

**MCPS Office of Facilities Management  
Division of Sustainability and Compliance  
Indoor Air Quality (IAQ)**

**Poolesville High School IAQ Sensor Monitoring**

**Reporting Period:** January 3, 2024 – January 5, 2024

**Report Date:** January 9, 2024

MCPS personnel reviewed the following:

- Construction Activities as reported by the MCPS Division of Design and Construction (DDC) to the Poolesville High School (PHS) Administration for inclusion in the community update notification.
- IAQ sensor data included in the Poolesville HS On-Site Construction IAQ Report.

Summary Observations:

- No notifications or alerts were triggered during the reporting period.
- IAQ Sensor data were reviewed daily by IAQ and DDC personnel.
- PM concentrations in rooms/spaces 48, 32 and Boys Locker room are noted to be inconsistent with those in other areas of the school.

Construction Activities:

- Review of planned construction activities against the data collected does not indicate construction activities impacted indoor air quality at PHS. Two incidents were reported to IAQ on January 3, 2024.
  1. Construction debris from a small section of roof that was being worked on fell into the occupied portion of the PHS near rooms 60 and 61 on Wednesday January 3<sup>rd</sup>. Review of sensor data from these rooms and the vicinity did not indicate any readings outside normal operating conditions.
  2. Diesel exhaust from a generator used by an on-site contractor was apparently drawn into the hallway near the gym and the covered walkway to the science building. Review of sensor data in the vicinity of this incident did not indicate any readings outside normal operating conditions.

Response Action(s)

- Both IAQ and DDC staff will continue to monitor sensor data at PHS.
- Based on observed PM concentrations in rooms 48, 32 and the Boys Locker Room, Work Order [121190xxxxx](#) has been submitted requesting additional air purifiers be installed/deployed to these spaces.

Attachments:

- Poolesville HS On-Site Construction IAQ Report

# POOLESVILLE HS ON-SITE CONSTRUCTION IAQ REPORT



This report was generated on 01/09/2024 at 08:04 AM (America/New\_York)

This daily report is for IAQ data collected between 6:00 AM and 6:00 PM for **Wednesday 01/03/2024**.

This report includes the parameters that are most affected by construction activities in close proximity to an occupied buildings:

CO - carbon monoxide

TVOC - total volatile organic compounds

PM10 - particulate matter  $\leq 10$  micron(ug)

PM2.5 - particulate matter  $\leq 2.5$  ug

PM1.0 - particulate matter  $\leq 1.0$  ug

ppm - parts per million

ppb - parts per billion

ug/m<sup>3</sup> - micrograms per cubic meter of air

All data is monitored as an indicator of ventilation performance. Where suspect ventilation concerns are identified IAQ team members investigate to determine best next steps, including but not limited to - submit work orders to mechanical teams for repairs, review occupancy and use, review occupant activities and or continue to monitor data collected for patterns and trends.

## CO Monitoring

---

Carbon Monoxide (CO): Carbon monoxide is a colorless, odorless gas. It results from incomplete combustion processes. Common sources of CO in schools are improperly vented furnaces, malfunctioning gas ranges, canned heat (e.g. a Sterno), or exhaust fumes that have been drawn back into the building. Worn or poorly adjusted and maintained combustion devices (e.g., boilers, furnaces), or a flue that is improperly sized, blocked, disconnected, or leaking, can be significant sources. Auto, truck, or bus exhaust from attached garages, nearby roads, or idling vehicles in parking areas can also be sources. Carbon monoxide at high concentrations is considered to be a serious health hazard.

## CO Graphs Legend:

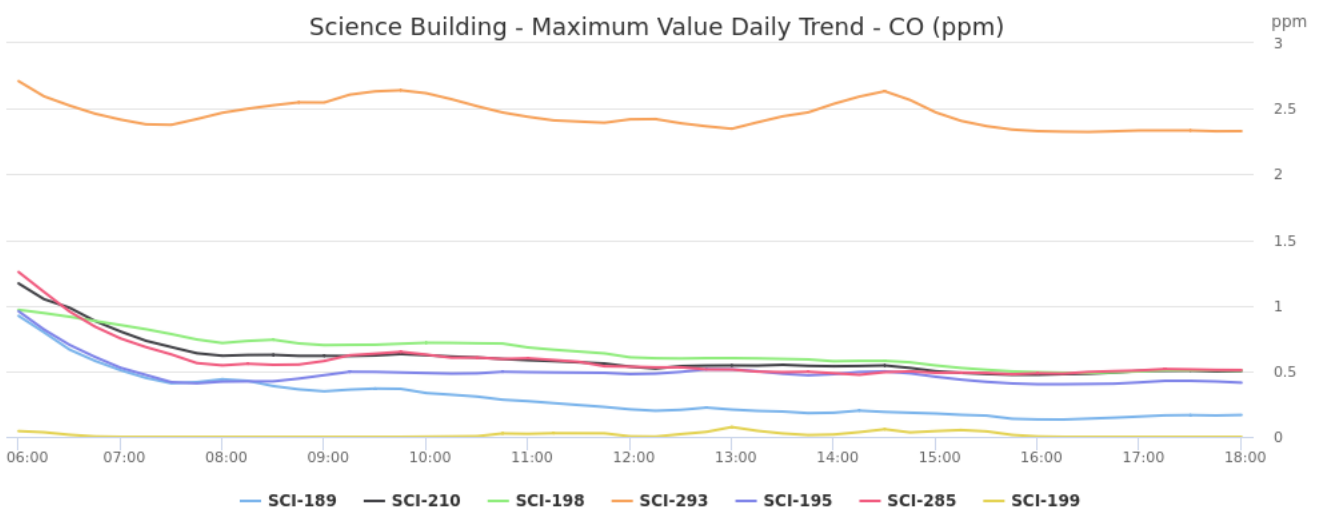
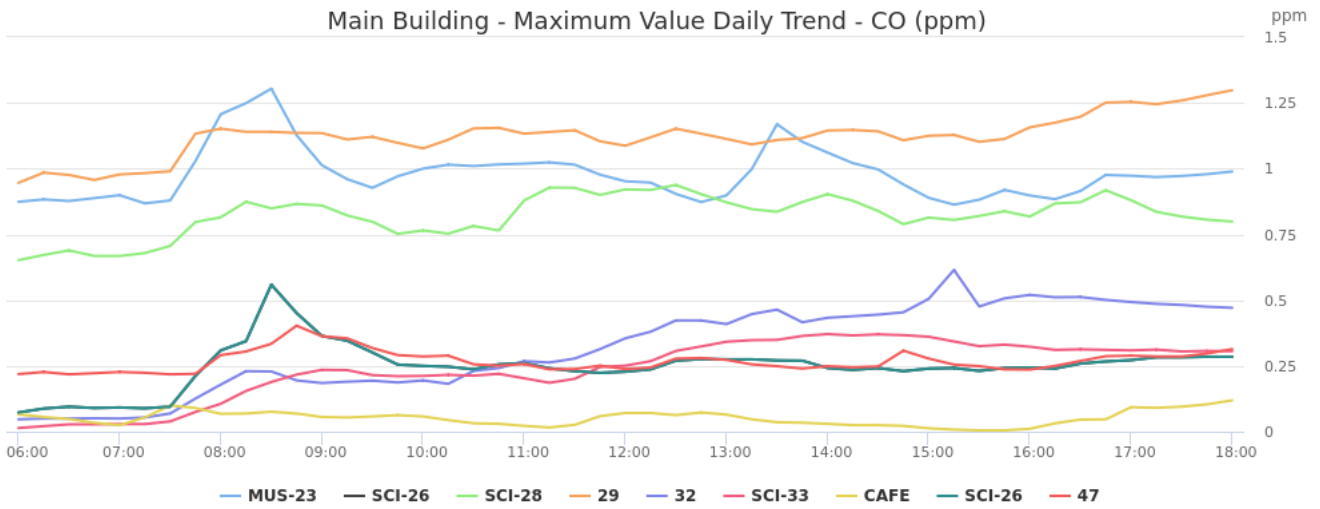
solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

IAQ - yellow = 4 ppm; MCPS notified at 4-hours

Ventilation - orange = 9 ppm; MCPS notified at 1-hour; immediate text, investigation

Health & Safety - red = 25 ppm; MCPS notified at 8-hours, immediate text, community notification if during school hours



The carbon monoxide standards for indoor air quality are the U.S. Environmental Protection Agency (US EPA) National Ambient Air Quality Standard (NAAQS) of 9 ppm CO on a 8-hour time-weighted average (TWA), and the World Health organization Guidelines for Indoor Air Quality – Selected Pollutants of 6 ppm. However, MCPS will be notified at a sustained measurement of 4 ppm or greater for 4-hours as a more conservative and precautionary approach to this health-based standard.

### TVOC Monitoring

#### TVOC Graphs Legend:

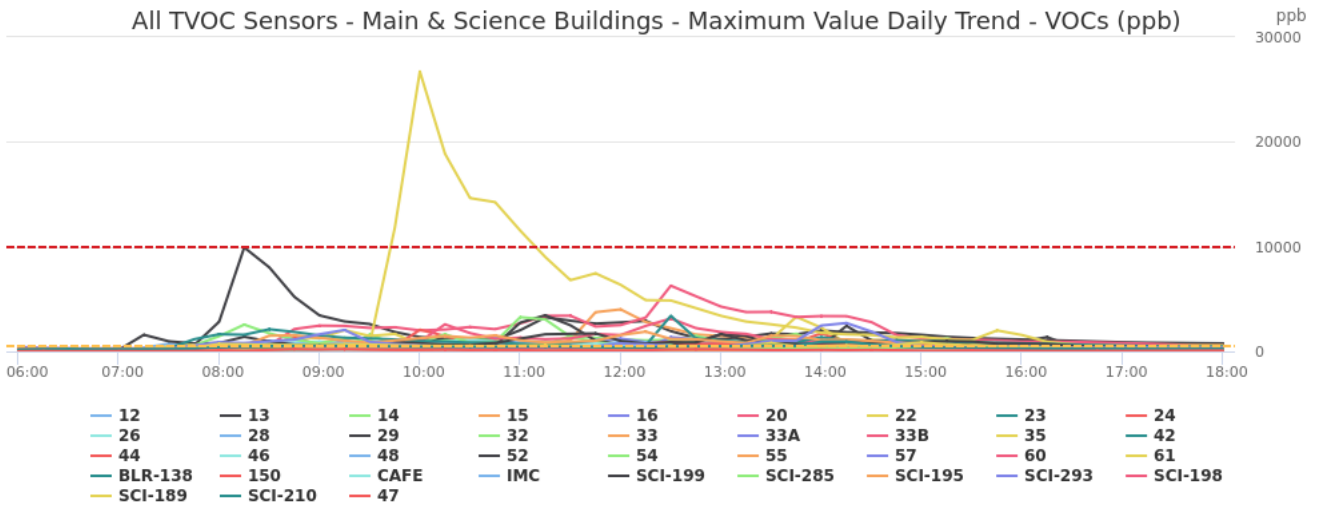
solid lines indicate data from each room

dashed lines appear when exceeds value for any period of time

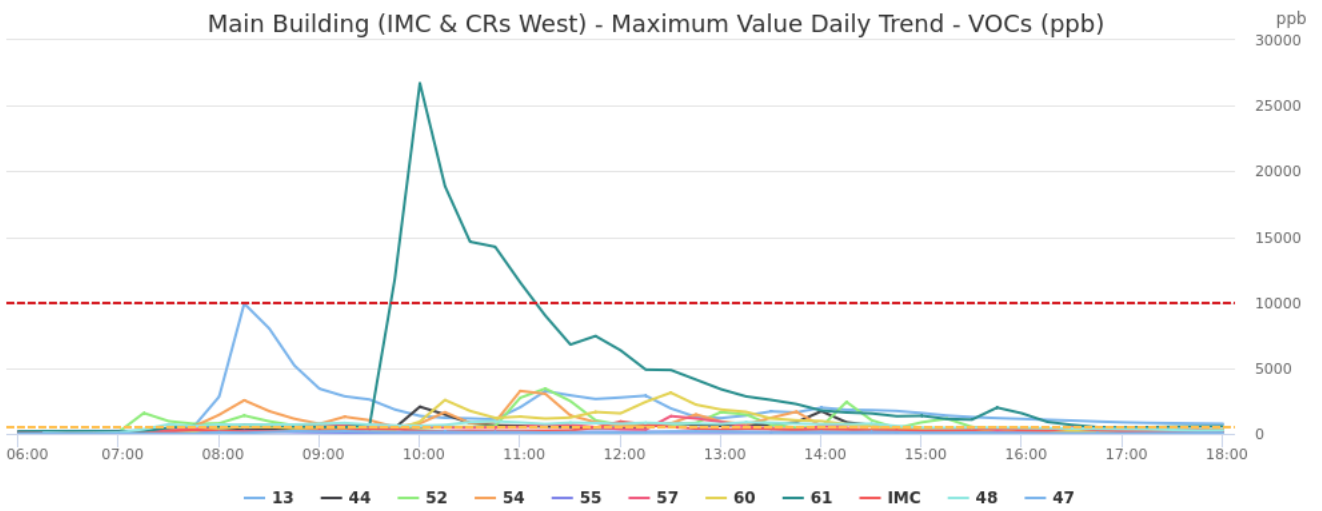
IAQ - yellow = 500 ppb (0.5 ppm); MCPS notified at 4-hours

Ventilation - red = 10,000 ppb (10 ppm); MCPS notified at 4-hours

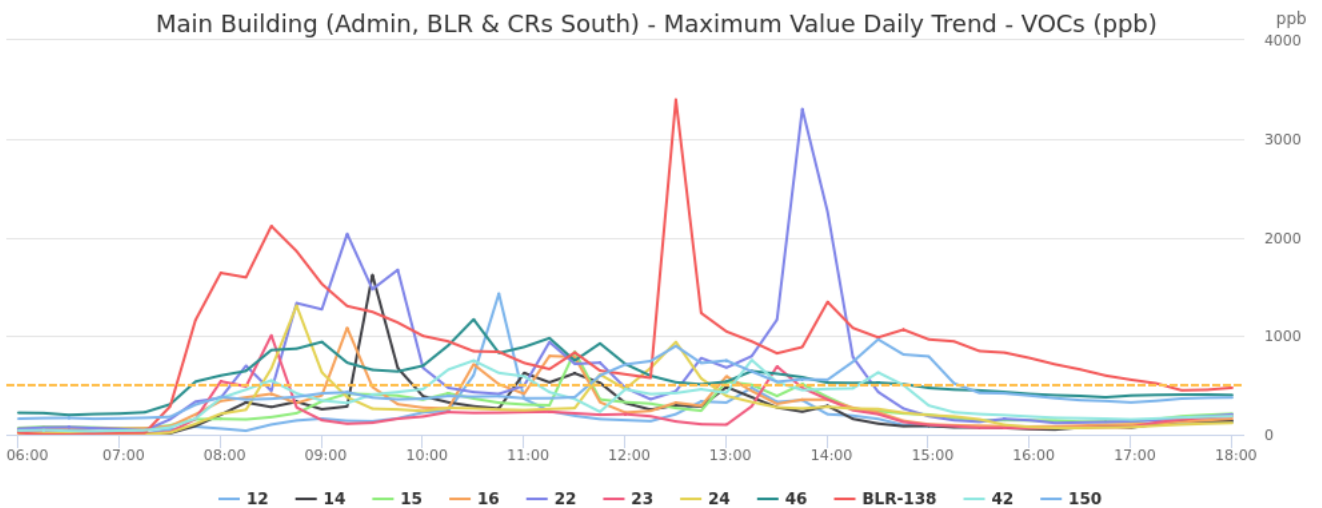
All TVOC Sensors - Main & Science Buildings - Maximum Value Daily Trend - VOCs (ppb)



