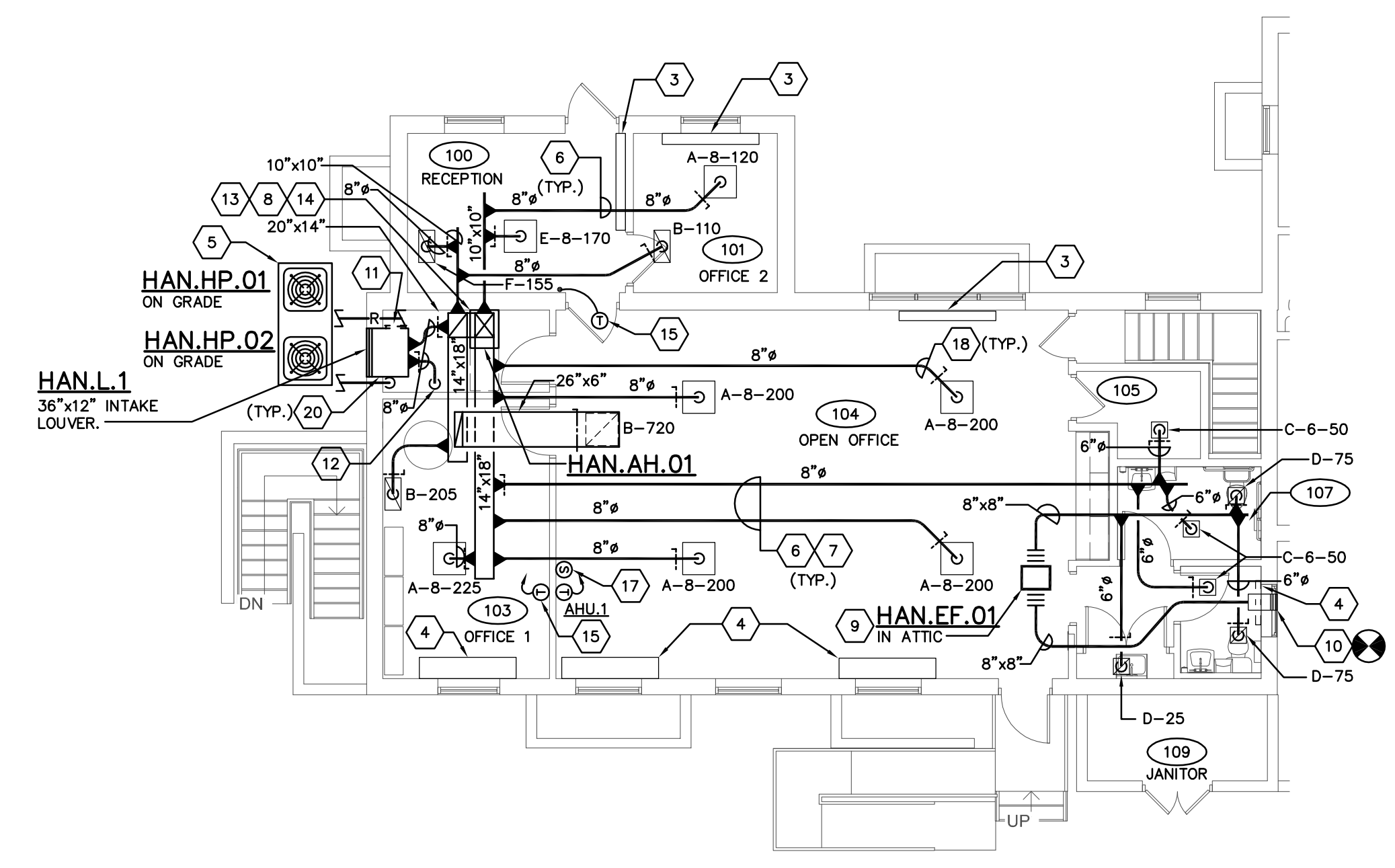
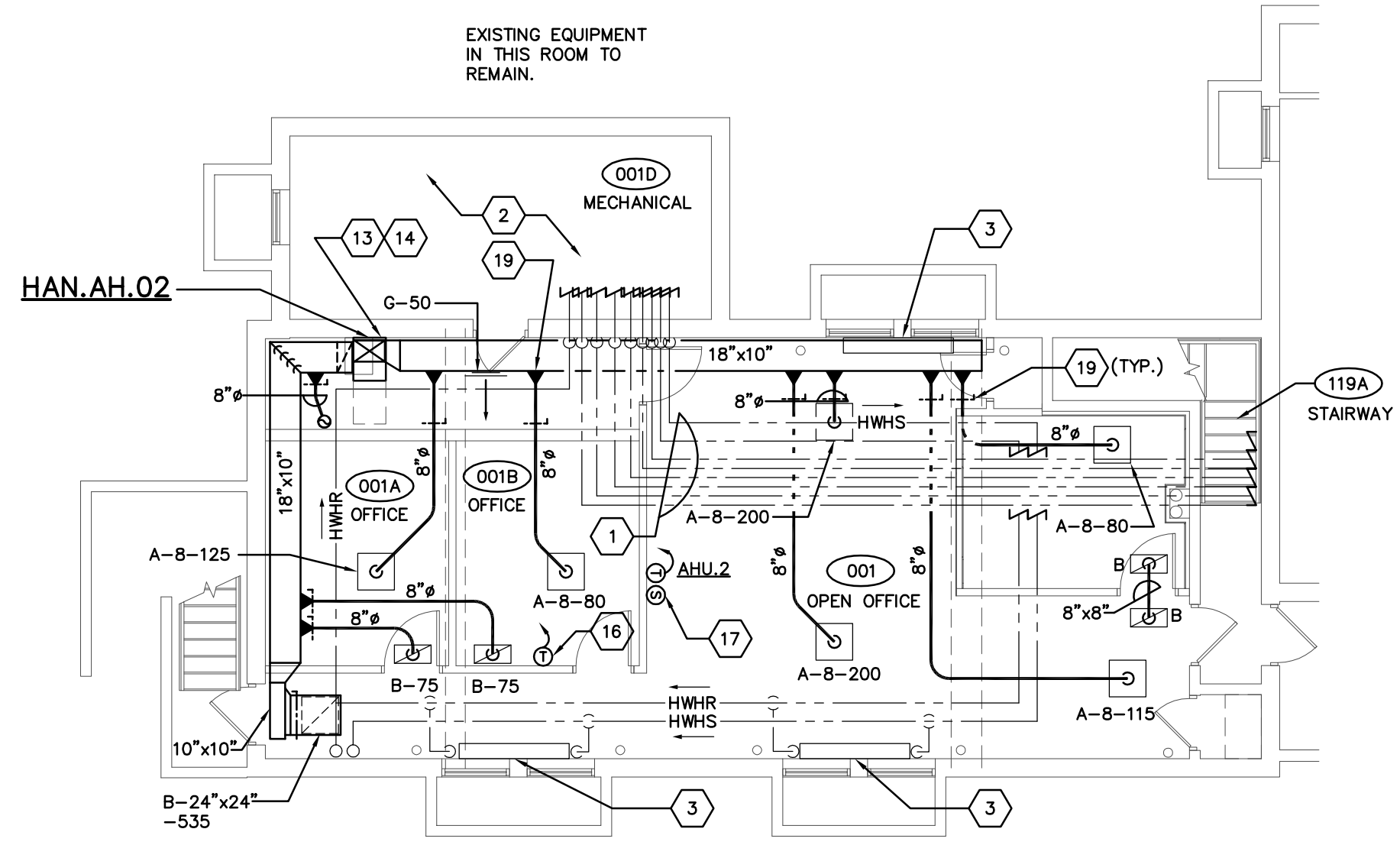


