ANN ARBOR PUBLIC SCHOOLS
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AAPS Ventilation Study Overview

In accordance with AAPS' commitment to health and safety for students and staff, we are preparing our classrooms and buildings across the district for a COVID-informed return to in-person learning. To that end, and concurrent with robust building preparation work in accordance with CDC guidelines and other resources, the AAPS has completed a number of steps to improve indoor air quality, including:

Building Controls Programming, Filter Replacements and HVAC Systems Commissioning

- Programmed a new sequence of operations for the HVAC controls system (Enhanced Indoor Air Quality Mode (EIAQ)) to provide increased ventilation, intake of outside air, and filtration above our typical operating mode, and well beyond code minimum.
- Replaced all filters and increased their density as much as the equipment will allow
- Commissioned all HVAC units (approximately 1,000) including opening the unit, cleaning everything, and verifying the proper operation of items like dampers and actuators.

Room by Room Ventilation Rate Study and Mitigation Actions

- The district has commissioned Fishbeck, a professional engineering firm, to conduct a detailed room-by-room ventilation study for all AAPS buildings. The deliverables of this study include floor plans indicating air changes per hour (ACH) levels by room as well as a summary in the form of an Excel chart. Air changes per hour (ACH) is a measure of how many times the air in a room is replaced, by either outside air or recirculated filtered air, within one hour.
- The Harvard School of Public Health sets ACH levels of five (5) and above to have excellent ventilation.
- Those spaces that fall below 5 ACH will be provided portable air cleaners and/or fans to provide additional air changes to raise the ACH above 5.

Below you will find the results of the ventilation engineering study conducted at your school. The report documents existing ventilation rates in Air Changes per Hour (ACH) as well as any mitigation actions that will be completed prior to a return to in-person instruction.

HURON HIGH SCHOOL

Equipment	Space	Area (ft2)	Ceiling Height (ft)	Supply Air Flow (cfm)	Supply Air Changes per Hour (ACH)	Supply Air Changes per Hour (ACH) with Corrective Actions
AHU-PA2	7100 (Ensemble Practice), 7200 (upper balcony)	9,600	10	12000	7.5	7.5
AHU-BR-2	Band Room	3,020	15	6000	7.9	7.9
AHU-PA1	Overall System: Small Theater	3,700	24	12000	8.1	8.1
CAF-AHU-1	Café/3103-3105	21,051	10	15000	4.3	**5.1**
AHU-3	5200 wing- Splt with DDU-4	16,950	9	13125	5.2	5.2
P-AHU-1	Pool Main Area	12,000	25	25080	5.0	5.0
RTU-1 (Pool)	Pool	2,465	16	6000	9.1	9.1
RTU-2 (Pool)	Pool spectator area	2,400	16	6000	9.4	9.4
P-AHU-2	Pool Lockerroom	3,000	9	2500	5.6	5.6
AHU-1	6100/6200 vav (1/2 SF of DDU-5)	10,000	10	10055	6.0	6.0
AHU-2	3210 M#USL111CV (balancer)	3,200	10	5750	10.8	10.8
RTU-1	Dome Gym	12,750	30	13000	2	**5.2**
RTU-2	Dome Gym	12,750	30	13000	2	**5.2**
DDU-F2	3200 + 2100/2200 (balancer)	31,900	12	56100	8.8	8.8
DDU-6 (York)	Large auditorium	10,100	34	29000	5.1	5.1
DDU-4	5100/5200 (split with AHU-3)	16,350	9	26500	10.8	10.8
DDU-3	4200/4300	36,000	9	31000	5.7	5.7
DDU-5 (AHU-5)	6100/6200 serves fans	30,000	10	35000	7.0	7.0
ERU-1	Fitness/Lockerrooms zone 4 first floor	25,500	12	20000	3.9	**5.0**
AC-1	Zone 1 "Lower Gym"	11,300	30	34000	6.0	6.0
AC-2	Zone 1 serves 1st and 2nd VAV's	18,000	10	15000	5.0	5.0
AC-3	Zone 1 serves locker rooms and restrooms	6,000	10	5750	5.8	5.8

Corrective Action(s)

CAF-AHU-1	Café/3103-3105	21,051	10	15,000	4.3
Add (1) 24" 3,000 CFM Industrial Fans In Exterior Door		21,051	10	18,000	**5.1**
RTU-1	Dome Gym (1)	12,750	30	13,000	2
Add (2) 10,000 CFM Industrial Fans In Exterior Doors		12,750	30	33,000	**5.2**
RTU-2	Dome Gym (2)	12,750	30	13,000	2
Add (2) 10,000 CFM Industrial Fans In Exterior Doors		12,750	30	33,000	**5.2**
ERU-1	Fitness/Lockerrooms zone 4 first floor	25,500	12	20,000	3.9
Add (19) 300 CFM Goodyear Portable Air Cleaners		25,500	12	25,315	**5.0**