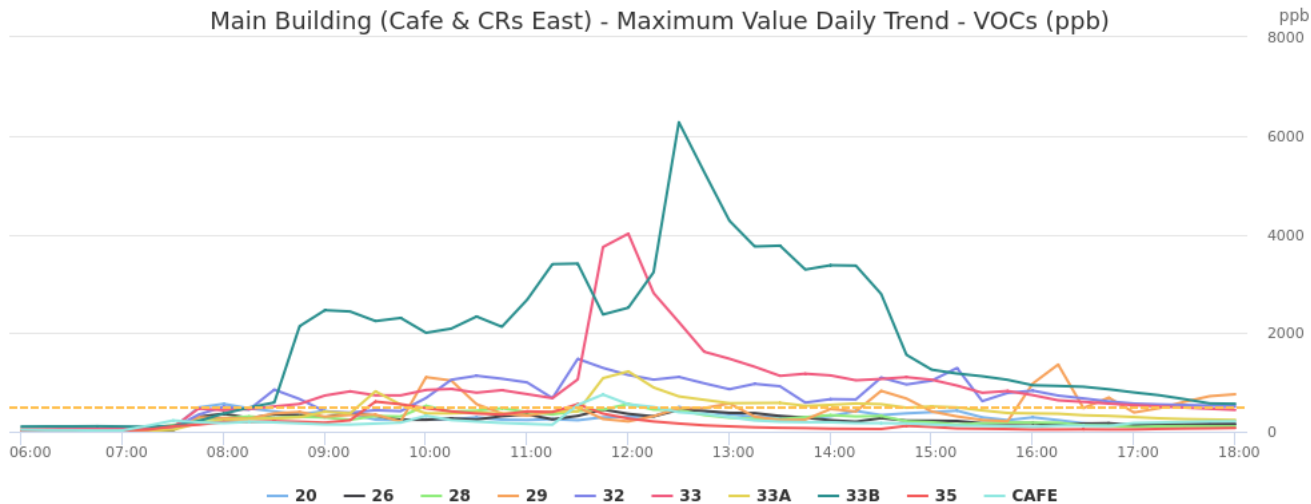
Main Building (IMC & CRs West) - Maximum Value Daily Trend - VOCs (ppb)



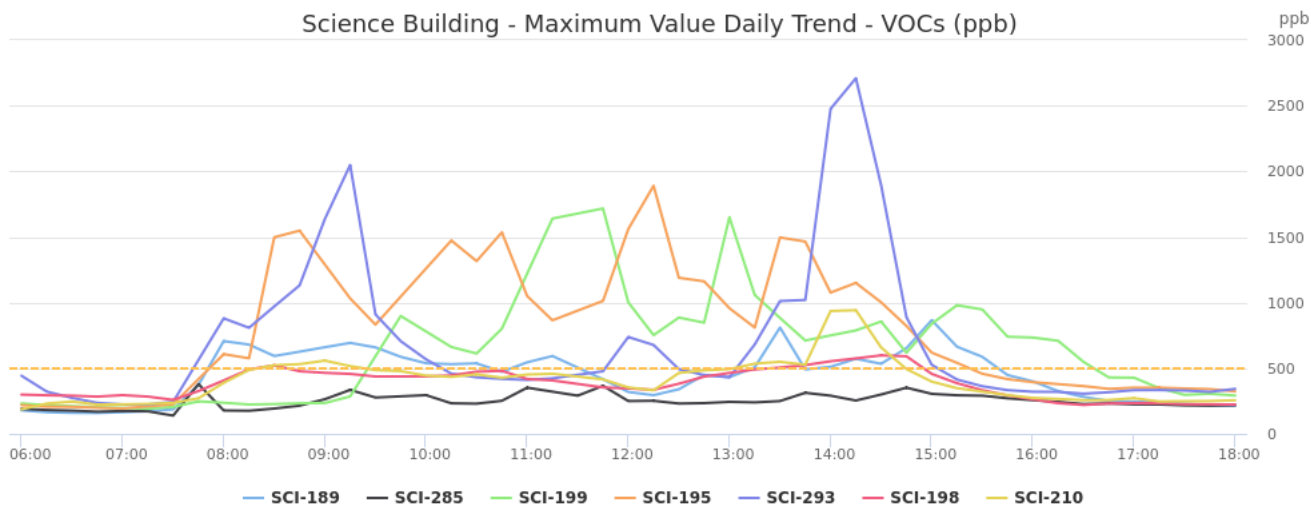
Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - VOCs (ppb)



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - VOCs (ppb)



Science Building - Maximum Value Daily Trend - VOCs (ppb)



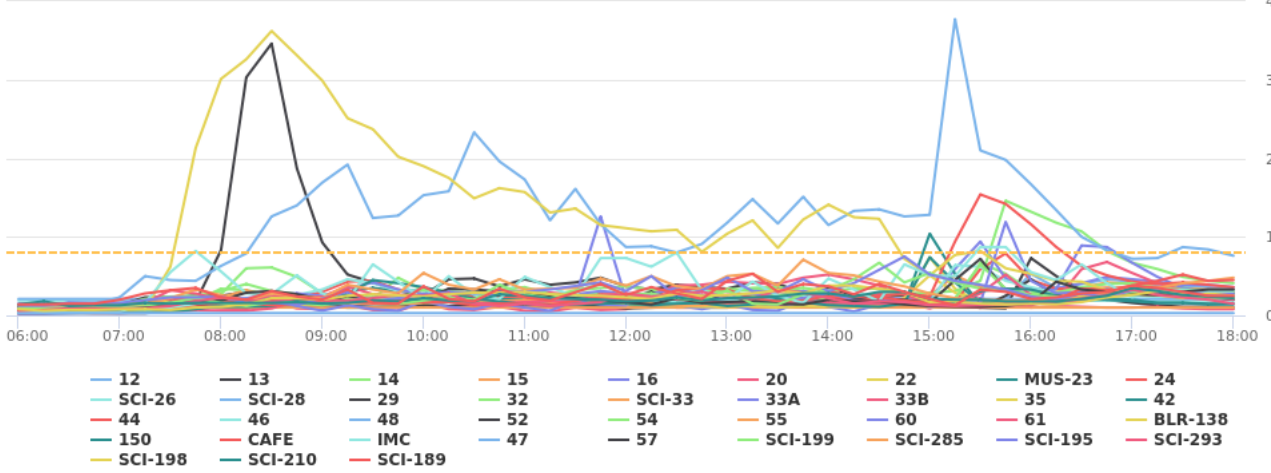
PM1.0 Monitoring

PM1.0 Graphs Legend:

- solid lines- indicate data from each room
- dashed lines appear when data exceeds value for any period of time
- IAQ - yellow = 8 ug/m<sup>3</sup>; MCPS notified at 4-hours
- Ventilation - orange = 150 ug/m<sup>3</sup>; MCPS notified at 2-hours
- Health & Safety - red = 250 ug/m<sup>3</sup>; MCPS notified at 8-hours

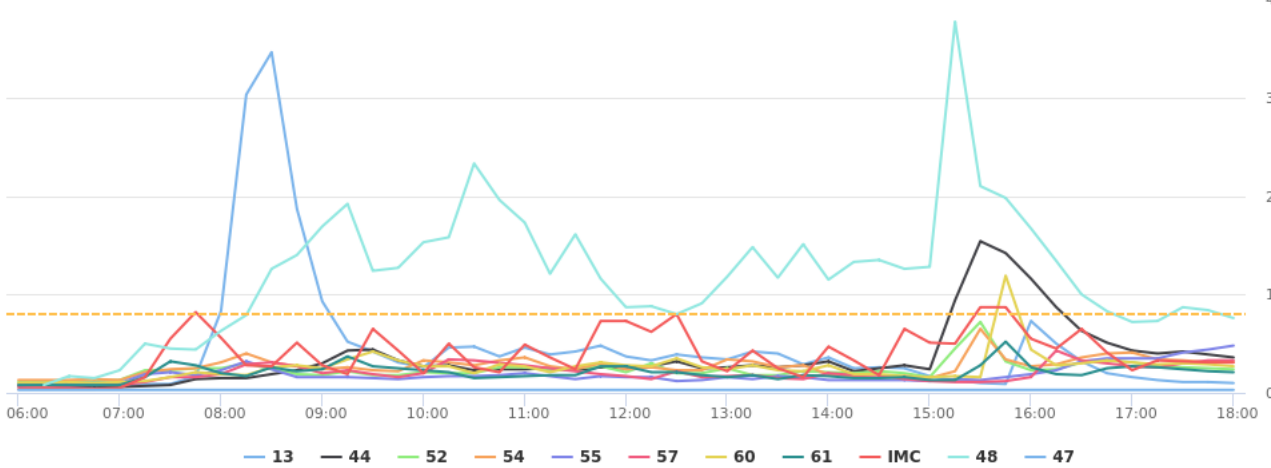
All PM1.0 Sensors Main & Science Buildings Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>



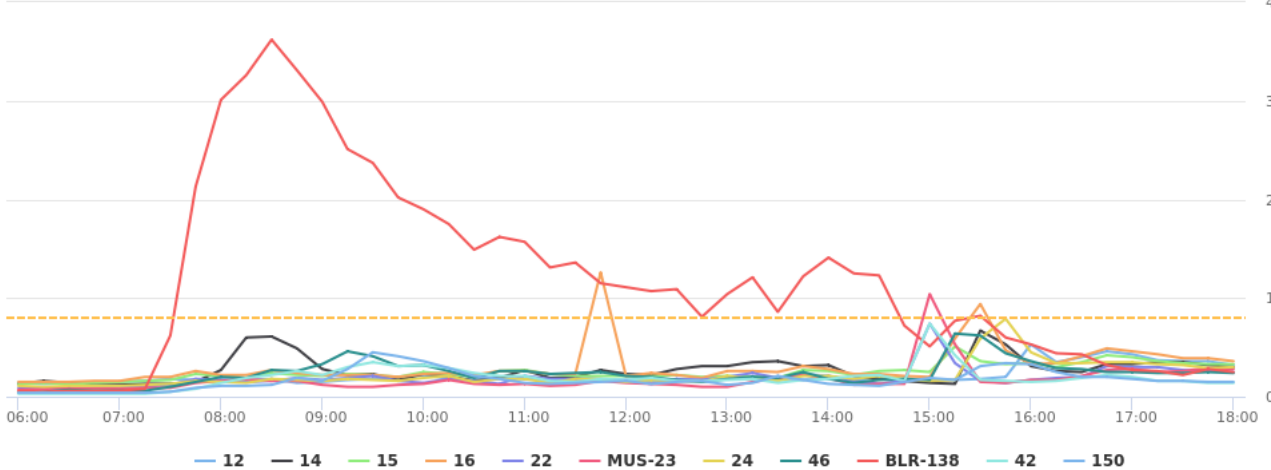
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>

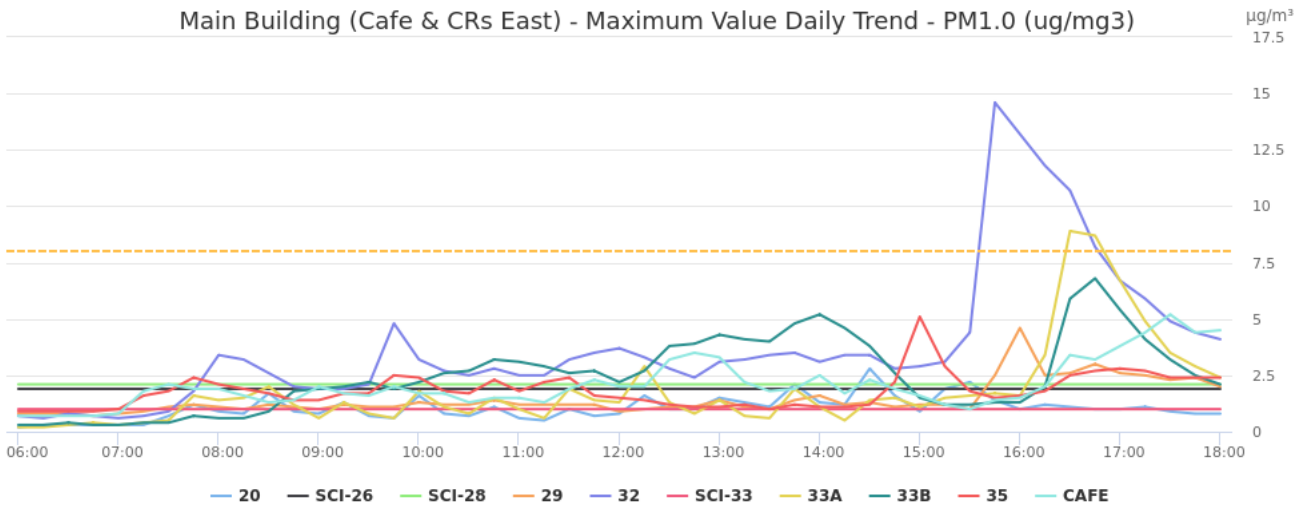


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>

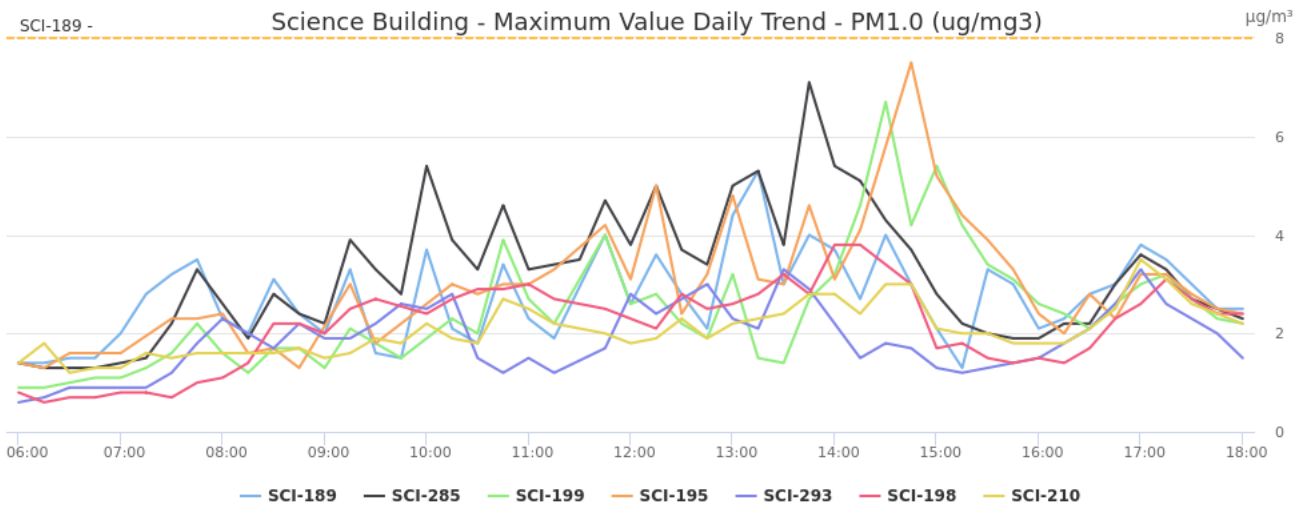


Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM1.0 (ug/mg3)



SCI-189 -

Science Building - Maximum Value Daily Trend - PM1.0 (ug/mg3)