**CODED NOTES**

1. EXISTING PIPING TO REMAIN.
2. EXISTING EQUIPMENT IN MECHANICAL ROOM TO REMAIN.
3. EXISTING HOT WATER RADIATOR TO REMAIN.
4. EXISTING UNIT VENTILATOR TO REMAIN.
5. PROVIDE 4" CONCRETE PAD FOR HEAT PUMP UNITS.
6. RUN NEW 8" SUPPLY DUCTS BETWEEN EXISTING STRUCTURE. FIELD COORDINATE FINAL LOCATIONS.
7. DUCTWORK IN ATTIC ABOVE THE INSULATION SHALL BE COVERED WITH 3" INSULATION.
8. EXTEND 14"x18" SUPPLY AIR DUCT UP TO ATTIC SPACE BETWEEN EXISTING TRUSSES. COORDINATE FINAL LOCATION OF FURNACE BASED ON EXISTING JOIST LOCATION. THE DUCT RISER SHALL COME STRAIGHT OFF THE UNIT WITH NO ABRUPT TRANSITIONS.
9. SUSPEND FAN FROM STRUCTURE WITH VIBRATION ISOLATORS. PROVIDE FLEXIBLE CONNECTION AT INLET AND OUTLET OF FAN.
10. EXISTING 12"x12" O.A. LOUVER TO REMAIN. REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK & CONNECT NEW DUCTWORK TO EXISTING LOUVER.
11. 18"x10" HINGED A.D. IN MOST ACCESSIBLE LOCATION.
12. EXTEND 8" O.A. DUCT DOWN THRU FLOOR TO AHU-2. FIRE CAULK FLOOR PENETRATION.
13. EXTEND REFRIGERANT LINE-SETS FROM INDOOR UNIT TO OUTDOOR UNIT.
14. EXTEND CONDENSATION DRAIN LINE TO FLOOR DRAIN LOCATED IN MECHANICAL ROOM B01.
15. PROVIDE AVERAGING TEMPERATURE SENSOR FOR AH.1 IN THIS LOCATION.
16. PROVIDE AVERAGING TEMPERATURE SENSOR FOR AH.2 IN THIS LOCATION.
17. SIEMENS DDC SPACE TEMPERATURE SENSOR IN THIS LOCATION.
18. ALL BALANCE DAMPERS LOCATED WITHIN ATTIC SPACE SHALL BE WITHIN ARMS REACH OF THE SUPPLY AIR DIFFUSER FOR FUTURE ADJUSTMENTS.
19. ALL BALANCE DAMPERS ON LOWER LEVEL SHALL BE LOCATED OUTSIDE OF THE SOFFIT FOR FUTURE ADJUSTMENTS.
20. PROVIDE GRAVITY BACKDRAFT DAMPER AND MANUAL BALANCE DAMPER FOR EACH O.A. DUCT SERVICE THE NEW AIR HANDLERS.

