

OUTSIDE AIR CALCULATIONS

ROOM NUMBER	ROOM NAME	FLOOR AREA (AZ) (SF)	MINIMUM PRIMARY AIR (Vpz) (CFM)	NO. OF PEOPLE (Pz)	OA / PERSON (Rp) (CFM)	OA / SF (Ra) (CFM)	BREATHING ZONE OA (Vbz) (CFM)	ZONE AIR DISTRIBUTION EFFECTIVENESS (S)	REQUIRED ZONE OA (Voz) (CFM)	ACTUAL OA (CFM)
101	LOBBY	270	175	2	5	0.06	26	0.8	33	35
102	WAITING	170	125	2	5	0.06	20	0.8	25	25
103	OFFICE	101	75	1	5	0.06	11	0.8	14	15
104	OFFICE	104	75	1	5	0.06	11	0.8	14	15
105	COPY	79	75	1	5	0.06	10	0.8	12	15
106	OFFICE	104	75	1	5	0.06	11	0.8	14	15
107	OFFICE	135	85	1	5	0.06	13	0.8	16	17
108	OFFICE	104	75	1	5	0.06	11	0.8	14	15
109	CORRIDOR	161	65	-	-	0.06	10	0.8	12	13
110	OFFICE	128	80	1	5	0.06	13	0.8	16	16
111	CONFERENCE	487	500	10	5	0.06	79	0.8	99	100
112	OFFICE	252	125	1	5	0.06	20	0.8	25	25
113	OFFICE	112	80	1	5	0.06	12	0.8	15	16
114	OFFICE	169	120	1	5	0.06	15	0.8	19	24
115	OFFICE	120	75	1	5	0.06	12	0.8	15	15
116	OFFICE	195	110	1	5	0.06	17	0.8	21	22
117	CORRIDOR	505	190	-	-	0.06	30	0.8	38	38
118	OFFICE	310	305	6	5	0.06	49	0.8	61	61
119	OFFICE	105	70	1	5	0.06	11	0.8	14	14
120	OFFICE	156	90	1	5	0.06	14	0.8	18	18
121	BREAKROOM	198	141	2	5	0.06	22	0.8	27	28
122	OFFICE	246	160	2	5	0.06	25	0.8	31	32
123	STORAGE	145	90	-	-	0.06	9	0.8	11	12
124	OFFICE	248	220	4	5	0.06	35	0.8	44	44
125	OFFICE	342	285	5	5	0.06	46	0.8	57	57
126	OFFICE	102	75	1	5	0.06	11	0.8	14	15
127	OFFICE	169	100	1	5	0.06	15	0.8	19	20
128	OFFICE	102	75	1	5	0.06	11	0.8	14	15
130	OFFICE	168	100	1	5	0.06	15	0.8	19	20
131	OFFICE	125	80	1	5	0.06	13	0.8	16	16
132	CONFERENCE	190	200	4	5	0.06	31	0.8	39	40
133	SERVER	38	0	-	-	-	-	-	0	0
134	CORRIDOR	700	278	-	-	0.06	42	0.8	53	56
135	CLOSET	10	-	-	-	-	-	-	-	-
136	OFFICE	103	75	1	5	0.06	11	0.8	14	15