## PM2.5 Monitoring

### PM2.5 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

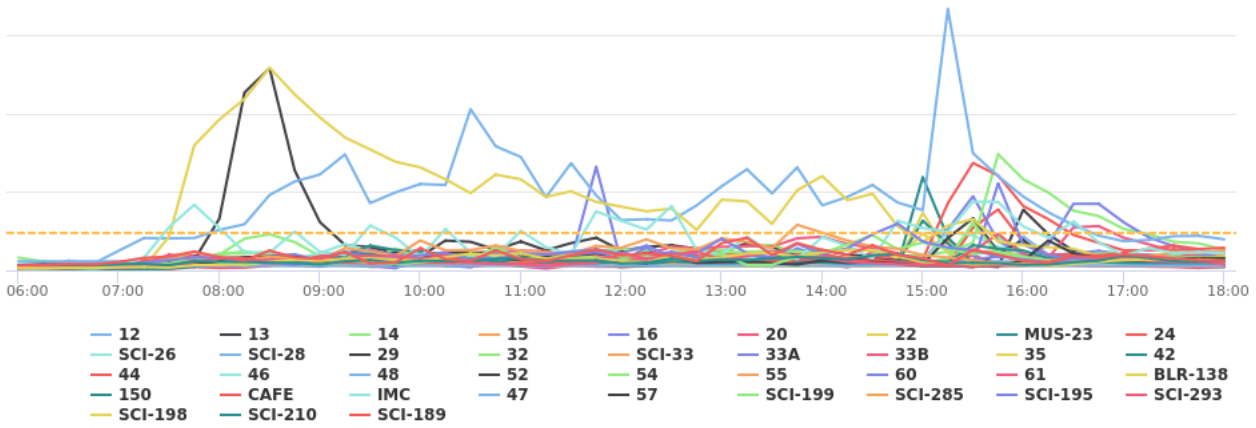
IAQ - yellow = 12 ug/m3; MCPS notified at 4-hours

Ventilation - orange = 150 ug/m3; MCPS notified at 2-hours

Health & Safety - red = 250 ug/m3; MCPS notified at 8-hours

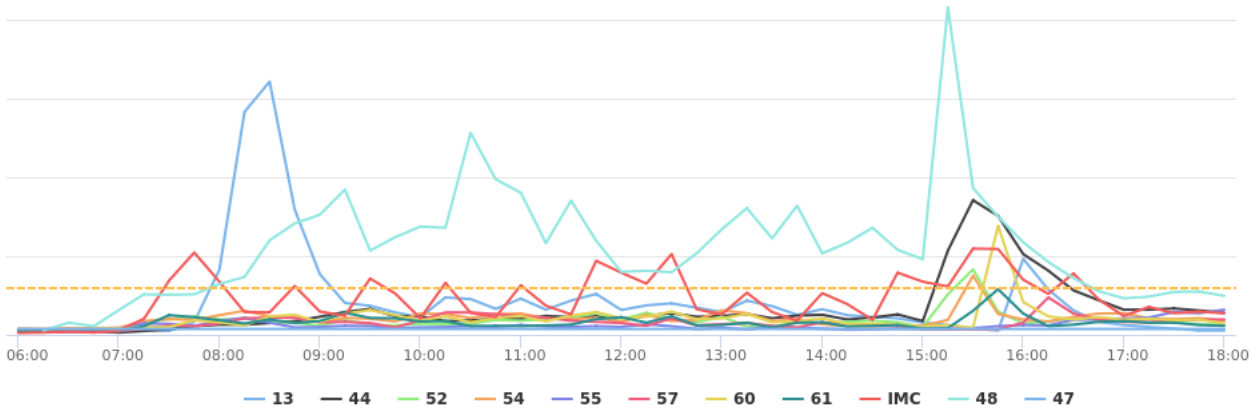
All PM2.5 Sensors Main & Science Buildings Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
100



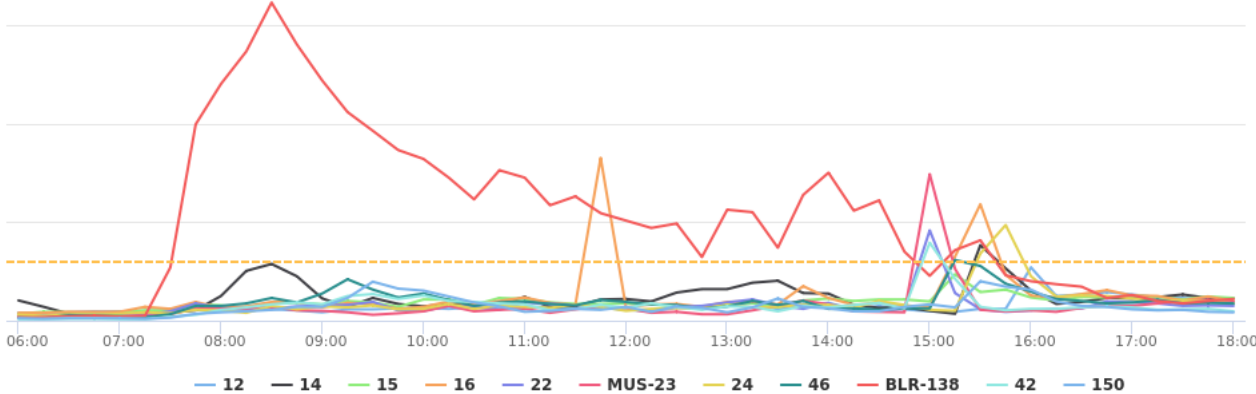
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
100



Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

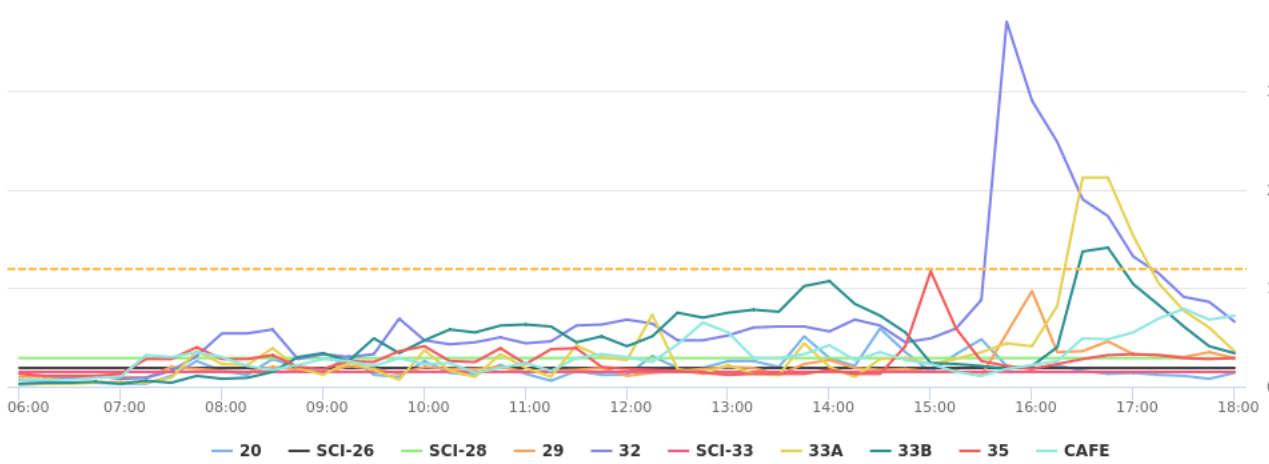
µg/m<sup>3</sup>  
80





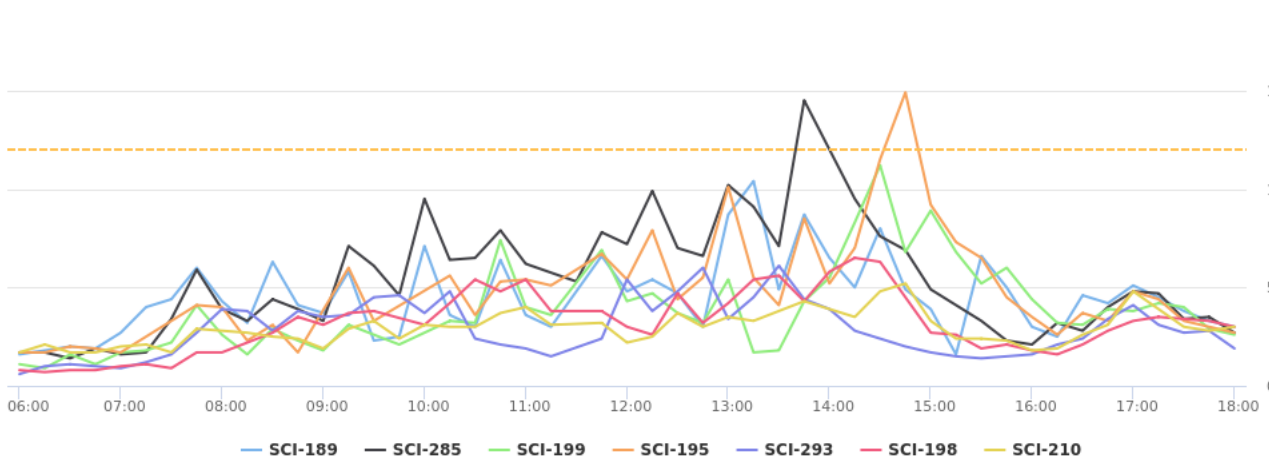
Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
40



Science Building - Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
20



## PM10 Monitoring

### PM10 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

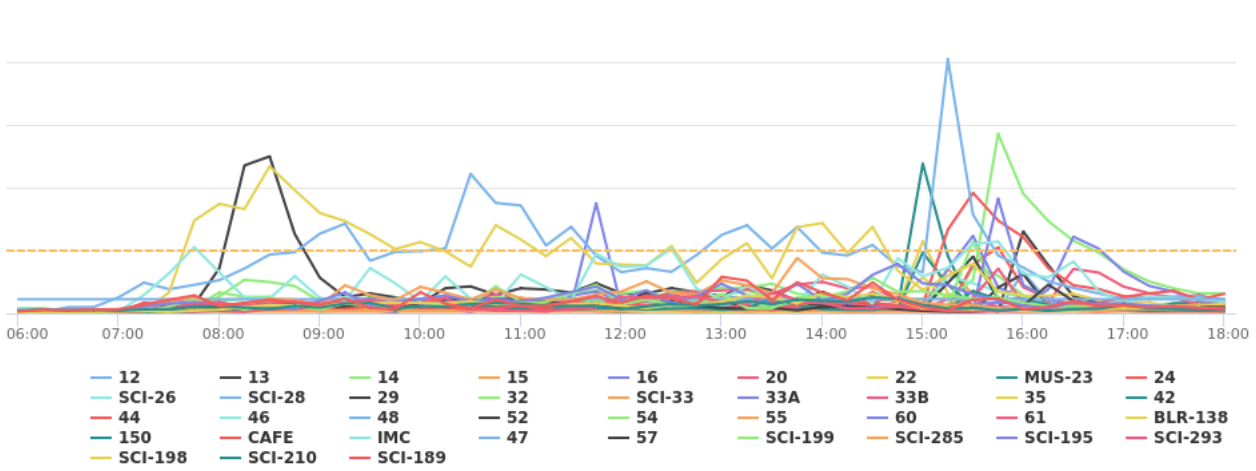
IAQ - yellow = 50 ug/m<sup>3</sup>; MCPS notified at 4-hours

Ventilation - orange = 355 ug/m<sup>3</sup>; MCPS notified at 2-hours

Health & Safety - red = 425 ug/m<sup>3</sup>; MCPS notified at 8-hours

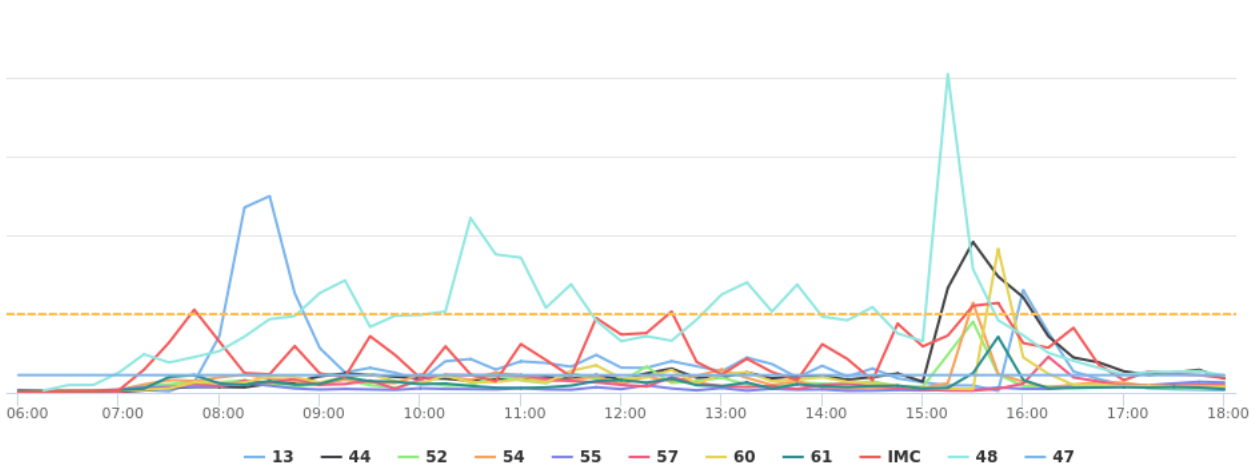
All PM10 Sensors Main & Science Buildings Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m³



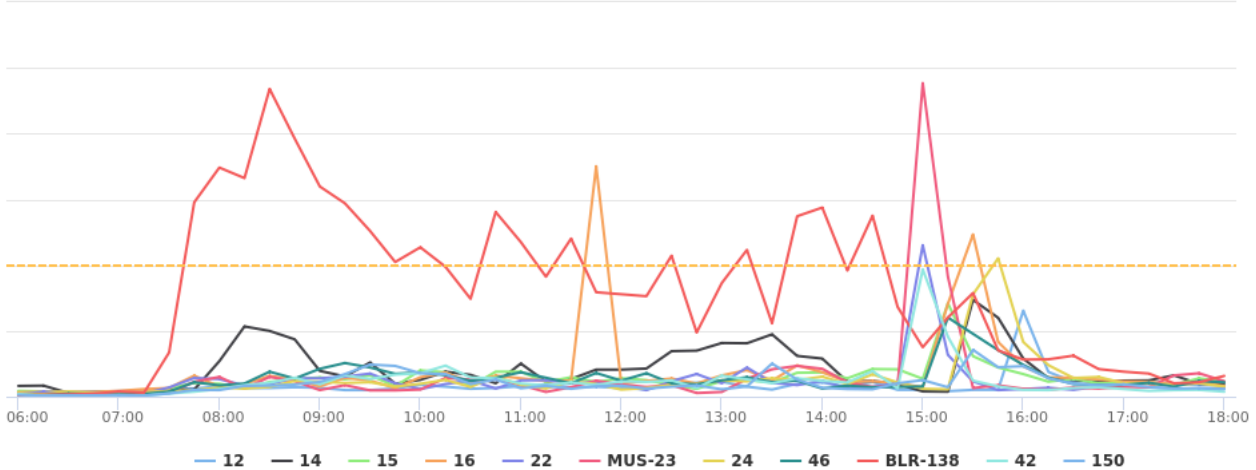
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m³