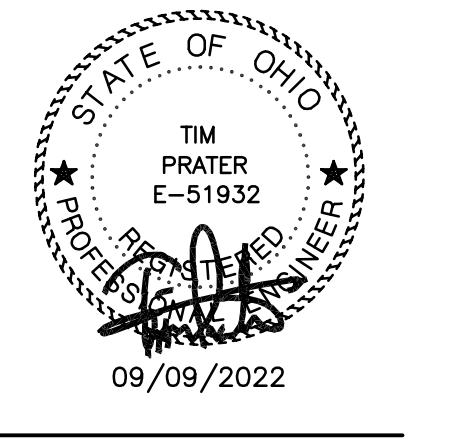


**FIRST FLOOR HVAC PLAN**  
SCALE: 1/8"=1'-0"



**BASEMENT HVAC PLAN**  
SCALE: 1/8"=1'-0"

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ISSUE:

NO.	DATE	DESCRIPTION
0	09/09/2022	ISSUED FOR PERMIT
1	10/20/2022	CONFORMED
2	11/16/2022	PLUMBING REVISION

DATE	10-20-2022
JOB NO.	2000.00
DRAWN	
CHECKED	
CAD	

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**PRATER**  
Engineering Associates, Inc.  
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Dublin, Ohio 43016 praterengineering.com

DESIGNED BY A. PRATER	DRAWN BY A. PRATER	CHECKED BY PEA	JOB NUM. 22117
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TITLE  
HVAC PLAN  
SHEET NO.  
**H1.1**

### FAN SCHEDULE

MANUFACTURER'S MODEL NUMBER BASED ON GREENHECK UNLESS OTHERWISE NOTED.  
KEY: CENT.-CENTRIFUGAL; PROP.-PROPELLER; F.C.-FORWARD CURVED; B.I.-BACKWARD INCLINE;  
A.F.-AIR FOIL; A.T.L.-ACROSS THE LINE; VFD-VARIABLE FREQUENCY DRIVE

FAN NO.	LOCATION	FUNCTION	MFR. MODEL NUMBER	FAN TYPE	WHEEL TYPE & SIZE	CFM	TOTAL S.P. "W.G.	R.P.M.	TIP SPEED F.P.M.	OUTLET VELOCITY F.P.M.	MAX. SONES RATING	MOTOR H.P.	BHP REQ'D	VOLT	PHASE	TYPE MOTOR STARTING	GRAVITY MOTOR OPERATED	DAMPERS	REMARKS	
HAN.EF.01	ROOF	RESTROOM EXHAUST	GREENHECK Q-080-VG	CENTRIFUGAL	10.875"	175	0.5"	1725	4227	438	7.2	1/10	0.02	120	1	A.T.L.	●	●	●	① ② ③

① FAN TO BE CONTROLLED BY WALL SWITCH BY OCCUPANCY SENSOR. ② PROVIDE FACTORY VERIGREEN SPEED CONTROLLER. ③ SUSPEND FAN FROM STRUCTURE WITH SPRING VIBRATION ISOLATORS.

### SPLIT SYSTEM HEAT PUMP SCHEDULE

ITEM	HAN.AH.01	HAN.AH.02
AIR HANDLER MANUFACTURER	TRANE	TRANE
AIR HANDLER MODEL NUMBER	TEM6A0C48	TEM6A0B24
UNIT CONFIGURATION	HORIZONTAL	HORIZONTAL
SUPPLY AIR CFM	1400	800
OUTSIDE AIR CFM	135	125
EXTERNAL STATIC PRESSURE	0.5"	0.5"
FAN MOTOR HP	1.0	1/2
ELECTRIC HEATER CAPACITY (KW) @ 208V	7.2	5.76
ELECTRIC HEATER CAPACITY (BTUH) @ 208V	24,573	19,660
MIN. CIRCUIT AMPS (MCA)	52	38
MAX. OVERCURRENT PROTECTION (MOCP)	60	40
VOLTS/PHASE	208/1	208/1
HEAT PUMP UNIT MANUFACTURER	TRANE	TRANE
MODEL NUMBER	4TWR7048	4TWR7024
NOMINAL TONNAGE	4.0	2.0
TOTAL COOLING CAP. (MBH)	45.5	24.1
TOTAL HEAT PUMP HEATING CAPACITY (MBH)	24.0	24.0
SENSIBLE COOLING (MBH)	33.1	18.8
SYSTEM SEER	17.0	17.0
MINIMUM CIRCUIT AMPACITY	28	15
MAXIMUM FUSE SIZE	45	25
VOLTS/PHASE	208/1	208/1

