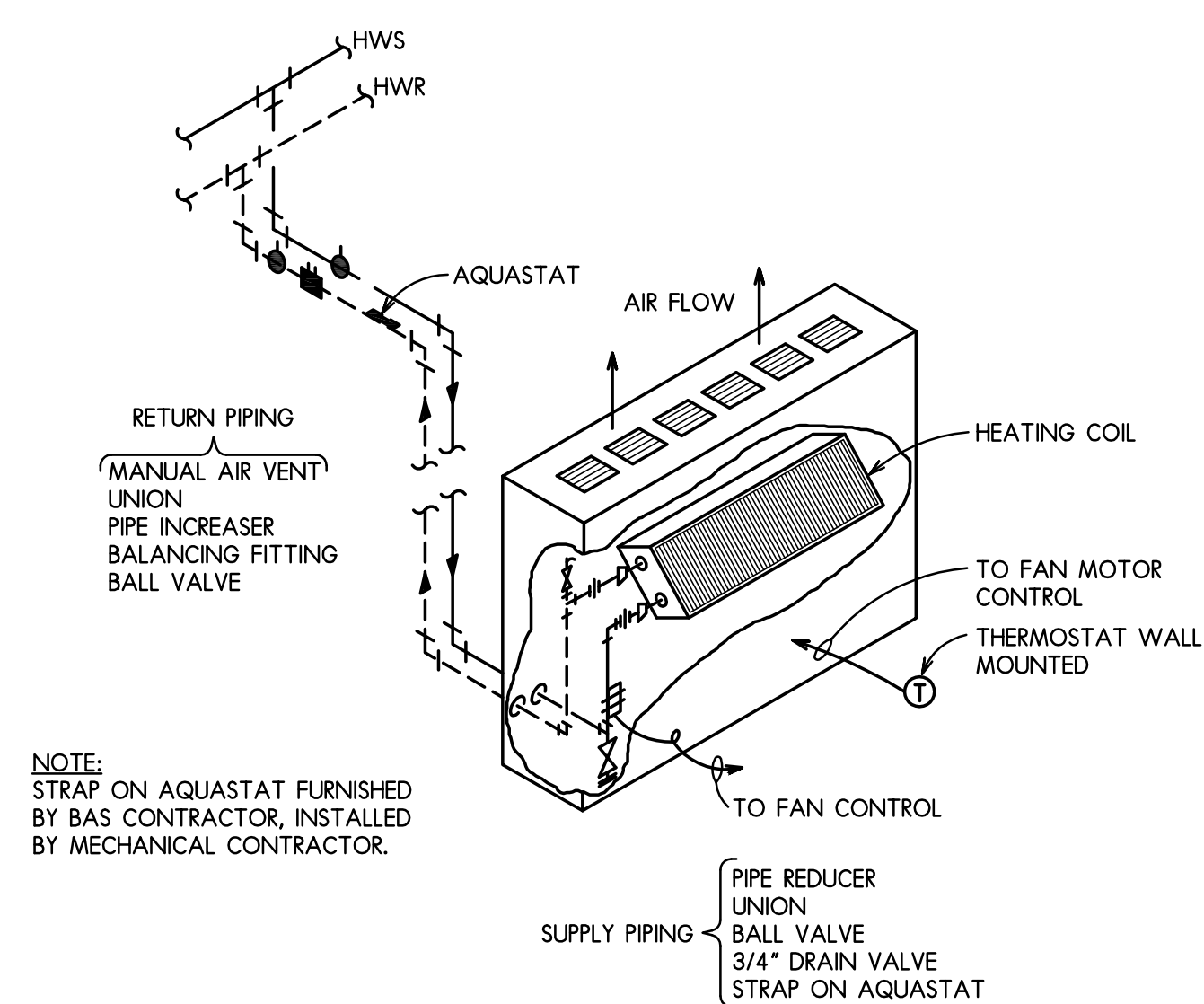
18 CLEVIS PIPE HANGER DETAIL
NTS



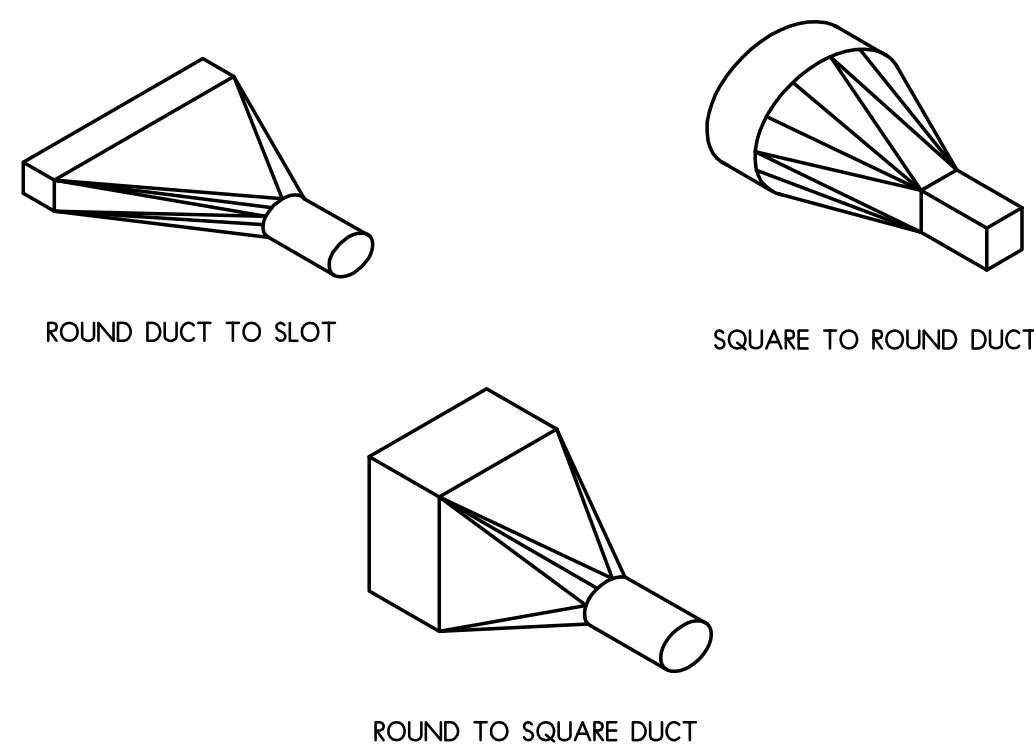
19 DUCT HANGERS DETAIL WITH SCHEDULE
NTS



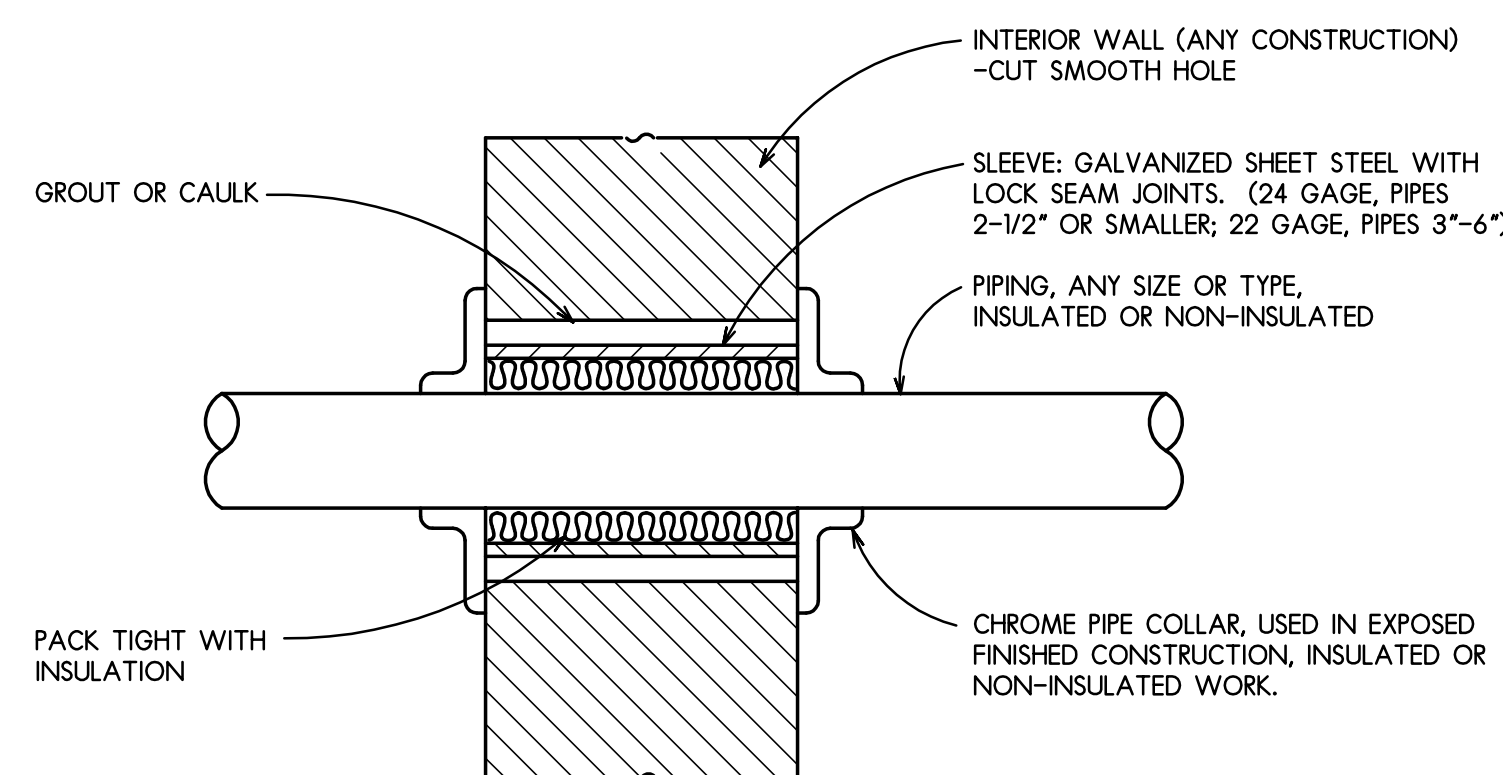
20 WATER INLET VALVE (WIV) DETAIL
NTS



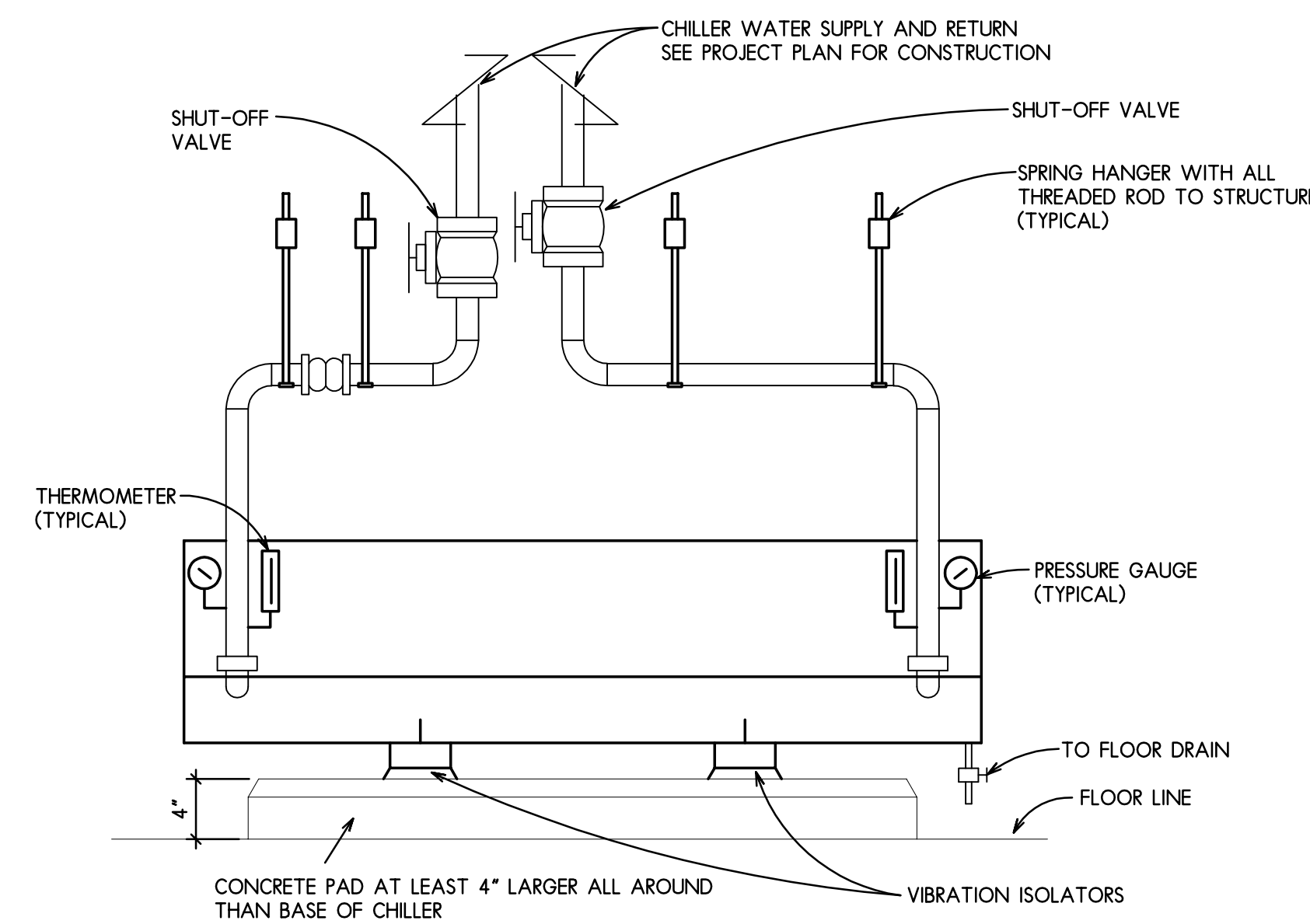
21 VERTICAL CABINET UNIT HEATER (CUH) PIPING DETAIL
NO SCALE



22 DUCT TRANSITION DETAIL
NTS



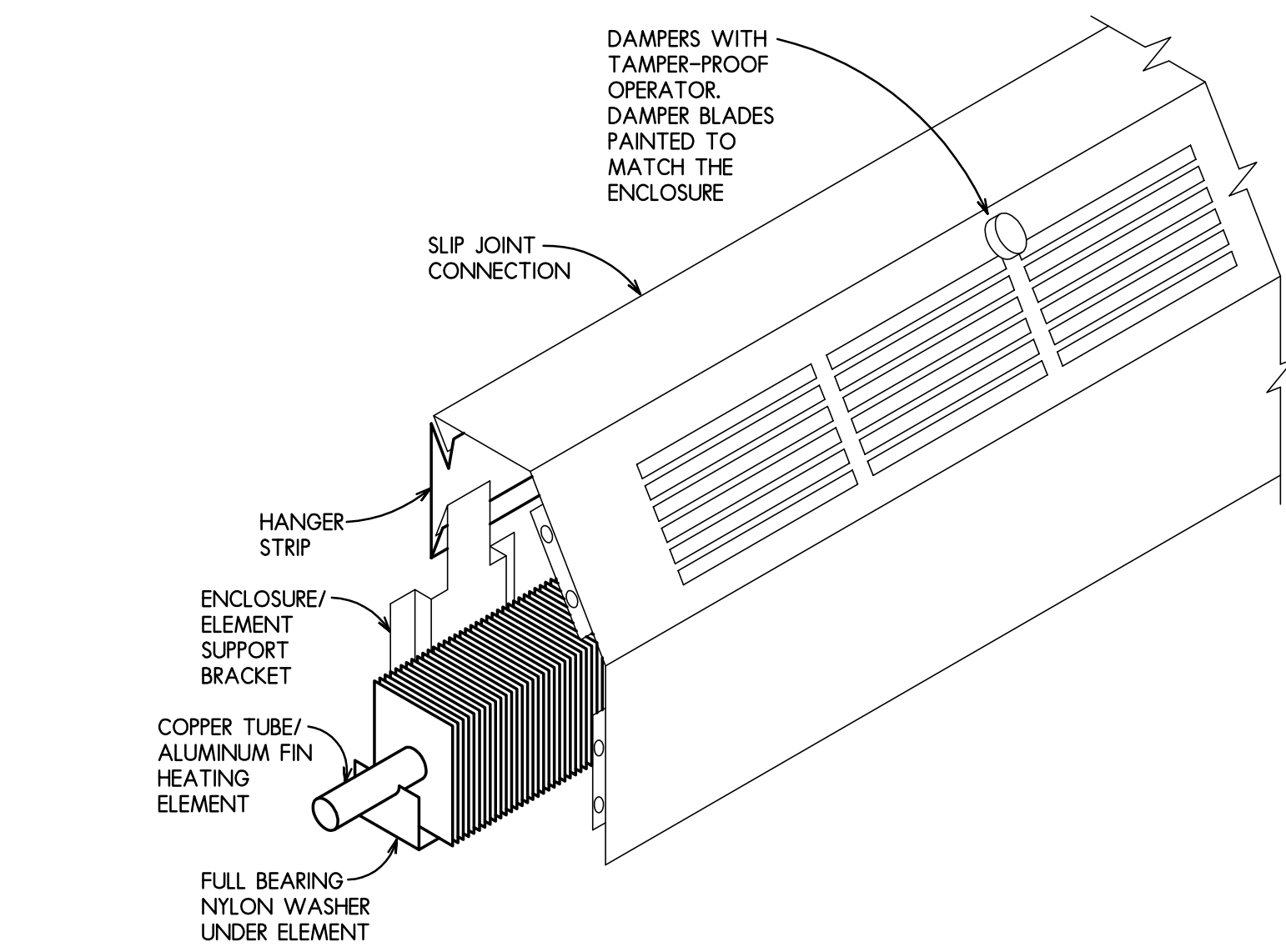
23 NON-RATED WALL PENETRATION DETAIL
NTS



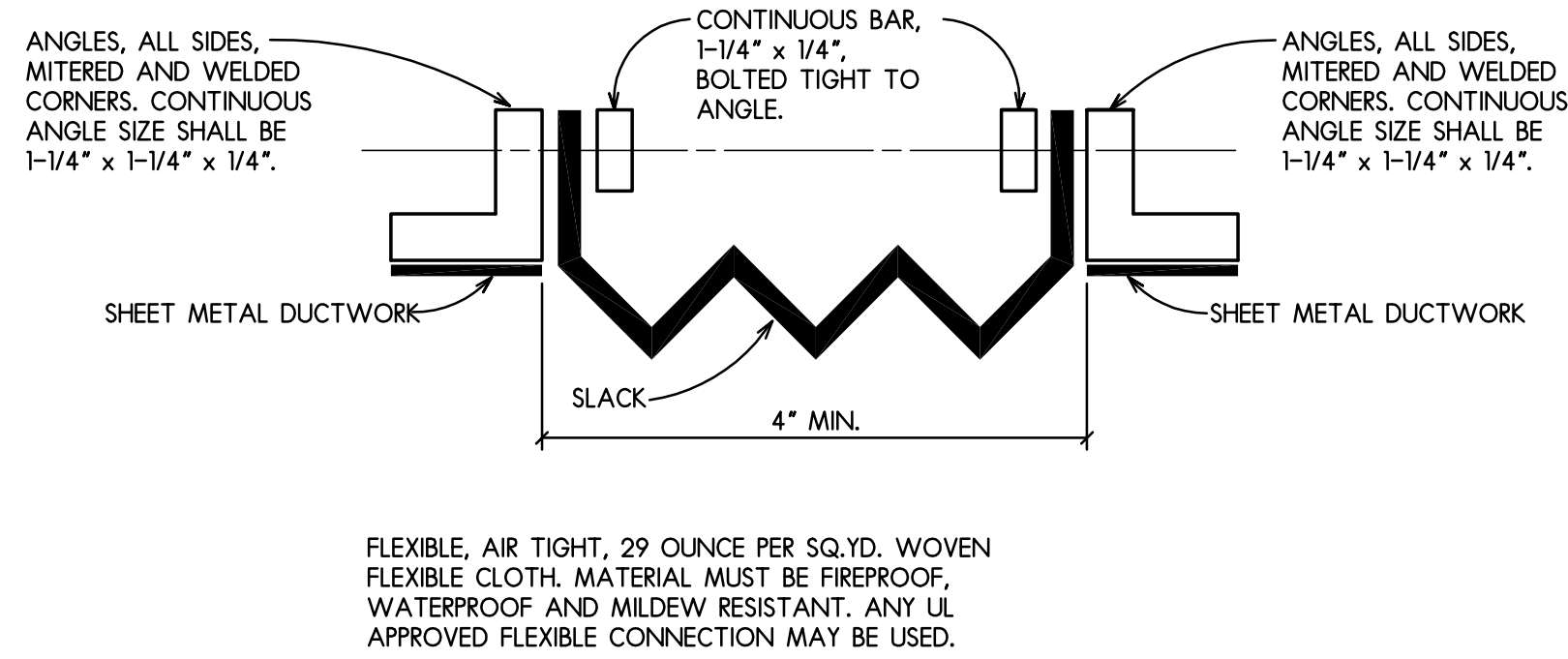
24 CHILLER PIPING DETAIL
NTS

HVAC DETAILS

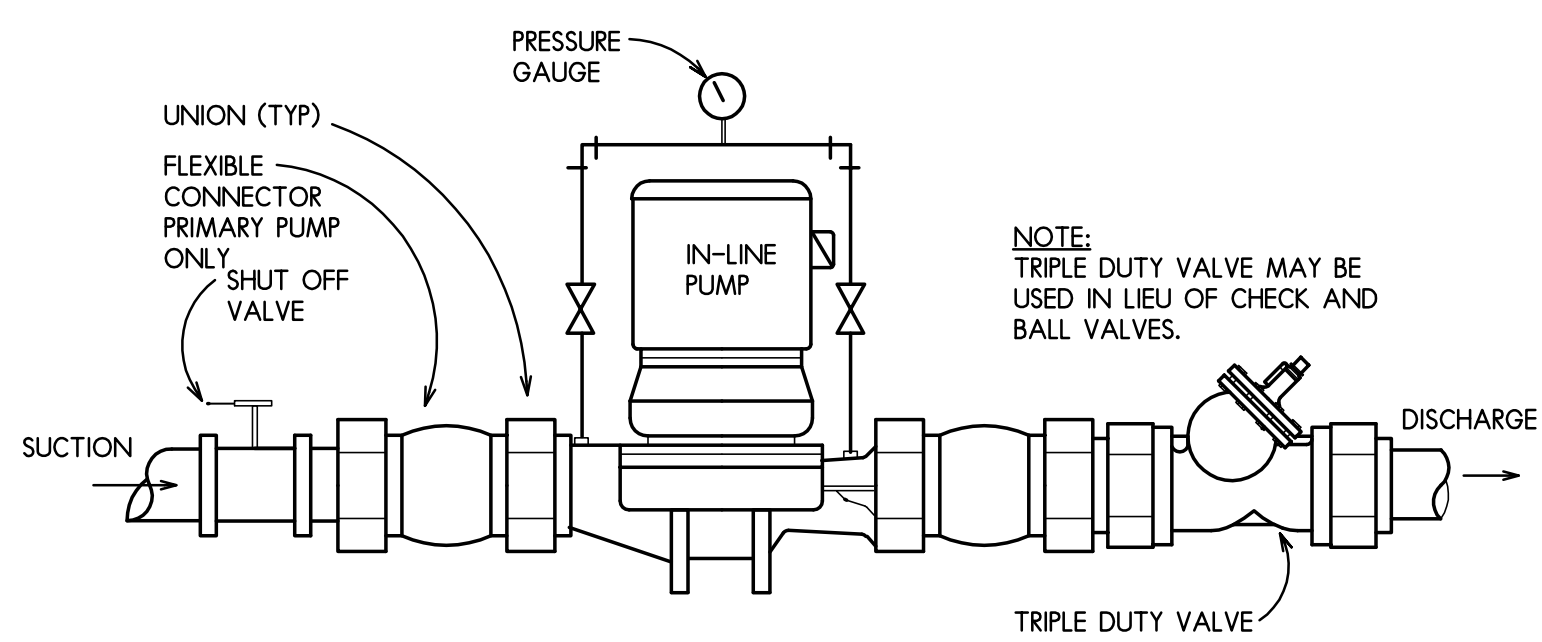
SCALE: AS NOTED



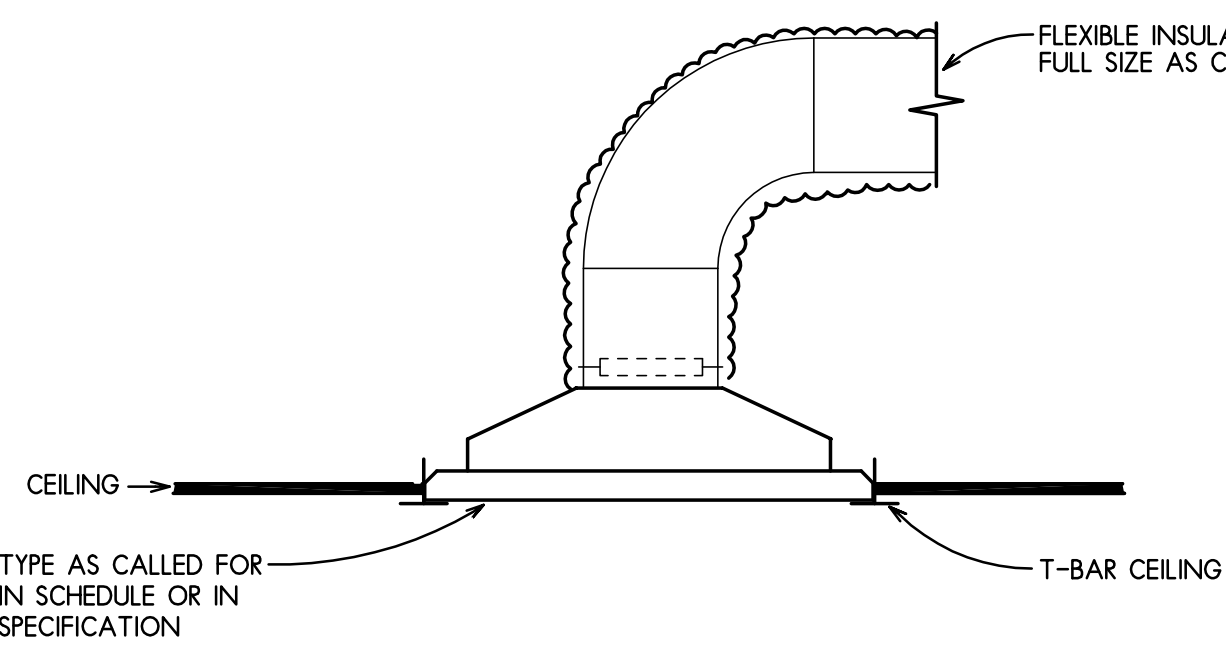
25 FIN TUBE SYSTEM COMPONENTS DETAIL
NTS



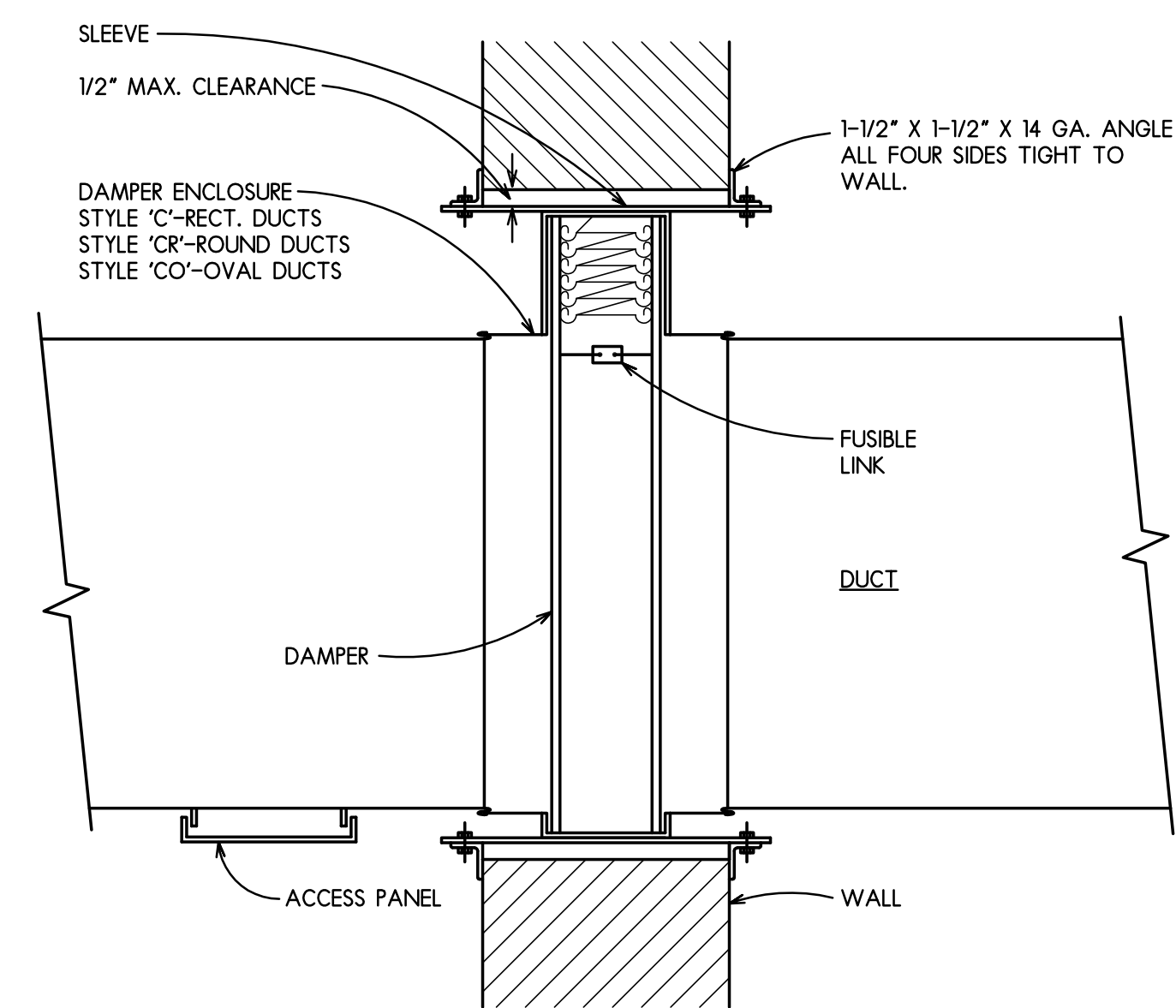
26 ADJUSTABLE FLEXIBLE CONNECTION
NTS
PROVIDE TO ISOLATE ALL FANS AND CABINET ENCLOSED FANS TO PREVENT VIBRATION TRANSMISSION.