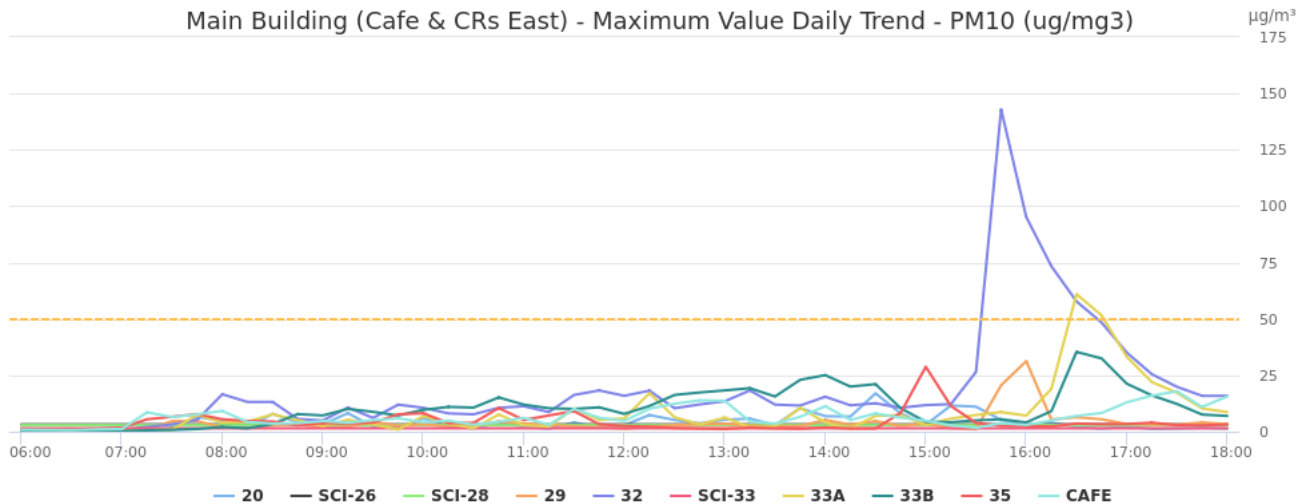


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM10 (ug/mg3)

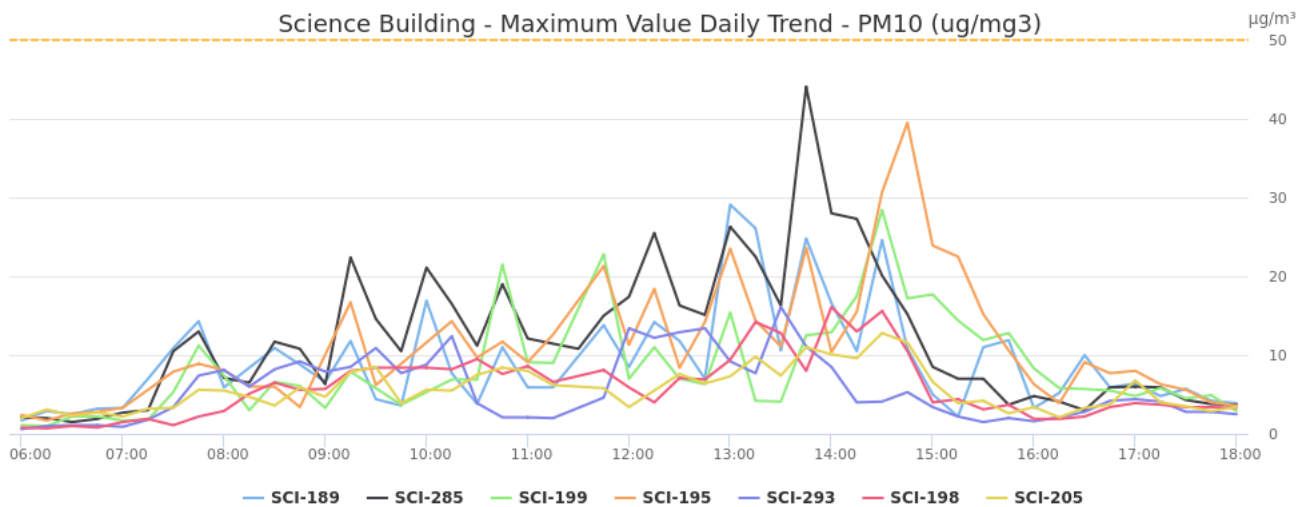
µg/m³



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM10 (ug/mg3)



Science Building - Maximum Value Daily Trend - PM10 (ug/mg3)



# POOLESVILLE HS ON-SITE CONSTRUCTION IAQ REPORT



This report was generated on 01/09/2024 at 06:52 AM (America/New\_York)

This daily report is for IAQ data collected between 6:00 AM and 6:00 PM for **Thursday 01/04/2024**.

This report includes the parameters that are most affected by construction activities in close proximity to an occupied buildings:

CO - carbon monoxide

TVOC - total volatile organic compounds

PM10 - particulate matter  $\leq 10$  micron(ug)

PM2.5 - particulate matter  $\leq 2.5$  ug

PM1.0 - particulate matter  $\leq 1.0$  ug

ppm - parts per million

ppb - parts per billion

ug/m<sup>3</sup> - micrograms per cubic meter of air

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## CO Monitoring

---

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## CO Graphs Legend:

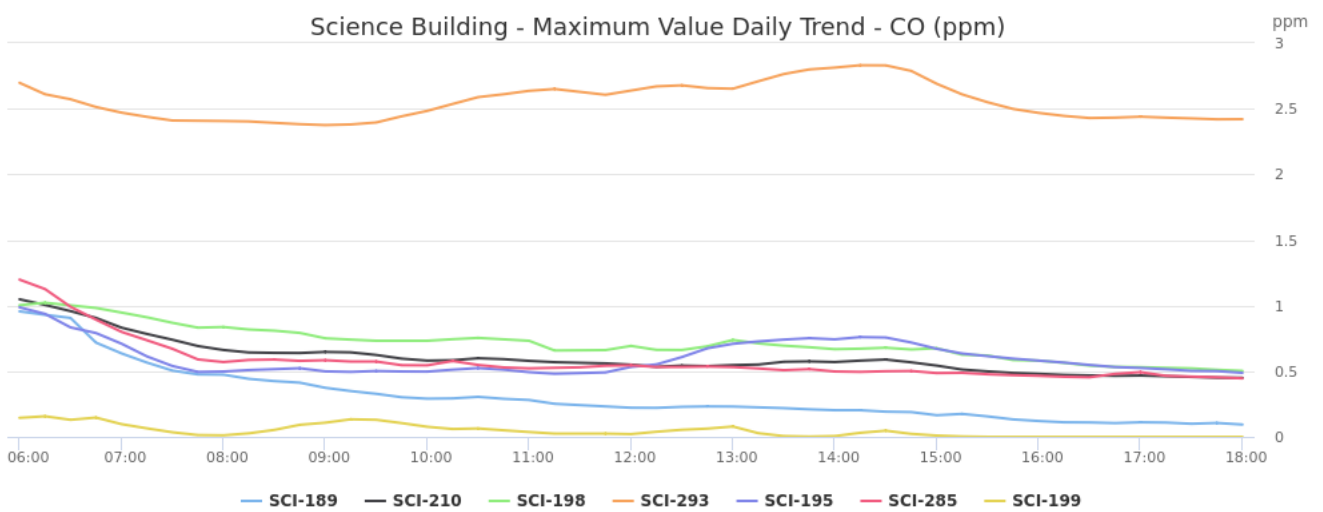
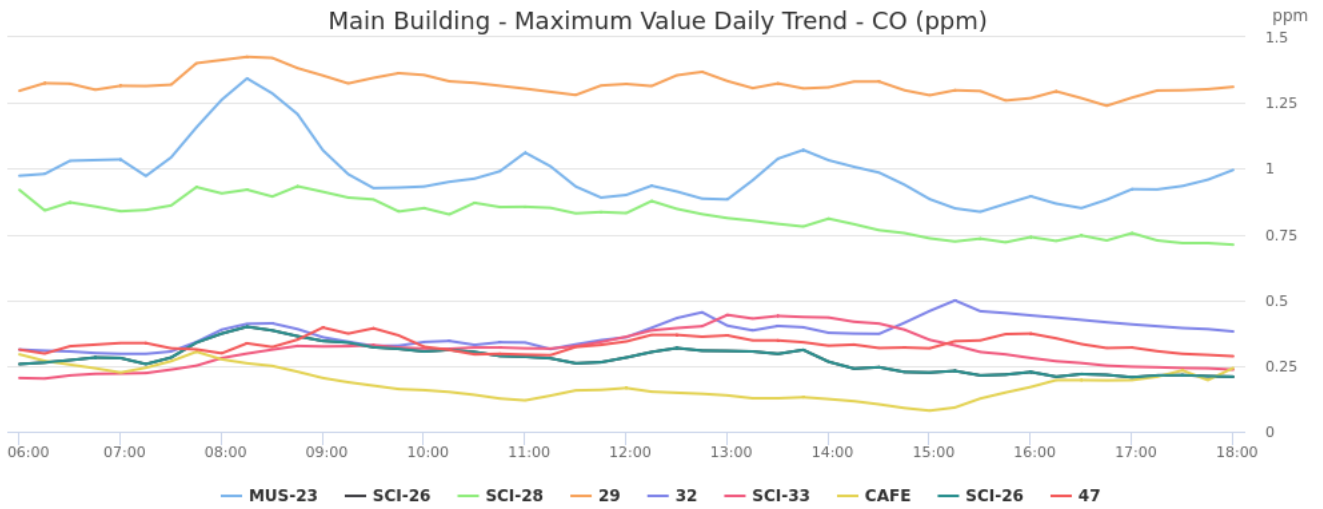
solid lines- indicate data from each room

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Ventilation - orange = 9 ppm; MCPS notified at 1-hour; immediate text, investigation

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### TVOC Monitoring

#### TVOC Graphs Legend:

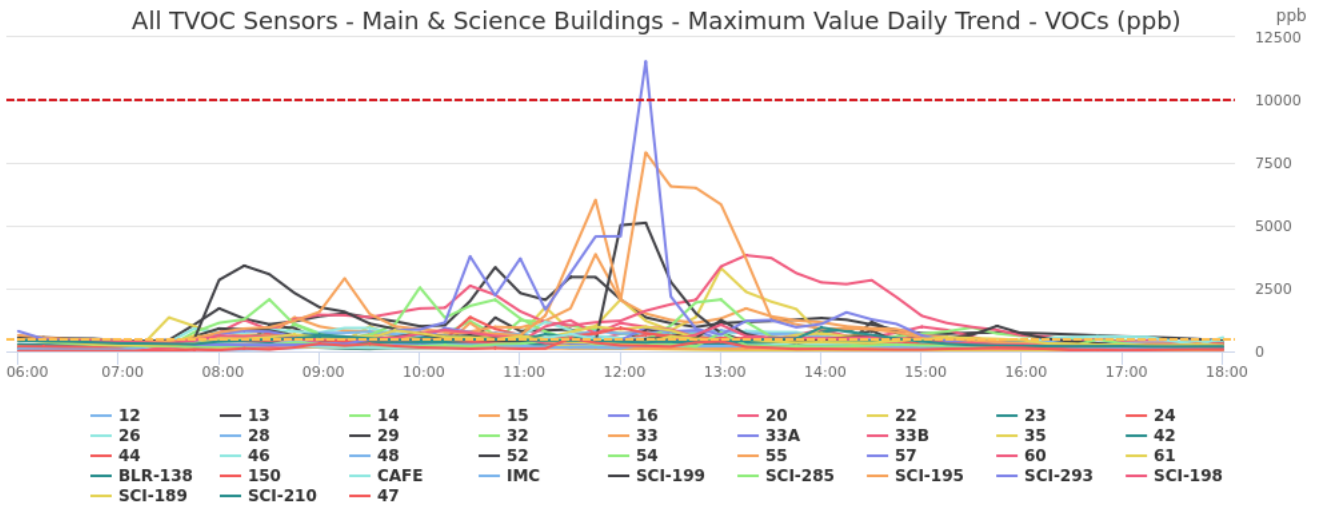
solid lines indicate data from each room

dashed lines appear when exceeds value for any period of time

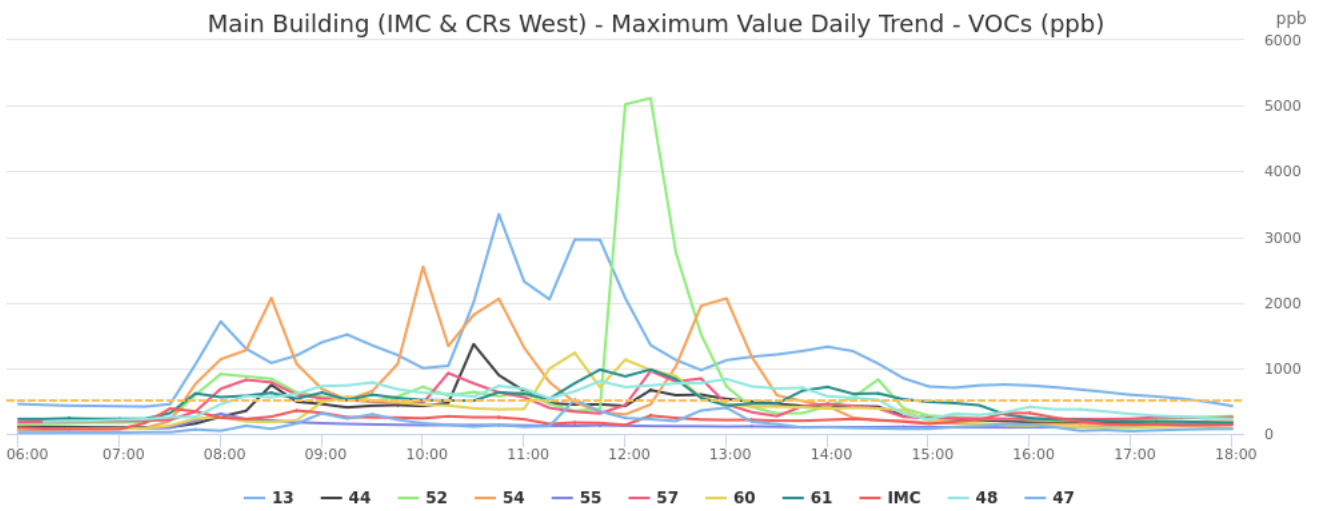
IAQ - yellow = 500 ppb (0.5 ppm); MCPS notified at 4-hours

Ventilation - red = 10,000 ppb (10 ppm); MCPS notified at 4-hours

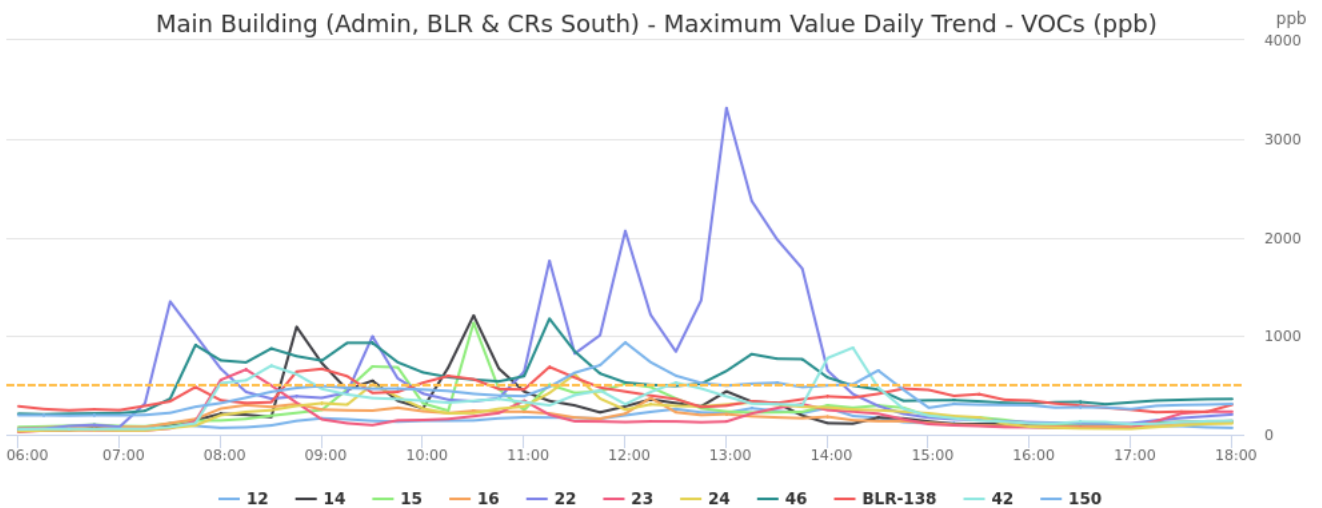
All TVOC Sensors - Main & Science Buildings - Maximum Value Daily Trend - VOCs (ppb)