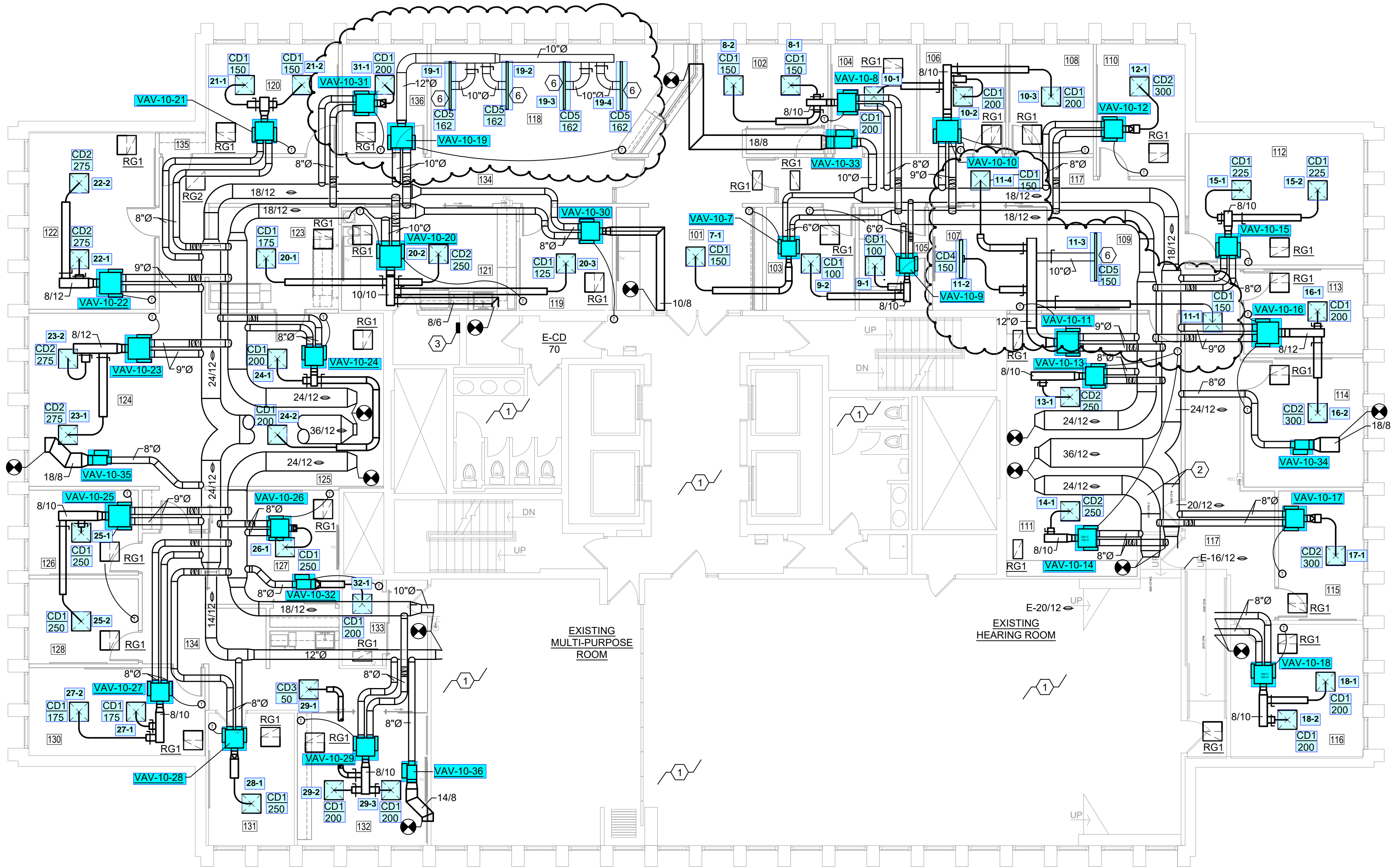
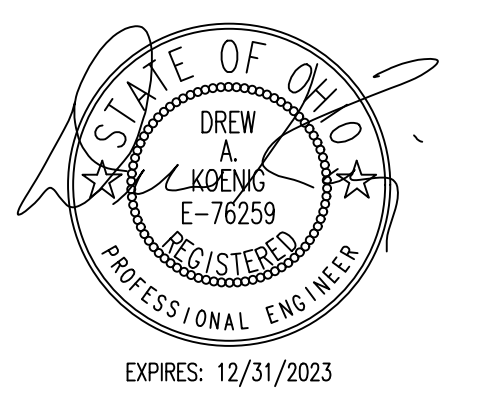
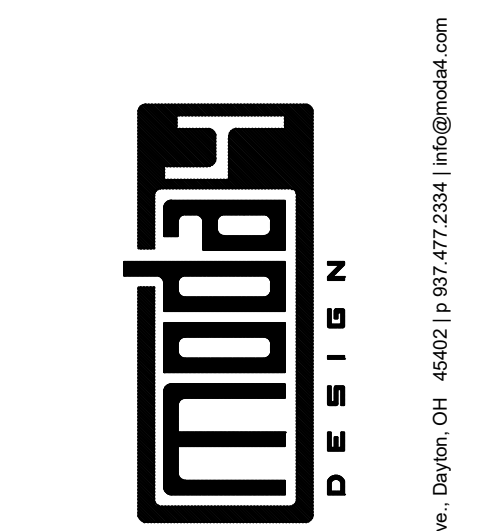
Outside Airflow Calculations based on ASHRAE Standard 62.1-2016
 $Vbz = (Rp)(Pz) + (Ra)(Az)$
 Ex = per Table 6.2.2.2
 $Voz = (Vbz) / (Es)$
 $Zp = (Voz) / (Vpz)$
 Actual OA is based on outside air fraction at existing air handlers of 20% of total supply airflow.