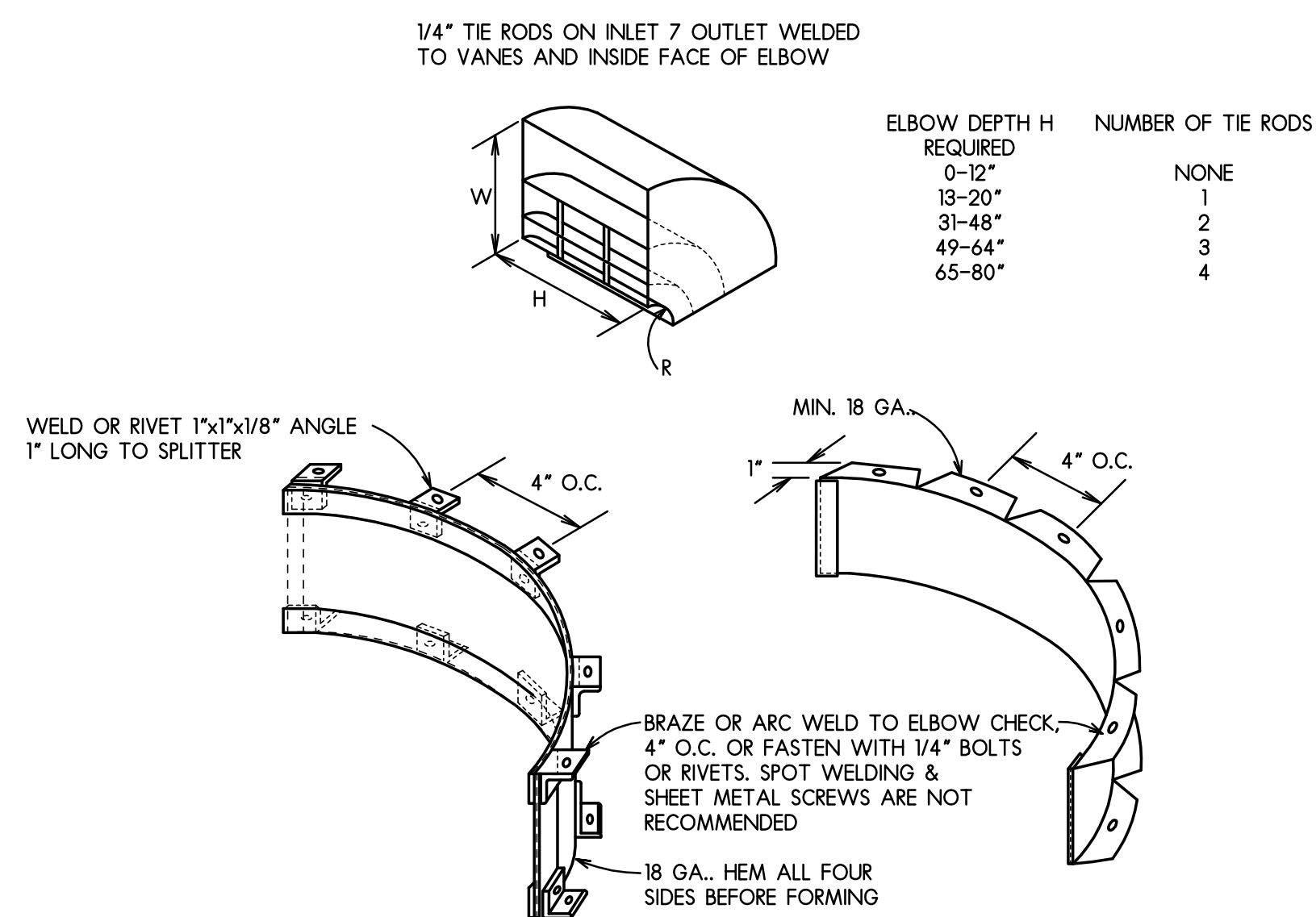
29 IN-LINE PUMP DETAIL
NTS



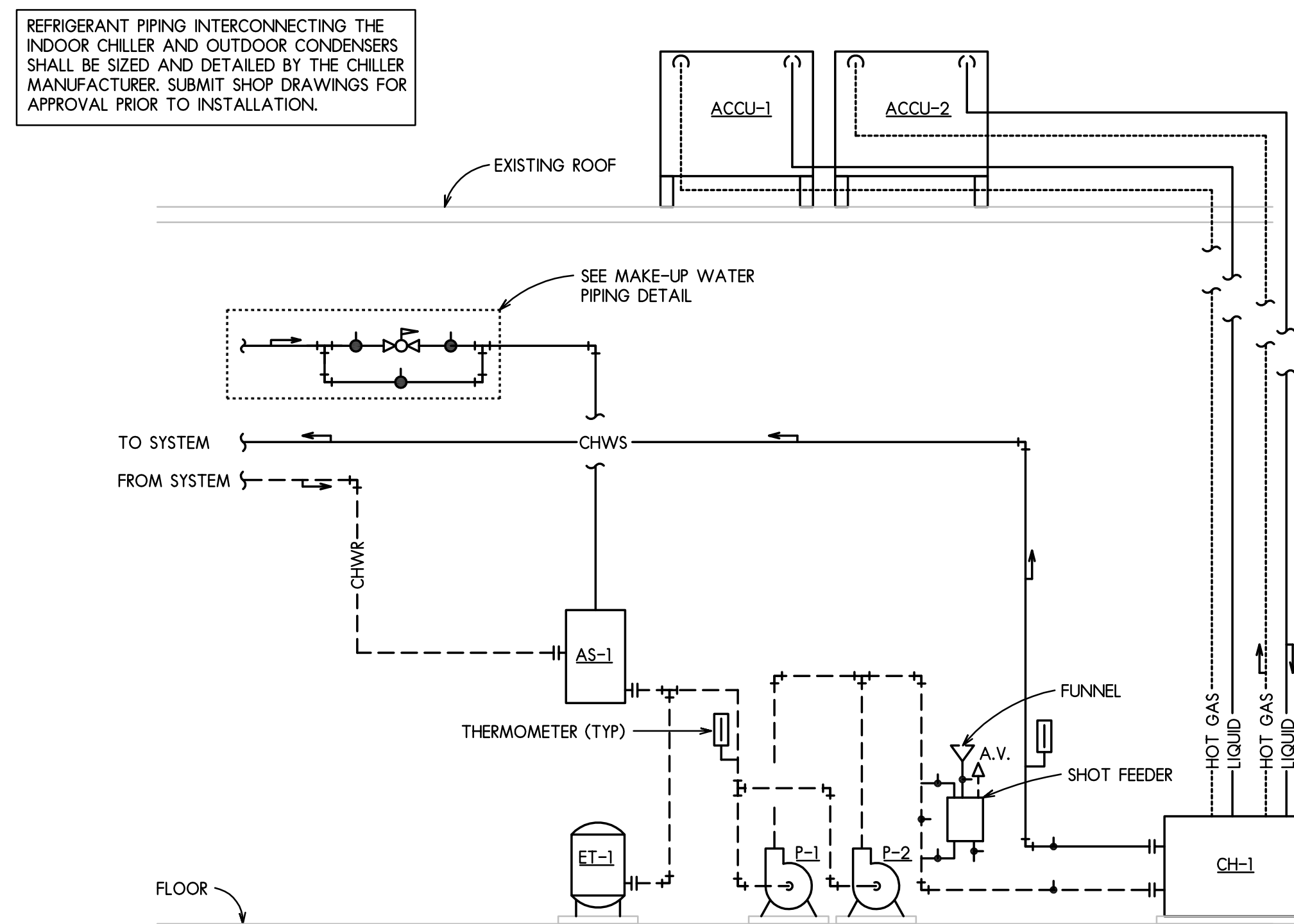
30 CEILING DIFFUSER DETAIL
NTS



33 FIRE DAMPER DETAIL (FD)
NO SCALE



34 CONSTRUCTION OF SHORT RADIUS VANES
NTS

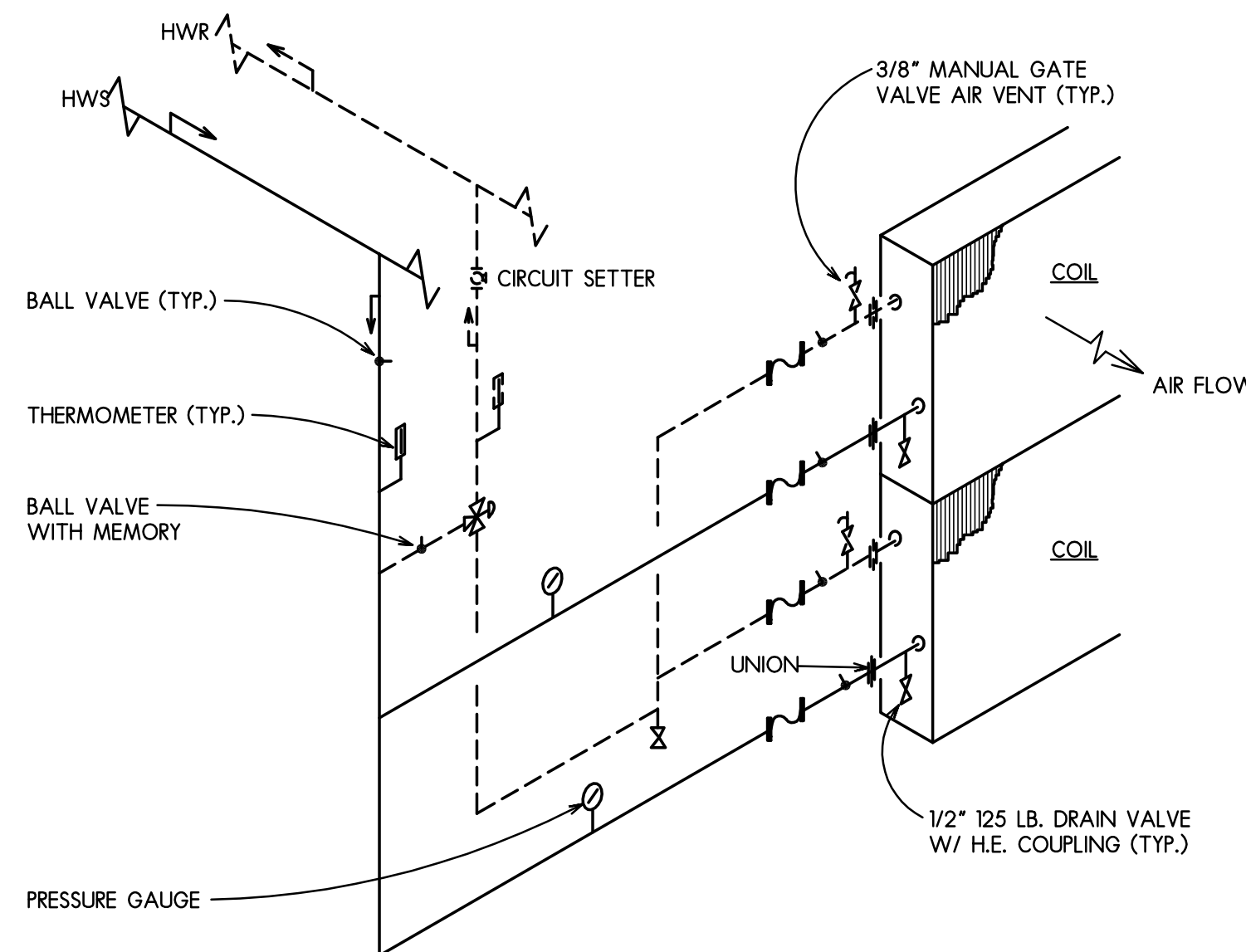


27 CHILLED WATER PIPING SCHEMATIC DIAGRAM
NO SCALE

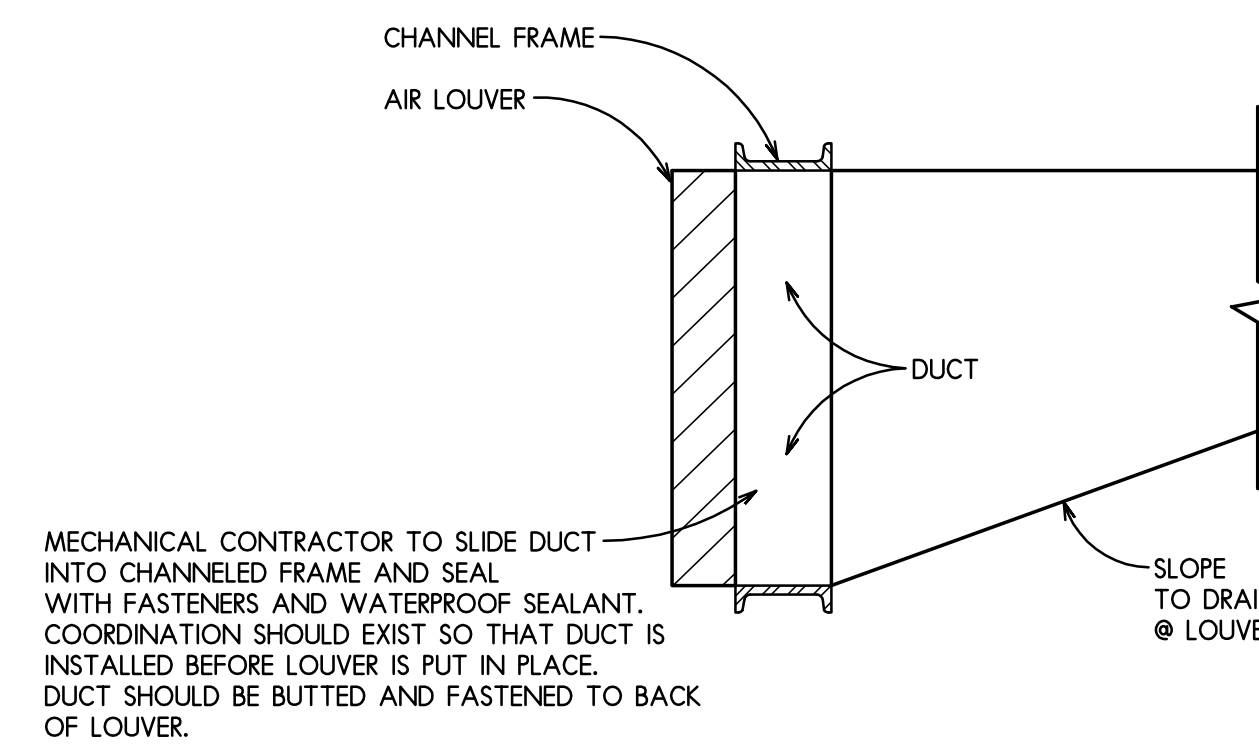
PIPE EXPANSION LOOP DETAIL

PIPE MATERIAL	COPPER	STEEL
MAXIMUM FLUID TEMPERATURE	200	200
MAXIMUM SPACING BETWEEN EXPANSION LOOPS FOR 1 1/2" MOVEMENT	100 FEET	100 FEET
NOMINAL PIPE SIZE (INCHES)	DEVELOPED LENGTH IN FT. L=2A+B	
1/2	8.5	7.5
3/4	9.5	7.5
1	10.5	7.5
1 1/4	11.5	8.5
1 1/2	12.5	9.5
2	14.0	10.5
2 1/2	15.5	11.0
3	17.0	12.0
4	19.0	13.0
6	---	15.5
8	---	17.0
10	---	17.5

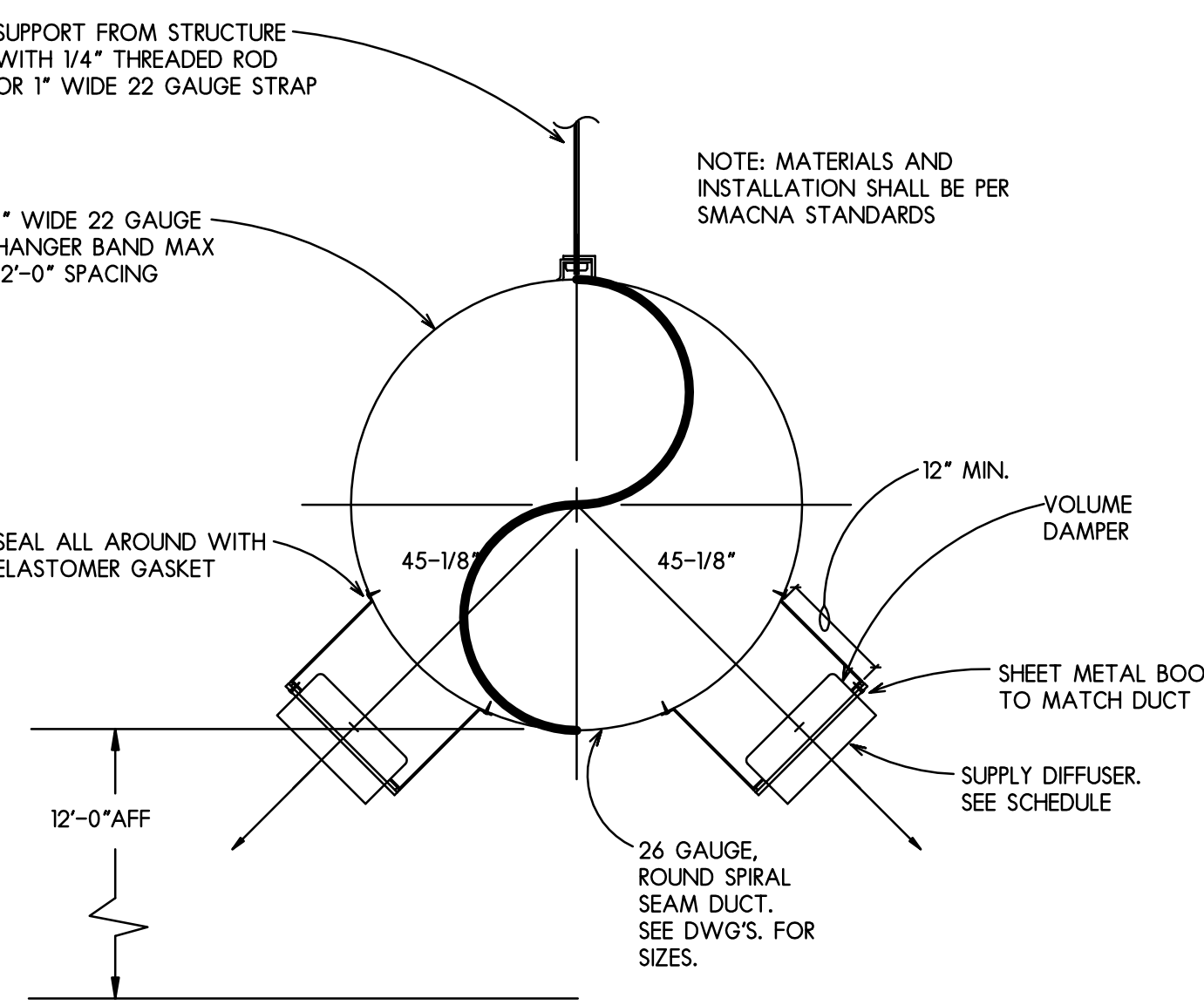
28 PIPE EXPANSION LOOP DETAIL
NTS



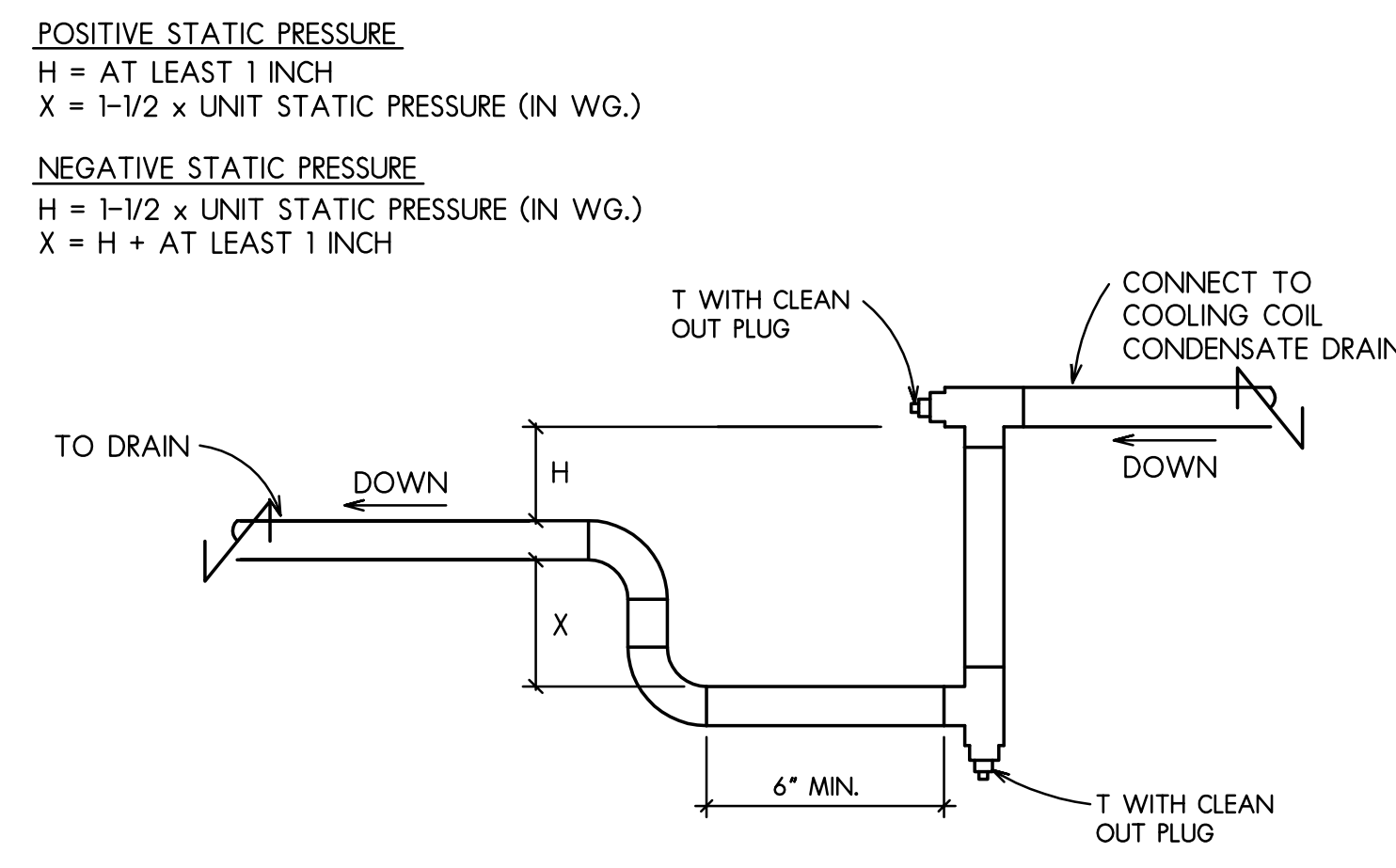
31 HEATING COIL PIPING DETAIL
NTS



32 DUCT CONNECTION TO WLS
NTS



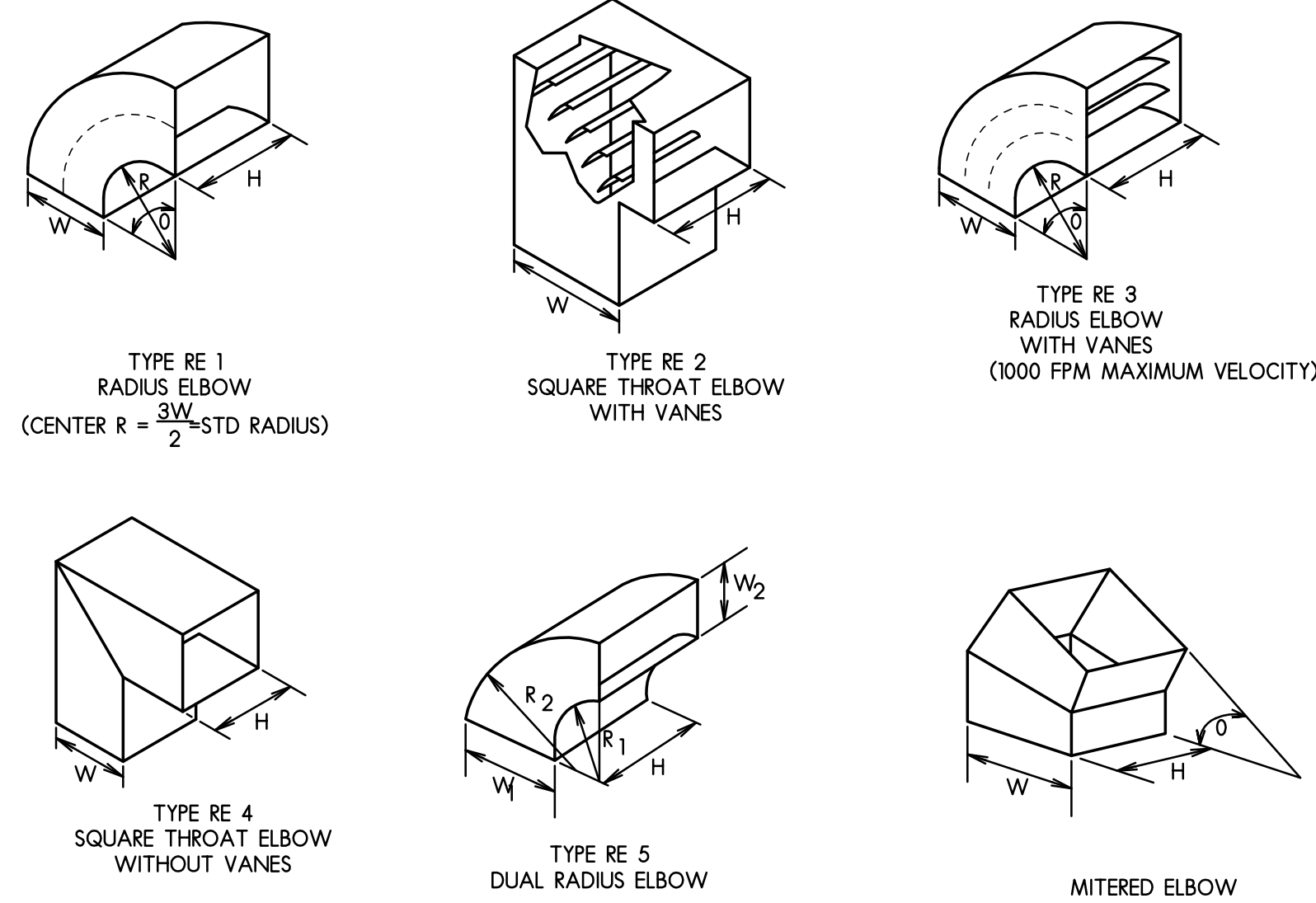
35 SPIRAL DUCT AND DIFFUSER DETAIL
NOT TO SCALE