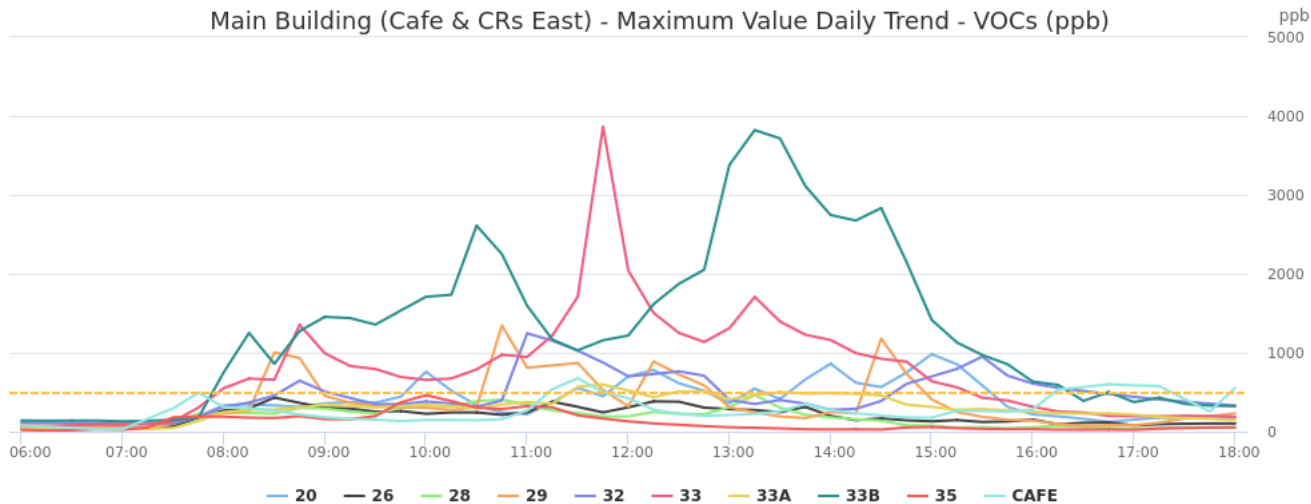
Main Building (IMC & CRs West) - Maximum Value Daily Trend - VOCs (ppb)



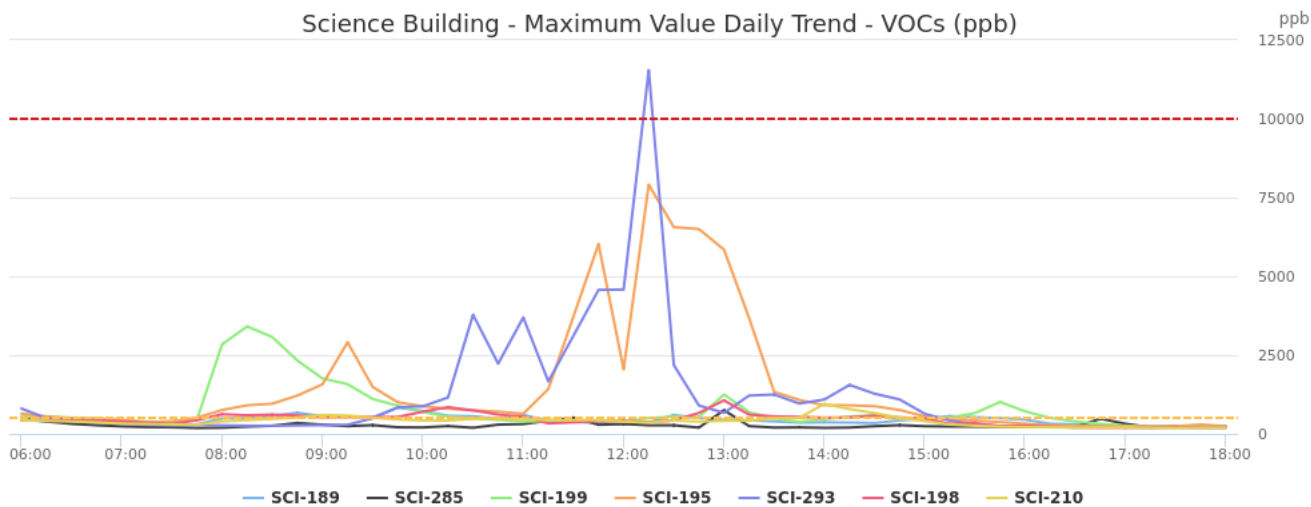
Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - VOCs (ppb)



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - VOCs (ppb)



Science Building - Maximum Value Daily Trend - VOCs (ppb)



PM1.0 Monitoring

PM1.0 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

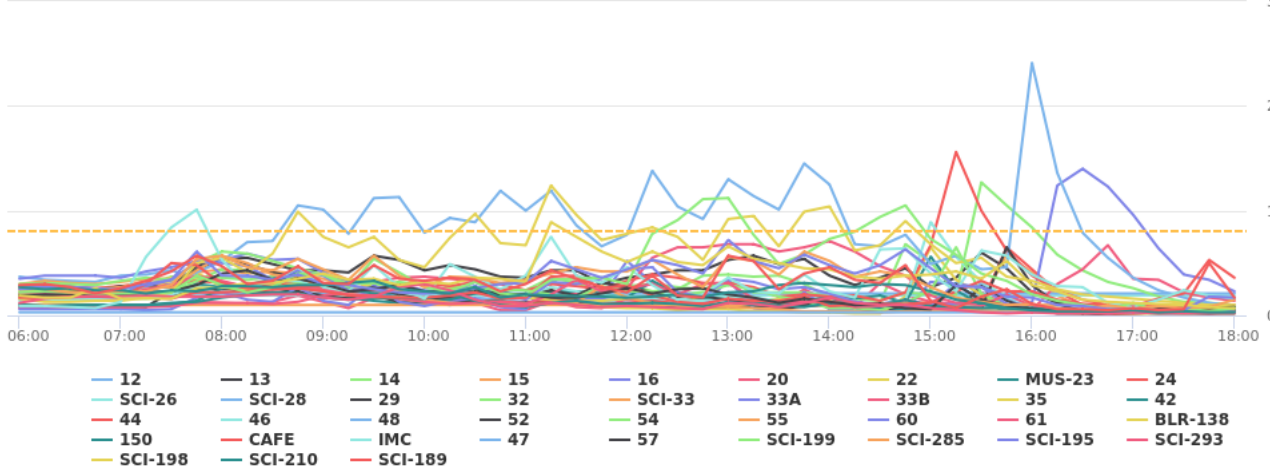
IAQ - yellow = 8 ug/m3; MCPS notified at 4-hours

Ventilation - orange = 150 ug/m3; MCPS notified at 2-hours

Health & Safety - red = 250 ug/m3; MCPS notified at 8-hours

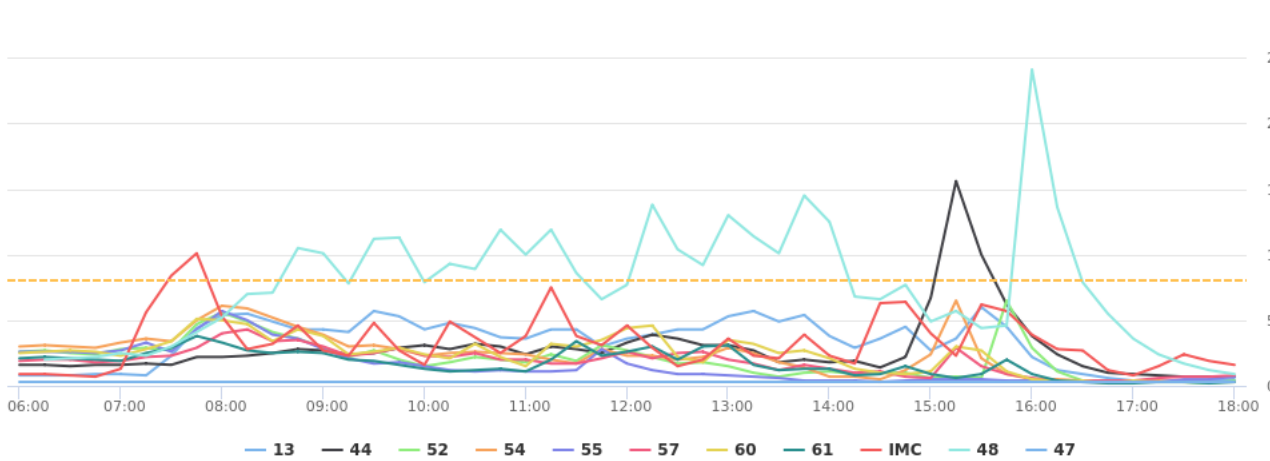
All PM1.0 Sensors Main & Science Buildings Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>  
30



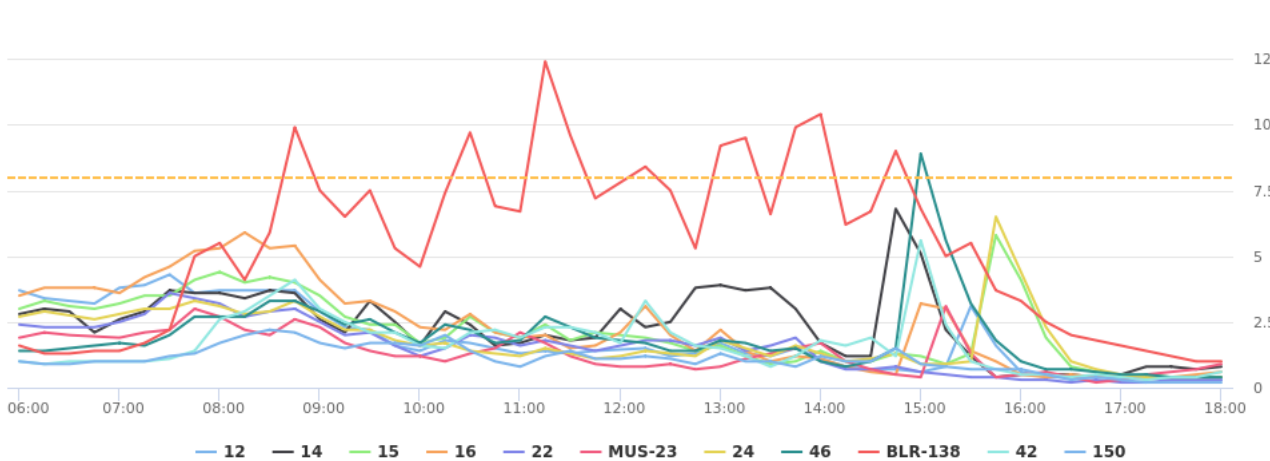
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>  
30

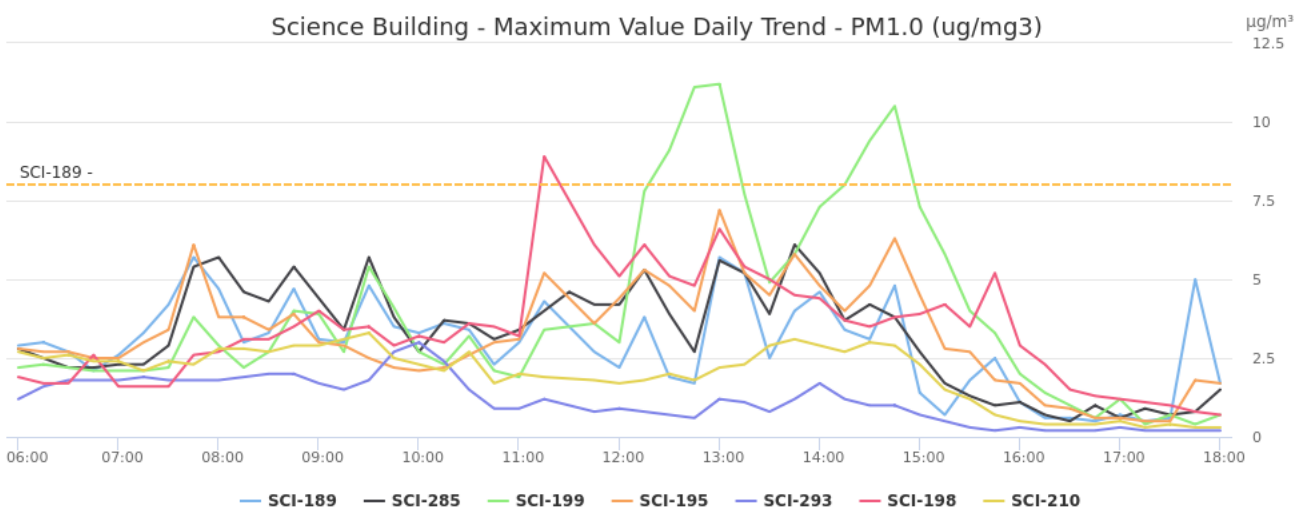
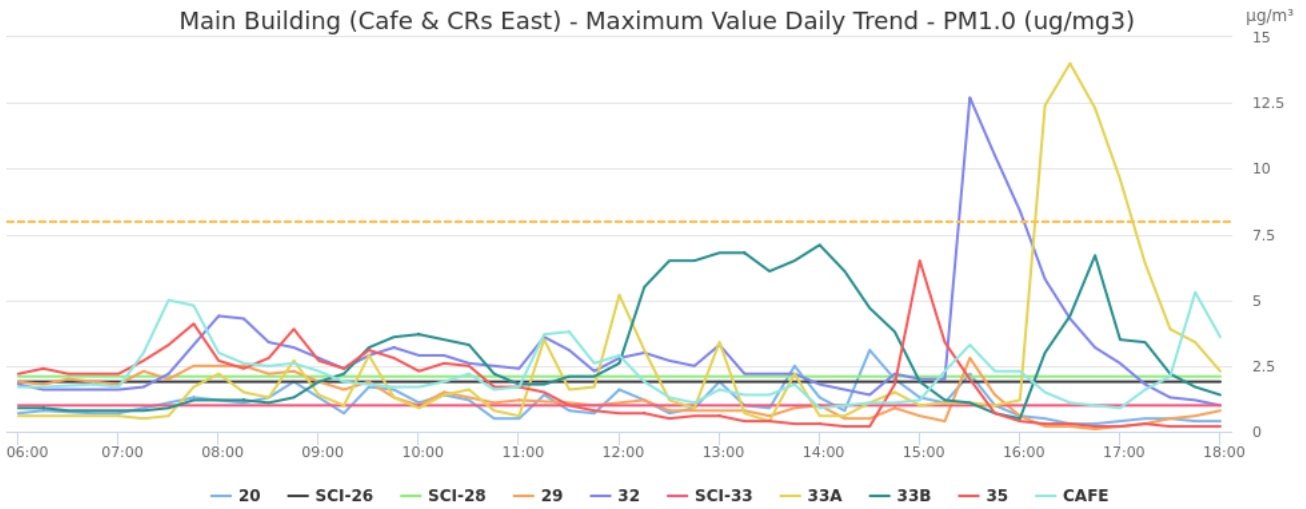


