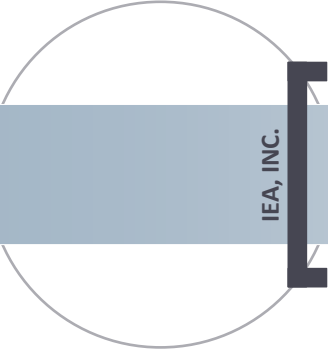




IEA, INC.

2023 - 2024 Ventilation Assessment



Contact Us:

BROOKLYN PARK OFFICE

9201 W. BROADWAY, #600
BROOKLYN PARK, MN 55445
763-315-7900

MANKATO OFFICE

610 N. RIVERFRONT DRIVE
MANKATO, MN 56001
507-345-8818

ROCHESTER OFFICE

210 WOOD LAKE DRIVE SE
ROCHESTER, MN 55904
507-281-6664

BRAINERD OFFICE

601 NW 5TH STREET SUITE #4
BRAINERD, MN 56401
218-454-0703

MARSHALL OFFICE

1420 EAST COLLEGE DRIVE
MARSHALL, MN 56258
507-476-3599

VIRGINIA OFFICE

5525 EMERALD AVENUE
MOUNTAIN IRON, MN 55768
218-410-9521

www.ieasafety.com

info@ieasafety.com

800-233-9513

Saint Paul Public Schools Parkway Montessori

Assessment Date:
Monday, April 17, 2023

Project Description

IEA conducted a ventilation inspection in Parkway Montessori by IEA representative, Sashya Wandmaker, with the intent of gathering visual observations and overall ventilation information which will assist the District in making informed and proactive decisions to improve and maintain acceptable air quality in the building. This inspection is based upon the Environmental Protection Agency's (EPA's) Tools for Schools IAQ guidelines and the recommended Minnesota Department of Education (MDE) portion of a school district's IAQ management plan. Ventilation verification is also recommended by American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

Some observations gathered during the inspection may identify issues which may require additional testing, evaluation, further investigation, or maintenance on the ventilation systems.

The findings, conclusions and recommendations presented herein are believed to be accurate and representative of the building on the date and time of the inspection.

GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from Saint Paul Public Schools at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted indoor air quality practices. Other than as provided in the preceding sentence, no warranties are extended or made.

Building Information

General information regarding the building was collected by IEA during an interview with building maintenance staff. The information gathered during this process is a vital component, as it is helpful in determining how these items may play a role in possible IAQ related issues.

Below is a summary of the information gathered during the interview:

- Automation controls are managed internally.
- A Building Automation System is present. The automation control software program is Tridium and controls can not be accessed remotely.
- Schedules:

Ventilation operation:

Day:	Occupied?	Start Time:	End Time:
Monday-Friday	Yes	5:00 AM	7:00 PM
Saturday	No		
Sunday	No		
Holiday	No		

Typical occupancy:

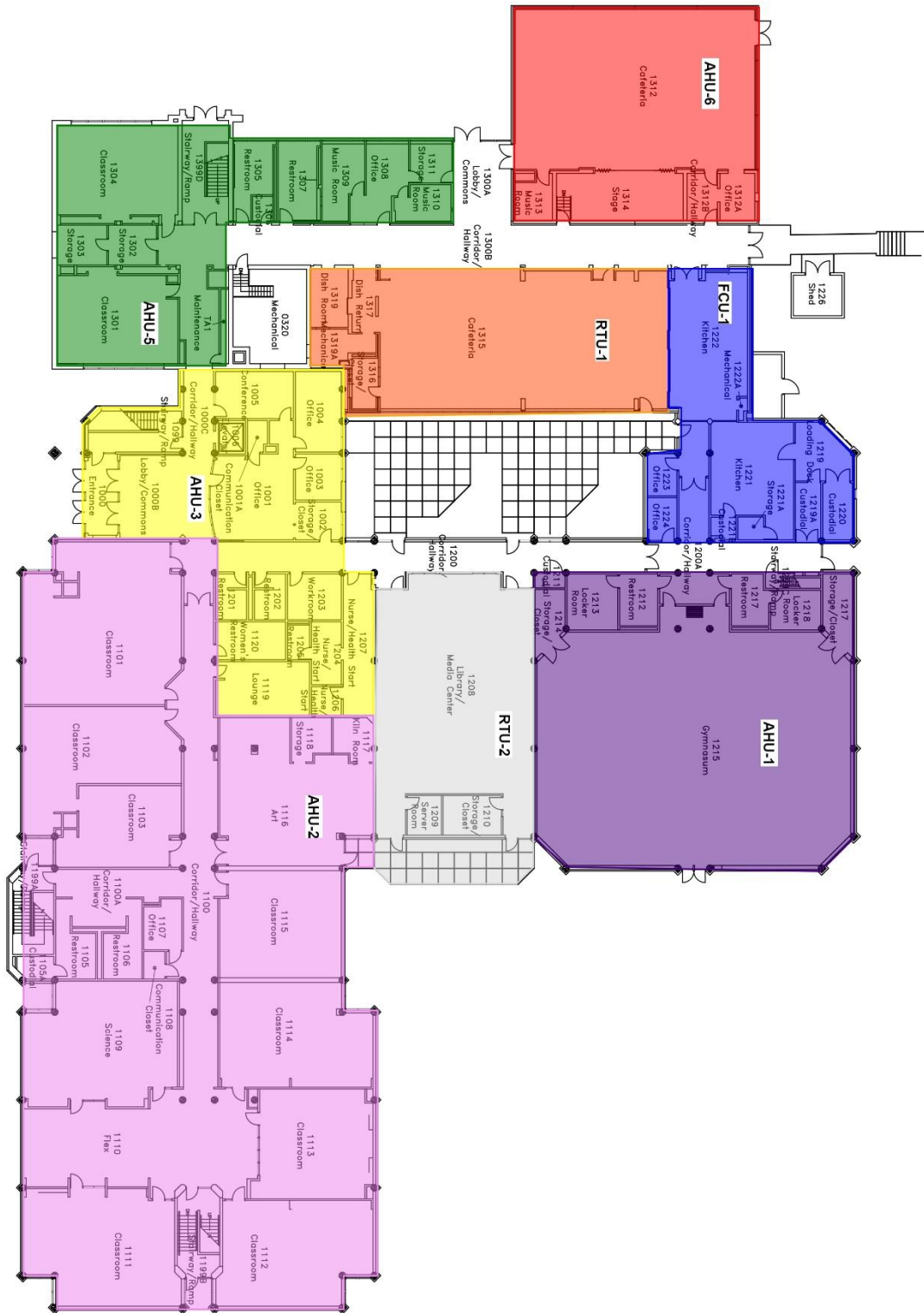
Day:	Occupied?	Start Time:	End Time:
Monday-Friday	Yes	6:00 AM	6:00 PM
Saturday	No		
Sunday	No		
Holiday	No		
Notes: Tuesday and Thursday, occupied until 6 pm			

- It is not known whether or not CO2 sensors are associated with the ventilation system.
- VAVs are not present.
- It is not known whether or not the building has variable frequency drives (VFD).
- The heating system is a steam boiler.
- A cooling system is not present.
- Filters used are:

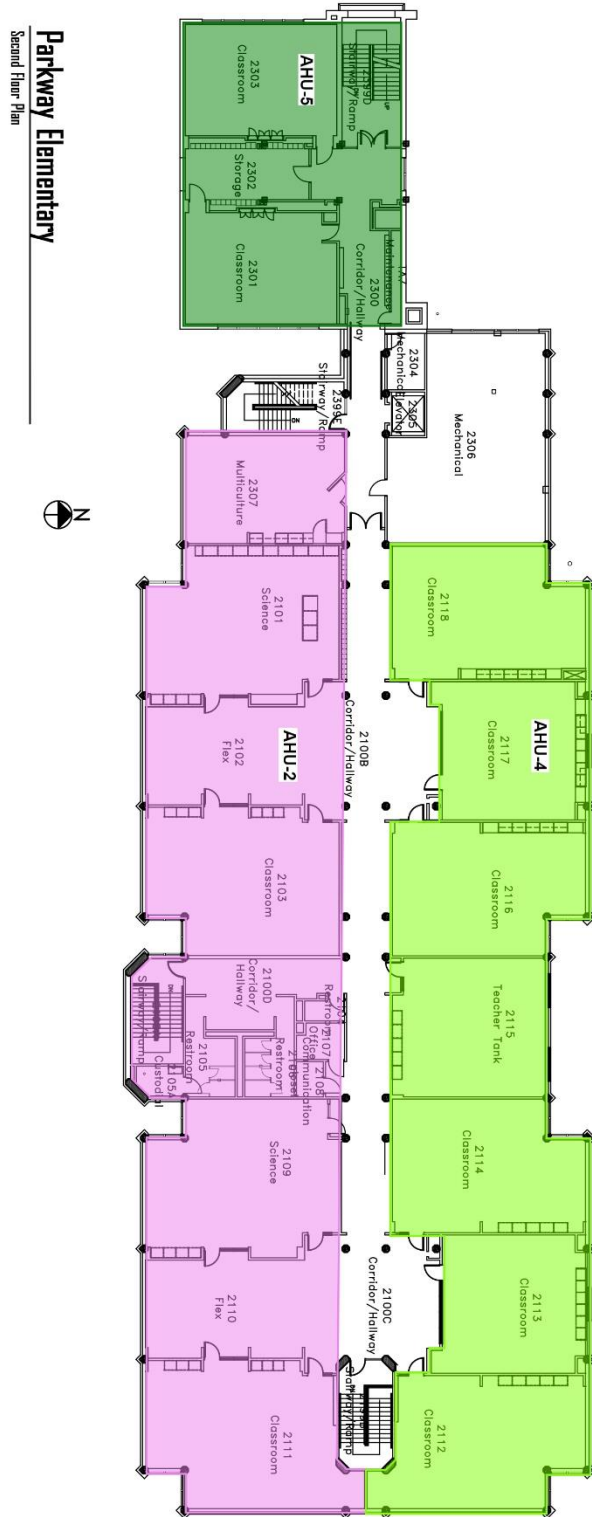
Filter Type	MERV Rating
Pleated	MERV 11
Pleated	MERV 8