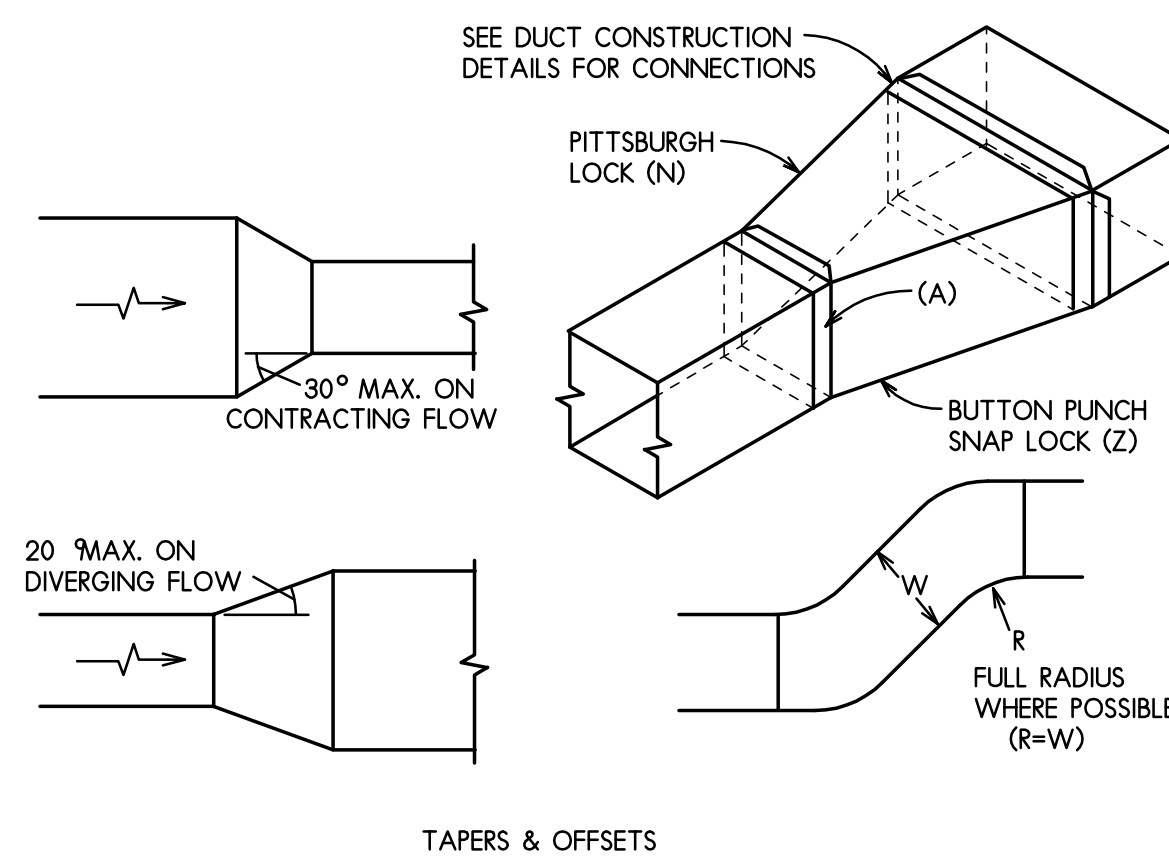
36 INDOOR CONDENSATE DRAIN TRAP
NTS

HVAC DETAILS

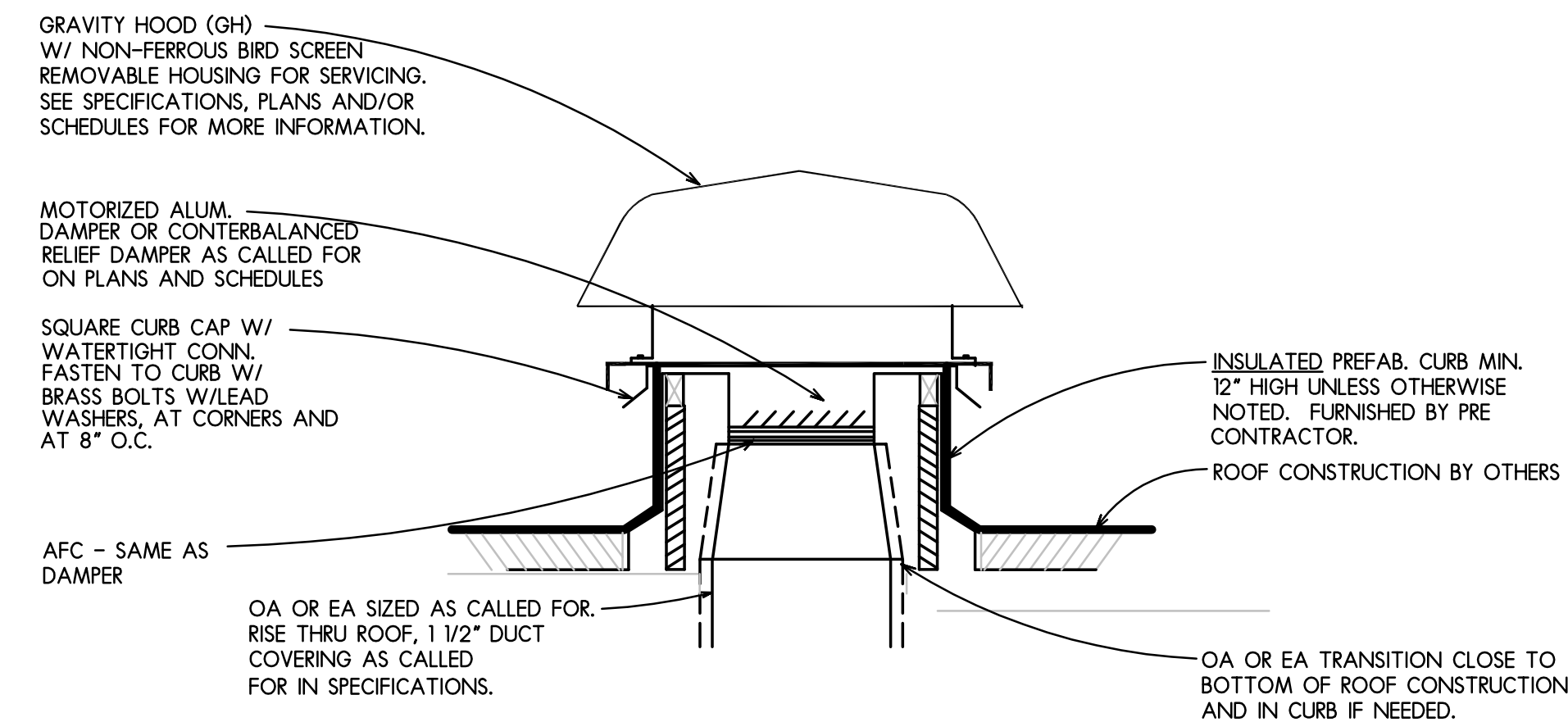
SCALE: AS NOTED



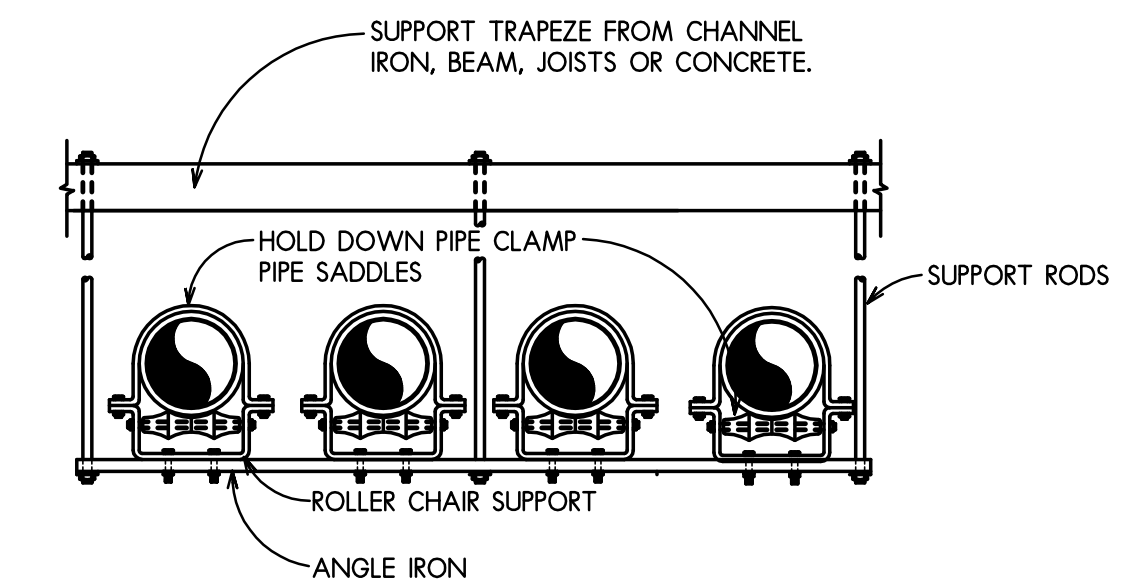
37 RECTANGULAR ELBOWS
NTS



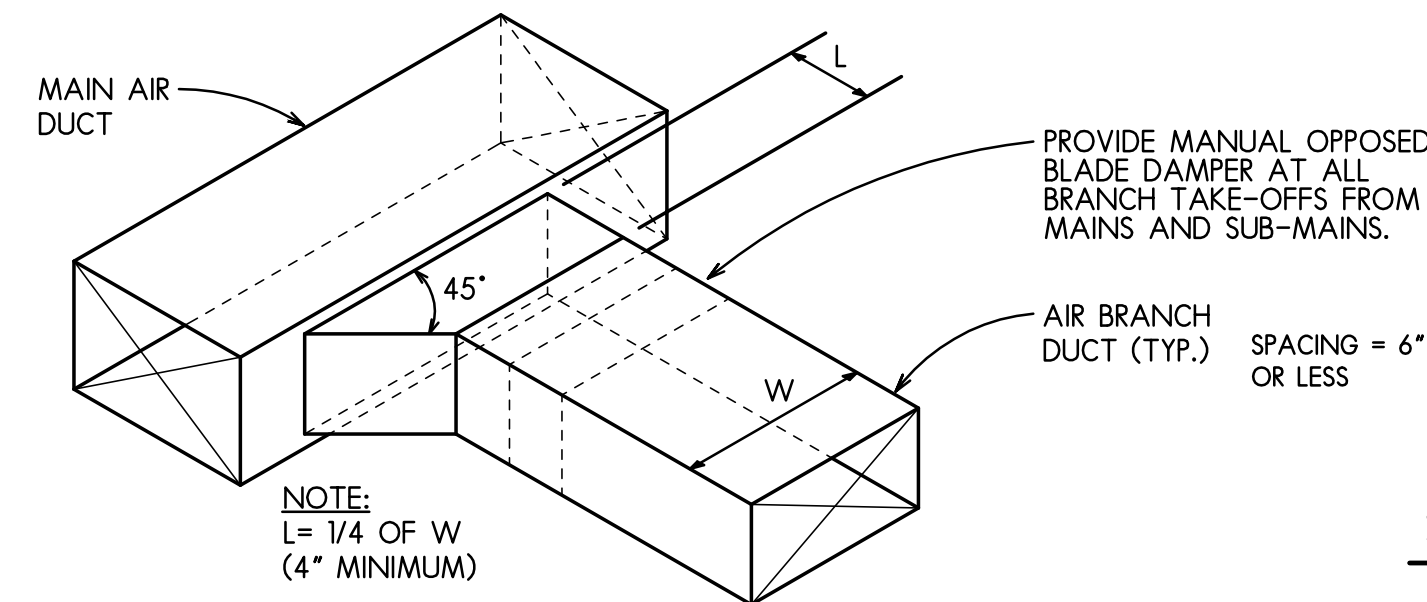
38 LOW VELOCITY DUCTWORK
NTS



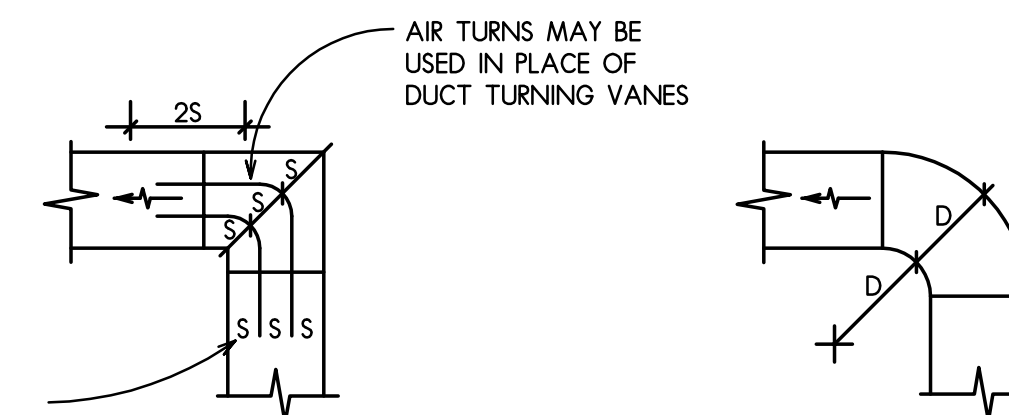
39 GRAVITY HOOD (GH) DETAIL
NTS



40 TYPICAL TRAPEZE PIPE HANGER DETAIL
NTS

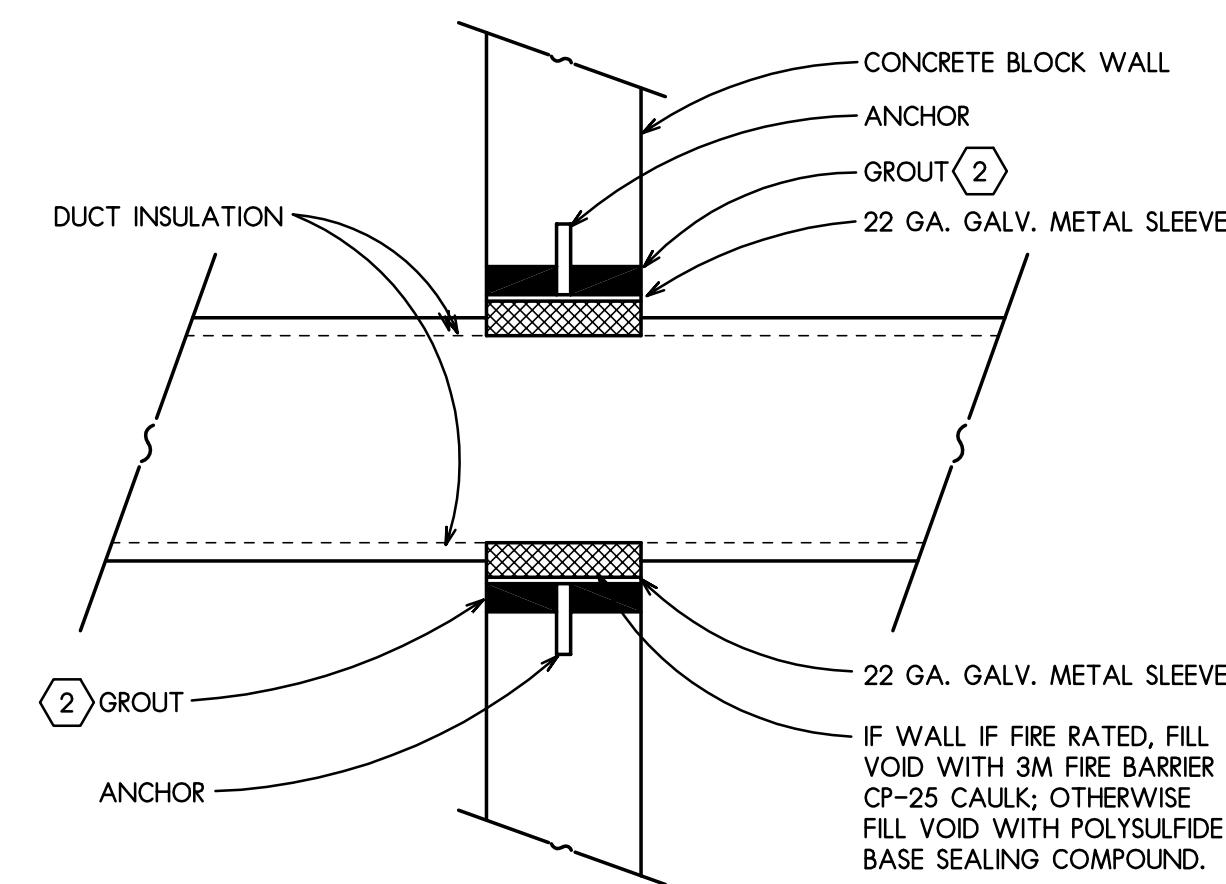


41 SUPPLY OR RETURN AIR DUCT CONN. DETAIL
NTS



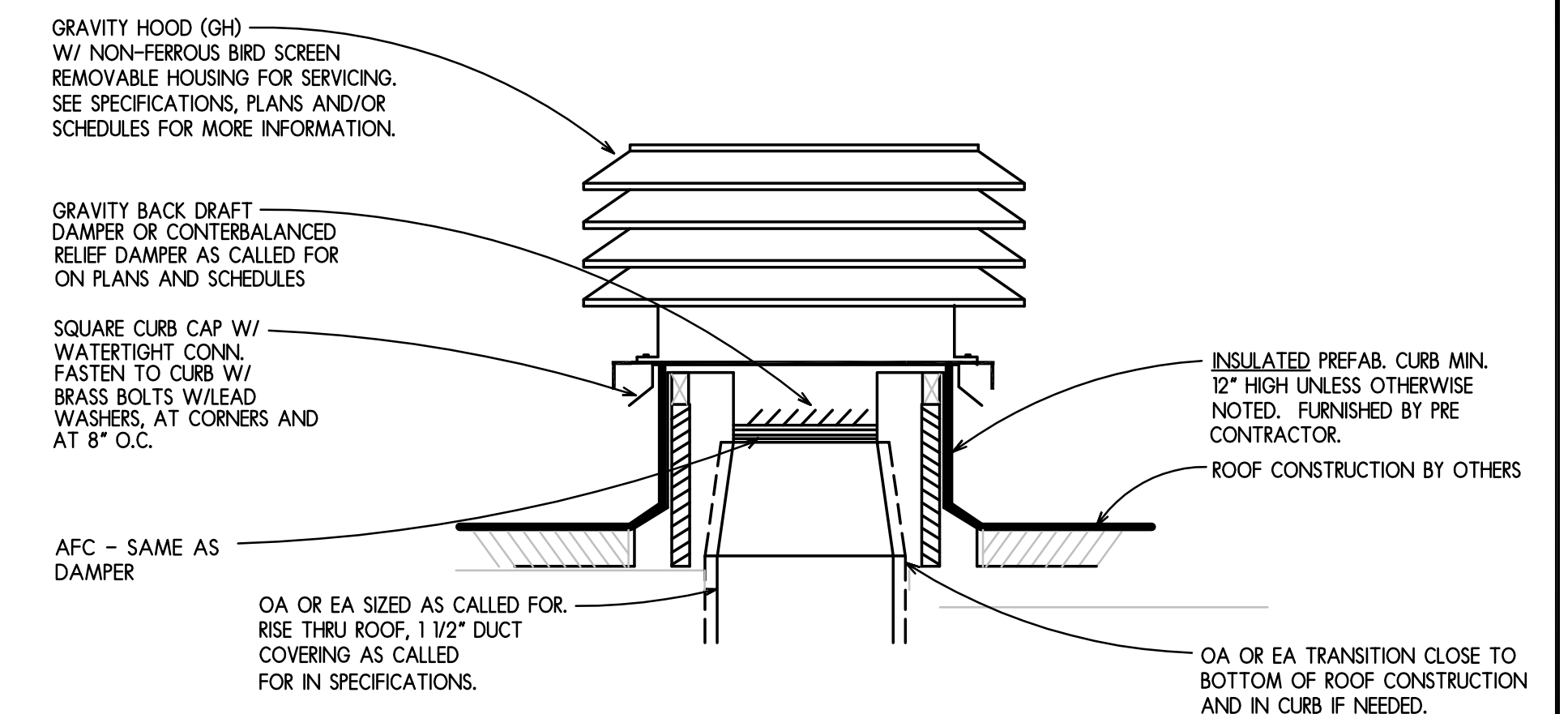
SQUARE ELBOW
USE WHERE SPACE
IS LIMITED

LONG SWEEP ELBOW
USE WHERE SPACE
PERMITS

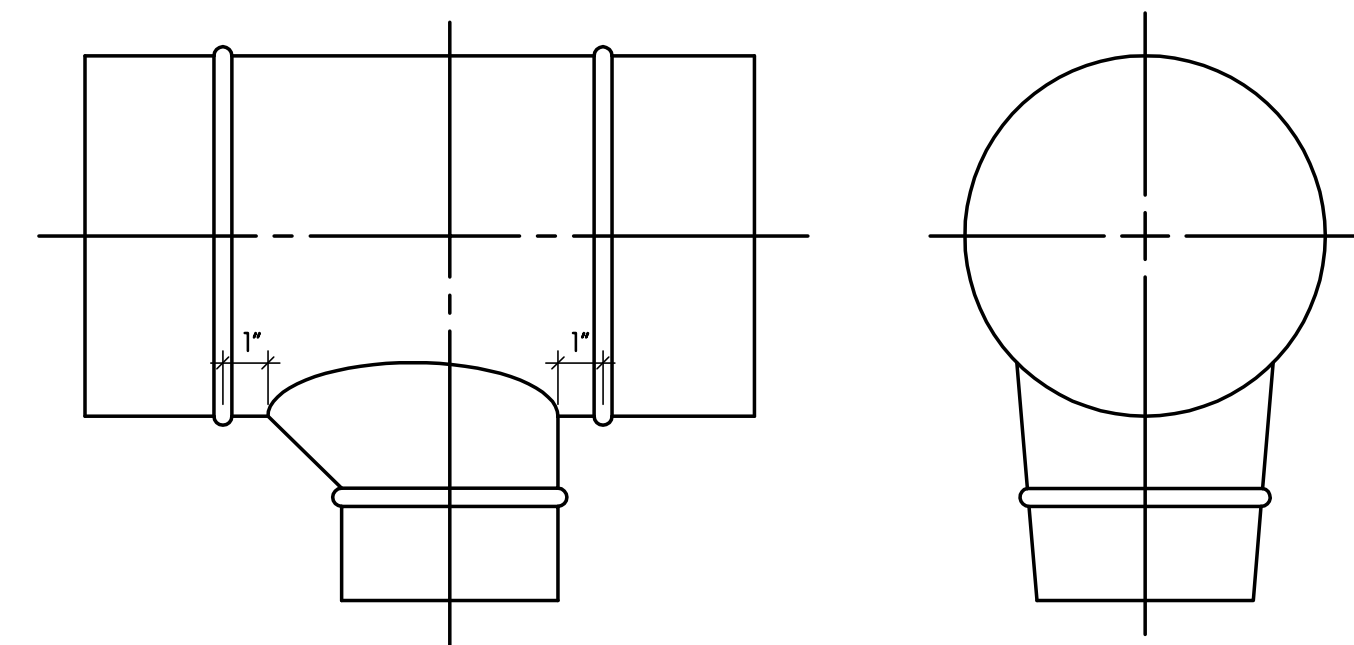


- NOTATIONS:
- (1) TYPICAL FOR ALL CONCRETE/BLOCK WALLS. FOR OTHER WALL TYPES,
SEE SPECIFICATIONS.
 - (2) GROUT AS REQUIRED PER WALL CONSTRUCTION. SEE ARCHITECTURAL
DRAWINGS FOR EXACT WALL CONSTRUCTION.

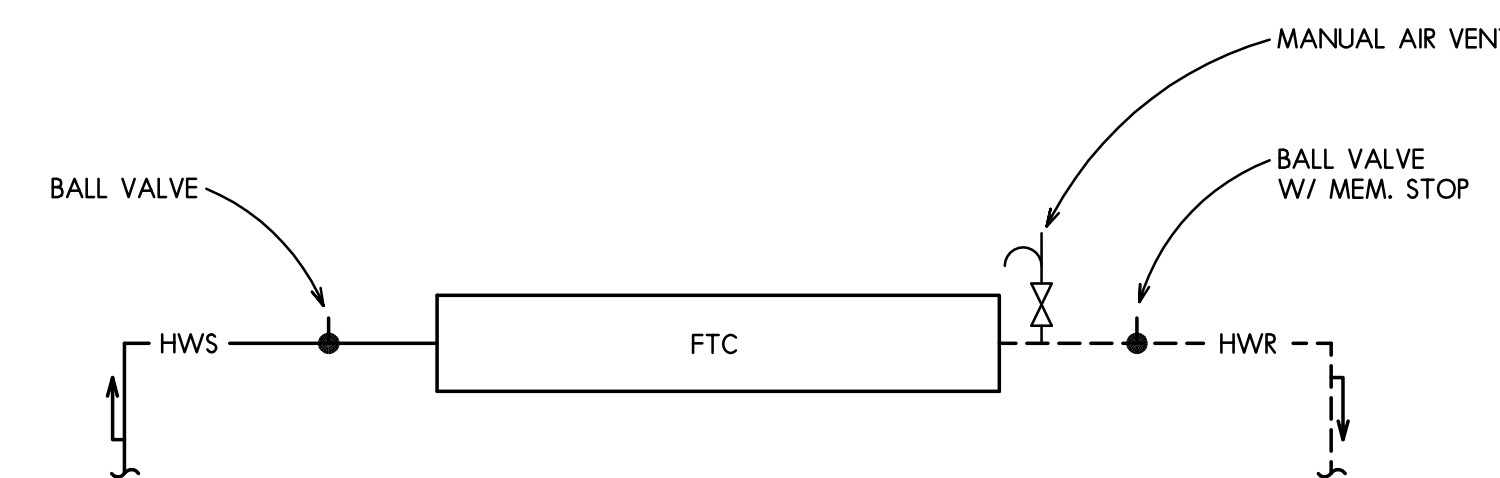
43 DUCT PASSING THROUGH WALL DETAIL
NO SCALE



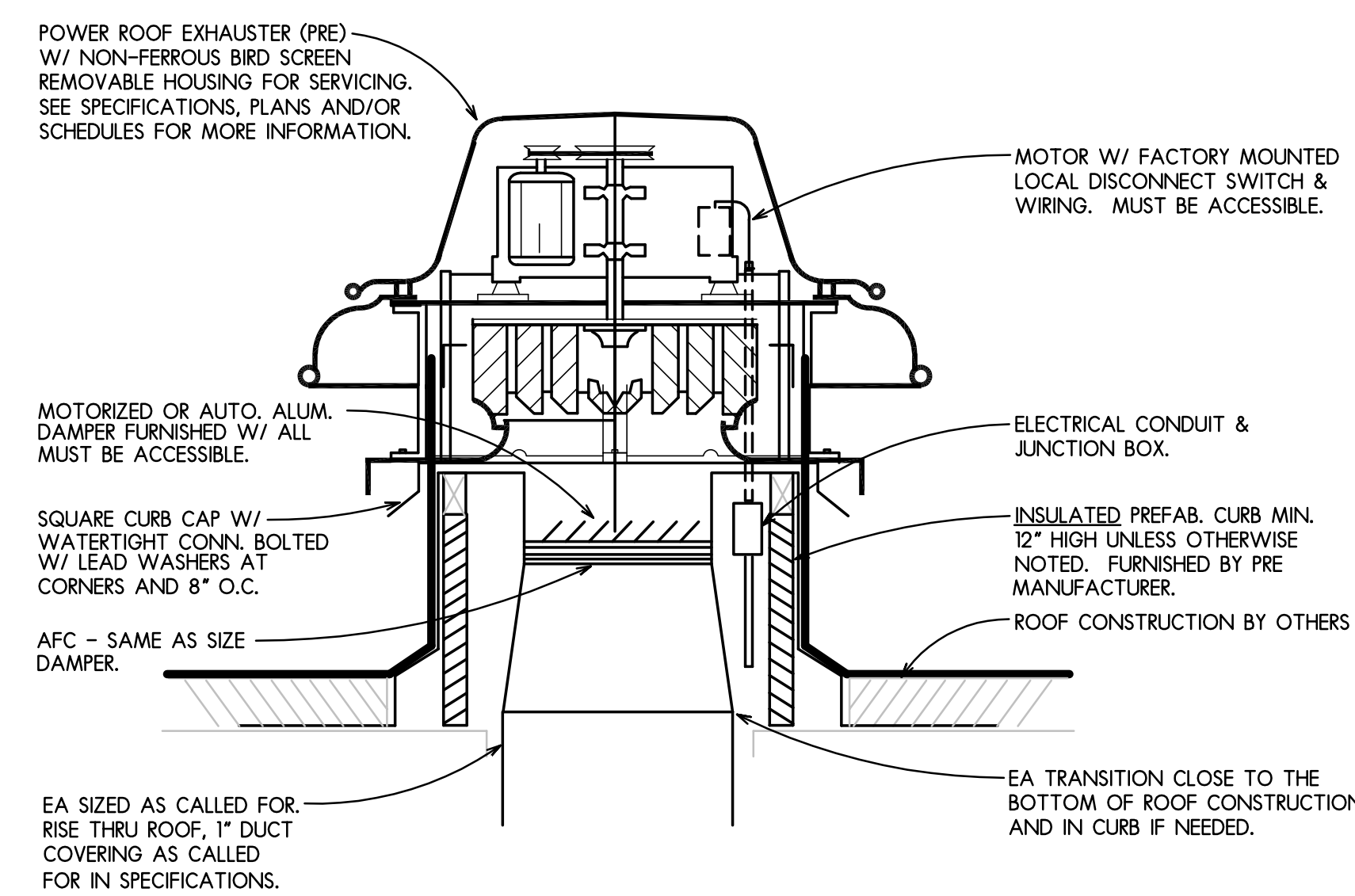
44 GRAVITY HOOD (GH) DETAIL
NTS



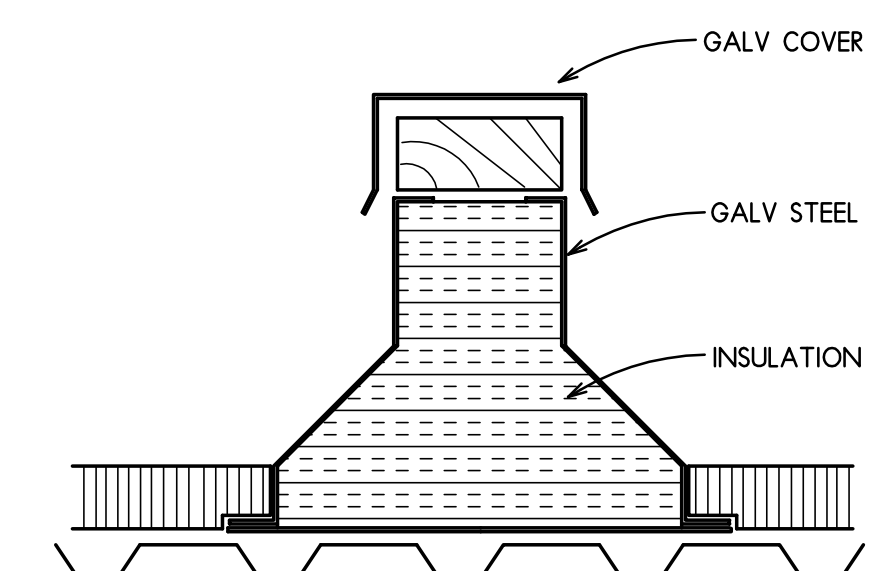
45 LO-LOSS TEE
NTS



46 FIN TUBE CONVECTOR PIPING DETAIL
NTS



47 POWER ROOF EXHAUSTER (PRE) DETAIL
NTS



48 PIPE SUPPORT
NTS



VARIABLE AIR VOLUME BOX WITH HOT WATER REHEAT (VAVR) SCHEDULE

PLAN NO.	VAVR-1	VAVR-2	VAVR-3	VAVR-4	VAVR-5	VAVR-6	VAVR-7	VAVR-8	VAVR-9	VAVR-10	VAVR-11	VAVR-12	VAVR-13	VAVR-14	VAVR-15	VAVR-16	VAVR-17	VAVR-18	VAVR-19	VAVR-20	VAVR-21	VAVR-22	VAVR-23	VAVR-24	VAVR-25	VAVR-26	VAVR-27
SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL/SIZE	DESV/14	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/07	DESV/07	DESV/09	DESV/09	DESV/09	DESV/14	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/08	DESV/12	DESV/14	DESV/08	DESV/06	DESV/06
INLET DIA (IN)	14	12	12	12	12	12	12	12	12	12	07	07	09	09	09	4	12	12	12	12	08	12	14	08	06	06	06
OUTLET DUCT SIZE (IN)	20x17.5	16x15	16x15	16x15	16x15	16x15	16x15	16x15	16x15	16x15	12x10	12x10	14x12.5	14x12.5	14x12.5	20x17.5	16x15	16x15	16x15	16x15	12x10	20x17.5	12x10	12x8	12x8	12x8	12x8
MAX. CFM	1200	900	900	900	900	900	900	900	900	900	370	320	330	700	575	350	900	940	800	900	300	900	1600	310	280	200	200
MIN. CFM	720	540	540	540	540	540	540	540	540	540	220	200	200	420	345	810	540	565	480	540	180	540	960	185	170	120	120
MAX. NC (I)	18/19	18/23	18/23	18/23	18/23	18/23	18/23	18/23	18/23	18/23	19/23	18/23	12/14	18/25	15/23	8/19	18/23	19/23	18/22	18/23	14/23	18/23	20/19	14/24	17/24	14/22	14/22
MAX. S.P. (I)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
MAX. HEATING CFM	720	540	540	540	540	540	540	540	540	540	220	200	200	420	345	810	540	565	480	540	180	540	960	185	170	120	120
EAT/LAT DB (°F)	55/111.4	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.1	55/109.8	55/111.2	55/116.7	55/105.7	55/108	55/109.1	55/109.1	55/108.2	55/113	55/109.1	55/112.7	55/105.8	55/112.3	55/104.3	55/114.1	55/114.1
MIN. CAP. (MBH)	44	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	13.1	12.2	13.4	23.1	20.0	17.5	27.7	32.6	27.7	31.7	11.3	31.7	52.9	11.5	9.1	7.7	7.7
GPM	2.9	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.9	0.8	0.9	1.5	1.3	3.2	2.1	2.2	1.8	2.1	0.8	2.1	3.5	0.8	0.6	0.6	0.6
EWTL/LWT (°F)	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.2	180/149.1	180/149	180/150	180/149	180/149.1	180/149.1	180/149.2	180/149.1	180/149.1	180/149.2	180/149.1	180/149.2	180/149	180/149.1	180/149.4	180/154.2	180/154.2
COIL ROWS	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	1-RH
APD (IN. W.C.)	0.13	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.11	0.09	0.05	0.16	0.12	0.15	0.15	0.16	0.12	0.15	0.08	0.15	0.2	0.08	0.11	0.06	0.06
WPD (FT. HEAD)	0.38	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.17	0.15	0.1	0.2	0.17	0.44	0.35	0.37	0.27	0.35	0.14	0.35	0.53	0.14	0.08	0.08	0.08
CONTROL VALVE	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY
NOTES	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. CONDITIONS AT MAXIMUM CFM.
3. FIELD COORDINATE SERVICE & PIPE CONNECTION SIDE IN FIELD.