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>  
15







## PM2.5 Monitoring

### PM2.5 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

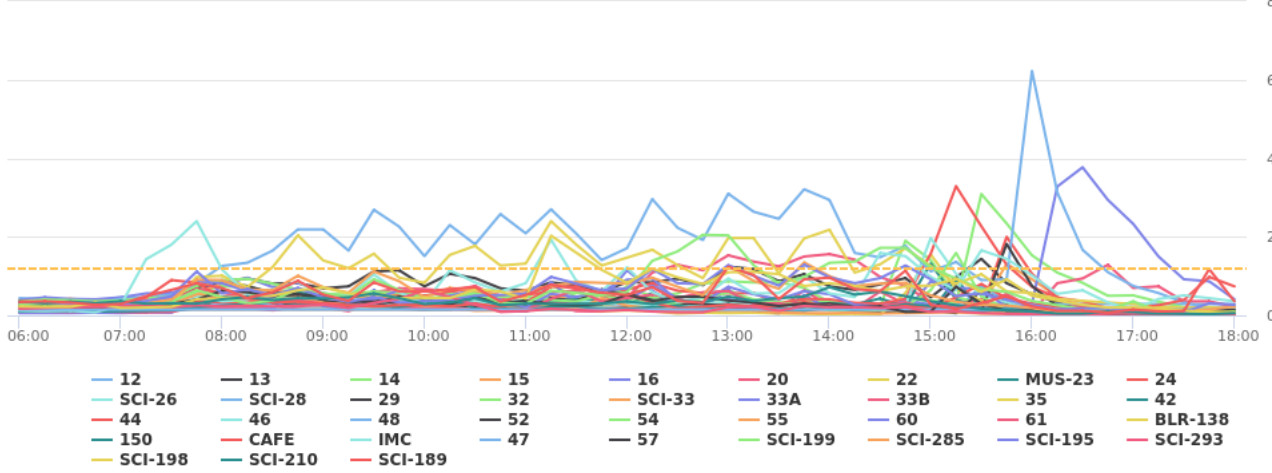
IAQ - yellow = 12 ug/m<sup>3</sup>; MCPS notified at 4-hours

Ventilation - orange = 150 ug/m<sup>3</sup>; MCPS notified at 2-hours

Health & Safety - red = 250 ug/m<sup>3</sup>; MCPS notified at 8-hours

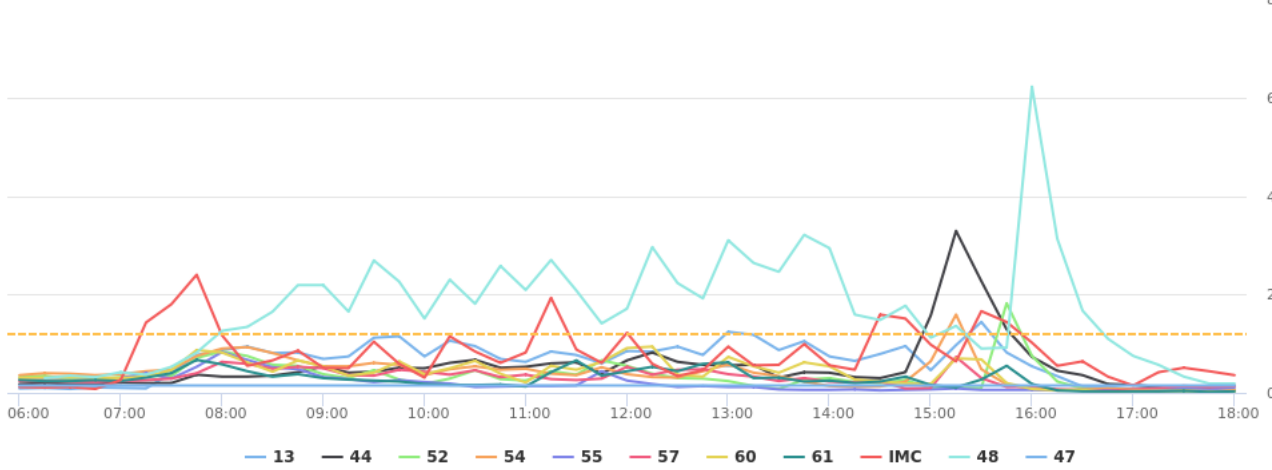
All PM2.5 Sensors Main & Science Buildings Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>



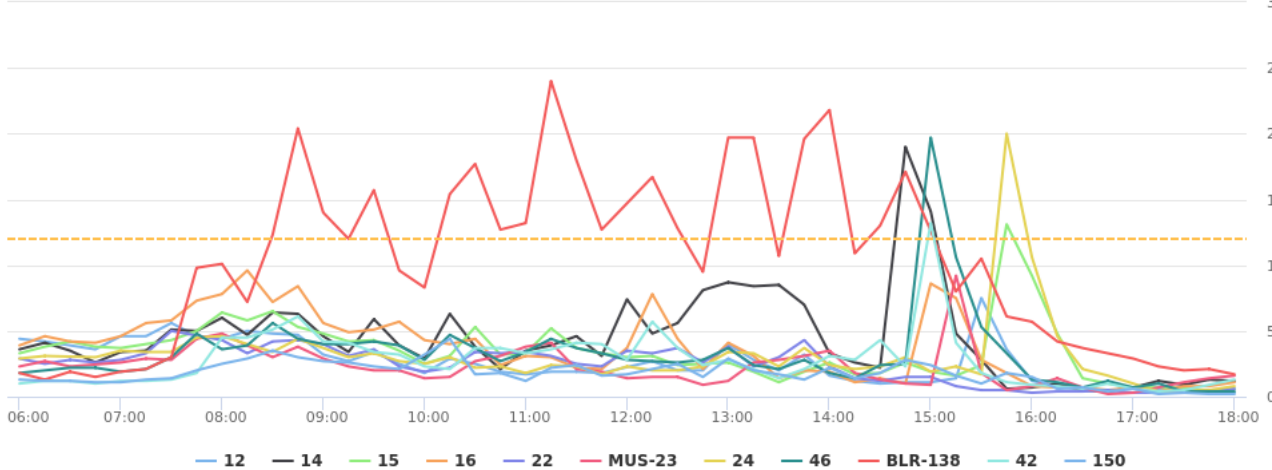
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>

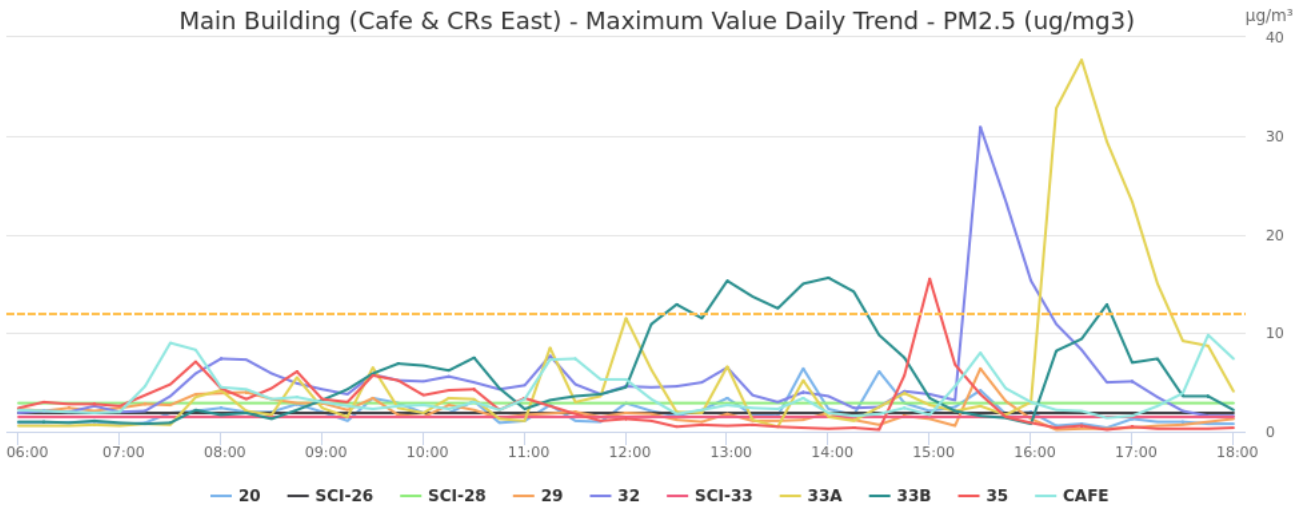


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

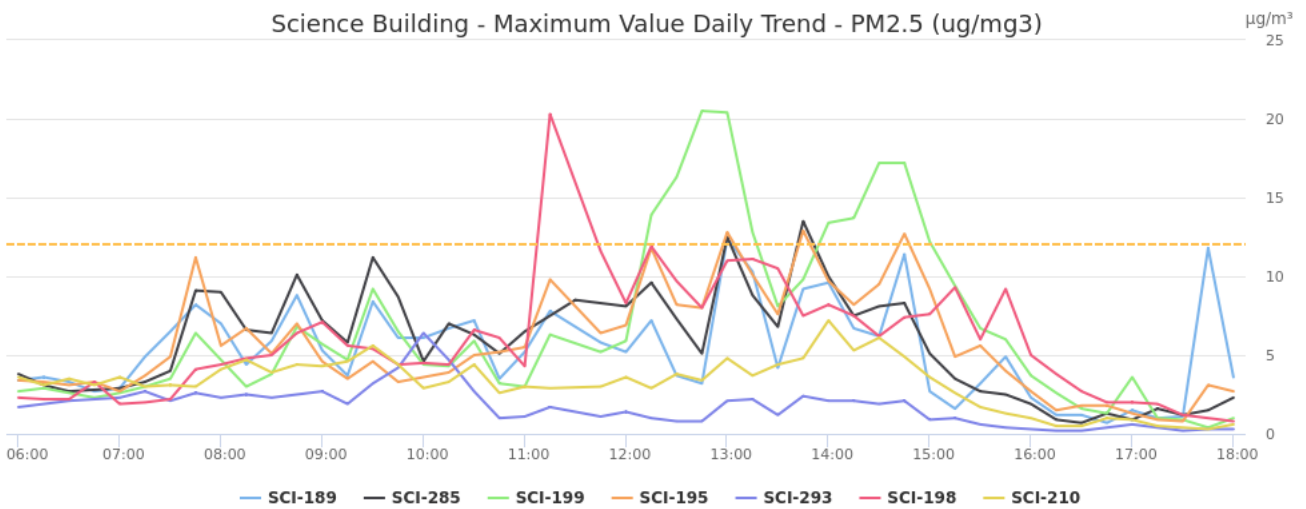
µg/m<sup>3</sup>



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM2.5 (ug/mg3)



Science Building - Maximum Value Daily Trend - PM2.5 (ug/mg3)



## PM10 Monitoring

### PM10 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

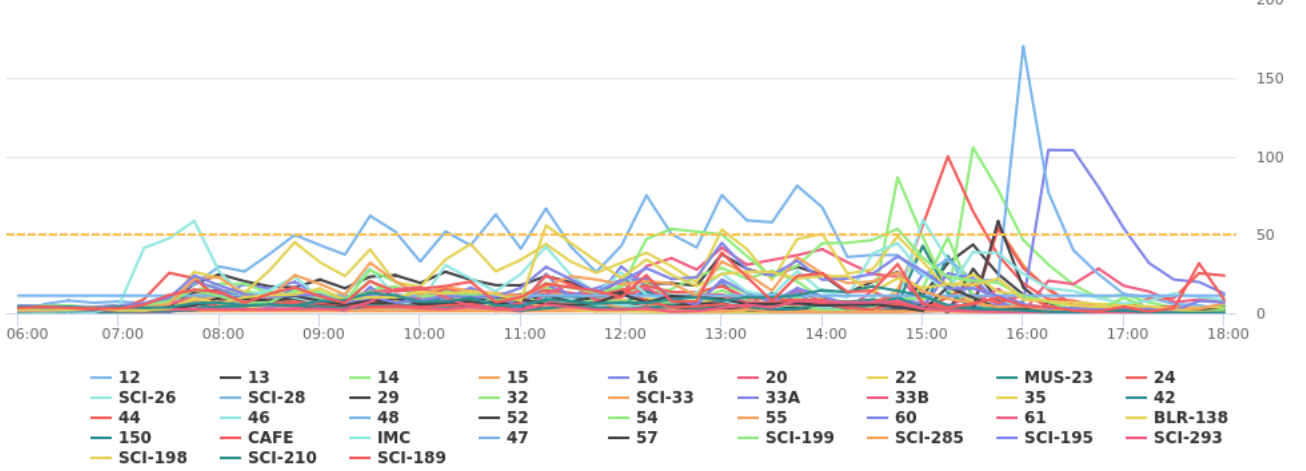
IAQ - yellow = 50 ug/m3; MCPS notified at 4-hours

Ventilation - orange = 355 ug/m3; MCPS notified at 2-hours

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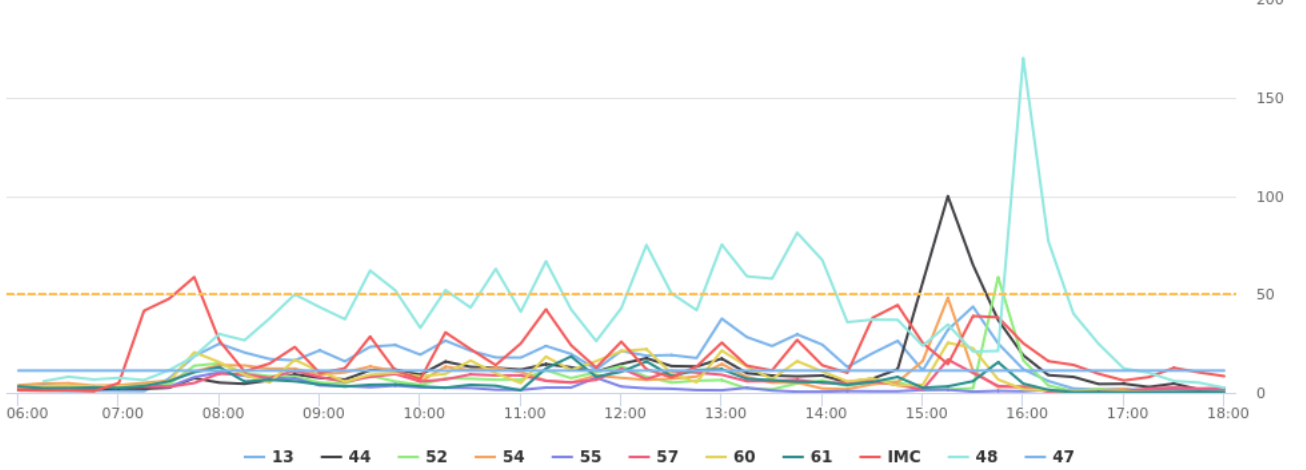
All PM10 Sensors Main & Science Buildings Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>