- Filters are changed quarterly.
- Energy Recovery Units are not present.
- Units do not contain system Enhancements.
- Personal air purifiers are supplied for individual rooms. They are winix /Plasmawave 2.0.
 - Location: In some classrooms
- It is not known whether or not the building was commissioned during the original construction.

Parkway Elementary

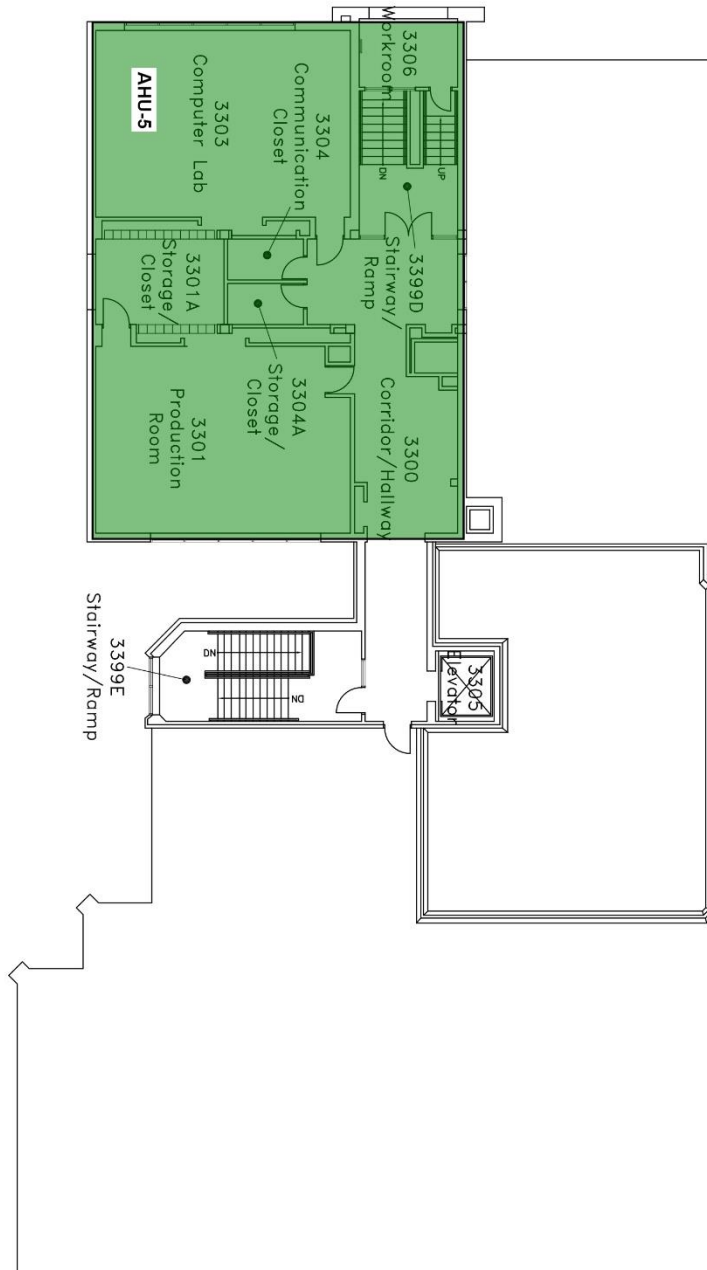


Air Handling Unit Designations & Service Zones: 2nd Floor



Air Handling Unit Designations & Service Zones: 3rd Floor

Parkway Elementary Third Floor Plan



Assessment

Ventilation System

The following information was gathered by IEA on Monday, April 17, 2023 with support from the district building representative during the on-site interview. The type of heating, ventilating and air-conditioning (HVAC) system and its assessment is included for each unit below:

Unit Designation:	AHU 01	
Location of Unit:	Mechanical room 1299C	
Areas Served:	Gymnasium See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	Heating coils are inaccessible. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is open, and its condition is good. The general condition of the unit is good.

Unit Designation:	AHU 02	
Location of Unit:	Mechanical room 2306	
Areas Served:	Interior East Classrooms See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	Heating coils are dirty. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is in good condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.

Unit Designation:	AHU 03	
Location of Unit:	Mechanical room 2306	
Areas Served:	Administration See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - None - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.

Unit Designation:	AHU 04	
Location of Unit:	Mechanical room 2306	
Areas Served:	East Perimeter Classrooms See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pan plugged status is not known. Drain pan condition is not known.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	Heating coils are clean. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is in good condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.

Unit Designation:	AHU 05	
Location of Unit:	Mechanical room 0320A	
Areas Served:	SW Classrooms See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located in an unknown location. No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are clean. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is unknown, and its condition is not known. The general condition of the unit is good.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11		

Unit Designation:	AHU 06	
Location of Unit:	Mechanical room 1313 loft	
Areas Served:	Auditorium See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located in an unknown location. No nearby pollution sources were found. Outdoor air intake is in good condition.	Outdoor air filters are not present. Return air filters are not present. Mixed air pre-filters are not present. Mixed air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air main filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are clean. Heat wheels are not present. Exterior ducting is visible. Exterior ducting insulation is not present. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is inaccessible, and its condition is not known. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.
Filter Type - Mixed - Pre-filter: None - Main filter: Pleated, MERV 11		

Unit Designation:	MAU 01	
Location of Unit:	Mechanical room 1299C roof	
Areas Served:	Kitchen MAU See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Gas Fired - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air pre-filters are not present. Outdoor air main filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Outdoor air main filters are installed correctly. Return air filters are not present. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coil cleanliness is not known.
Filter Type - Outdoor - Pre-filter: None - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is open, and its condition is good. The general condition of the unit is good.

Unit Designation:	RT 001	
Location of Unit:	Mechanical room Roof	
Areas Served:	Cafeteria See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are inaccessible. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.
Filter Type - Mixed - Pre-filter: Pleated, MERV 8 - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	

Unit Designation:	RT 002	
Location of Unit:	Mechanical room Roof	
Areas Served:	Media Center See attached map	
System Enhancements:	None	
Supply System	Outdoor Air	Cleanliness and Observations
Type - Supply System - Constant Volume - Heating - Hot Water - Cooling - None - Energy Recovery Unit (ERU) - None	Outdoor air intake is accessible Outdoor air intake is located on the roof. No nearby pollution sources were found.	Outdoor air filters are not present. Return air filters are not present. Mixed air filters are clean and not in need of replacement (scoring 1 out of 5) and fit well. Mixed air filters are installed correctly. Drain pans are not applicable or not present. Drain pan condition is not known. Heating coils are inaccessible. Heat wheels are not present. Exterior ducting is not visible. Exterior ducting insulation is in an unknown condition. Interior ducting is not visible. Interior ducting insulation is in an unknown condition. Interior ducting is of unknown cleanliness. Air handling room is free of trash/chemicals. Outside damper is open, and its condition is good. Return damper is inaccessible, and its condition is not known. The general condition of the unit is good.
Filter Type - Mixed - Pre-filter: Pleated, MERV 8 - Main filter: Pleated, MERV 11	Outdoor air intake is in good condition.	

Recommendations

Dirty Coils were observed on unit AHU 02 during the ventilation inspection.

Recommendation: Impacted/dirty coils can result in poor ventilation air supply as well as be a source for mold and bacterial growth on the coils. Coils should be cleaned annually, or as needed, as identified in the operations and maintenance program.

Appendix A

Photo Documentation



AHU 02
Heating Coils