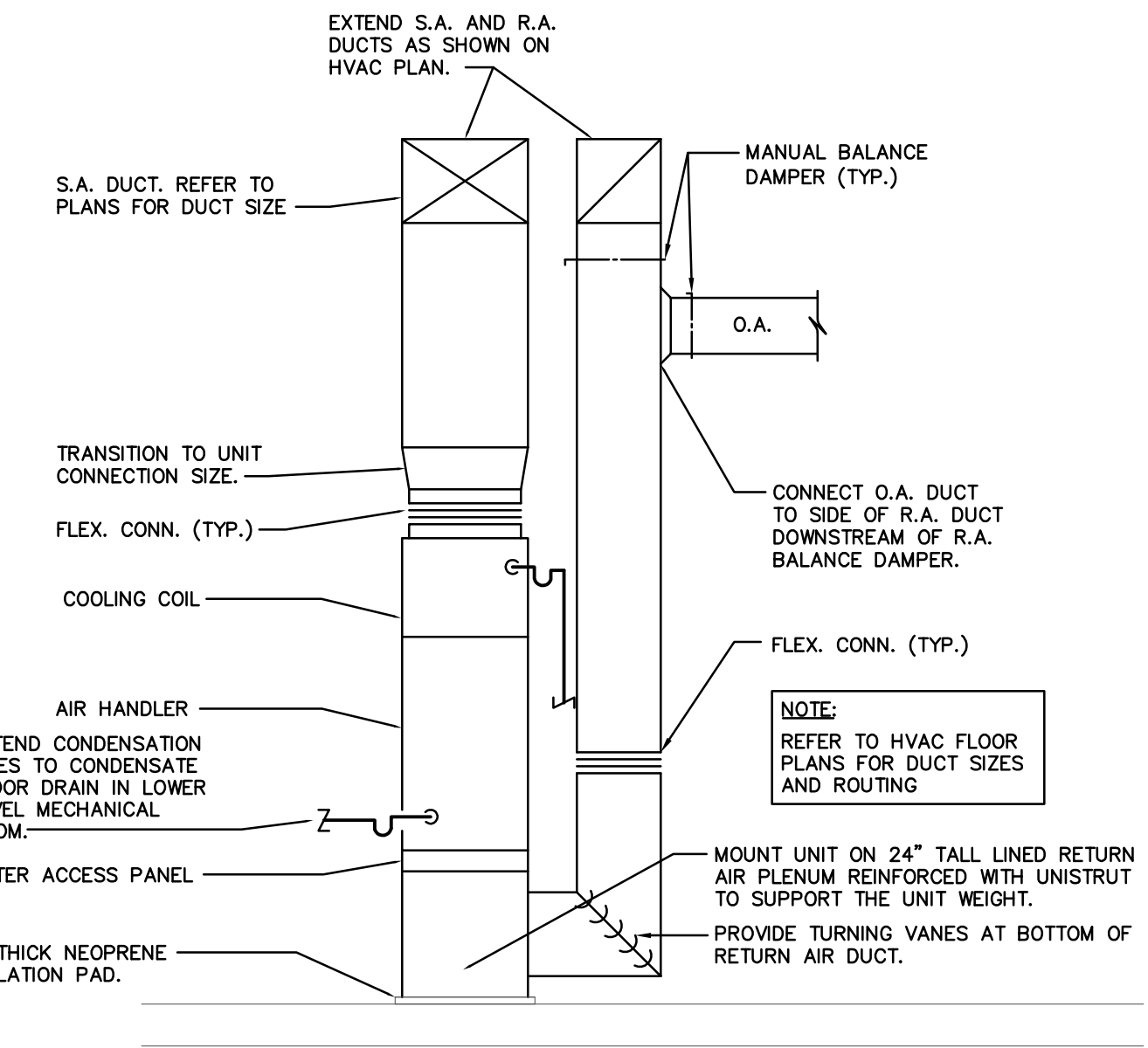
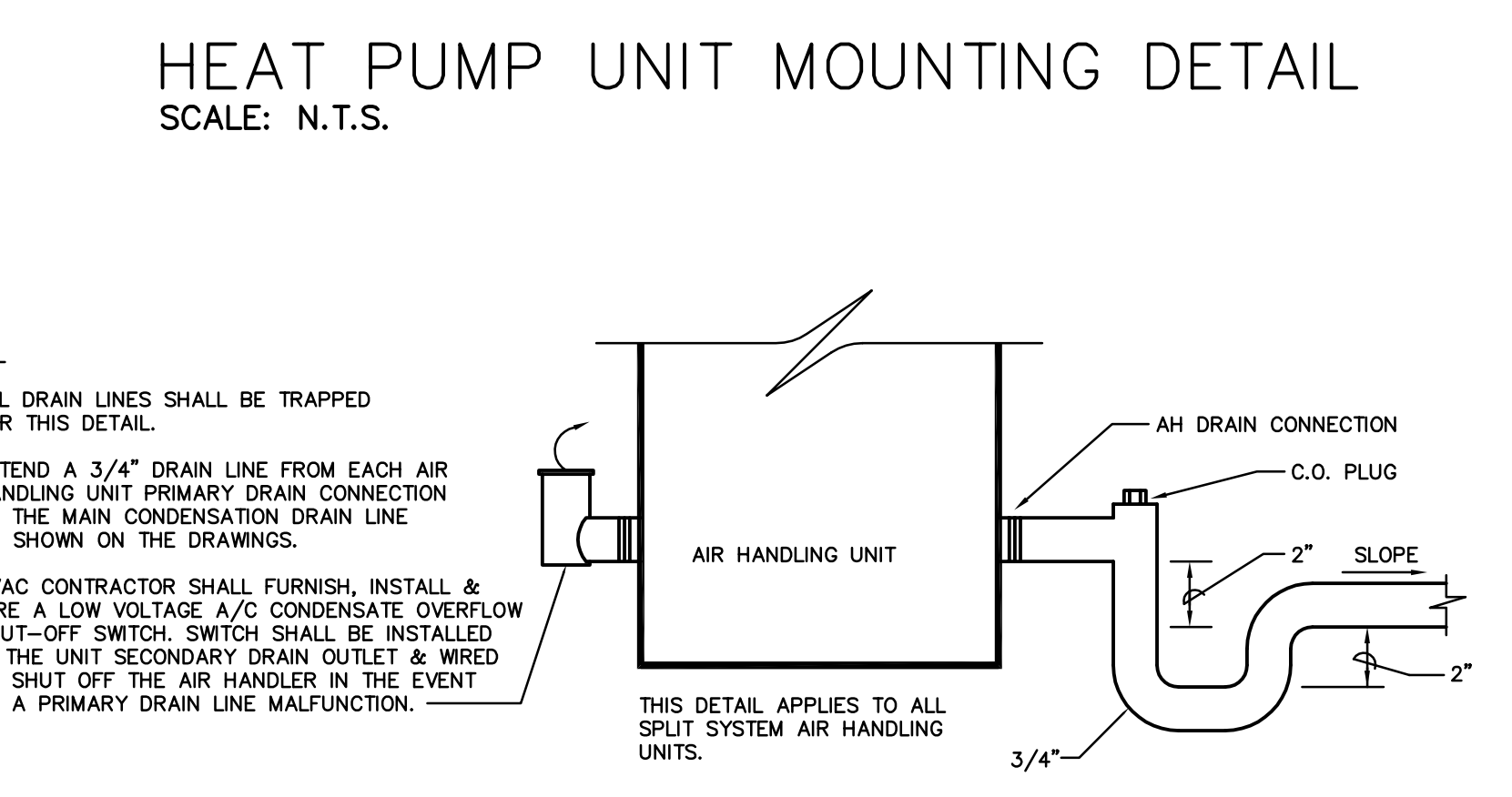
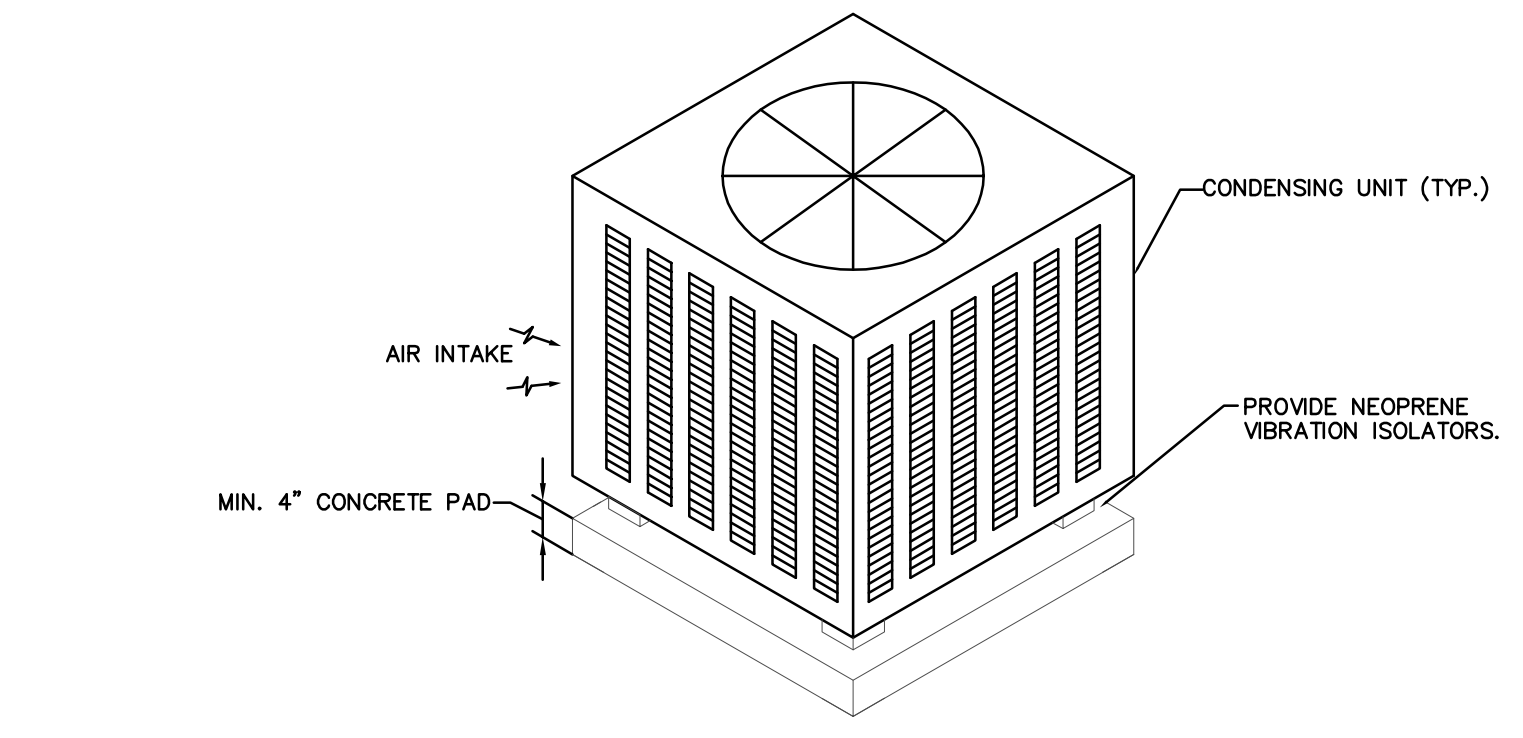
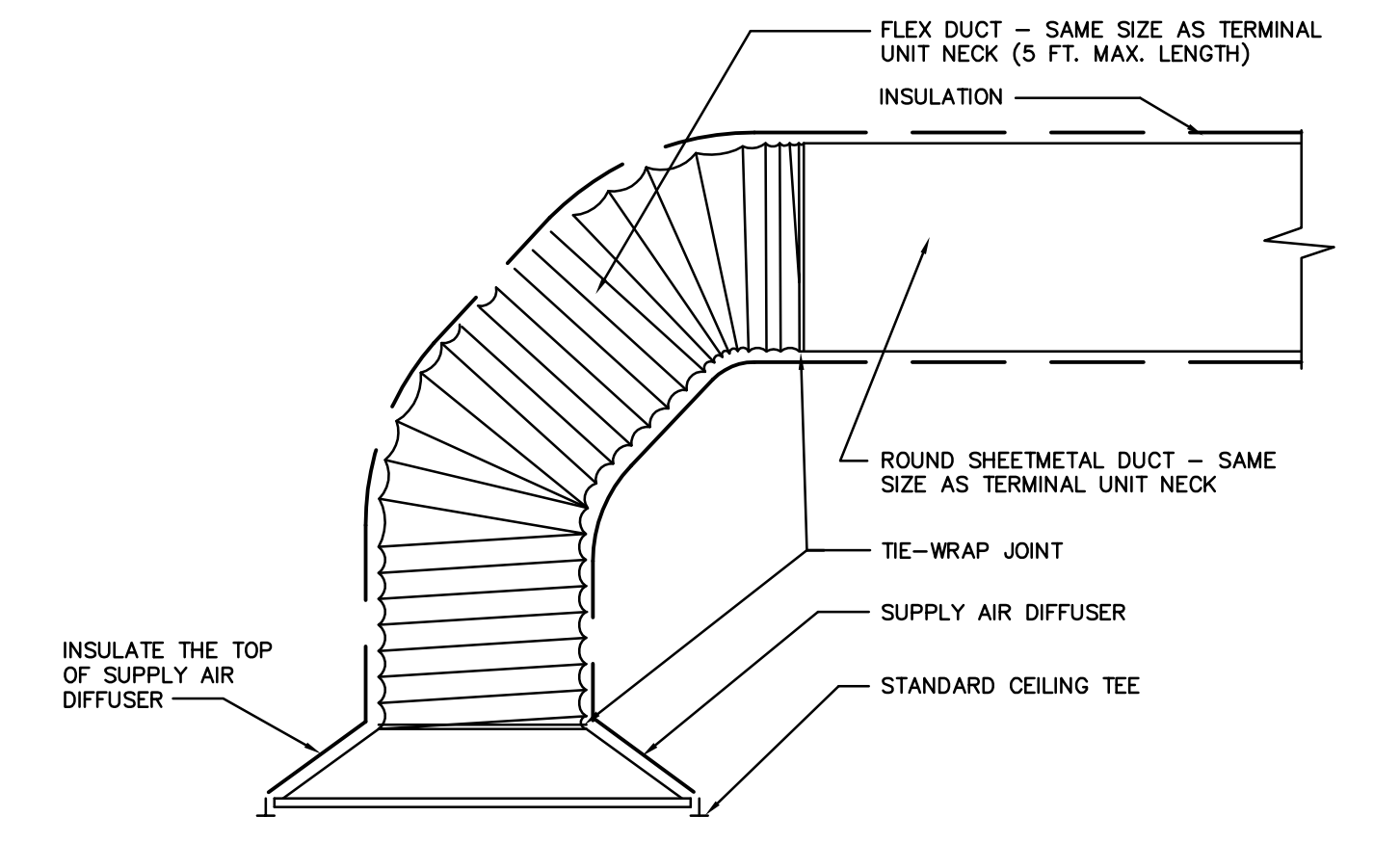
### MECHANICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
F/C	FLUE/COMBUSTION PIPING	— —	PIPE UNION
D	DRAIN LINE	Y	Y-TYPE STRAINER
G	GAS LINE	CB	COMB. BALANCE & STOP VALVE
HG	HOT GAS LINE	GV	GATE VALVE (SCREWED BODY)