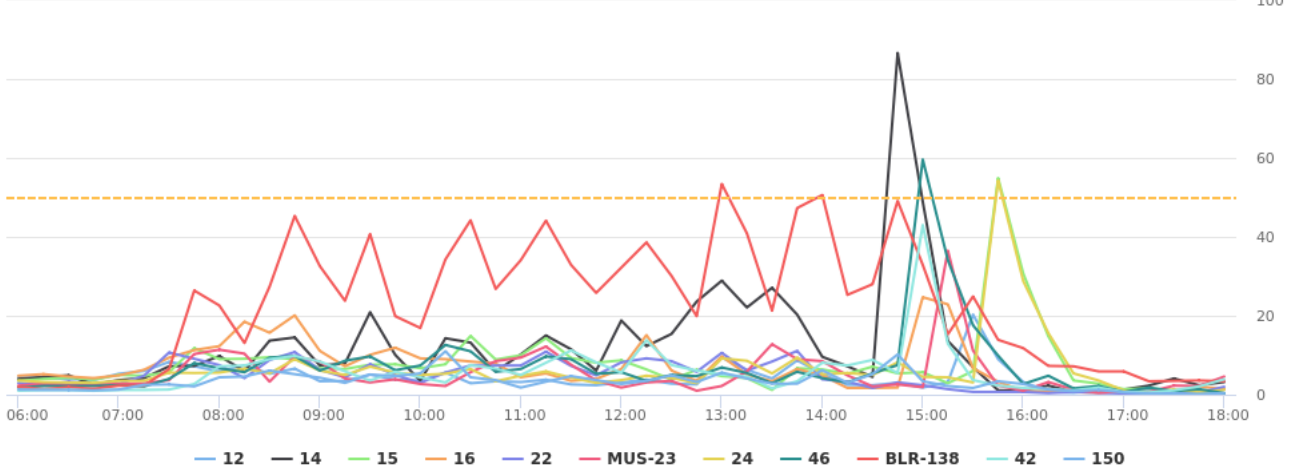
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>

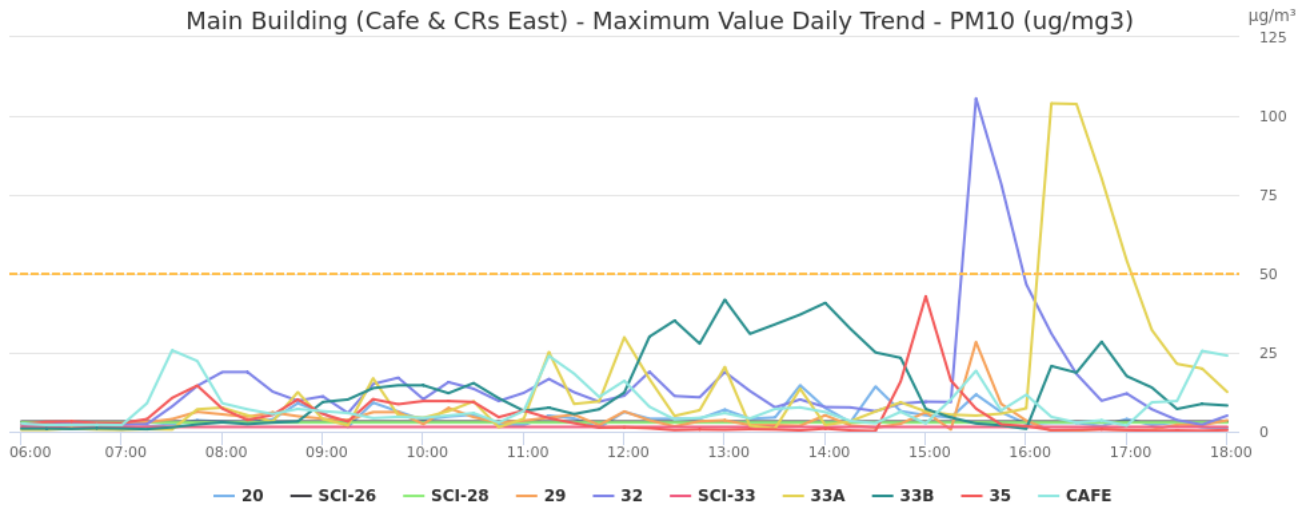


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM10 (ug/mg3)

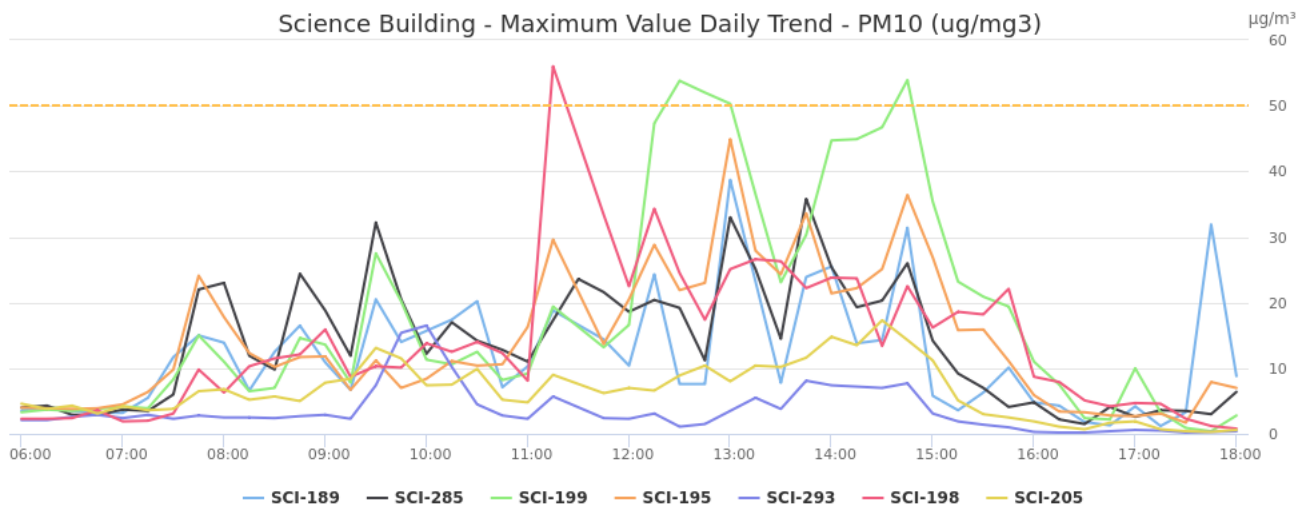
µg/m<sup>3</sup>



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM10 (ug/mg3)



Science Building - Maximum Value Daily Trend - PM10 (ug/mg3)



# POOLESVILLE HS ON-SITE CONSTRUCTION IAQ REPORT



This report was generated on 01/08/2024 at 01:54 PM (America/New\_York)

This daily report is for IAQ data collected between 6:00 AM and 6:00 PM for **Friday 01/05/2024**.

This report includes the parameters that are most affected by construction activities in close proximity to an occupied buildings:

CO - carbon monoxide

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PM10 - particulate matter  $\leq 10$  micron(ug)

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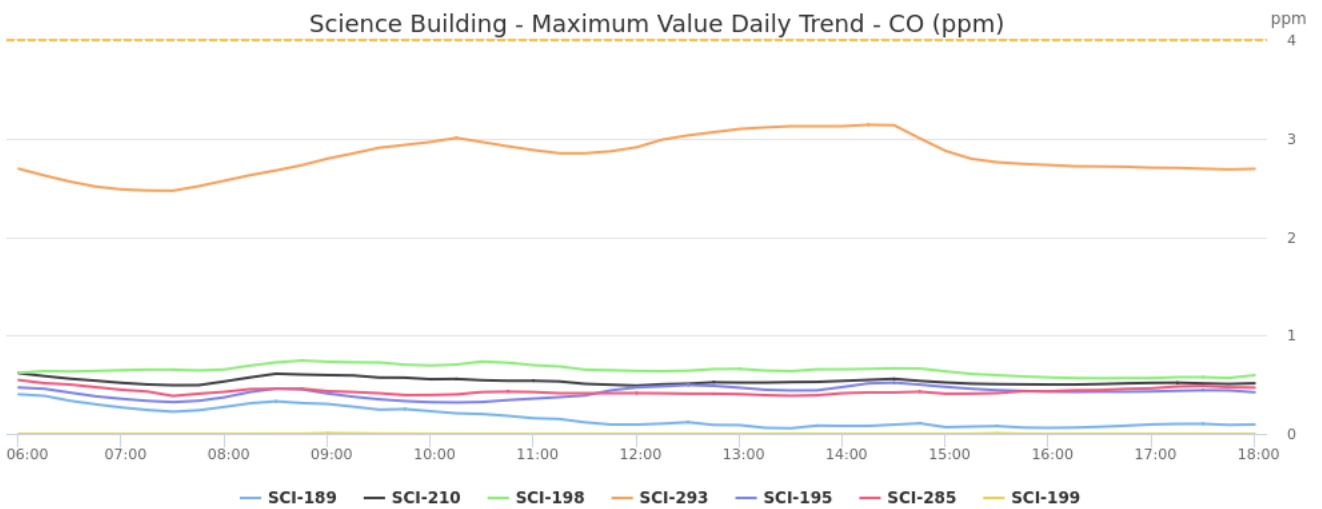
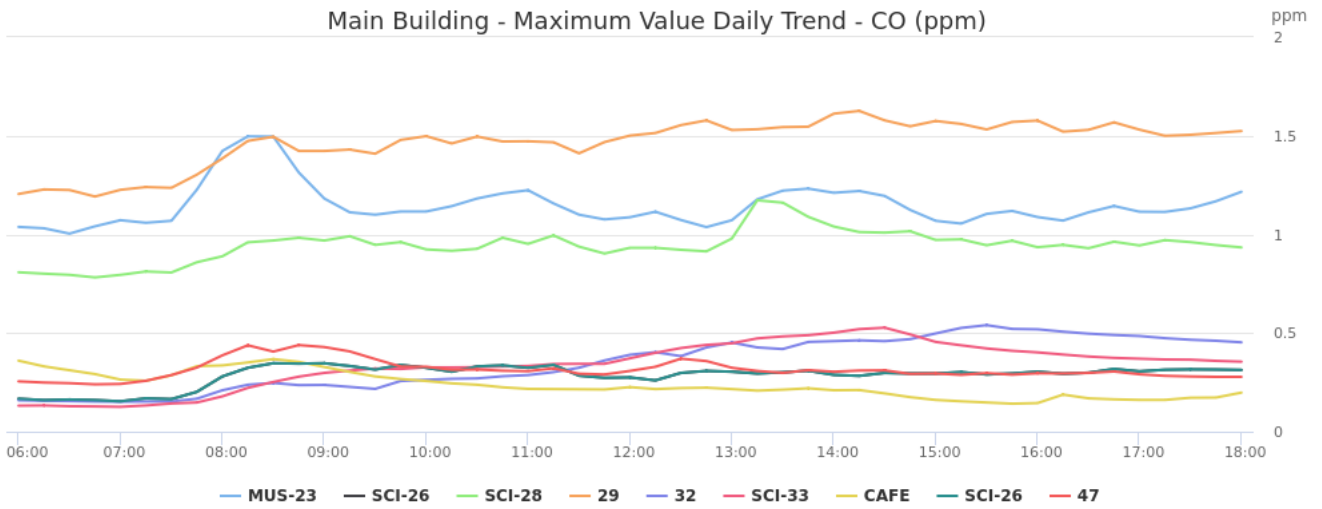
solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

IAQ - yellow = 4 ppm; MCPS notified at 4-hours

Ventilation - orange = 9 ppm; MCPS notified at 1-hour; immediate text, investigation

Health & Safety - red = 25 ppm; MCPS notified at 8-hours, immediate text, community notification if during school hours



The carbon monoxide standards for indoor air quality are the U.S. Environmental Protection Agency (US EPA) National Ambient Air Quality Standard (NAAQS) of 9 ppm CO on a 8-hour time-weighted average (TWA), and the World Health organization Guidelines for Indoor Air Quality – Selected Pollutants of 6 ppm. However, MCPS will be notified at a sustained measurement of 4 ppm or greater for 4-hours as a more conservative and precautionary approach to this health-based standard.

### TVOC Monitoring

#### TVOC Graphs Legend:

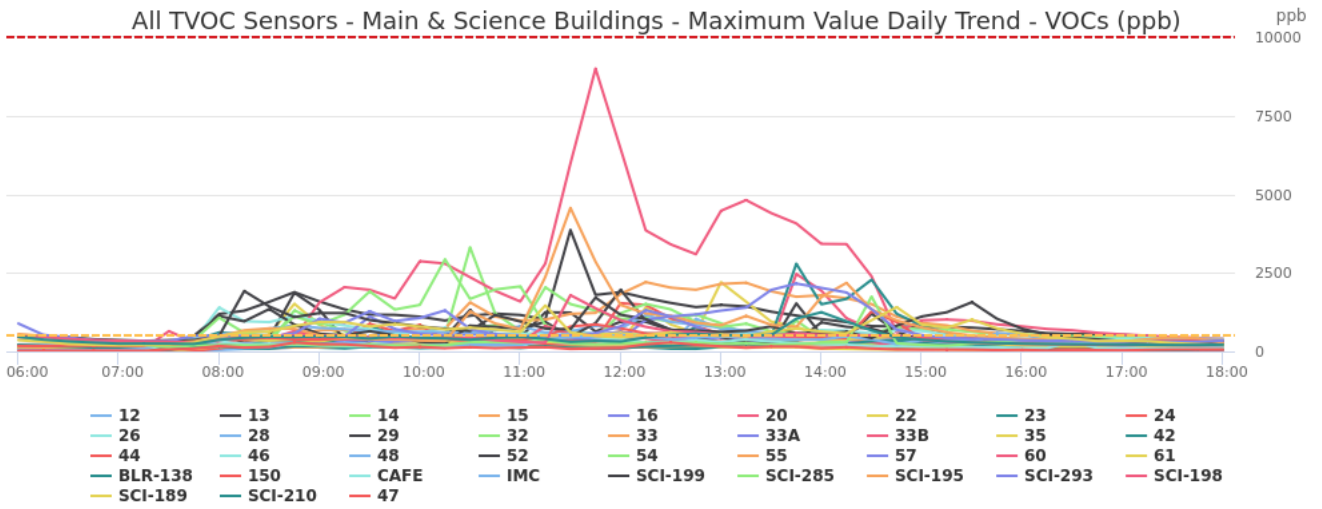
solid lines indicate data from each room

dashed lines appear when exceeds value for any period of time

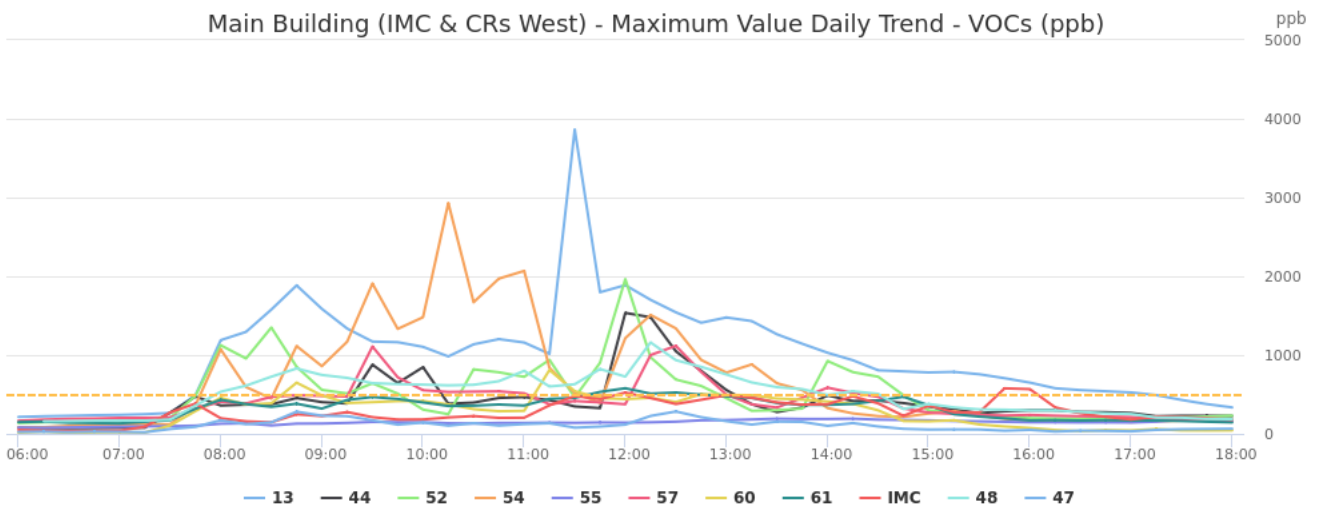
IAQ - yellow = 500 ppb (0.5 ppm); MCPS notified at 4-hours