GENERAL NOTES

- A. ALL VAV TERMINAL UNITS, DUCTWORK, AND OTHER HVAC ITEMS SHALL BE INSTALLED TO ACCOMMODATE A MINIMUM CEILING HEIGHT OF 8'-4". THE CONTRACTOR SHALL COORDINATE INSTALLATION WITH BUILDING STRUCTURE AS NECESSARY TO MAINTAIN THE MINIMUM CEILING HEIGHT.

(X) DRAWING NOTES

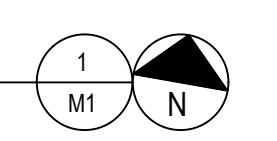
1. AREA NOT UNDER SCOPE OF WORK.
2. SUPPLY AIRFLOW TO EXISTING HEARING ROOM AREA TO REMAIN OPERABLE. KEEP DOWNTIME TO MINIMUM FOR REMOVAL AND INSTALLATION OF NEW DUCT SERVING THIS SPACE. COORDINATE TIMEFRAME WITH OWNER PRIOR TO WORK.
3. PROVIDE A 24V CONTROL POWER TRANSFORMER EQUAL TO RIB PSH500A. ELECTRICAL CONTRACTOR TO PROVIDE 115V/1PH POWER TO BOX. DDC CONTROL CONTRACTOR SHALL PROVIDE 24V CONTROL WIRING FROM TRANSFORMER TO VAV BOXES. INSTALL ALL CONTROL WIRING USING J-HOOKS.
4. KEEP DUCTWORK TIGHT TO BOTTOM OF STRUCTURE. INSTALL ABOVE CEILING BAFFLES. DUCT SHALL BE EXPOSED FROM THIS LOCATION BEYOND. DUCT SHALL NOT BE INSULATED WHERE EXPOSED.
5. PROVIDE PAINT-GRIP TYPE ROUND SHEETMETAL FROM THIS LOCATION BEYOND. SHEETMETAL TO BE PAINTED BY OTHERS.
6. SLOT DIFFUSER TO BE INSTALLED FREE-HANGING BETWEEN CEILING BAFFLES. HEIGHT TO BE FLUSH WITH BOTTOM OF BAFFLES. PROVIDE CUSTOM SHEETMETAL PLENUM WITH SLOT DIFFUSER TO RECEIVE 10" INLET DUCT ON SIDE OF PLENUM. COORDINATE PLENUM HEIGHT WITH BAFFLES IN THE FIELD. PROVIDE ADEQUATE LATERAL BRACING FOR DIFFUSER AND PLENUM TO PREVENT MOVEMENT.



SYMBOLS / ABBREVIATIONS

- [Solid line] EXISTING
- [Dashed line] DEMOLITION
- [Line with T-junction] DUCT TRANSITION
- [Line with arrow] FLEX DUCT
- [Elbow symbol] ELBOW - RADIUS (R) = 1.5 TIMES DIAMETER OF DUCT
- [Elbow symbol with arrow] ELBOW DOWN
- [Elbow symbol with arrow] ELBOW UP
- [Square with X] RETURN / EXHAUST AIR GRILLE
- [Square with circle] SUPPLY DIFFUSER
- [Square with circle and arrow] MANUAL VOLUME DAMPER
- [Circle with 1] KEY NOTES
- [Circle with FURN-1] EQUIPMENT SCHEDULE NUMBER
- [Line with 12/12] RECTANGULAR DUCT
- [Line with 10"Ø] ROUND SPIRAL DUCT
- [Line with 24/12] FLAT OVAL SPIRAL DUCT
- [Circle with arrow] CONNECT TO EXISTING DUCT
- [Line with CD1] DIFFUSER TYPE
- [Line with 350] CFM
- [Circle with T] THERMOSTAT
- [Circle with S] TEMPERATURE SENSOR

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



Tenant Improvement for
MONTGOMERY COUNTY
10TH FLOOR
 451 W Third St, Dayton, OH 45422
 MDD44 PROJECT NUMBER: 22037

ISSUED / REVISED	DATE
REVIEW SET	03.19.23
ISSUE FOR BID/PERMIT	07.14.23
PLAN & OWNER REVIEW COMMENTS	09.19.23
REVISION 01	03.19.24

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MECHANICAL PLAN
M1