HW	DOMESTIC HOT WATER LINE	CV	CHECK VALVE
LQ	LIQUID LINE	CBV	GAS COOK OR BALANCE VALVE
SAN	SANITARY LINE	FD	FLOOR OR AREA DRAIN
SUCT	SUCTION LINE	TH	THERMOSTAT
V	VENT LINE	CE	CONNECT TO EXISTING
PT	PENDANT TYPE SPRINKLER HEAD	TR	THRU FLOOR AS SHOWN
UP	UPRIGHT TYPE SPRINKLER HEAD	JS	JANITOR OR SHOWER TRIM
P	P-TRAP (PLAN VIEW)	SD	SUPPLY DUCT DOWN
H	HOSE BIBB	RD	R.A., O.A., OR EXH. DUCT UP
EW	EXISTING WORK TO REMAIN	RD	R.A., O.A., OR EXH. DUCT DOWN
ER	EXISTING WORK TO BE REMOVED	RD	ROUND DUCT
HWR	HEATING WATER RETURN	EL	ELBOW WITH TURNING VANES
HWS	HEATING WATER SUPPLY	MD	MAN. DAMPER
PF	PIPE FLANGES	SP	SPIN-IN FITTING WITH MANUAL BALANCE DAMPER
MOD	MOTOR OPERATED DAMPER	P	PETE'S PLUG
BT	45° BOOT BRANCH TAKEOFF		
DS	DUCT SMOKE DETECTOR		