VARIABLE AIR VOLUME BOX WITH HOT WATER REHEAT (VAVR) SCHEDULE

PLAN NO.	VAVR-28	VAVR-29	VAVR-30	VAVR-31	VAVR-32	VAVR-33	VAVR-34	VAVR-35	VAVR-36	VAVR-37	VAVR-38	VAVR-39	VAVR-40	VAVR-41	VAVR-42	VAVR-43	VAVR-44	VAVR-45	VAVR-46	VAVR-47	VAVR-48	VAVR-49	VAVR-50	VAVR-51	VAVR-52	VAVR-53
SERVICE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURER	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL/SIZE	DESV/07	DESV/04	DESV/05	DESV/06	DESV/06	DESV/12	DESV/12	DESV/05	DESV/05	DESV/05	DESV/05	DESV/05	DESV/14	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/12	DESV/09	DESV/06	DESV/07	DESV/09	DESV/06
INLET DIA (IN)	07	04	05	06	06	12	12	05	05	05	05	05	14	12	12	12	12	12	12	12	12	09	06	07	09	12
OUTLET DUCT SIZE (IN)	12x10	12x8	12x8	12x8	12x8	16x15	16x15	12x8	12x8	12x8	12x8	12x8	20x17.5	16x15	16x15	16x15	16x15	16x15	16x15	16x15	16x15	16x15	12x8	12x10	14x12.5	16x15
MAX. CFM	450	100	200	220	220	820	820	105	105	120	120	120	1100	800	800	800	800	800	800	800	800	840	480	250	400	775
MIN. CFM	270	60	120	130	130	490	490	60	60	480	480	70	660	480	480	480	480	480	480	480	500	290	150	240	300	465
MAX. NC (I)	20/24	14/27	17/28	14/22	14/22	18/22	18/22	-/22	-/22	10/23	10/23	10/23	18/18	18/22	18/22	18/22	18/22	18/22	18/22	18/22	18/23	15/20	16/23	19/24	15/20	18/22
MAX. S.P. (I)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MAX. HEATING CFM	270	60	120	130	130	490	490	60	60	70	70	70	660	480	480	480	480	480	480	480	500	290	150	240	360	465
EAT/LAT DB (°F)	55/107	55/103.9	55/114.1	55/111.8	55/111.8	55/110.9	55/110.9	55/103.9	55/103.9	55/100.2	55/100.2	55/100.2	55/113	55/113	55/113	55/113	55/113	55/113	55/113	55/113	55/110.5	55/111	55/107.8	55/108.4	55/110	55/112
MIN. CAP. (MBH)	15.2	3.2	7.7	8	8	29.7	29.7	3.2	3.2	3.4	3.4	3.4	41.5	29.3	29.3	29.3	29.3	29.3	29.3	29.3	30.1	17.6	8.4	13.9	18.0	28.7
GPM	1	0.3	0.6	0.6	0.6	2	2	0.3	0.3	0.3	0.3	0.3	2.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2	1.2	0.4	0.9	1.2	1.9
EWTL/LWT (°F)	180/149	180/158.6	180/154.2	180/153.1	180/153.1	180/149.1	180/149.1	180/158.6	180/158.6	180/156.9	180/156.9	180/156.9	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/149.1	180/151.1	180/149	180/149.1	180/149.1
COIL ROWS	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	1-RH	1-RH	1-RH	1-RH	1-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH	2-RH
APD (IN. W.C.)	0.15	0.01	0.06	0.07	0.01	0.13	0.13	0.01	0.01	0.01	0.01	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.09	0.09	0.12	0.1	0.12
WPD (FT. HEAD)	0.19	0.08	0.08	0.08	0.08	0.31	0.31	0.08	0.08	0.08	0.08	0.08	0.34	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.32	0.15	0.08	0.18	0.15	0.29
CONTROL VALVE	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY	2-WAY
NOTES	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3	1, 2, 3

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. CONDITIONS AT MAXIMUM CFM.
3. FIELD COORDINATE SERVICE & PIPE CONNECTION SIDE IN FIELD.

AIR HANDLING UNIT (AHU) SCHEDULE

PLAN NO.	AHU-1	AHU-2	AHU-3	AHU-4
SERVICE	NORTH WING	SOUTH WING	EAST WING	CAFETERIA
MANUFACTURER	TRANE	TRANE	TRANE	TRANE
MODEL	CSAA021	CSAA017	CSAA017	CSAA014
CFM	10,500	9,000	9,500	7,000
MIN. O.A.	7,300	5,285	6,000	2,695
ESP (IN WC)	2.5	2.5	2.5	1.00
HP	20	15	15	7.5
VOLT/PH	200-208/3	200-208/3	200-208/3	200-208/3
EAT (°F)	-11	10.4	-2.0	40.3
LAT (°F)	58.2	60.0	56.8	70.0
MBH	673.8	487.9	606.2	225.5
EWT (°F)	180.0	180.0	180.0	180.0
LWT (°F)	150.1	149.7	150.0	150.0
GPM	45.5	32.5	40.8	15.0
WPD	11.30	5.3	8.3	1.6
APD	.96	.84	.97	.09
ROWS/FFF	3/120	3/108	3/120	1/87
CONTROL VALVE	2-WAY	3-WAY	3-WAY	2-WAY
EDB (°F)	86.3	84.7	85.0	81.0
EWB (°F)	70.4	69.1	70.4	68.8
LDB (°F)	55.0	55.0	55.0	55.0
LWB (°F)	54.5	54.5	54.7	54.7
MBH	537.2	415.2	479.7	313.4
EWT (°F)	44.0	44.0	44.0	44.0
LWT (°F)	56.0	56.0	56.0	56.0
GPM	89.2	69.0	79.7	52.0
WPD	10.8	7.2	11.7	6.3
APD	0.81	.89	.98	.88
ROWS/FFF	6/115	6/121	6/124	6/122
CONTROL VALVE	3-WAY	2-WAY	2-WAY	2-WAY
EAT (°F)	-	-	-	70.0
LAT (°F)	-	-	-	100.0
MBH	-	-	-	227.7
EWT (°F)	-	-	-	180.0
LWT (°F)	-	-	-	150.0
GPM	-	-	-	15.2
WPD	-	-	-	1.6
APD	-	-	-	.12
ROWS/FFF	-	-	-	1/127
CONTROL VALVE	-	-	-	2-WAY
NOTES	1, 2	1, 2	1, 2	1, 3

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PROVIDE EACH UNIT WITH MIXING/FILTER SECTION W/MERV 13 FILTERS
FB HEATING COIL SECTION, MEDIUM ACCESS SECTION, COOL

AIR SEPARATOR (AS) SCHEDULE		
PLAN NO.	AS-1	AS-2
SERVICE	CHILLED WATER SYSTEM	HOT WATER SYSTEM
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT
MODEL	R-4F	R-4F
FLOW (GPM)	290	198
LINE SIZE (IN)	4	4
NOTES	-	-

NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

OUTDOOR AIR INTAKE/RELIEF (OAI/OAR) SCHEDULE				
PLAN NO.	GI-1	GI-2	GI-3	GI-4
SERVICE	AHU-1	AHU-2	AHU-3	AHU-4
MANUFACTURER	CARNES	CARNES	CARNES	CARNES
MODEL	GI	GI	GI	GI
THROAT SIZE	36x72	36x72	36x72	30x48
HOOD SIZE	71x107	71x107	71x107	57x75
CFM	10,500	9,000	9,500	7,000
THROAT FPM	600	500	500	700
NOTES	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5

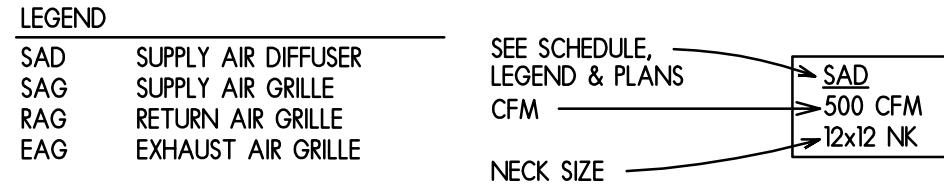
- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - PROVIDE MANUFACTURER'S PREFAB CURB.
 - PROVIDE WITH NON-FERROUS BIRD SCREEN.
 - COORDINATE FINAL LOCATION WITH STRUCTURE & OTHER TRADES.
 - MAINTAIN A MINIMUM 10'-0" DISTANCE FROM EXHAUST, FLUE OR VENT.
 - MAINTAIN A MINIMUM 10'-0" DISTANCE FROM ANY FRESH AIR INTAKE.

STEAM TRAP SCHEDULE	
PLAN NO.	ST-1
SERVICE	HE-1
MANUFACTURER	BELL & GOSSETT
MODEL	FT015X
TYPE	F&T
CONNECTION SIZE	2"
MAX PRESSURE PSI	175
NOTES	1

- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

AIR INLET AND OUTLET SCHEDULE						
DESIGNATION	MOUNTING TYPE	SECURITY TYPE	FACE SIZE	SUPPLY/RETURN/EXHAUST	MODEL NO.	MANUFACTURER
SAD-1	T-BAR	-	24" x 24"	SUPPLY	TMSA	TITUS
SAR-1	WALL	-	NECK + 2"	SUPPLY	300RL	TITUS
RAG-1	T-BAR	-	NECK + 2"	RETURN	350RL	TITUS
RAG-2	WALL	-	NECK + 2"	RETURN	350RL	TITUS
EAG-1	WALL	-	NECK + 2"	EXHAUST	350RL	TITUS

NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



EXPANSION TANK (ET) SYSTEM SCHEDULE

PLAN NO.	ET-1	ET-2
SERVICE	CHILLED WATER SYSTEM	HOT WATER SYSTEM
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT
MODEL	B-35LA	B-400
TYPE	BLADDER	BLADDER
POSITION	VERTICAL	VERTICAL
TANK CAP. (GAL)	10	106.0
SIZE - DIA (IN)	10	24
SIZE - LENGTH (IN)	37-5/16	64.75
SYS FILL PRESSURE (PSI)	13.5	13.5
SYS RELIEF PRESSURE (PSI)	30	30
PIPE SIZE TO TANK (IN)	1	1
NOTES	1	1

- NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PROVIDE WITH B & G MODEL ATF-12 AIRTROL FITTING.

POWER ROOF EXHAUSTER (PRE) SCHEDULE

PLAN NO.	PRE-1	PRE-2	PRE-3	PRE-4	PRE-5	PRE-6
SERVICE	BOYS - N. WING	GIRLS - S. WING	EAST FAN ROOM	WEST FAN ROOM	N. WING TOILETS	S. WING TOILETS
MANUFACTURER	COOK	COOK	COOK	COOK	COOK	COOK
MODEL	100C2B	100C2B	100C3B	100C3B	100C3B	100C3B
CFM	675	675	1,000	1,000	600	600
ESP (IN WC)	0.375	0.375	0.125	0.125	0.375	0.375
HP/BHP	0.17/1.1	0.17/1.1	0.25/20	0.25/20	0.25/09	0.25/09
MAX SONES	-	-	-	-	-	-
VOLTS/PH	120/1	120/1	120/1	120/1	120/1	120/1
WEIGHT (LBS)	38	38	44	44	60	60
NOTES	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4

- NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PROVIDE MANUFACTURER'S INSULATED PREFAB ROOF CURB. MIN. 14" HIGH
 - PROVIDE AUTOMATIC BACK DRAFT DAMPER AND NON-FERROUS BIRD SCREEN.
 - CONTROL WITH OCCUPIED - NON OCCUPIED CYCLE.
 - PROVIDE FACTORY WIRED DISCONNECT SWITCH. MOTOR STARTERS BY ELECTRICAL CONTRACTOR.

EXHAUST FAN (EF) SCHEDULE

PLAN NO.	EF-1	EF-2	EF-3
SERVICE	TOILET	CLASSROOM	ELEC. RM
MANUFACTURER	COOK	COOK	COOK
MODEL	GC-128	GC-166	GC-166
TYPE	CEILING	CEILING	CEILING
CFM	75	150	100
ESP (IN W.C.)	0.125	0.125	0.125
MAX SONES	-	-	-
HP	27 WATT	47 WATT	34 WATT
DRIVE	DIRECT	DIRECT	DIRECT
VOLT/PH	120/1	120/1	120/1
WEIGHT (LBS)	13	14	14
NOTES	1, 2, 4	1, 2, 4	1, 2, 3, 4

- NOTES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- PROVIDE WITH SPEED CONTROLLER AND INTEGRAL GRILLE.
 - PROVIDE WITH MOTOR STARTER/INTERNAL THERMAL OVERLOAD AND DISCONNECT SWITCH.
 - PROVIDE WITH BRICK VENT.
 - CONTROL WITH OCCUPIED - NON OCCUPIED CYCLE.

HVAC SCHEDULES

SCALE: AS NOTED

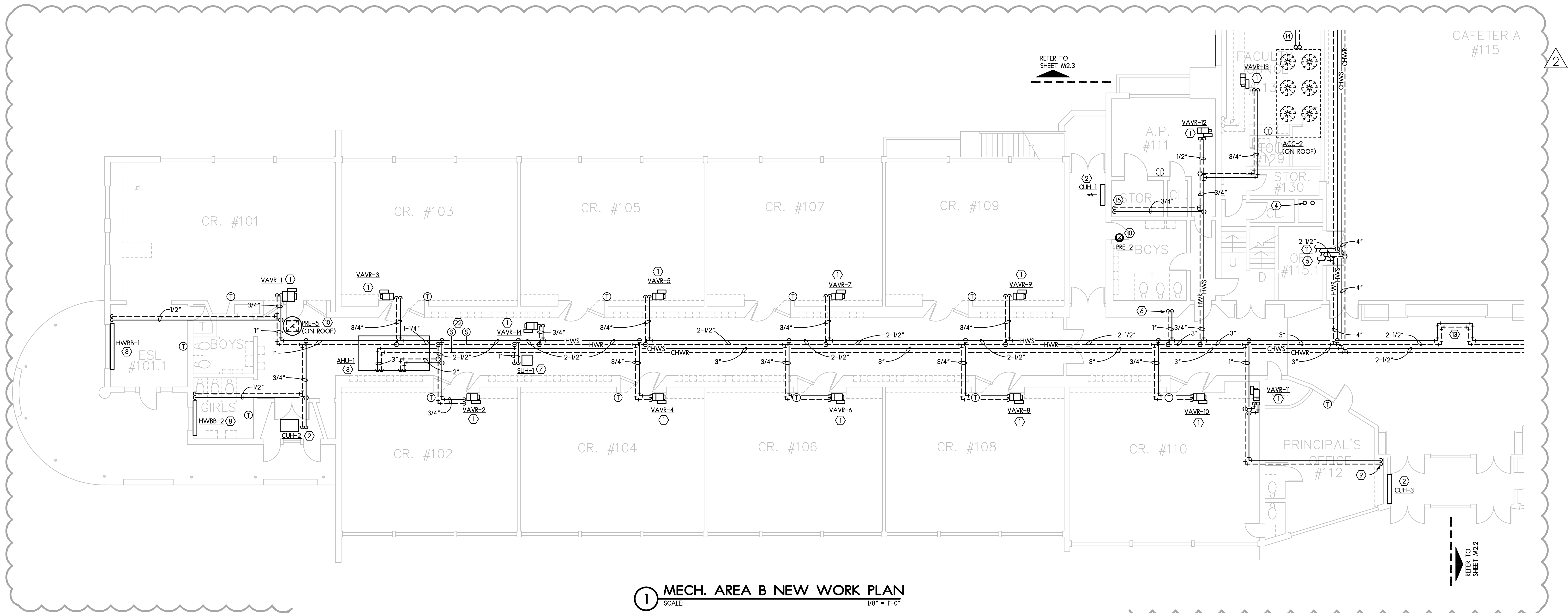
RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 - PROJECT #2243 - IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

COPYRIGHT 2022
All drawn and written information appearing herein shall not be duplicated, disclosed, or otherwise used without the written consent of
Larson & Darby Group

ISSUED FOR:	01-21-2022	ISSUED FOR:	BIDDING
ADDENDUM	3	02-07-22	
DRAWN BY:	-	CHECKED BY:	APPROVED BY:

DATE: 01-21-2022	PROJECT NUMBER
31029-02	
SHEET NUMBER	
M5.2	





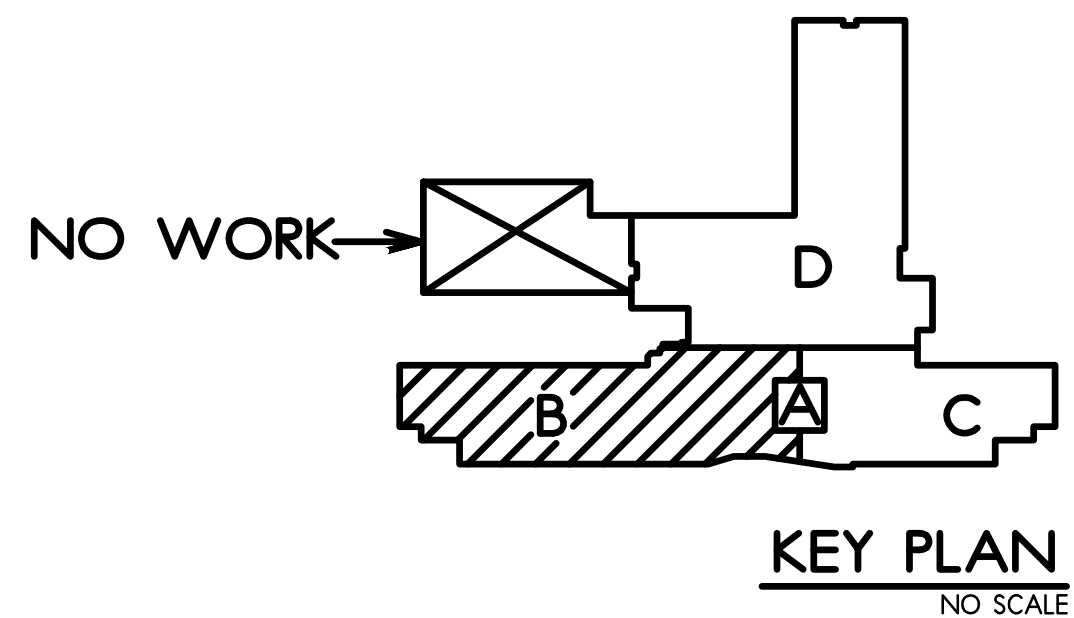
1 MECH. AREA B NEW WORK PLAN
SCALE: 1/8" = 1'-0"

MECH KEYED NOTES—
SHEETS M2.1 THRU M2.3:

- 1 REFER TO HOT WATER HEATING COIL PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 2 REFER TO HORIZONTAL CABINET UNIT HEATER (CUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 3 REFER TO AHU HEATING & COOLING COIL PIPING DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 4 6" STEAM SUPPLY AND 1-1/2" CONDENSATE RETURN FROM MECH. ROOM ABOVE DOWN IN CHASE TO BOILER ROOM IN FLOOR BELOW.
- 5 4" HWS & HWR TO MECH. ROOM.
- 6 3/4" HWS & HWR DOWN IN PIPE CHASE TO BASEMENT FLOOR.
- 7 REFER TO UNIT HEATER (SUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 8 REFER TO BASE-BOARD HEATER (HWBB) PIPING DETAIL ON SHEET M2.2 FOR MORE PIPING INFO.
- 9 1" HWS & HWR DOWN IN CORNER AND THROUGH WALL TO CHU-3. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- 10 VENTILATION EQUIPMENT. NO PIPING IS REQUIRED.
- 11 2 1/2" CHWS & CHWR TO WEST FAN ROOM. REFER TO LARGE SCALE PLAN ON THIS SHEET FOR PIPING CONTINUATION.
- 12 1/2" HWS & HWR DOWN ON WALL TO HWBB. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- 13 REFER TO EXPANSION LOOP DETAIL FOR MORE INFO.
- 14 REFRIGERANT LIQUID & DISCHARGE PIPING BETWEEN INDOOR CHILLER AND AIR-COOLED CONDENSER ON ROOF (TYP. 2 SETS). PIPING SHALL BE SIZED AND INSTALLED PER CHILLER MFR. RECOMMENDATION. OUTDOOR PIPING SHALL BE INSULATED AND JACKETED.
- 15 3/4" HWS & HWR DROP IN STORAGE ROOM AND THRU WALL TO CUH AS SHOWN.
- 16 1 1/2" HWS & HWR AHU HEATING COIL.
- 17 REFER TO BASE-MOUNTED PUMP DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 18 REFER TO STEAM HEAT EXCHANGER & HEATING WATER PUMPING STATION DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 19 MOUNT EQUIPMENT ON 4" THICK CONCRETE HOUSE KEEPING PAD.
- 20 PROPOSED LOCATION OF HWP & CHWP VFDs.
- 21 HVAC MAKEUP WATER W/ BFP. REFER TO PLUMBING PLANS.
- 22 PROPOSED LOCATION OF PRESSURE TRANSMITTER ON CHILLED/HOT WATER PIPING. MIN. 3 LOCATIONS PER SYSTEM ARE REQUIRED. EXACT LOCATION SHALL BE FIELD VERIFIED AND DETERMINED BY THE CONTROL CONTRACTOR. REFER TO PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE INFO.

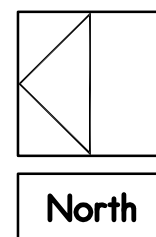
GENERAL MECH. CONSTRUCTION NOTES

- 1 WHERE EXPOSED, ALL PIPING TO BE RUN AS HIGH AS POSSIBLE. PAINT TO MATCH CEILING ABOVE.
- 2 RUN 1" CONDENSATE PIPING FROM ALL COOLING COILS IN AIR-HANDLING UNITS NEAREST FLOOR DRAIN/MOP BASIN OR OTHER ACCEPTABLE DISPOSAL.



MECH. NEW WORK PLANS

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



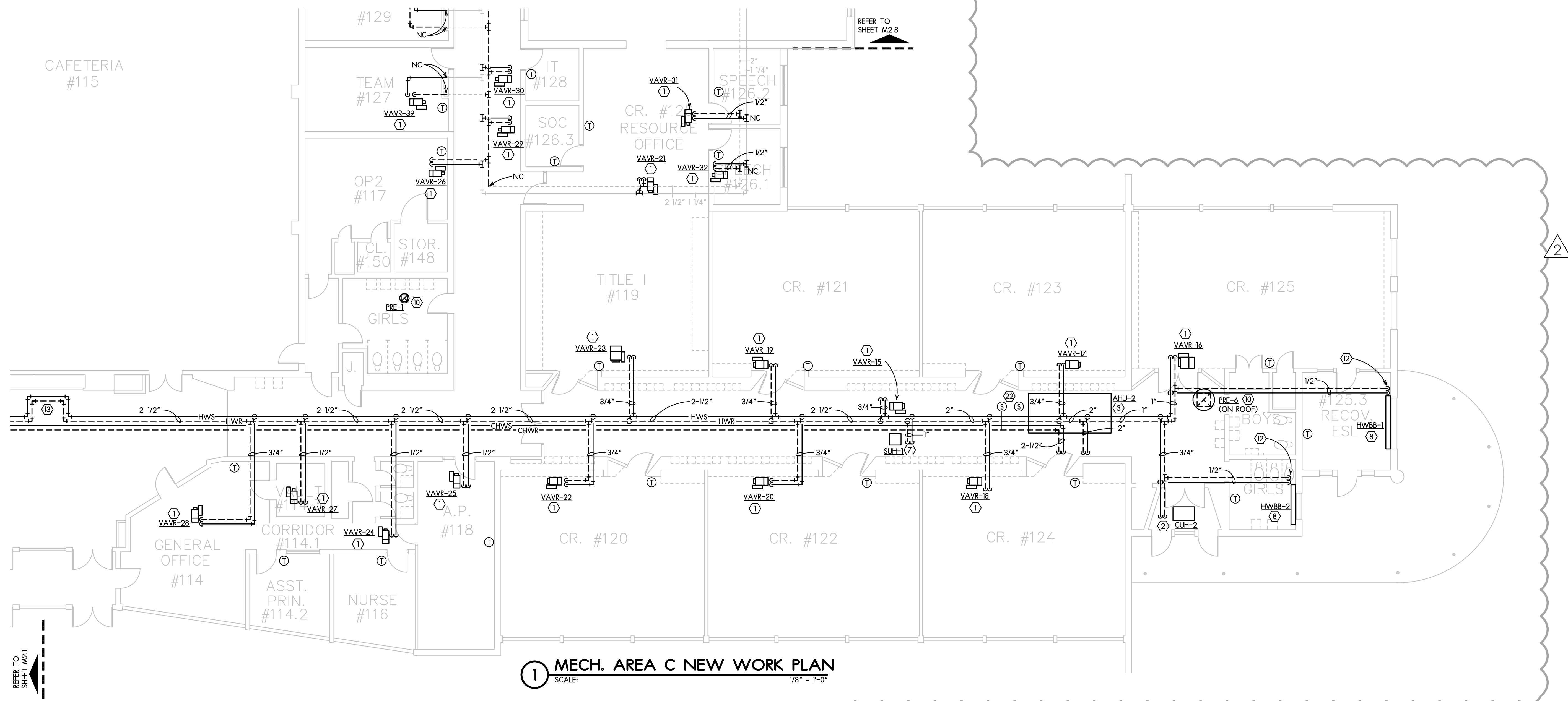
DATE: 01-21-2022	ISSUED FOR: 01-21-22	ISSUED FOR: 01-21-22	BIDDING
PROJECT NUMBER 31029-02	ADDENDUM #2	2/10/2022	
SHEET NUMBER M2.1	DRAWN BY: JJ	CHECKED BY:	APPROVED BY: RAS

RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 – PROJECT #2243 – IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

COPYRIGHT 2022
All drawn and written information appearing herein shall not be duplicated, disclosed, or otherwise used without the written consent of Larson & Darby Group



Larson & Darby Group
Architecture Engineering Interiors



REFER TO
SHEET M2.1

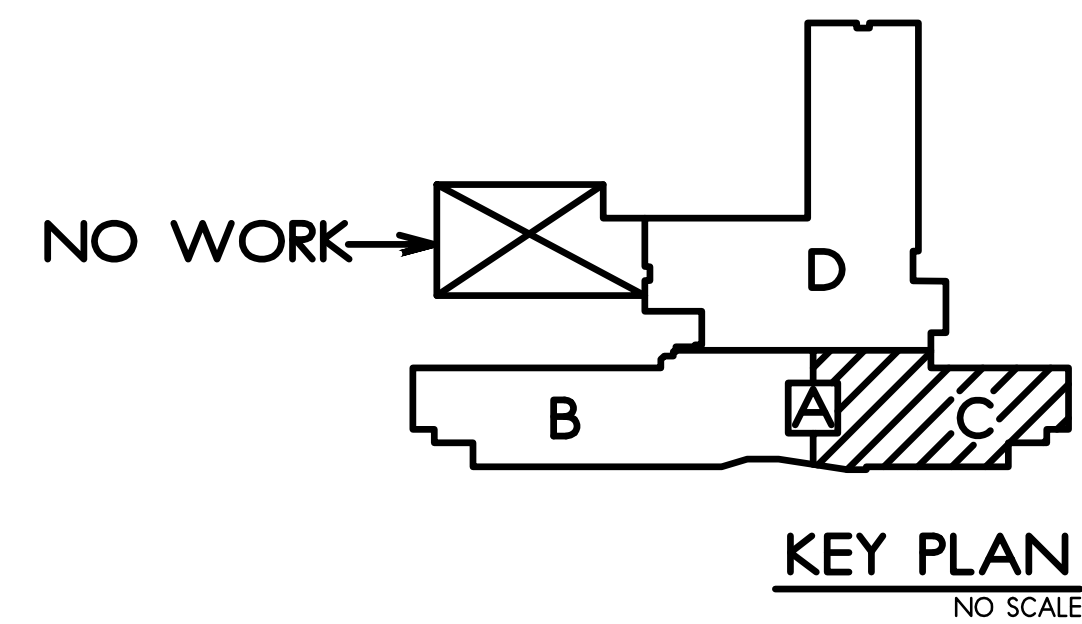
1 MECH. AREA C NEW WORK PLAN
SCALE: 1/8" = 1'-0"

MECH KEYED NOTES— SHEETS M2.1 THRU M2.3:

- ① REFER TO HOT WATER HEATING COIL PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ② REFER TO HORIZONTAL CABINET UNIT HEATER (CUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ③ REFER TO AHU HEATING & COOLING COIL PIPING DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ④ 4" STEAM SUPPLY AND 1-1/2" CONDENSATE RETURN FROM MECH. ROOM ABOVE DOWN IN CHASE TO BOILER ROOM IN FLOOR BELOW.
- ⑤ 4" HWS & HWR TO MECH. ROOM.
- ⑥ 3/4" HWS & HWR DOWN IN PIPE CHASE TO BASEMENT FLOOR.
- ⑦ REFER TO UNIT HEATER (SUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ⑧ REFER TO BASE-BOARD HEATER (HWBB) PIPING DETAIL ON SHEET M2.2 FOR MORE PIPING INFO.
- ⑨ 1" HWS & HWR DOWN IN CORNER AND THROUGH WALL TO CHU-3. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- ⑩ VENTILATION EQUIPMENT. NO PIPING IS REQUIRED.
- ⑪ 2 1/2" CHWS & CHWR TO WEST FAN ROOM. REFER TO LARGE SCALE PLAN ON THIS SHEET FOR PIPING CONTINUATION.
- ⑫ 1/2" HWS & HWR DOWN ON WALL TO HWBB. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- ⑬ REFER TO EXPANSION LOOP DETAIL FOR MORE INFO.
- ⑭ REFRIGERANT LIQUID & DISCHARGE PIPING BETWEEN INDOOR CHILLER AND AIR-COOLED CONDENSER ON ROOF (TYP. 2 SETS). PIPING SHALL BE SIZED AND INSTALLED PER CHILLER MFR. RECOMMENDATION. OUTDOOR PIPING SHALL BE INSULATED AND JACKETED.
- ⑮ 3/4" HWS & HWR DROP IN STORAGE ROOM AND THRU WALL TO CUH AS SHOWN.
- ⑯ 1 1/2" HWS & HWR AHU HEATING COIL.
- ⑰ REFER TO BASE-MOUNTED PUMP DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ⑱ REFER TO STEAM HEAT EXCHANGER & HEATING WATER PUMPING STATION DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- ⑲ MOUNT EQUIPMENT ON 4" THICK CONCRETE HOUSE KEEPING PAD.
- ⑳ PROPOSED LOCATION OF HWP & CHWP VFDs.
- ㉑ HVAC MAKEUP WATER W/ BFP. REFER TO PLUMBING PLANS.
- ㉒ PROPOSED LOCATION OF PRESSURE TRANSMITTER ON CHILLED/HOT WATER PIPING. MIN. 3 LOCATIONS PER SYSTEM ARE REQUIRED. EXACT LOCATION SHALL BE FIELD VERIFIED AND DETERMINED BY THE CONTROL CONTRACTOR. REFER TO PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE INFO.

