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Ithaca City Schools Interior Classroom Fresh Air Flow Characteristics Evaluation:

The following report was generated out of concern for the quality and quantity of fresh air that is being provide to classrooms in the Ithaca City School District that do not have operable windows. Specifically, there are several classrooms in Boynton and Dewitt middle schools located in the core of the building that do not have operable windows.

NYSED Code Required Ventilation:

The New York State Education Department requires that each classroom be provided with 450 CFM (cubic feet per minute) of fresh air. This equates to 15 CFM per student based on a maximum class size of 30 students. Most classrooms never achieve this level of occupancy. Labs and Lecture spaces are treated differently, getting the same 15 CFM per student but based on their corresponding population rates.

Pre-COVID and Predicted Student Population Rates and Fresh Air:

Prior to the COVID 19 pandemic the average classroom had less than 21 students. Based on the NYSED prescribed ventilation rates (450 CFM/classroom), pre-COVID classrooms across the district saw ~21 CFM of fresh air per student.

The district is predicting that classrooms will not exceed 75% occupancy this spring. It is estimated that the average classroom will have no more than 16 students occupying it. This equates to 28 CFM of fresh air per student nearly twice the NYSED required amount.

Boynton and Dewitt MS Ventilation Characteristics:

Boynton and Dewitt are grouped together as their systems are mirror images of each other. Both buildings utilize dedicated fresh air systems, AHUs and BCUs (air handling units and blower coil units). These systems are ducted to each classroom. The blower coil unit is equipped with a MERV 13 filter, a heating coil, and a cooling coil. Air handling units are equipped with a MERV 13 filter, a heating coil, and a cooling coil and a VAV box (variable air volume) for each space they serve. These systems are designed to provide the NYSED code required fresh air ventilation at minimum. Interior or core classroom spaces are treated the same as exterior classrooms regardless of the presence of a window. Windows are not part of the ventilation system and their presence is not required to achieve the NYSED code required fresh air ventilation.

Closing:

Every classroom in the Ithaca City School District has mechanical ventilation. These systems were designed per NYSED code. The use of MERV 13 filters and low populations rates in these buildings indicate that the air quality is more than 2X better than pre-COVID conditions and the NYSED standard.

“Operable windows are not part of or required in a mechanical ventilation system, for interior or exterior classrooms.”