### AIR TERMINAL SCHEDULE

TYPE	DESCRIPTION
A	SUPPLY AIR DIFFUSER, LAY-IN, 24"x24", PRICE MODEL SCDA. FURNISH DIFFUSERS WITH EQUALIZING GRID.
B	RETURN/EXHAUST AIR GRILLE, LAY-IN, PRICE MODEL 530: 24"x12" UNLESS OTHERWISE NOTED.
C	SUPPLY AIR DIFFUSER, DRYWALL CEILING MOUNTED, 12"x12", PRICE MODEL SCDA. FURNISH DIFFUSERS WITH EQUALIZING GRID.
D	RETURN/EXHAUST AIR GRILLE, DRYWALL CEILING MOUNTED, PRICE MODEL 530: 12"x12" UNLESS OTHERWISE NOTED.
E	SUPPLY AIR DIFFUSER, DRYWALL CEILING MOUNTED, 24"x24", PRICE MODEL SCDA. FURNISH DIFFUSERS WITH EQUALIZING GRID.
F	RETURN/EXHAUST AIR GRILLE, LAY-IN, PRICE MODEL 530: 24"x12" UNLESS OTHERWISE NOTED.
G	SUPPLY AIR GRILLE, DUCT MOUNTED, PRICE MODEL 520: 6"x6". FURNISH WITH OPPOSED BLADE DAMPER.