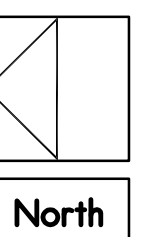
GENERAL MECH. CONSTRUCTION NOTES

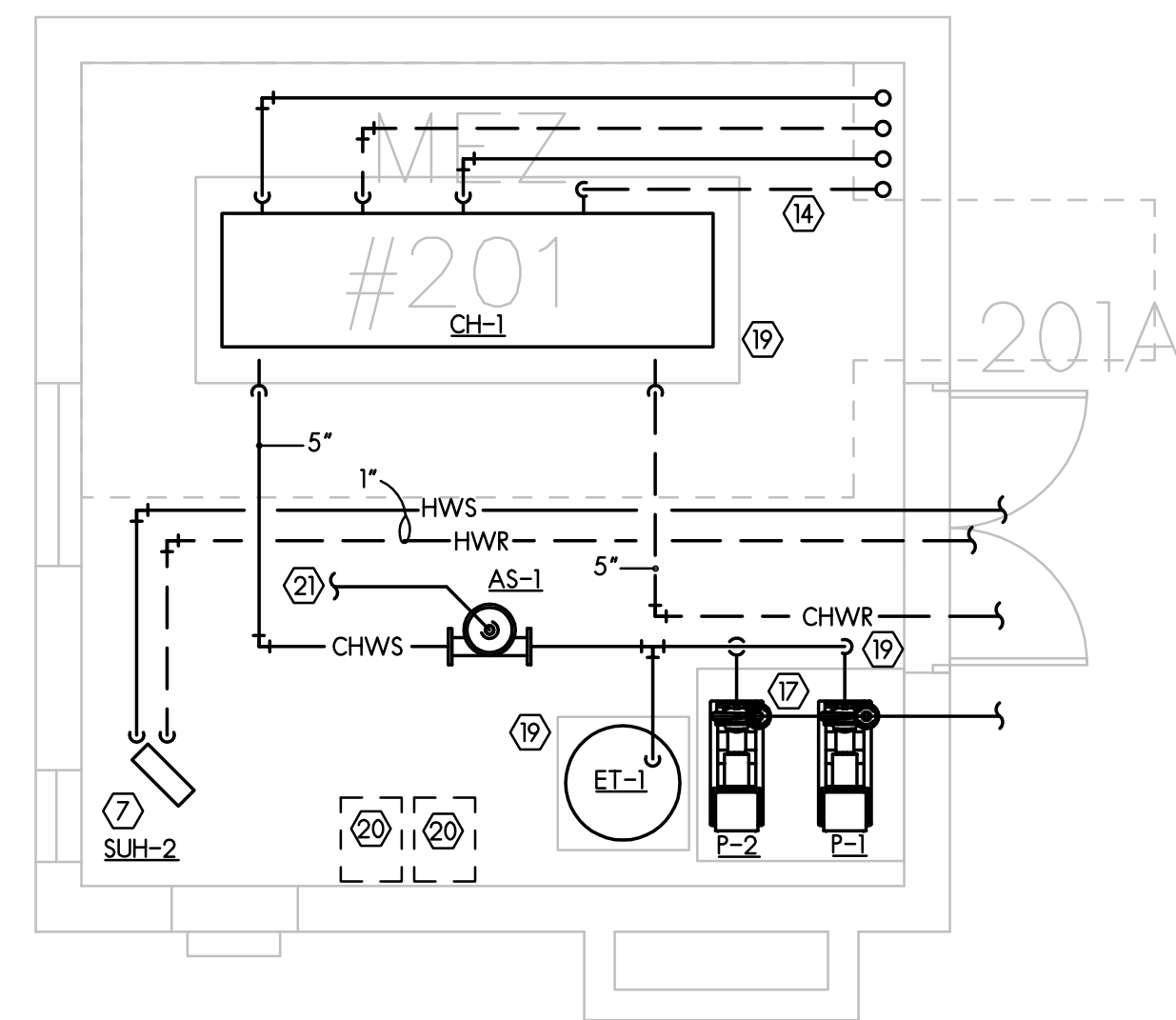
1. WHERE EXPOSED, ALL PIPING TO BE RUN AS HIGH AS POSSIBLE. PAINT TO MATCH CEILING ABOVE.
2. RUN 1" CONDENSATE PIPING FROM ALL COOLING COILS IN AIR-HANDLING UNITS NEAREST FLOOR DRAIN/MOP BASIN OR OTHER ACCEPTABLE DISPOSAL.



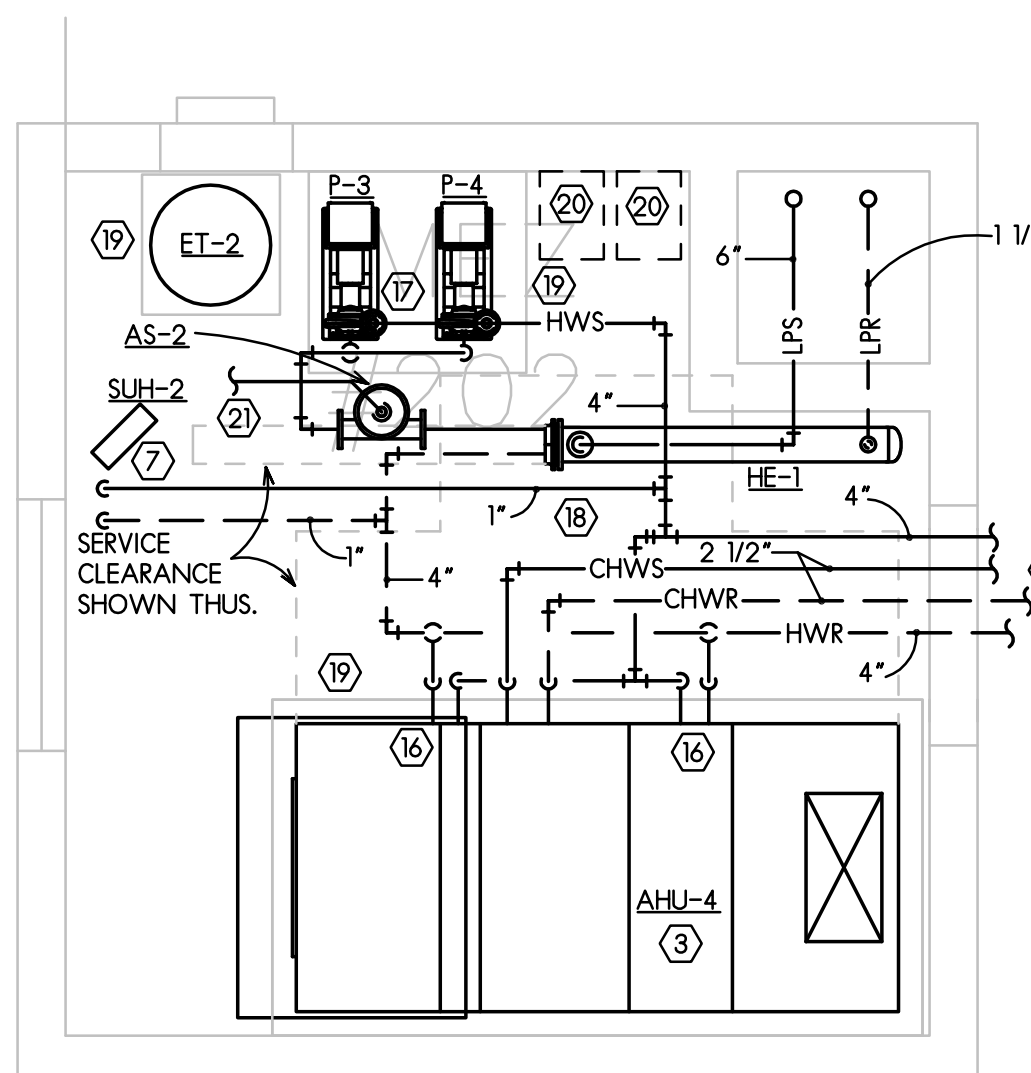
MECH. NEW WORK PLANS

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

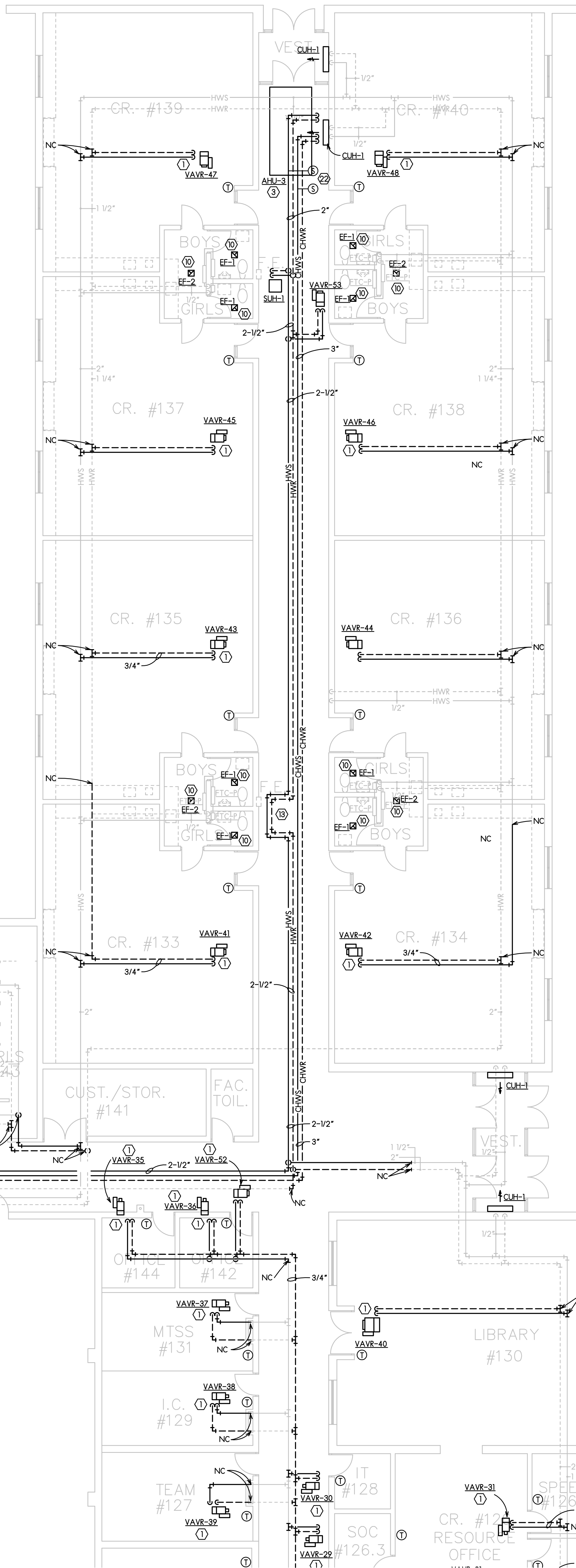




2 EAST FAN ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"



3 WEST FAN ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"



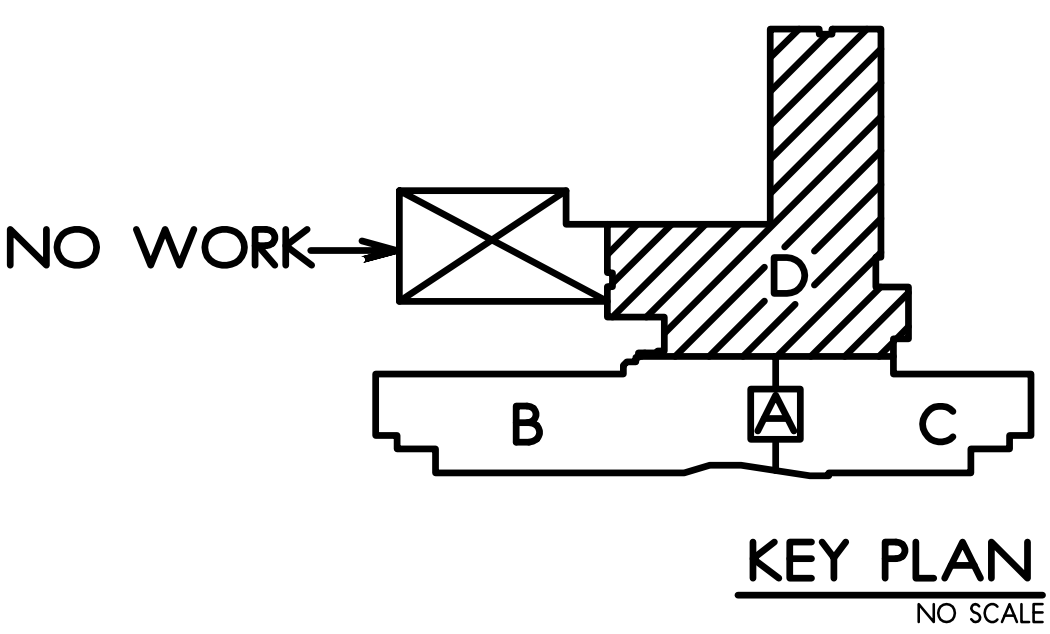
1 MECH. AREA D NEW WORK PLAN
SCALE: 1/8" = 1'-0"

MECH KEYED NOTES-SHEETS M2.1 THRU M2.3:

- REFER TO HOT WATER HEATING COIL PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- REFER TO HORIZONTAL CABINET UNIT HEATER (CUH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- REFER TO AHU HEATING & COOLING COIL PIPING DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- 6" STEAM SUPPLY AND 1-1/2" CONDENSATE RETURN FROM MECH. ROOM ABOVE DOWN IN CHASE TO BOILER ROOM IN FLOOR BELOW.
- 4" HWS & HWR TO MECH. ROOM.
- 3/4" HWS & HWR DOWN IN PIPE CHASE TO BASEMENT FLOOR.
- REFER TO UNIT HEATER (UH) PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- REFER TO BASE-BOARD HEATER (HWB) PIPING DETAIL ON SHEET M2.2 FOR MORE PIPING INFO.
- 1" HWS & HWR DOWN IN CORNER AND THROUGH WALL TO CHU-3. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- VENTILATION EQUIPMENT. NO PIPING IS REQUIRED.
- 2 1/2" CHWS & CHWR TO WEST FAN ROOM. REFER TO LARGE SCALE PLAN ON THIS SHEET FOR PIPING CONTINUATION.
- 1/2" HWS & HWR DOWN ON WALL TO HWB. PROVIDE & INSTALL PIPE ENCLOSURE ON VERTICAL DROP. PAINT TO MATCH EXISTING.
- REFER TO EXPANSION LOOP DETAIL FOR MORE INFO.
- REFRIGERANT LIQUID & DISCHARGE PIPING BETWEEN INDOOR CHILLER AND AIR-COOLED CONDENSER ON ROOF (TYP. 2 SETS). PIPING SHALL BE SIZED AND INSTALLED PER CHILLER MFR. RECOMMENDATION. OUTDOOR PIPING SHALL BE INSULATED AND JACKETED.
- 3/4" HWS & HWR DROP IN STORAGE ROOM AND THRU WALL TO CUH AS SHOWN.
- 1 1/2" HWS & HWR AHU HEATING COIL.
- REFER TO BASE-MOUNTED PUMP DETAIL ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- REFER TO STEAM HEAT EXCHANGER & HEATING WATER PUMPING STATION DETAILS ON SHEETS M3.1-M3.3 FOR MORE PIPING INFO.
- MOUNT EQUIPMENT ON 4" THICK CONCRETE HOUSE KEEPING PAD.
- PROPOSED LOCATION OF HWP & CHWP VEDS.
- HVAC MAKEUP WATER W/ BFP. REFER TO PLUMBING PLANS.
- PROPOSED LOCATION OF PRESSURE TRANSMITTER ON CHILLED/HOT WATER PIPING. MIN. 3 LOCATIONS PER SYSTEM ARE REQUIRED. EXACT LOCATION SHALL BE FIELD VERIFIED AND DETERMINED BY THE CONTROL CONTRACTOR. REFER TO PIPING DETAIL ON SHEETS M3.1-M3.3 FOR MORE INFO.

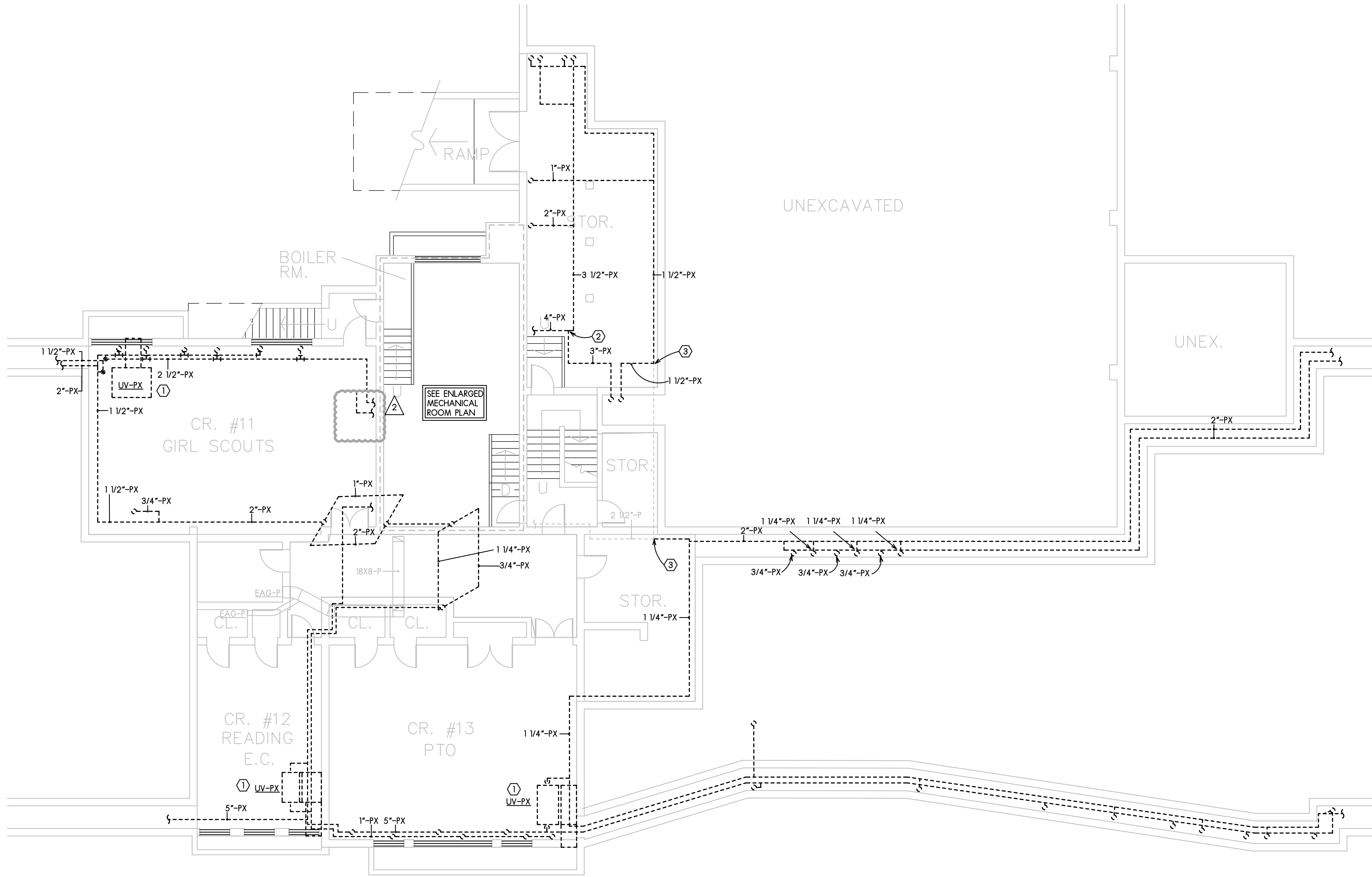
GENERAL MECH. CONSTRUCTION NOTES

- WHERE EXPOSED, ALL PIPING TO BE RUN AS HIGH AS POSSIBLE. PAINT TO MATCH CEILING ABOVE.
- RUN 1" CONDENSATE PIPING FROM ALL COOLING COILS IN AIR-HANDLING UNITS NEAREST FLOOR DRAIN/WOP BASIN OR OTHER ACCEPTABLE DISPOSAL.



MECH. NEW WORK PLANS

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



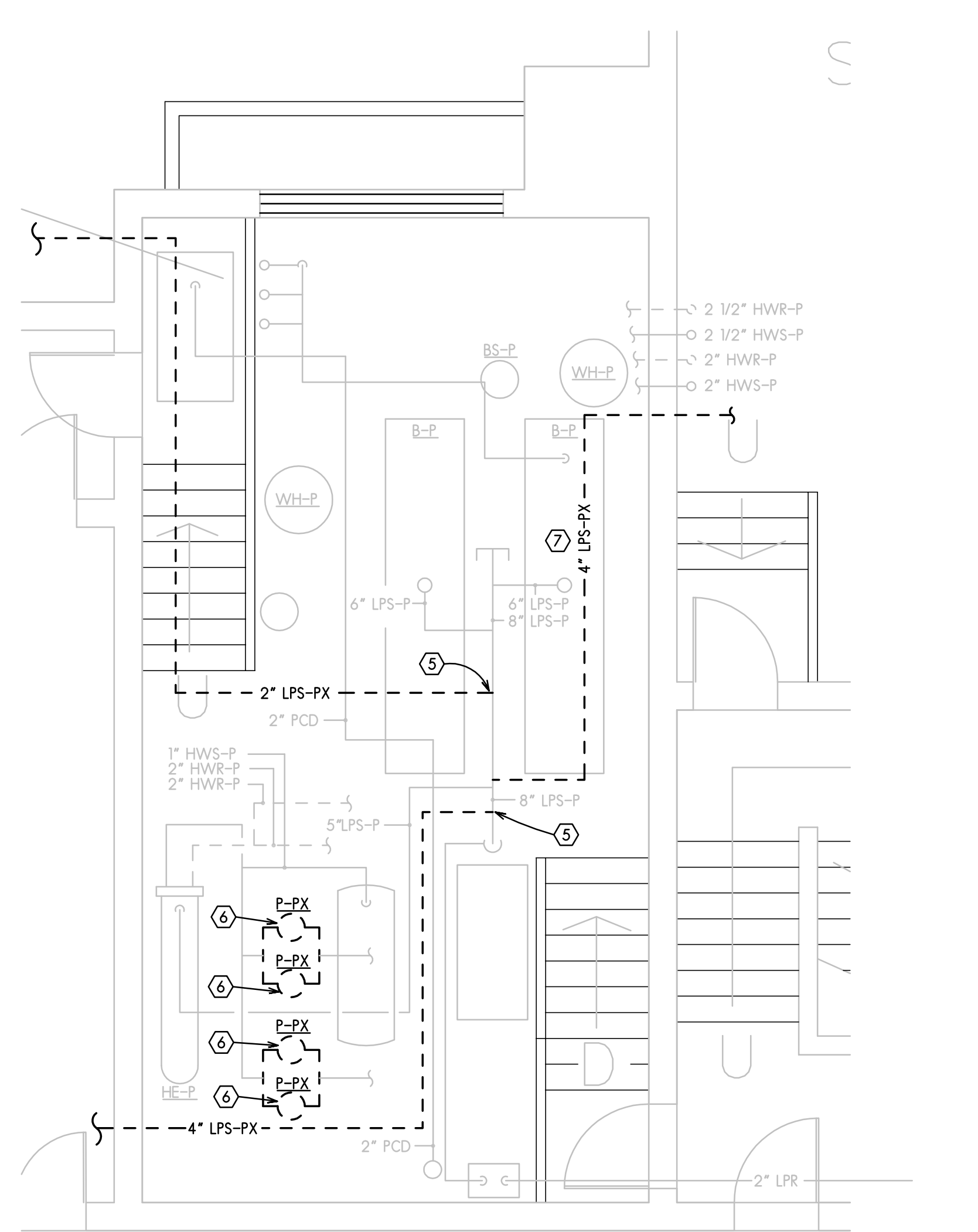
1 BASEMENT MECH. DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL MECH. DEMOLITION NOTES

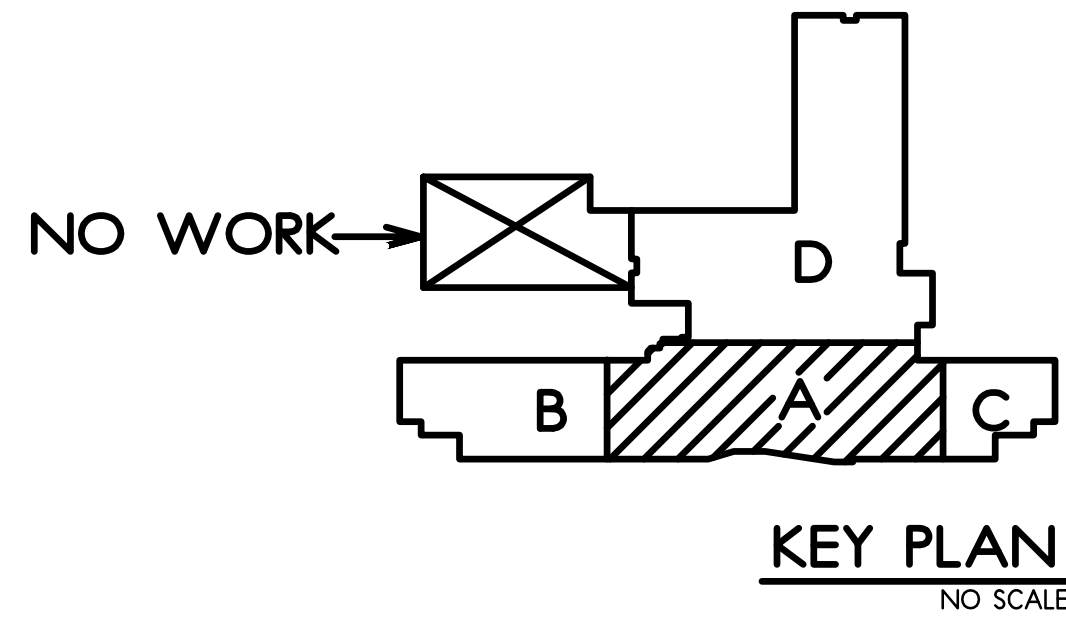
1. REMOVAL AND ABATEMENT OF ASBESTOS AND EQUIPMENT OR MATERIAL CONTAINING ASBESTOS IS THE RESPONSIBILITY OF THE SCHOOL DISTRICT AND SHALL BE COMPLETED UNDER A SEPARATE CONTRACT BETWEEN THE DISTRICT AND AN ENVIRONMENTAL SPECIALIST CONTRACTOR.
2. THIS CONTRACTOR AND HIS SUBS SHALL STOP WORK AND IMMEDIATELY REPORT TO THE DISTRICT ANY ASBESTOS MATERIAL THEY FIND DURING THERE DEMOLITION AND NEW CONSTRUCTION WORK.
3. CONTRACTOR SHALL NOT RESUME WORK UNTIL THE SITUATION IS CLEARED AND REMOVAL/TESTING OF ANY SUSPECTED ASBESTOS MATERIAL IS CONFIRMED BY THE DISTRICT.
4. EXISTING STEAM SUPPLY AND CONDENSATE RETURN PIPING SERVING REMOVED EQUIPMENT SHALL BE REMOVED AND/OR DISCONNECTED AND ABANDONED IN PLACE.
5. DISCONNECTED PIPING SHALL BE REMOVED AND CAPPED AT MAIN STEAM PIPE.
6. ABANDON PIPING IN PLACE SHALL ONLY BE ALLOWED FOR PIPING IN TUNNEL THAT CAN NOT BE REACHED.
7. ALL EXPOSED/ ABOVE FLOOR PIPING SHALL BE REMOVED AND REMAINING OPENING BE CAPPED/ PATCHED TO MATCH EXISTING ADJACENT SURFACE.

MECHANICAL DEMOLITION KEYED NOTES

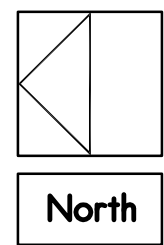
- ① REMOVE EXISTING CLASSROOM UNIT VENTILATOR IN ITS ENTIRETY. REMOVE UNIT AND ASSOCIATED ACCESSORIES, LOUVER, CONTROLS, PIPING ETC..
- ② REMOVE EXISTING STEAM SUPPLY AS SHOWN. PREPARE TO RUN NEW 6" STEAM SUPPLY IN SAME ROUTE.
- ③ REMOVE EXISTING STEAM SUPPLY/CONDENSATE BACK TO THIS POINT AND CAP.
- ④ REMOVE EXISTING STEAM SUPPLY/CONDENSATE AS SHOWN.
- ⑤ REMOVE STEAM MAIN BACK TO STEAM HEADER AS SHOWN AND CAP.
- ⑥ REMOVE EXISTING INLINE HEATING WATER PUMP. PREPARE TO REPLACE WITH NEW UNIT AS SHOWN ON NEW WORK PLAN.
- ⑦ REMOVE EXISTING 4" STEAM SUPPLY AS SHOWN. PREPARE TO INSTALL NEW 6" STEAM AT SAME LOCATION AND ROUTE.