NOTES:  
1. PROVIDE A SHEET METAL PLENUM ABOVE/BEHIND EACH DUCTED GRILLE OR REGISTER FOR MAKING A CONNECTION TO THE BRANCH DUCT. PAINT THE INSIDE OF ALL UNLINED PLENUMS FLAT BLACK.  
2. COORDINATE THE GRID FACE DIMENSION OF ALL LAY-IN TYPE CEILING SUSPENSION SYSTEMS WITH THE CONTRACTOR. PROVIDE NARROW TEE TYPE DEVICES WHERE REQUIRED.  
3. COORDINATE FINAL COLOR OF ALL AIR DEVICES WITH THE UNIVERSITY.  
4. COORDINATE ALL FRAME TYPES WITH NEW CEILING GRID.



### MECHANICAL ABBREVIATIONS

AB.	ABOVE	INV. ELEV.	INVERT ELEVATION
A.D.	ACCESS DOOR	J.R.	JANITOR RECEPTOR
A.F.F.	ABOVE FINISHED FLOOR	K.E.S	KITCHEN EQUIPMENT SUPPLIER
B.F.C.	BELOW FINISHED CEILING	LAV.	LAVATORY
B.O.D.	BOTTOM OF DUCT	M.A.T.	MIXED AIR TEMPERATURE
BTM.	BOTTOM	MAN. DPR.	MANUAL DAMPER
BLDG.	BUILDING	MECH.	MECHANICAL
CLG.	CEILING	M. A.	MIXED AIR
CONC.	CONCRETE	O.A.	OUTSIDE AIR
C.O.	CLEANOUT	PLBG.	PLUMBING
CONN.	CONNECT	REG.	REGISTER
CONTR.	CONTRACTOR	REQD.	REQUIRED
DTL.	DETAIL	R.A.	RETURN AIR
DIFF.	DIFFUSER	RM.	ROOM
DN.	DOWN	S.A.	SUPPLY AIR
ELEC.	ELECTRICAL	SHT.MTL.	SHEET METAL
EXH.	EXHAUST	S & R	SUPPLY & RETURN
EXIST.	EXISTING	S.S.	SERVICE SINK
E.W.C.	ELECTRIC WATER COOLER	TYP.	TYPICAL
FLEX.	FLEXIBLE	T.C.C.	TEMP. CONTROL CONTRACTOR
FLR.	FLOOR	UR.	URNAL
F.D.	FLOOR DRAIN	V.T.R.	VENT THRU ROOF
FURN.	FURNISH	VB. ISOL.	VIBRATION ISOLATION
GR.	GRILLE	W/	WITH
H.B.	HOSE BIBB	W.C.	WATER CLOSET
HR.	HEATER		

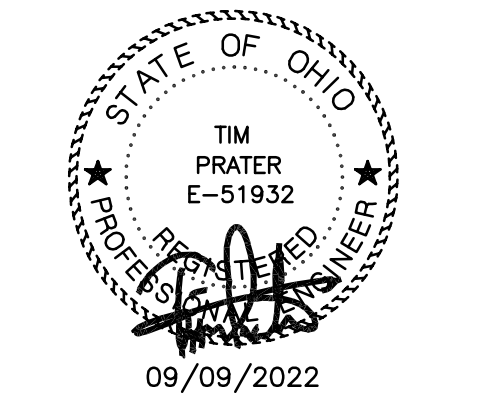
### HVAC NOTES

A. DUCT LAYOUT IS ONLY SCHEMATIC, EXACT LOCATION OF DUCTWORK TO BE COORD. ON JOB W/BLDG. STRUCTURE, AND WORK OF OTHER CONTRACTORS.  
B. INSTALL BALANCING DPRS. AS SHOWN AND AS REQ'D FOR PROPER BALANCING OF AIR HANDLING SYSTEMS.  
C. NOTIFY GENERAL CONTRACTOR OF SIZE AND LOCATION OF ALL RECESSES AND OPENINGS REQUIRED FOR HVAC WORK.  
D. DUCT DIMENSION GIVEN IS ACTUAL INSIDE OPNG. AND SHALL NOT BE SMALLER.  
E. MOUNT SENSORS AT 48" ABOVE FINISHED FLOOR.  
F. PROVIDE FLEXIBLE CONNECTIONS TO ALL EQUIPMENT AT INLETS AND OUTLETS.  
G. AIR BALANCE REPORTS SHALL BE SUBMITTED TO BOTH THE PROJECT ENGINEER AND OWNER FOR REVIEW/APPROVAL.  
H. TURNING VANES ARE REQUIRED IN ALL MITERED ELBOWS. LONG RADIUS ELBOWS SHALL BE USED WHERE POSSIBLE.

### EQUIPMENT NOTES

INTAKE LOUVER AIRLOUPE MODEL K-6776, 36"x12"x0.77 SQ. FT. FREE AREA FURNISHED AND INSTALLED BY HVAC CONTRACTOR. PROVIDE WITH BIRD SCREEN, CUSTOM ENAMEL FINISH COLOR TO BE SELECTED BY UNIVERSITY. COORDINATE EXACT LOCATION.

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TITLE  
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