2 ENLARGED MECHANICAL ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

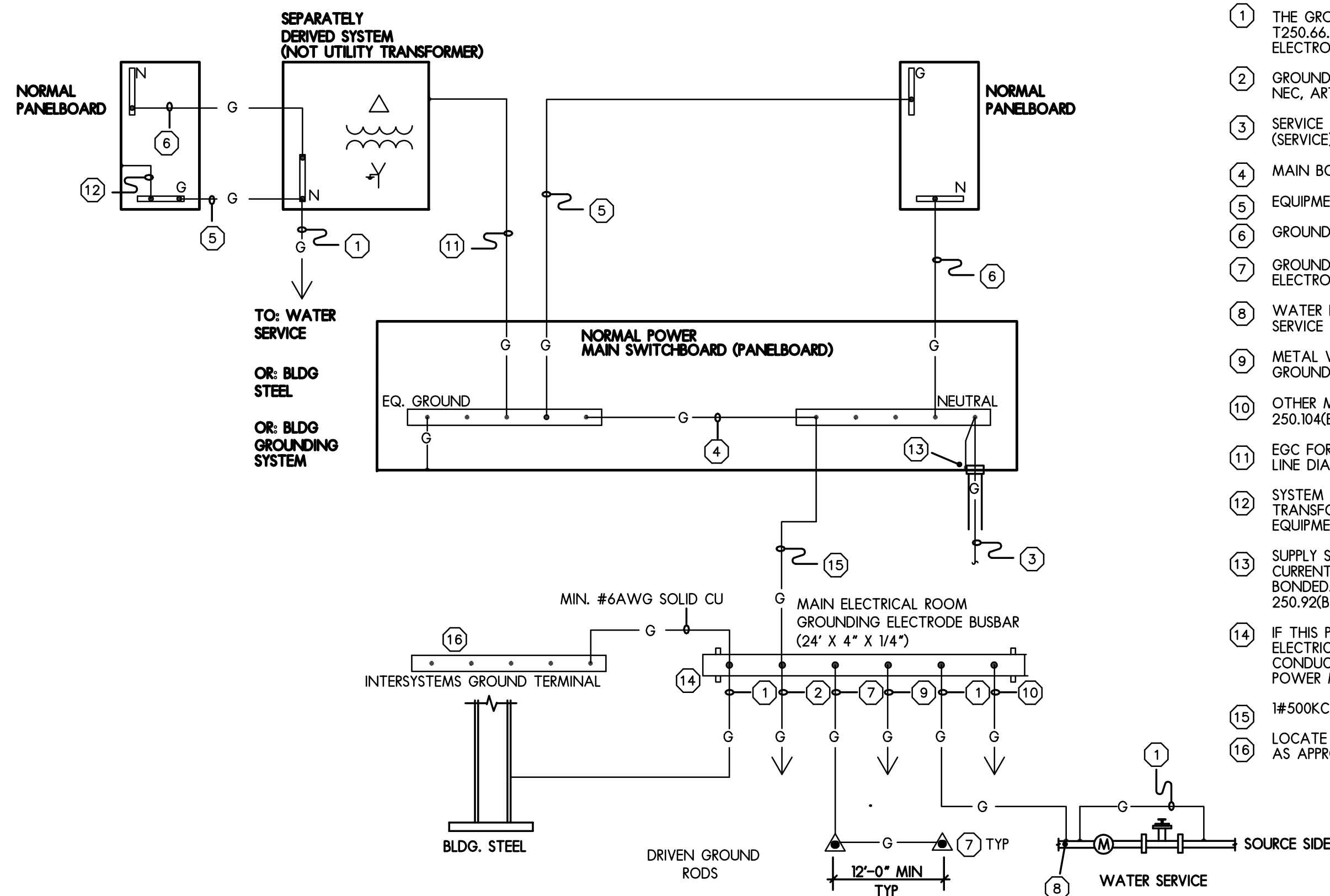


MECH DEMOLITION PLANS
SCALE: AS SHOWN



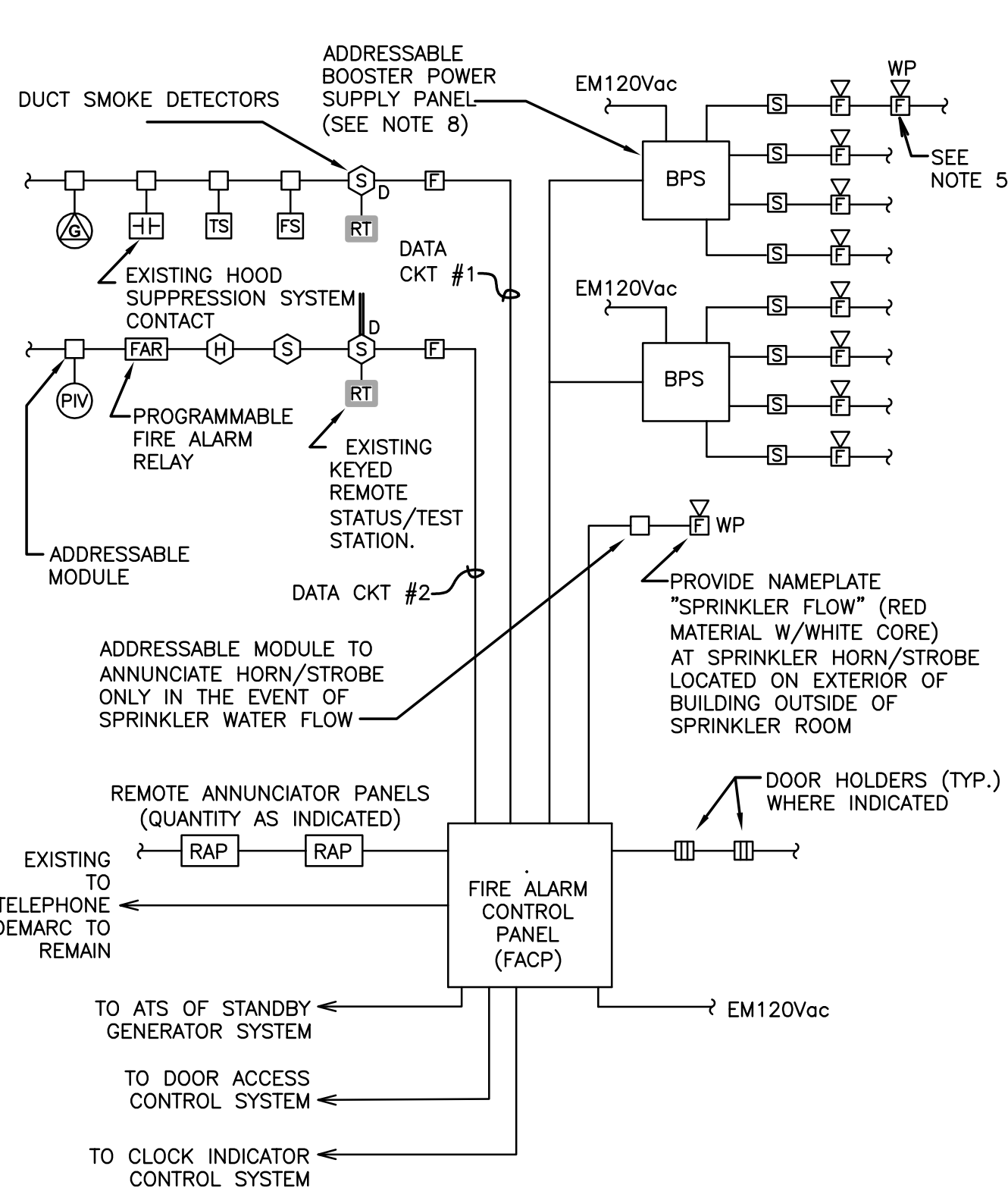
ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
PROJECT NUMBER	ADDENDUM 2 02-XX-22	CHECKED BY:	APPROVED BY:
SHEET NUMBER		DRAWN BY:	RAS
MD0.2			

DATE: 01-21-2022	PROJECT NUMBER
31029-02	
SHEET NUMBER	MD0.2



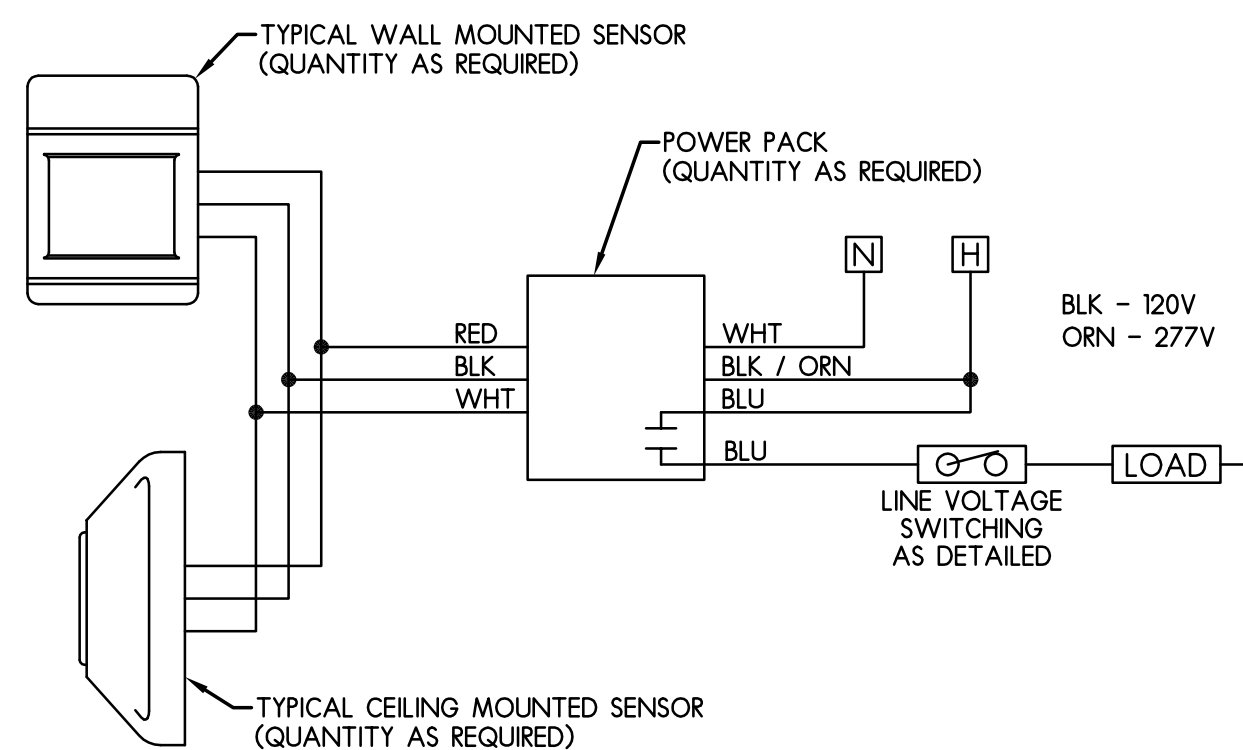
SERVICE GROUNDING WIRING DIAGRAM

NOT TO SCALE
NOTE: NOT ALL ITEMS WITHIN THIS DIAGRAM MAY APPLY TO THIS PROJECT.



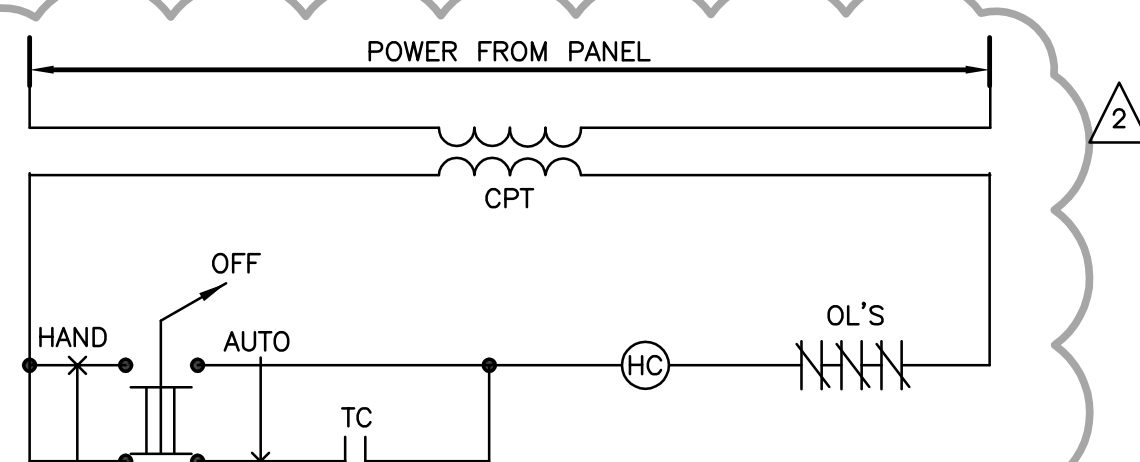
FIRE ALARM SYSTEM TYPICAL RISER DIAGRAM

NO SCALE
THIS DETAIL IS TYPICAL FOR FIRE ALARM SYSTEMS HOWEVER THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY WITH THE EXISTING FIRE ALARM SYSTEM ON SITE. THIS PROJECT WILL INCLUDE THE INSTALLATION OF THE DUCT SMOKE DETECTORS AS INDICATED. THE DUCT DETECTORS AND REMOTE TEST STATIONS WILL BE SUPPLIED BY THE MC AND WIRED BY THE EC. COORDINATE WITH THE MC.



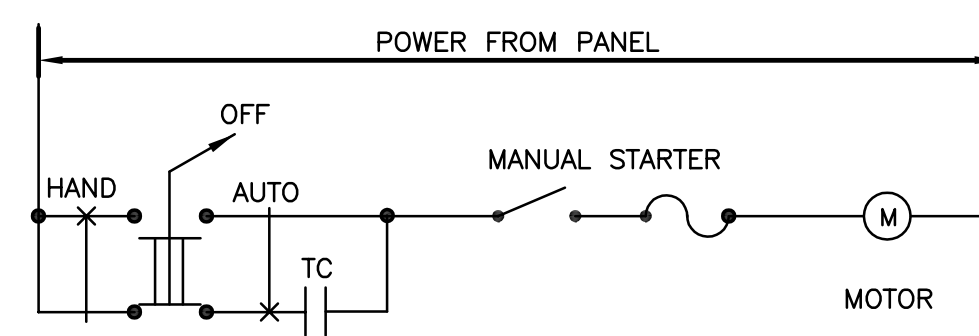
TYPICAL LOW VOLTAGE OCCUPANCY SENSOR WIRING DIAGRAM CONTROLLING ONE CIRCUIT

- NOTE:
1. LOW VOLTAGE DUAL TECHNOLOGY SYSTEM BY WATTSTOPPER, SENSOR SWITCH OR APPROVED EQUAL.
 2. PROVIDE UNIFORM SENSOR COVERAGE WITHOUT "GAPS". LOCATION & LAYOUT OF SENSORS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
 3. WHERE SWITCHING IS PROVIDED OCCUPANCY SENSOR SHALL PROVIDE OFF ONLY. SET OFF SETTING AT 30 MINUTES.
 4. OCCUPANCY SENSITIVITY SHALL BE ADJUSTED TO PROVIDE PROPER OPERATION IN THE FIELD.



HAND-OFF-AUTO CONTROL DIAGRAM

NO SCALE



MANUAL MOTOR STARTER WITH H-O-A CONTROL DIAGRAM

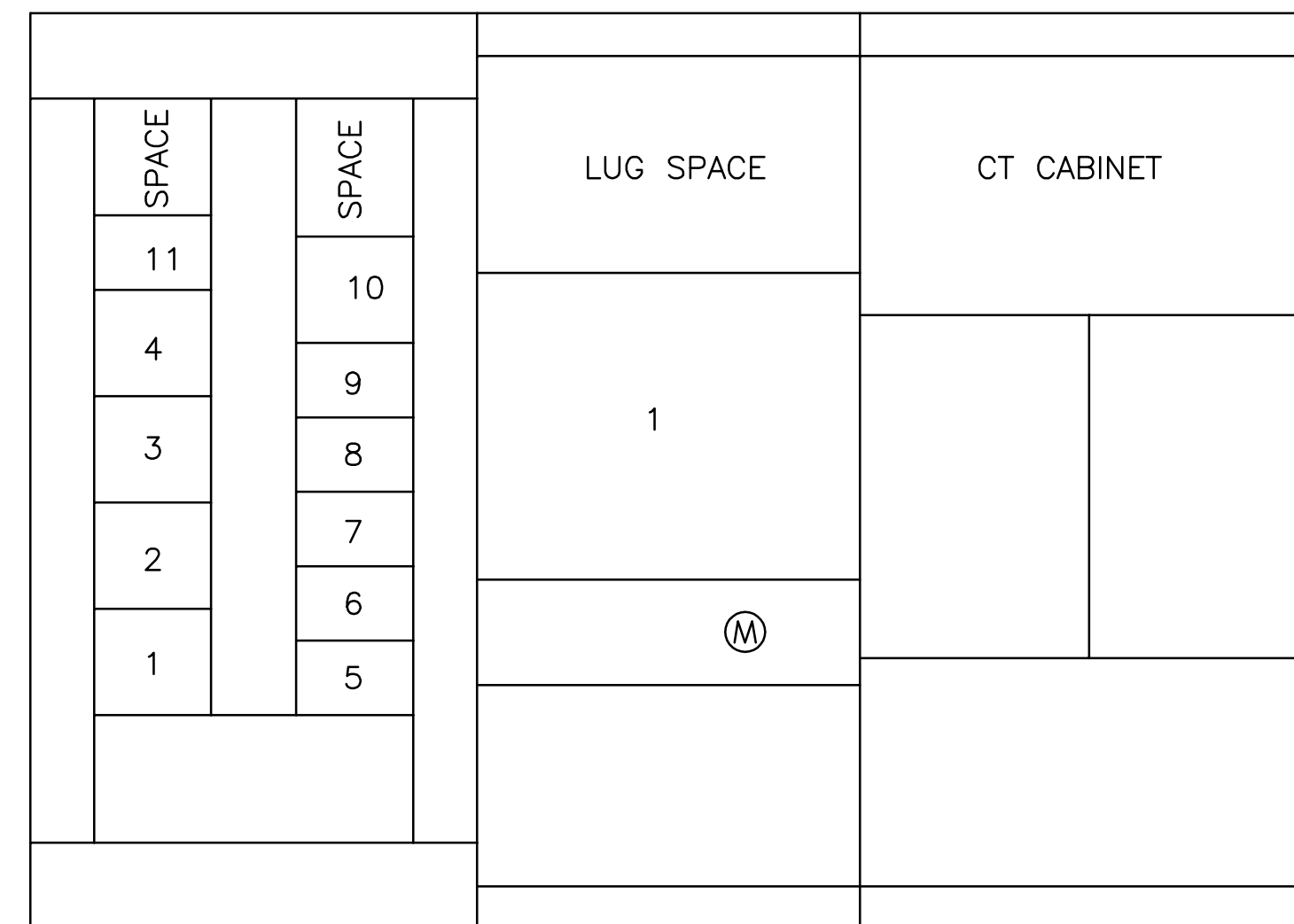
NO SCALE

FIRE ALARM RISER DIAGRAM NOTES:

1. 120 VOLT POWER FOR FACP, BPS PANELS OR OTHER POWERED FIRE ALARM DEVICE SHALL BE CONNECTED TO NEAREST LIFE SAFETY BRANCH OF EMERGENCY POWER PANEL PROVIDED WITH DEDICATED 20A-1P BREAKER W/ LOCK-ON DEVICE.
2. A SMOKE DETECTOR IS REQUIRED ABOVE EACH FACP, BPS PANEL(S), REMOTE ANNUNCIATORS AND SIMILAR FIRE ALARM COMPONENTS.
3. PROVIDE ALL NECESSARY WIRING AND SUPPORTING COMPONENTS INCLUDING BUT NOT LIMITED TO: END-OF-LINE RESISTORS, ADDRESSABLE RELAYS, MODULES, DRIVERS, ETC.
4. FINAL QUANTITIES OF DEVICES SHALL BE DETERMINED BY THE FOLLOWING: FLOOR PLAN DESIGN, SPECIFICATION REQUIREMENTS, SUCCESSFUL SYSTEM EQUIPMENT DESIGN, AUTHORITY HAVING JURISDICTION AND FIELD CONDITIONS.
5. PROVIDE A WEATHERPROOF HORN/STROBE DEVICE AT LOCATIONS INDICATED ON EXTERIOR OF THE BUILDING.
6. NOT USED.
7. NOT USED.
8. FINAL QUANTITY OF BPS PANELS SHALL BE DETERMINED BY FIRE ALARM DESIGNER. LOCATIONS OF PANELS SHALL BE APPROVED BY THE ENGINEER.

SERVICE GROUNDING SYSTEM NOTES:

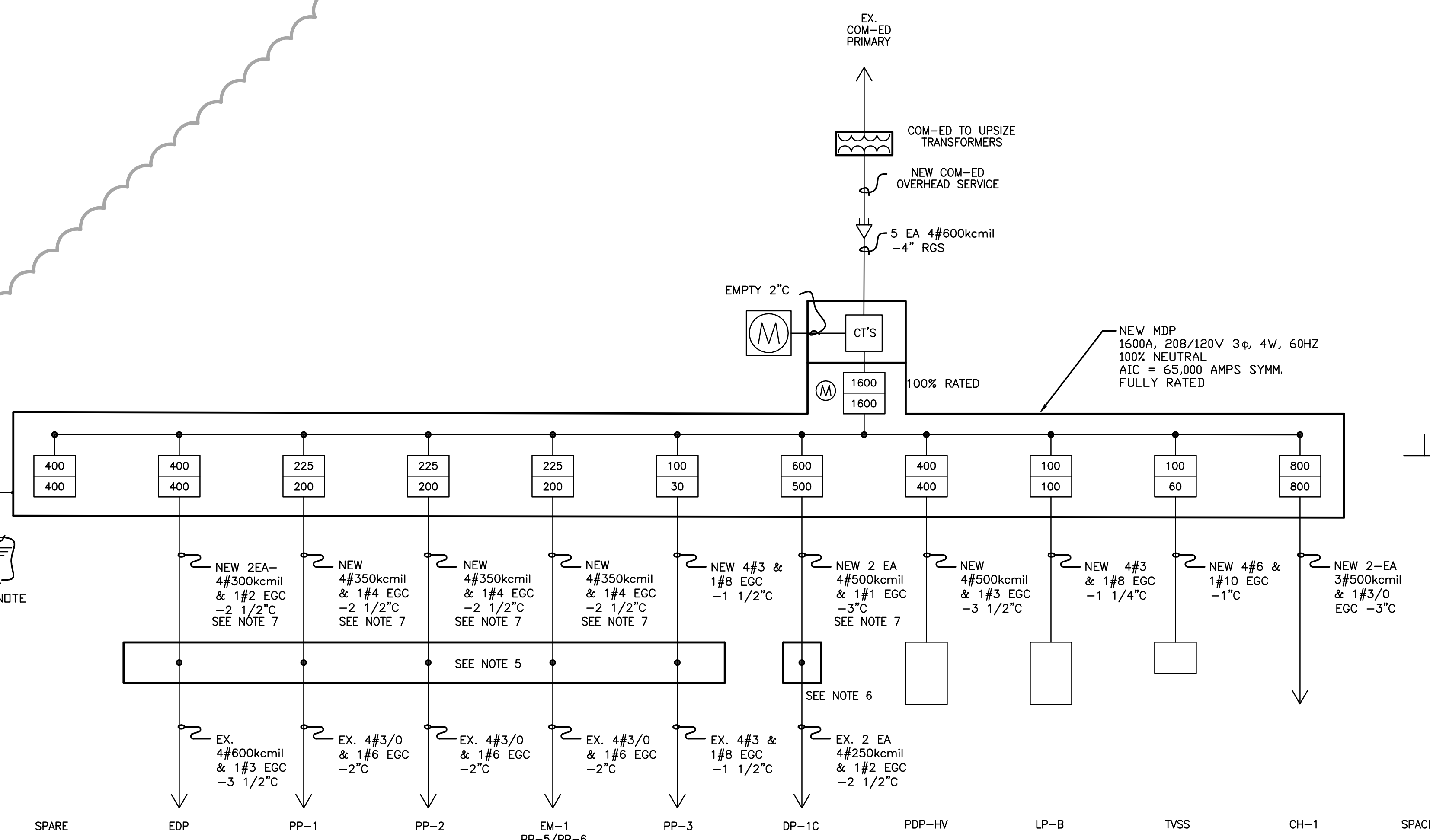
1. THE GROUNDING ELECTRODE CONDUCTORS (GEC) SHALL BE SIZED PER NEC 250.66. THE GEC SHALL BE CONNECTED TO AN APPROVED GROUNDING ELECTRODE.
2. GROUND CONDUCTORS TO OTHER POINTS AND EQUIPMENT, AS REQ'D BY NEC, ARTICLE 250 OR PROJECT SPECIFICATIONS.
3. SERVICE ENTRANCE CONDUCTORS (UNGROUND) WITH GROUNDED (SERVICE) CONDUCTOR.
4. MAIN BONDING JUMPER, SIZED AS PER NEC 250.28(D).
5. EQUIPMENT GROUNDING CONDUCTOR (EGC).
6. GROUNDED NEUTRAL CONDUCTOR.
7. GROUND ROD ELECTRODE - 3/4"X10'-0" COPPER CLAD ROD ELECTRODE CONDUCTOR - #6 CU PER NEC 250.66(A).
8. WATER LINE CONNECTION SHALL BE MADE WITHIN 5' OF BLDG WATER SERVICE ENTRANCE PER NEC 250.52(A)(1).
9. METAL WATER PIPING AND STRUCTURAL STEEL NOT INTENTIONALLY GROUNDED SHALL BE BONDED PER NEC 250.104(A) AND 250.66.
10. OTHER METAL PIPING (GAS, ETC) SHALL BE BONDED AS PER NEC 250.104(B) AND 250.122.
11. EGC FOR SEPARATELY DERIVED SYSTEM TRANSFORMER. REFER TO SINGLE LINE DIAGRAM FOR SIZE.
12. SYSTEM BONDING JUMPER FOR SEPARATELY DERIVED SYSTEM TRANSFORMER. SYSTEM BONDING JUMPER FACTORY PROVIDED WITH EQUIPMENT.
13. SUPPLY SIDE EQUIPMENT BONDING JUMPER - PER NEC 250.92(A). THE NON CURRENT CARRYING METALLIC PARTS OF SERVICE RACEWAYS SHALL BE BONDED. BONDING METHODS SHALL BE IN ACCORDANCE WITH NEC 250.92(B).
14. IF THIS PROJECT DOES NOT INCLUDE THE INSTALLATION OF THE MAIN ELECTRICAL ROOM GROUNDING ELECTRODE BUSBAR, THEN ALL CONDUCTORS SHOWN TO IT SHALL BE CONNECTED TO THE NORMAL POWER MAIN SWITCHBOARD NEUTRAL BUS.
15. 1#500KCMIL INSULATED CU - 2"EWT.
16. LOCATE INTERSYSTEM GROUNDING TERMINAL ADJACENT TO METER OR AS APPROVED BY THE A/E.



MDP ELEVATION/SCHEDULE

BRKR #	LOAD DESCRIPTION	FRAME SIZE/TRIP SIZE
1	MAIN	1200A/1200A
2	DP-1C	600A/500A
3	PP-HV	600A/600A
4	SPARE	400A/400A
5	EDP	400A/400A
6	EM1:PP-5/PP-6	225A/200A
7	PP-2	225A/200A
8	SPARE	225A/200A
9	PP-3	100A/30A
10	PP-1	225A/200A
11	TVSS	100A/30A

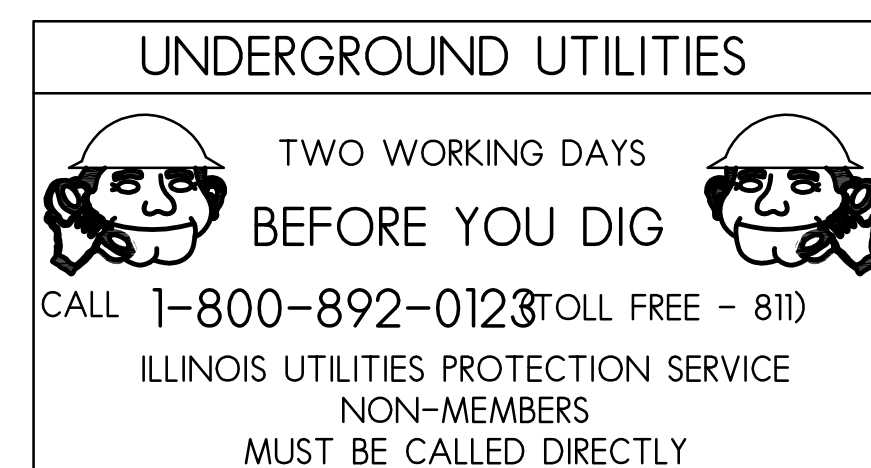
MDP SHALL BE 1200A, 208/120V, 3PH, 4W RATED WITH INDICATED BREAKERS AND ISC RATING OF 65KA MINIMUM



SINGLE LINE DIAGRAM

NO SCALE

- NOTES:
1. GROUND ALL ELECTRICAL EQUIPMENT PER N.E.C. ARTICLE 250.
 2. ALL CONDUCTOR SIZES SHOWN ARE COPPER THHN/THWN 75 DEG C.
 3. ALL CONDUIT SHALL BE EMT INTERIOR AND RGS EXTERIOR.
 4. LABEL THE NEW MDP WITH THE AVAILABLE FAULT CURRENT IN CONFORMANCE WITH NEC 110.24.
 5. THE EXISTING MAIN SWITCHBOARD (MSB) SHALL BECOME JUNCTION BOX. EXTEND FEEDERS FROM NEW MDP TO MSB AND SPICE FEEDERS WITHIN MSB. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FEEDER SIZES AS COMPARED TO THE PROPOSED NEW OVERCURRENT DEVICE PROTECTING THE FEEDER AND MAKE THE APPROPRIATE CORRECTIONS AS COORDINATED WITH THE ENGINEER OF RECORD.
 6. THE EXISTING DP-1C DISCONNECT SHALL BECOME JUNCTION BOX. EXTEND FEEDERS FROM NEW MDP TO THE DP-1C DISCONNECT AND SPICE FEEDERS WITHIN SWITCH ENCLOSURE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING FEEDER SIZE AS COMPARED TO THE PROPOSED NEW OVERCURRENT DEVICE PROTECTING THE FEEDER AND MAKE THE APPROPRIATE CORRECTIONS AS COORDINATED WITH THE ENGINEER OF RECORD.
 7. THE INDICATED FEEDER HAS BEEN SIZED TO ACCOMMODATE THE EXCESSIVE BOILER ROOM TEMPERATURES AT THE CEILING.
 8. BOND ALSO TO WATER SUPPLY PIPING. VERIFY ON SITE FOR OPTIMUM CONNECTION



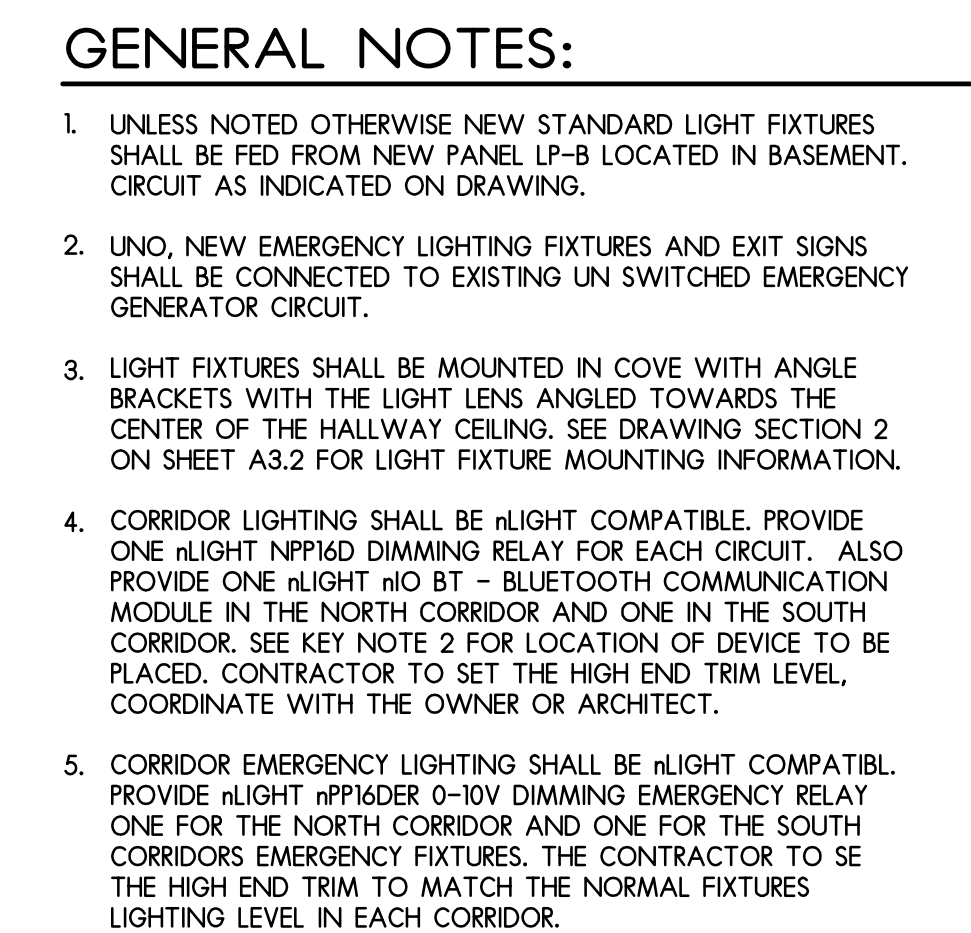
ELECTRICAL SINGLE LINE DIAGRAM AND DEAILS

SCALE: NTS

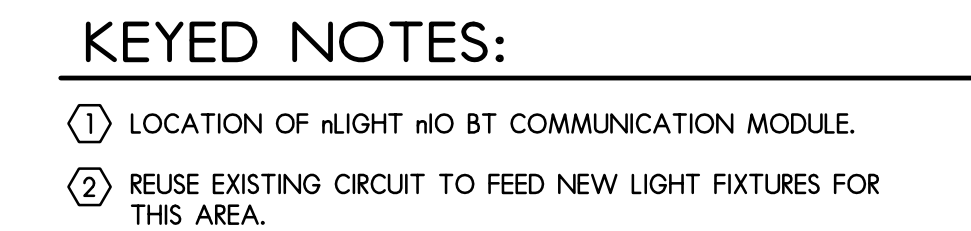
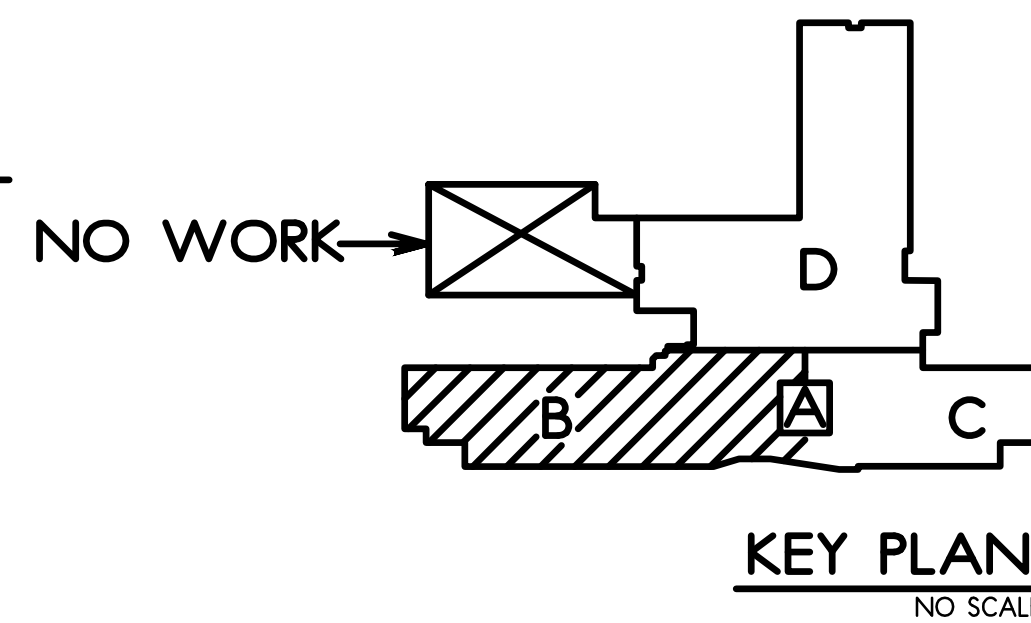
RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 - PROJECT #2243 - IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

COPYRIGHT 2022
All drawn and written information appearing herein shall not be duplicated, disclosed, or otherwise used without the written consent of Larson & Darby Group

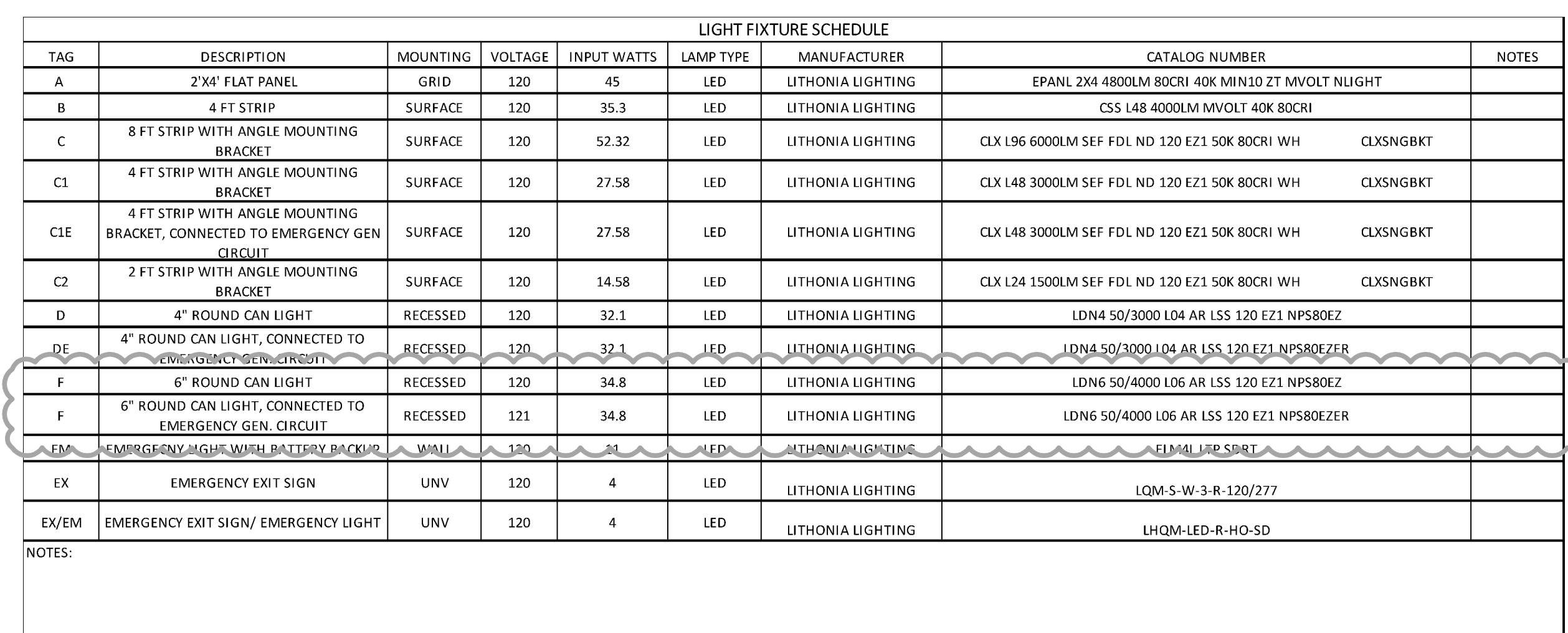
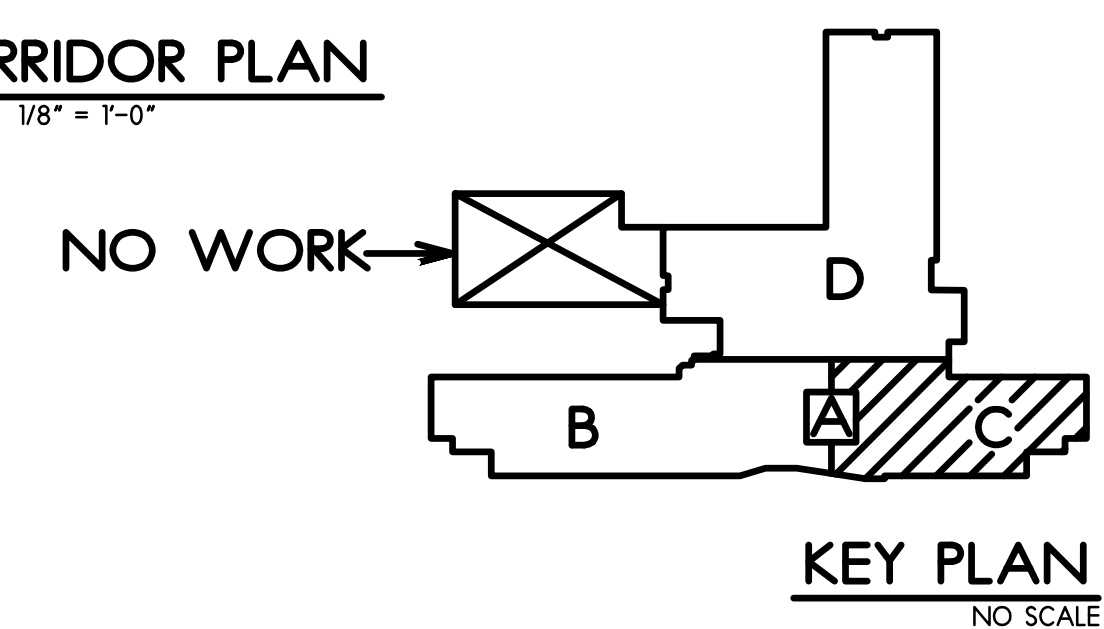
ISSUED FOR:	01-21-22	ISSUED FOR:	01-21-22
PROJECT NUMBER	31029-02	PROJECT NUMBER	31029-02
SHEET NUMBER	E0.2	SHEET NUMBER	E0.2
DRAWN BY:	EP	DRAWN BY:	EP
CHECKED BY:	AB	CHECKED BY:	AB
APPROVED BY:	AB	APPROVED BY:	AB



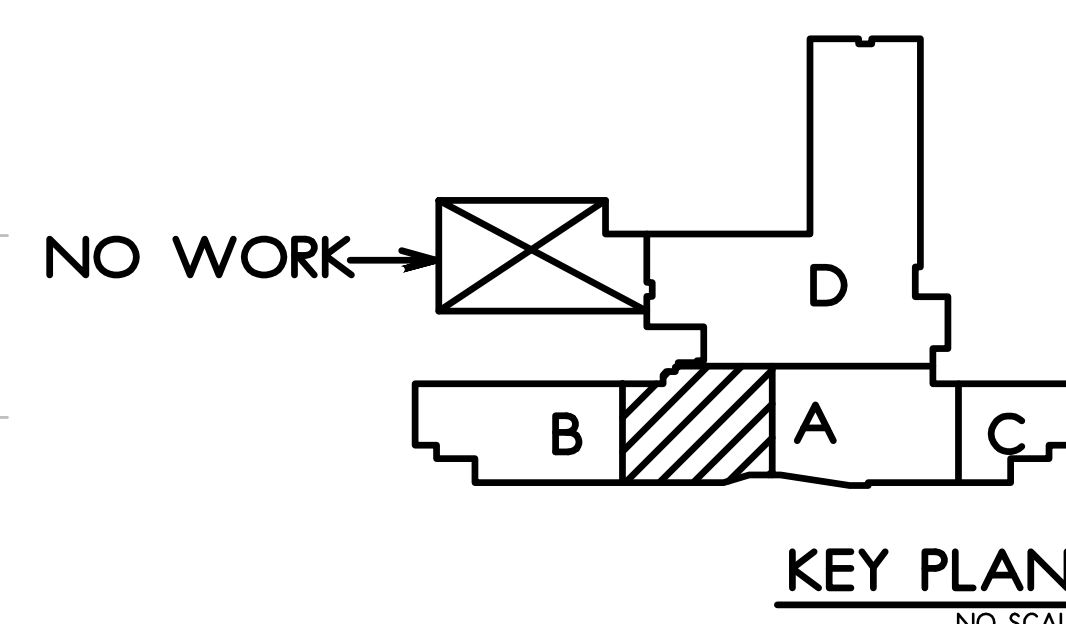
1 FIRST FLOOR LIGHTING NORTH CORRIDOR PLAN
SCALE: 1/8" = 1'-0"



2 FIRST FLOOR LIGHTING SOUTH CORRIDOR PLAN
SCALE: 1/8" = 1'-0"

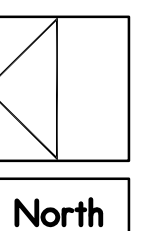


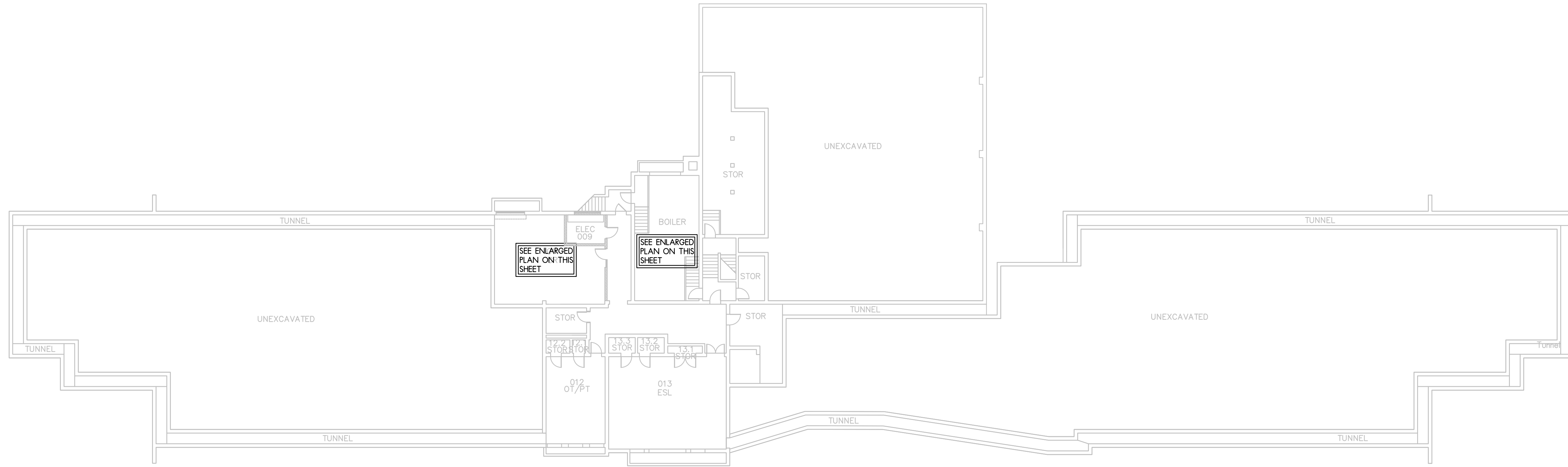
2 BASEMENT LIGHTING PLAN
SCALE: 1/4" = 1'-0"



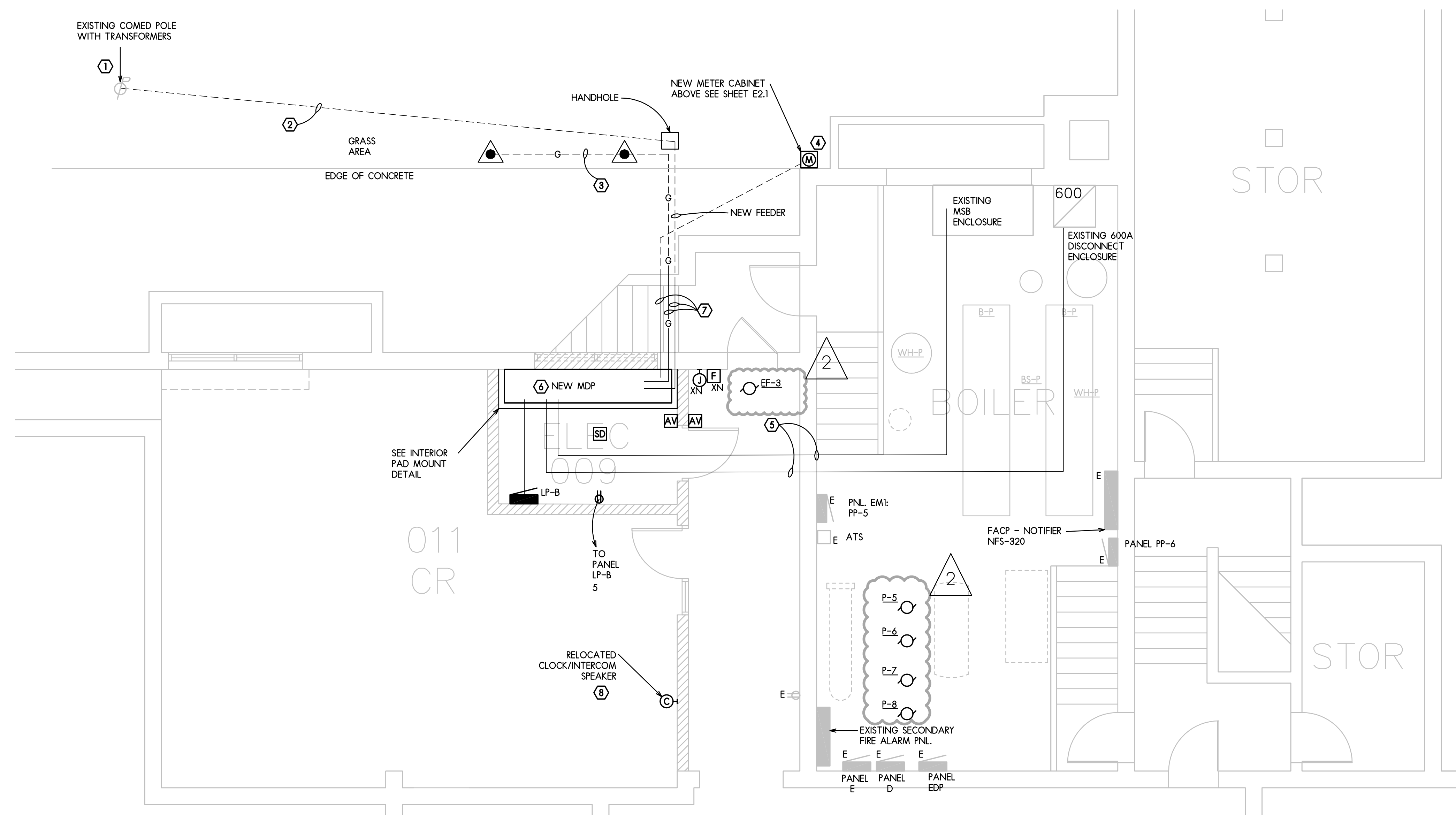
ELECTRICAL - BASEMENT & FIRST FLOOR LIGHTING NEW WORK PLANS

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



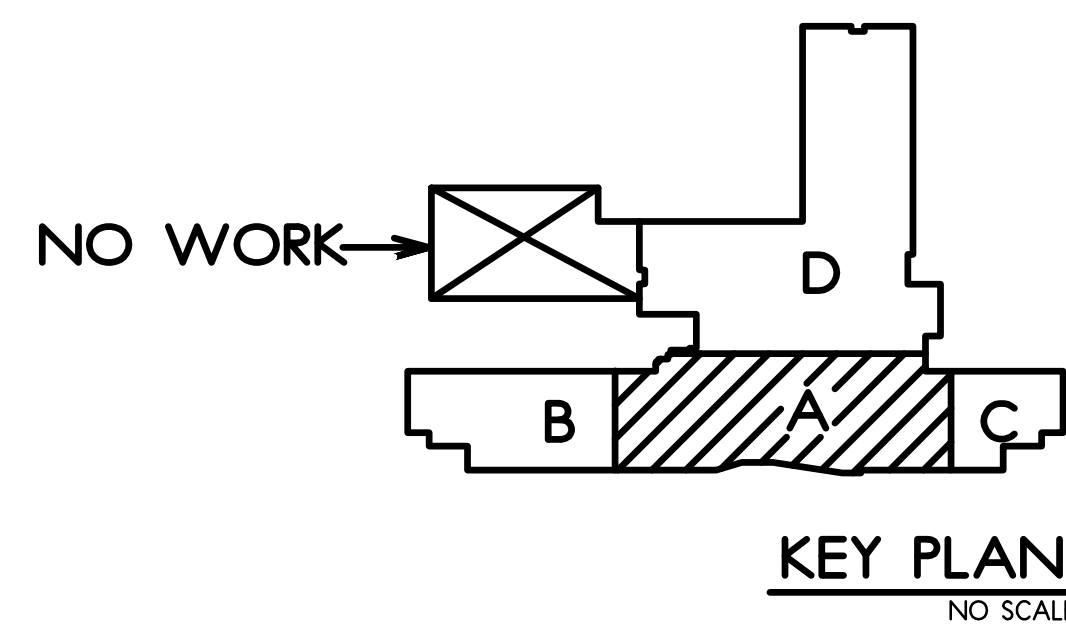


1 BASEMENT NEW WORK PLAN
SCALE: 1/8" = 1'-0"



2 ENLARGED MECHANICAL ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"

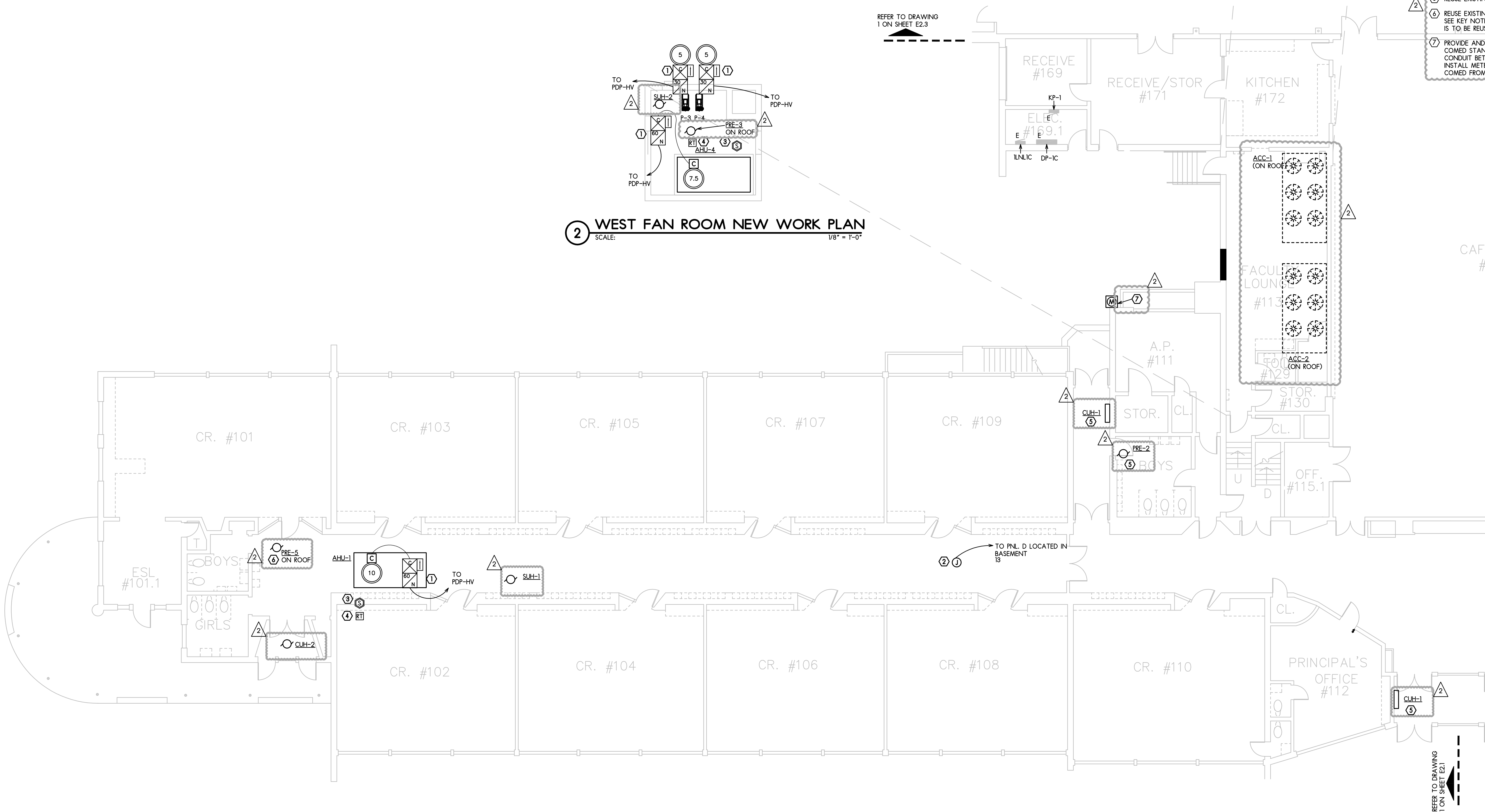
- KEYED NOTES:
- EXISTING COMED TRANSFORMER POLE. COMED TO UPSIZE TRANSFORMERS. COORDINATE WORK WITH COMED.
 - THE EC SHALL TRENCH, BACKFILL AND FINISH GRADE TO MATCH FOR NEW UNDERGROUND SERVICE FROM COMED TRANSFORMER POLE TO NEW MDP. PROVIDE AND INSTALL NEW SERVICE ENTRANCE CONDUCTORS AND RACEWAY. SEE SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
 - SEE SERVICE GROUNDING WIRING DIAGRAM.
 - PROVIDE AND INSTALL NEW METER SOCKET TO COMPLY WITH COMED STANDARDS. PROVIDE AND INSTALL EMPTY 1/2" CONDUIT BETWEEN SOCKET AND CT CABINET. PROVIDE AND INSTALL METERING CONDUCTORS AS COORDINATED WITH COMED FROM CT CABINET TO NEW METER.
 - INTENDED ROUTING OF FEEDER FROM NEW MDP TO EXISTING MSB AND 600 AMP DISCONNECT SWITCH. FIELD COORDINATE FOR OPTIMUM ROUTING. PROVIDE JUNCTION BOXES AS NEEDED TO COMPLY WITH NEC.
 - NEW MDP. SEE MDP ELEVATION AND SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.
 - SEE SHEET AL4 DRAWING #7 FOR RACEWAY CROSSING STAIRWELL DETAIL. THE G.E.C. SHALL BE INSTALLED WITH IN 3/4" PVC BELOW SIDEWALK AND EXPOSED WITHIN STAIRWAY. TRENCH, BACKFILL AND FINISH SURFACES TO MATCH.
 - FOR RELOCATED DEVICE, EXTEND EXISTING CIRCUIT AS REQUIRED AND TO MATCH EXISTING. COORDINATE INSTALLATION/ RELOCATION IN FIELD WITH ARCHITECT/ENGINEER.



ELECTRICAL - BASEMENT
POWER NEW WORK PLANS

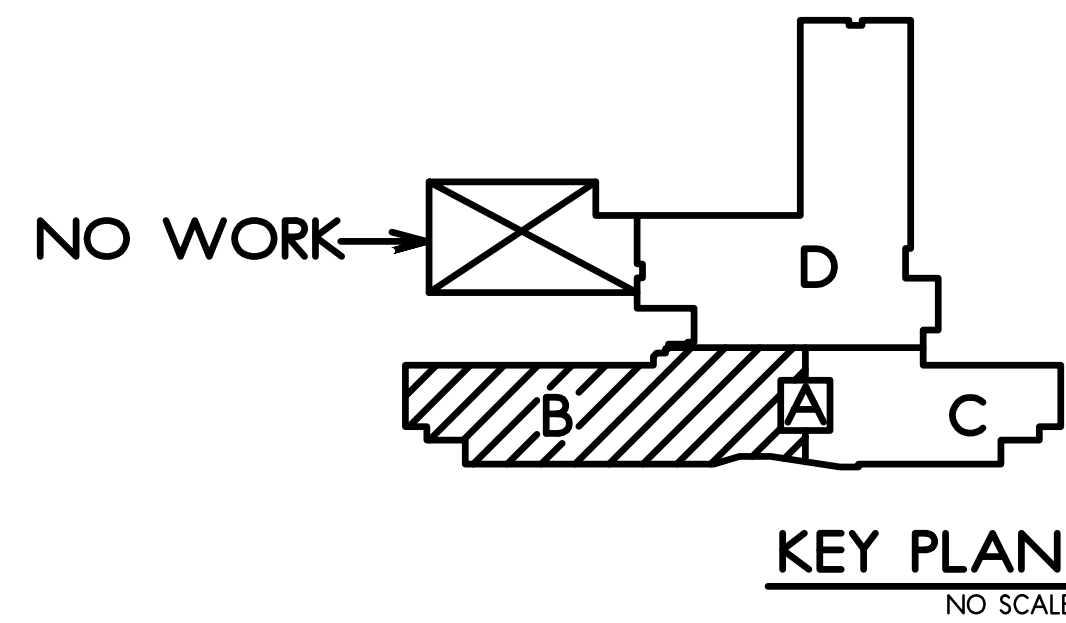
SCALE: AS SHOWN

North



2 WEST FAN ROOM NEW WORK PLAN
SCALE: 1/8" = 1'-0"

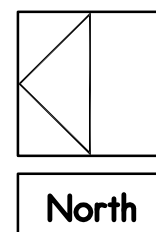
1 FIRST FLOOR AREA B NEW WORK PLAN
SCALE: 1/8" = 1'-0"



- KEYED NOTES:**
- 1 FIELD LOCATE COMBINATION STARTER/DISCONNECT FOR OPTIMUM LOCATION WITH ARCHITECT/ENGINEER AND OWNER. SEE CONTROL DIAGRAM FOR ADDITIONAL INFORMATION.
 - 2 FOR VAV BOXES, FIELD LOCATE J-BOX ABOVE CEILING, FOR OPTIMUM LOCATION WITH HVAC CONTRACTOR FOR NEW VAVR CONTROL POWER. CIRCUIT TO INDICATED PANEL & BRANCH CIRCUIT.
 - 3 THE EC SHALL PROVIDE THE DUCT SMOKE DETECTOR TO THE MC FOR INSTALLATION INTO THE RETURN. THE EC SHALL CIRCUIT DETECTOR TO THE F.A. PANEL IN THE BOILER ROOM AS REQUIRED AND AS COORDINATED WITH F.A. EQUIPMENT MANUFACTURER. THE T.C.C. SHALL CIRCUIT THE DETECTOR FOR FAN SHUT DOWN. THE EC SHALL COORDINATE WITH THE MC AND THE T.C.C.
 - 4 FIELD LOCATE THE SMOKE DETECTOR REMOTE TEST STATION FOR OPTIMUM LOCATION WITH ARCHITECT/ENGINEER AND OWNER AND WIRE AS PER MANUFACTURER RECOMMENDATIONS.
 - 5 REUSE EXISTING CIRCUITS TO FEED NEW HVAC EQUIPMENT.
 - 6 REUSE EXISTING EXHAUST FAN CIRCUIT TO FEED NEW PRE-6. SEE KEY NOTE 2 ON SHEET ED2.2 FOR EXHAUST CIRCUIT THAT IS TO BE REUSED.
 - 7 PROVIDE AND INSTALL NEW METER SOCKET TO COMPLY WITH COMED STANDARDS. PROVIDE AND INSTALL EMPTY 1/2" CONDUIT BETWEEN SOCKET AND CT CABINET. PROVIDE AND INSTALL METERING CONDUCTORS AS COORDINATED WITH COMED FROM CT CABINET TO NEW METER.

**ELECTRICAL - FIRST FLOOR
NEW WORK PLANS**

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



ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
ADDENDUM 2	02-04-22		
DRAWN BY:	AB	CHECKED BY:	AB
APPROVED BY:			

DATE: 01-21-2022	PROJECT NUMBER
31029-02	
SHEET NUMBER	E2.1

COPYRIGHT 2022
All drawn and written information
appearing herein shall not be
reproduced, copied, or otherwise
used without the written consent of
Larson & Darby Group

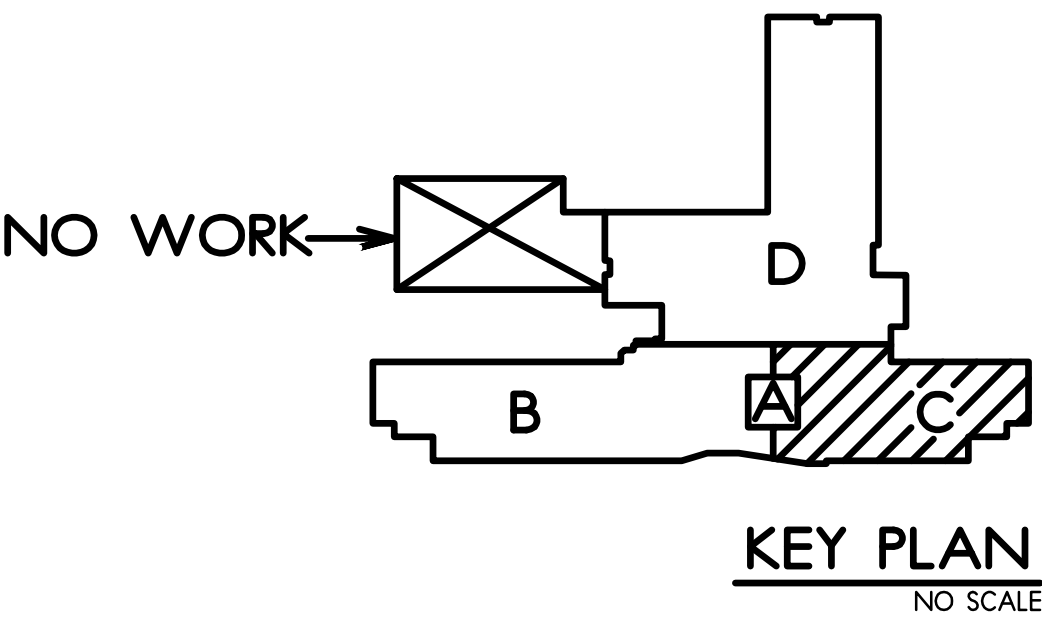
RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 - PROJECT #2243 - IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

KEYED NOTES:

- ① FIELD LOCATE COMBINATION STARTER/DISCONNECT FOR OPTIMUM LOCATION WITH ARCHITECT/ENGINEER AND OWNER. SEE CONTROL DIAGRAM FOR ADDITIONAL INFORMATION.
- ② FOR VAV BOXES, FIELD LOCATE J-BOX ABOVE CEILING, FOR OPTIMUM LOCATION WITH HVAC CONTRACTOR FOR NEW VAV CONTROL POWER CIRCUIT TO INDICATED PANEL & BRANCH CIRCUIT.
- ③ THE EC SHALL PROVIDE THE DUCT SMOKE DETECTOR TO THE MC FOR INSTALLATION INTO THE RETURN. THE EC SHALL CIRCUIT DETECTOR TO THE F.A. PANEL IN THE BOILER ROOM AS REQUIRED AND AS COORDINATED WITH F.A. EQUIPMENT MANUFACTURER. THE T.C.C. SHALL CIRCUIT THE DETECTOR FOR FAN SHUT DOWN. THE EC SHALL COORDINATE WITH THE MC AND THE TCC.
- ④ FIELD LOCATE THE SMOKE DETECTOR REMOTE TEST STATION FOR OPTIMUM LOCATION WITH ARCHITECT/ENGINEER AND OWNER AND WIRE AS PER MANUFACTURER RECOMMENDATIONS.
- ⑤ REUSE EXISTING CIRCUITS TO FEED NEW HVAC EQUIPMENT.
- ⑥ REUSE EXISTING EXHAUST FAN CIRCUIT TO FEED NEW PRE-6. SEE KEY NOTE 2 ON SHEET ED2.2 FOR EXHAUST CIRCUIT THAT IS TO BE REUSED.

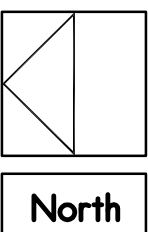


① FIRST FLOOR AREA C NEW WORK PLAN
SCALE: 1/8" = 1'-0"



ELECTRICAL - FIRST FLOOR
NEW WORK PLANS

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



Larson & Darby Group
Architecture Engineering Interiors

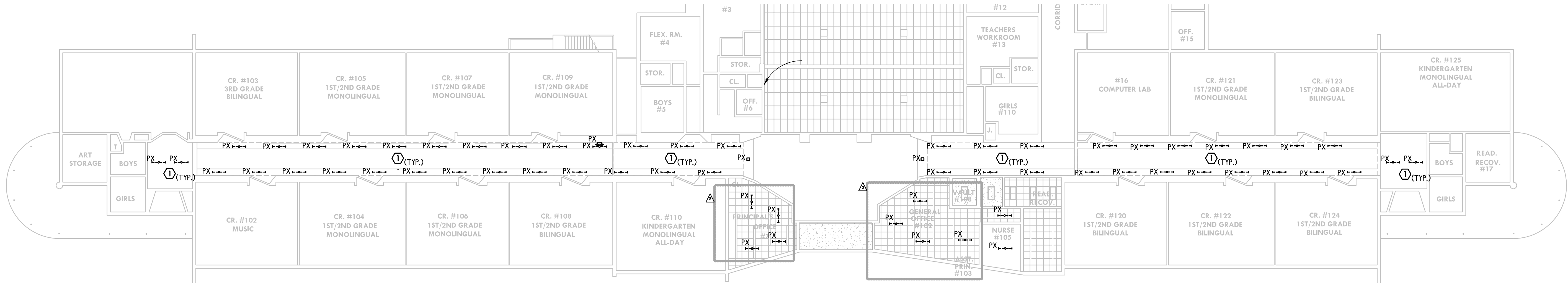
RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 - PROJECT #2243 - IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

COPYRIGHT 2022
All drawn and written information appearing herein shall not be duplicated, disclosed, or otherwise used without the written consent of Larson & Darby Group

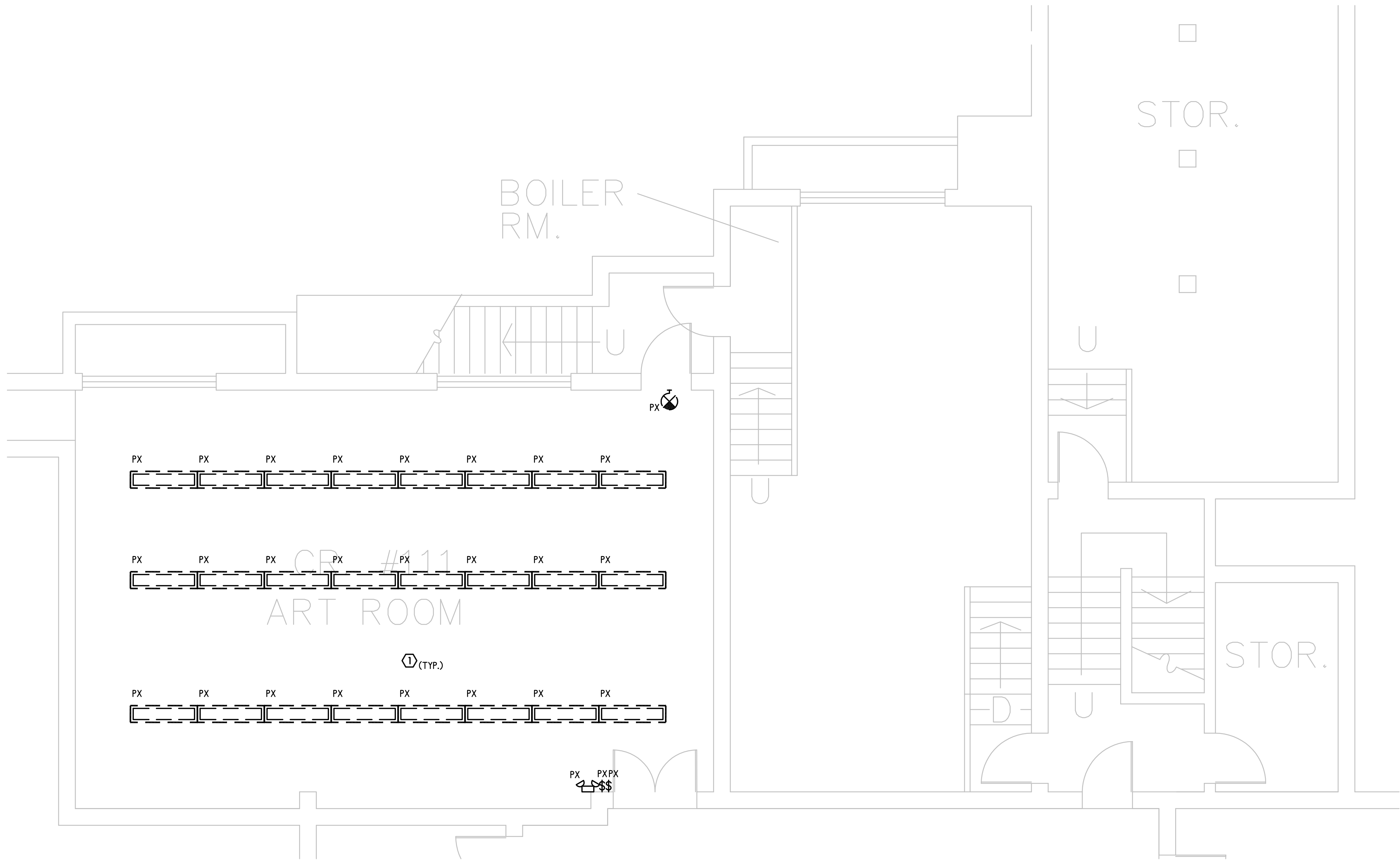
ISSUED FOR:	01-21-2022	ISSUED FOR:	BIDDING
ADDENDUM 2	02-04-22		
DRAWN BY:	EP	CHECKED BY:	AB
		APPROVED BY:	

DATE: 01-21-2022	PROJECT NUMBER
31029-02	
SHEET NUMBER	E2.2

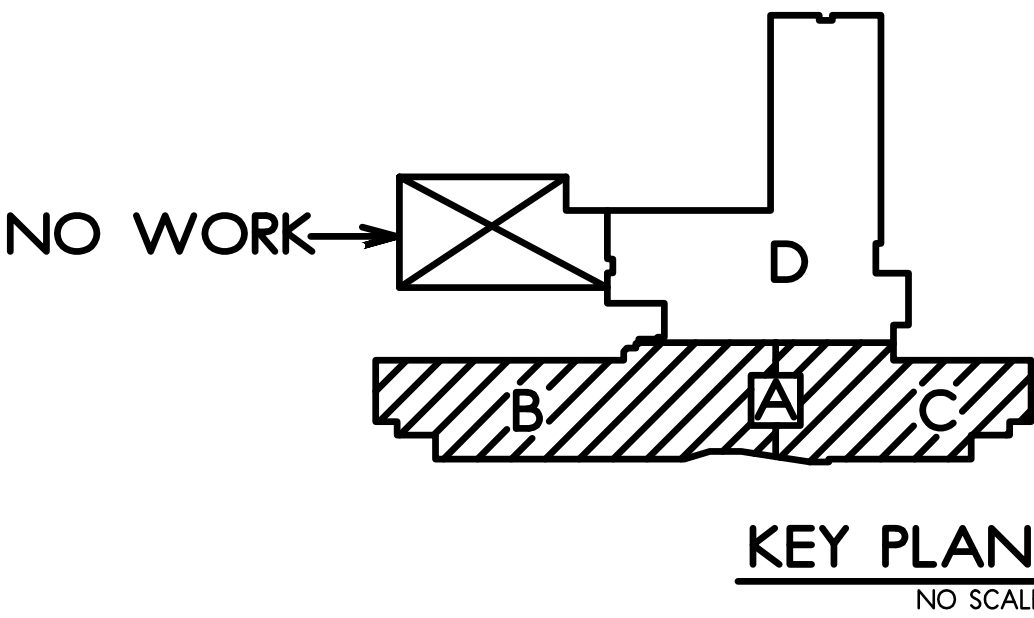
KEYED NOTES:
① DISCONNECT AND REMOVE EXISTING LIGHTING AS INDICATED INCLUDING EXISTING BRANCH CIRCUIT BACK TO SOURCE PANEL.



① FIRST FLOOR LIGHTING DEMOLITION PLAN
SCALE: 1/16" = 1'-0"



② BASEMENT LIGHTING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



ELECTRICAL - BASEMENT
& FIRST FLOOR LIGHTING
DEMOLITION PLAN

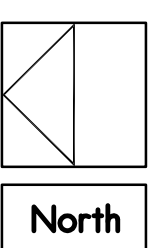
SCALE: 1/8" = 1'-0"

ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
ADDENDUM 2	02-04-22		
DRAWN BY:	EP	CHECKED BY:	AB
		APPROVED BY:	

DATE: 01-21-2022	PROJECT NUMBER	SHEET NUMBER	ED1.0
	31029-02		



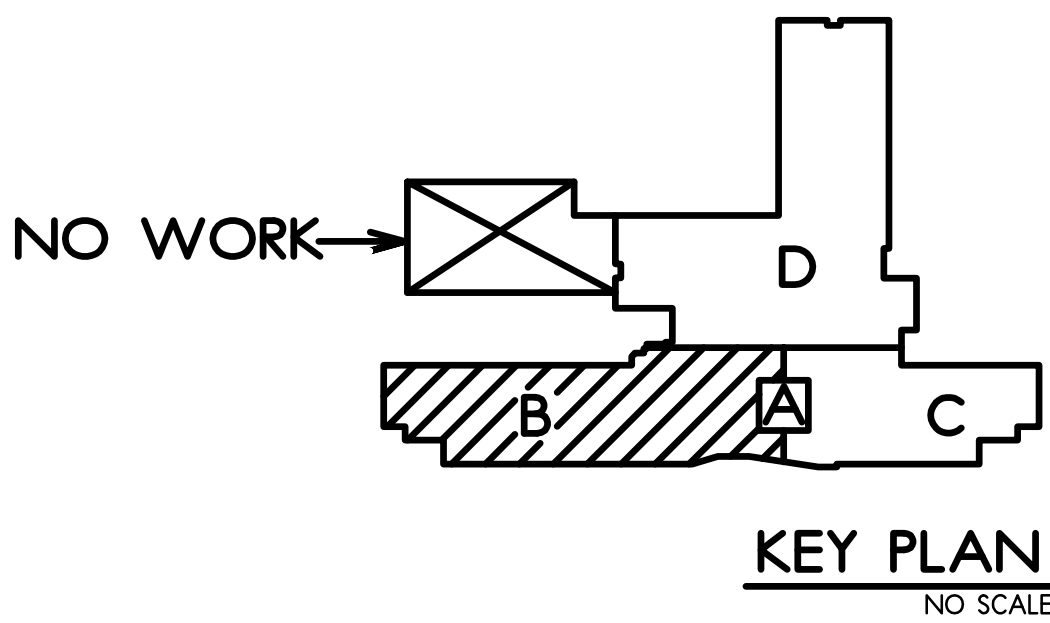
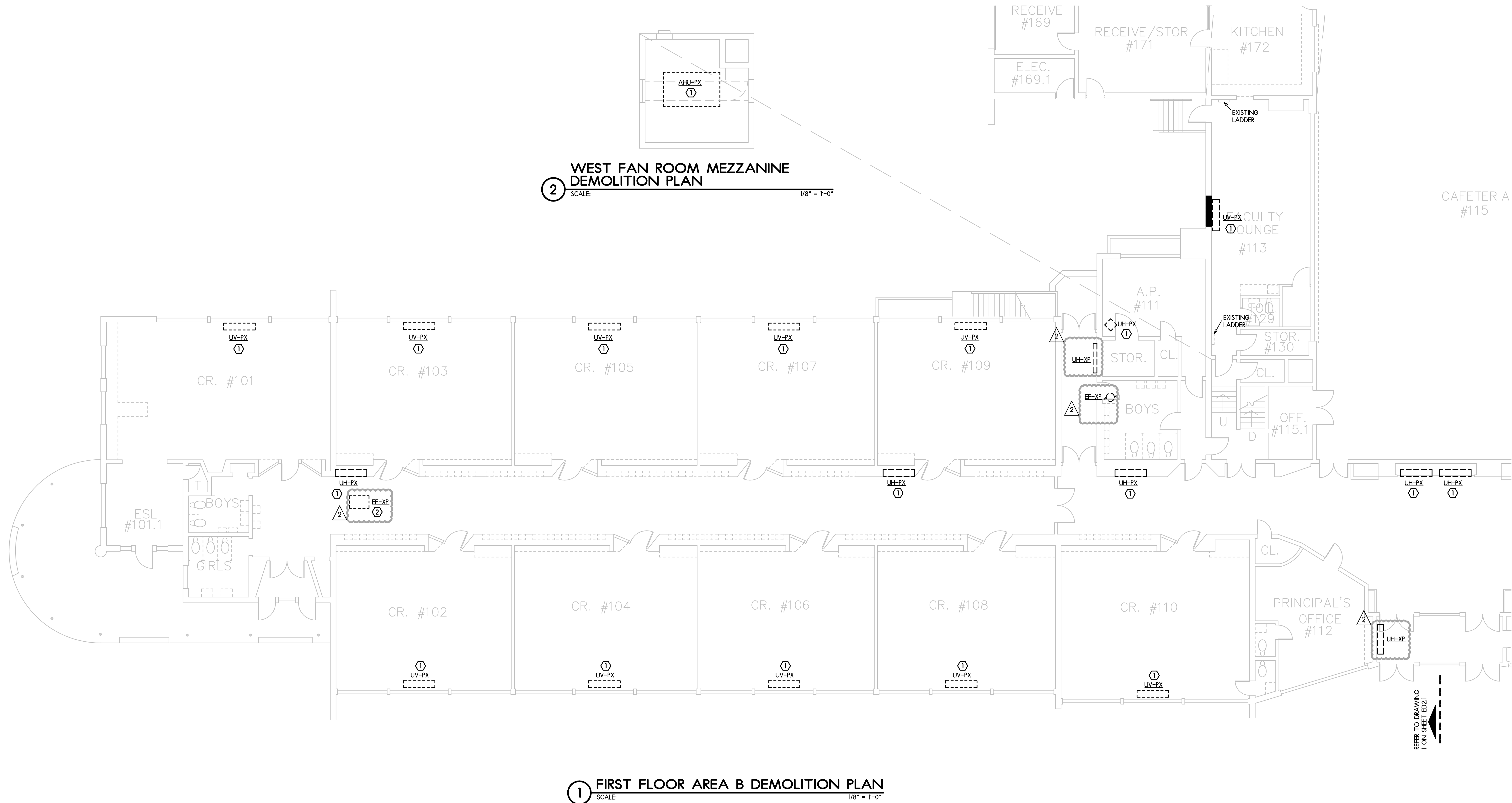
- 2 ENLARGED MECHANICAL ROOM DEMOLITION PLAN**
SCALE: 1/4" = 1'-0"



KEYED NOTES:
① DISCONNECT EXISTING HVAC UNIT FOR REMOVAL BY OTHERS. REMOVE BRANCH CIRCUIT TO SOURCE OF SUPPLY UNLESS IT SUPPLIES OTHER LOADS TO REMAIN. IF BRANCH CIRCUIT SUPPLIES OTHER LOADS REMOVE IT BACK TO LOAD TO REMAIN. UPON COMPLETION UPDATE PANEL SCHEDULES SUPPLYING DISCONNECTED LOADS.

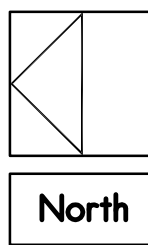
ISSUED FOR:	01-21-22	ISSUED FOR:	BIDDING
ADDENDUM 2	02-04-22		
DRAWN BY:	AB	CHECKED BY:	APPROVED BY:
ED			

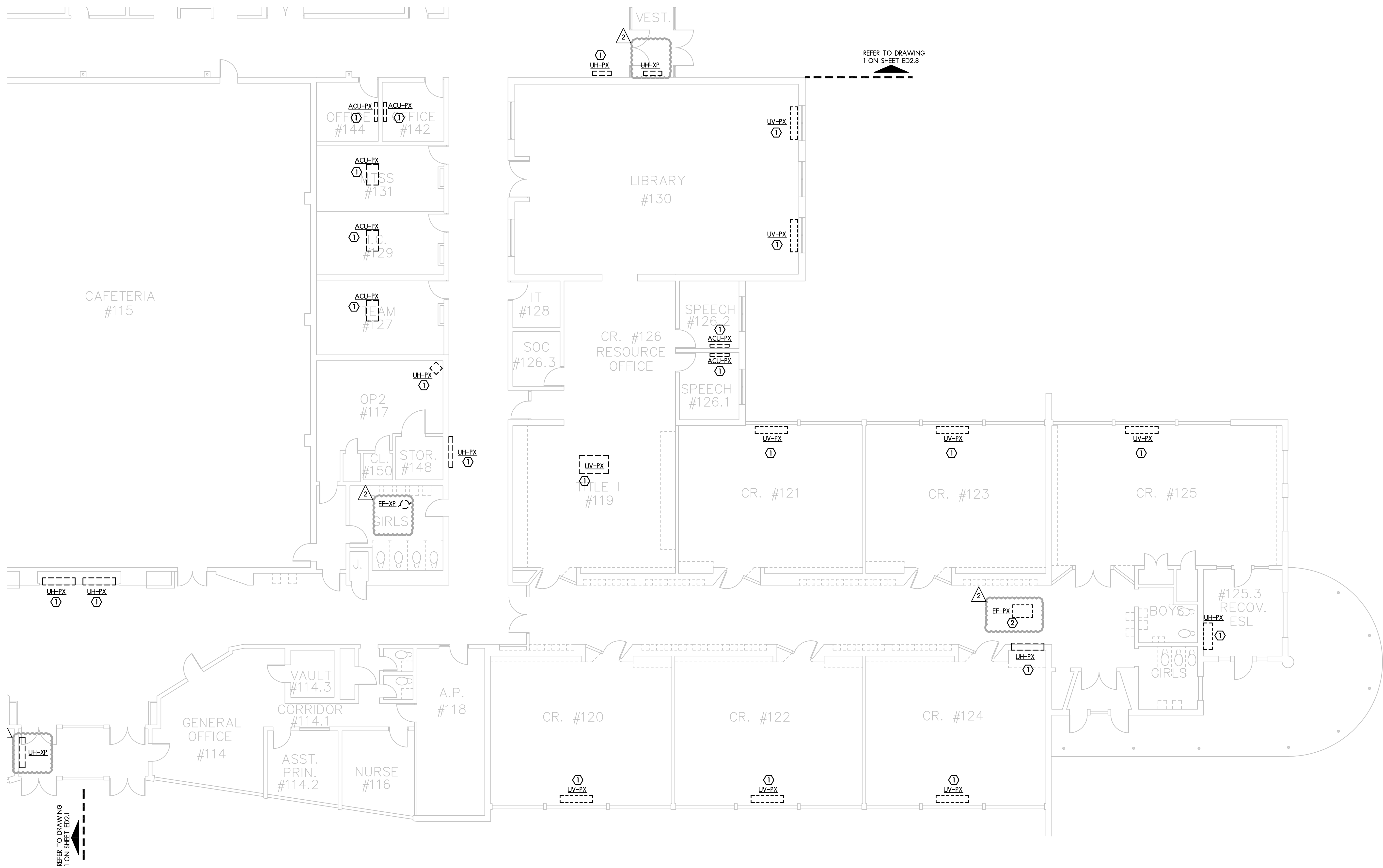
DATE: 01-21-2022	PROJECT NUMBER	SHEET NUMBER
31029-02		ED2.1



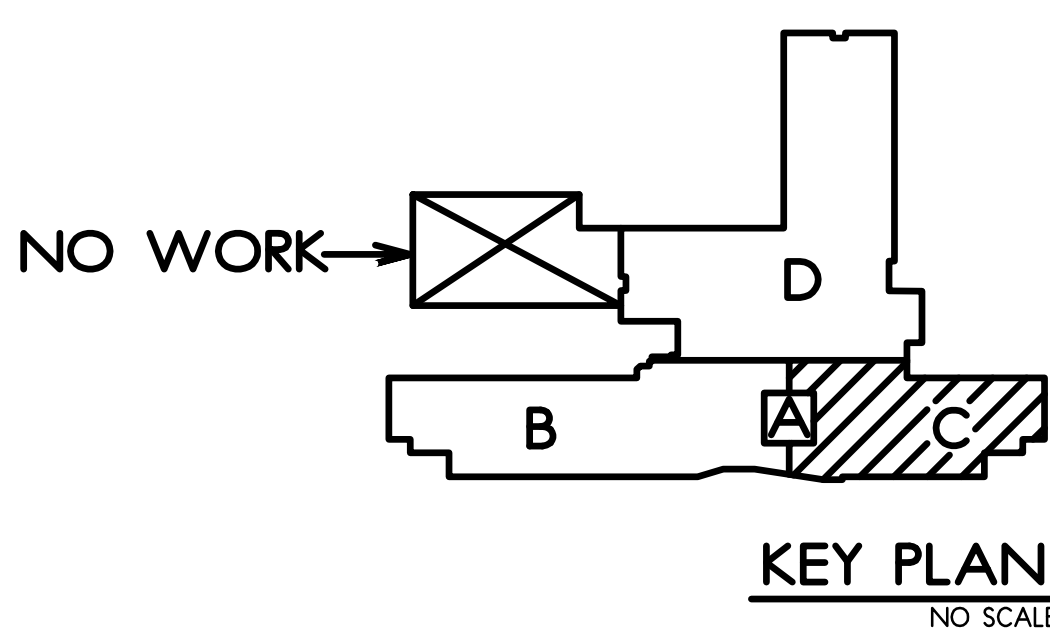
ELECTRICAL – FIRST FLOOR DEMOLITION PLANS

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



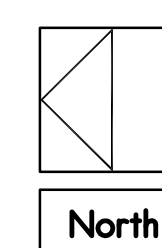


1 FIRST FLOOR AREA C DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



ELECTRICAL - FIRST FLOOR
DEMOLITION PLANS

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



- KEYED NOTES:
- 1 DISCONNECT EXISTING HVAC UNIT FOR REMOVAL BY OTHERS. REMOVE BRANCH CIRCUIT TO SOURCE OF SUPPLY UNLESS IT SUPPLIES OTHER LOADS TO REMAIN. IF BRANCH CIRCUIT SUPPLIES OTHER LOADS REMOVE IT BACK TO LOAD TO REMAIN. UPON COMPLETION UPDATE PANEL SCHEDULES SUPPLYING DISCONNECTED LOADS.
 - 2 EXISTING CIRCUIT TO BE REUSED TO FEED NEW PRE-6. SEE KEY NOTE 6 ON SHEET E2.2.

DATE: 01-21-2022
PROJECT NUMBER
31029-02
SHEET NUMBER
ED2.2

ISSUED FOR:
ADDENDUM 2 02-04-22
ISSUED FOR:
01-21-22
BIDDING

DRAWN BY:
EP
CHECKED BY:
AB
APPROVED BY:

1/8" = 1'-0"

North

Copyright 2022
All drawn and written information
appearing herein shall not be
reproduced, stored, or otherwise
used without the written consent of
Larson & Darby Group

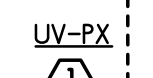
RIVERDAHL ELEM. SCHOOL HVAC SYSTEM UPGRADES
RPS DISTRICT 205 - PROJECT #2243 - IFB #22-22
3520 KISHWAUKEE ST, ROCKFORD, IL 61109

Larson & Darby Group
Architecture Engineering Interiors

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



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



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



① DISCONNECT EXISTING HVAC UNIT FOR REMOVAL BY OTHERS. REMOVE BRANCH CIRCUIT TO SOURCE OF SUPPLY UNLESS IT SUPPLIES OTHER LOADS TO REMAIN. IF BRANCH CIRCUIT SUPPLIES OTHER LOADS REMOVE IT BACK TO LOAD TO REMAIN. UPON COMPLETION UPDATE PANEL SCHEDULES SUPPLYING DISCONNECTED LOADS.



COPYRIGHT 2022
drawn and written information
appearing herein shall not be
reproduced, disclosed, or otherwise
transmitted without the written consent of
Parsons & Darby Group

DATE: 01-21-2022	PROJECT NUMBER	31029-02	SHEET NUMBER	ED2.3
------------------	----------------	----------	--------------	-------