Ventilation - red = 10,000 ppb (10 ppm); MCPS notified at 4-hours

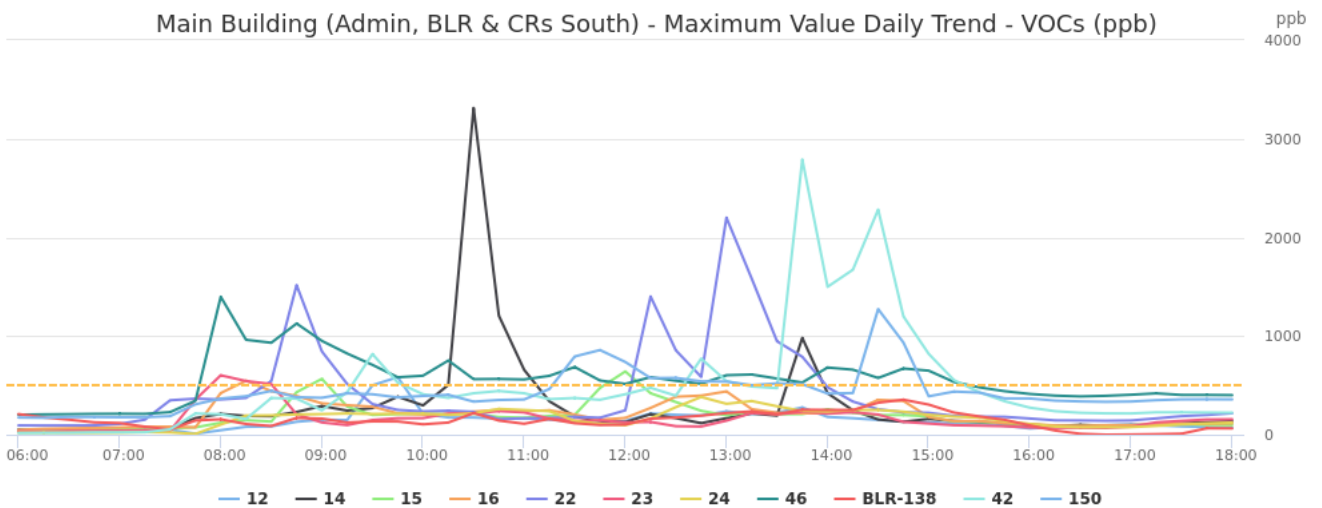
All TVOC Sensors - Main & Science Buildings - Maximum Value Daily Trend - VOCs (ppb)



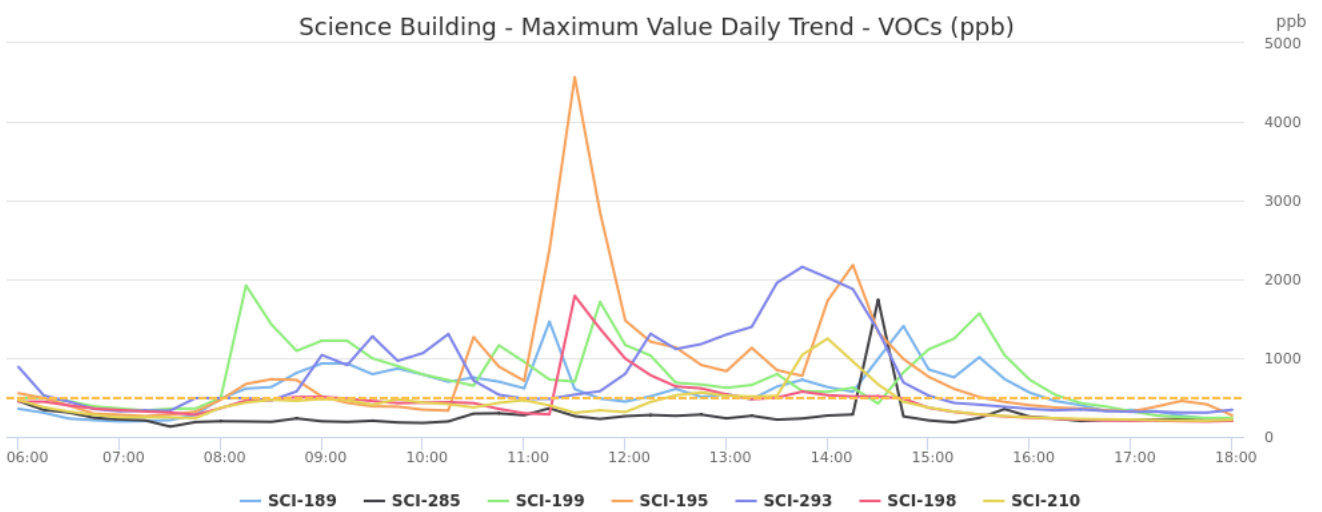
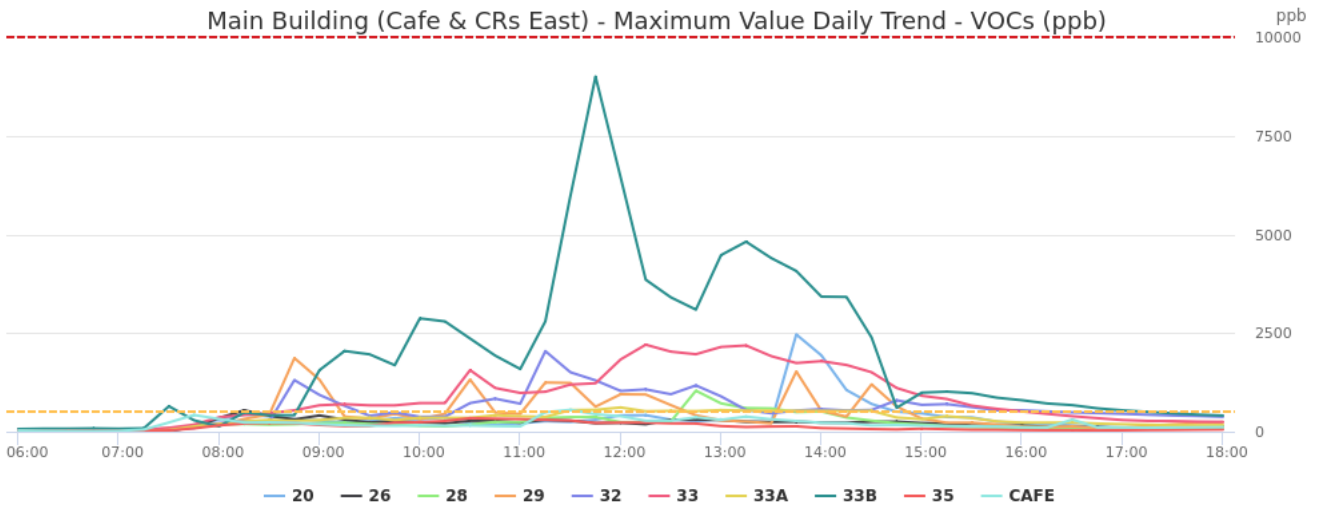
Main Building (IMC & CRs West) - Maximum Value Daily Trend - VOCs (ppb)



Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - VOCs (ppb)







## PM1.0 Monitoring

### PM1.0 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

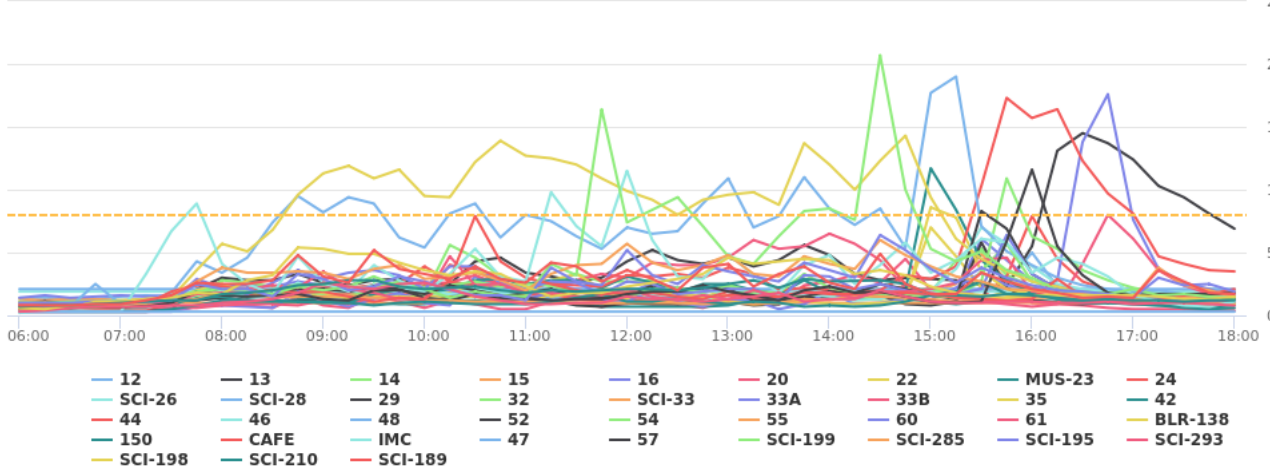
IAQ - yellow = 8 ug/m<sup>3</sup>; MCPS notified at 4-hours

Ventilation - orange = 150 ug/m<sup>3</sup>; MCPS notified at 2-hours

Health & Safety - red = 250 ug/m<sup>3</sup>; MCPS notified at 8-hours

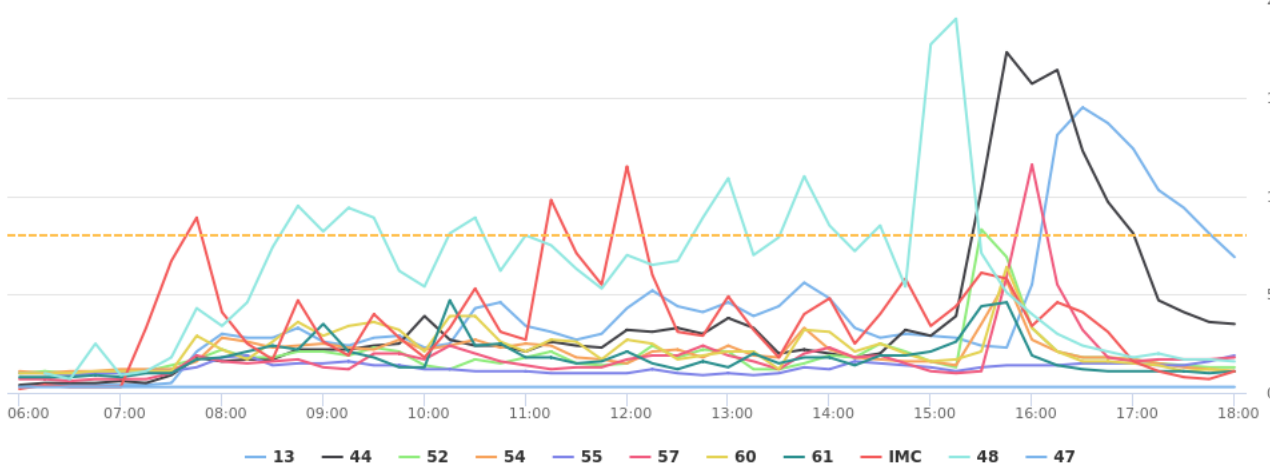
All PM1.0 Sensors Main & Science Buildings Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>



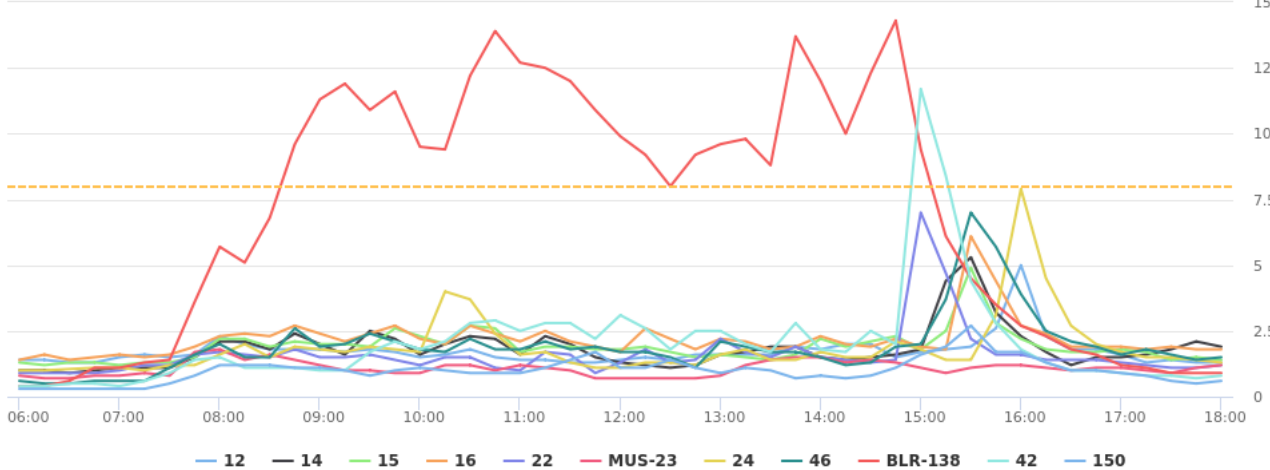
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>



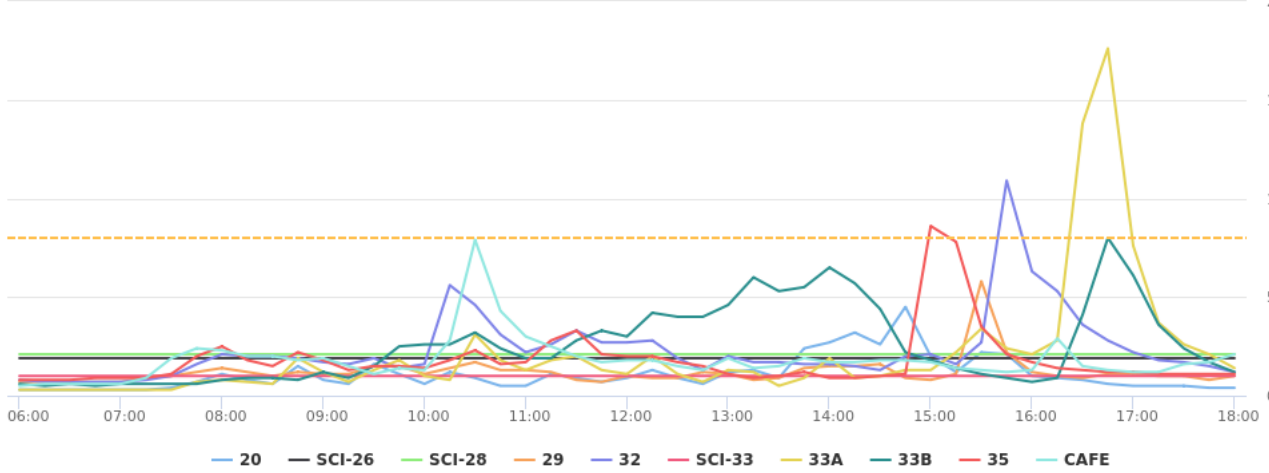
Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m<sup>3</sup>



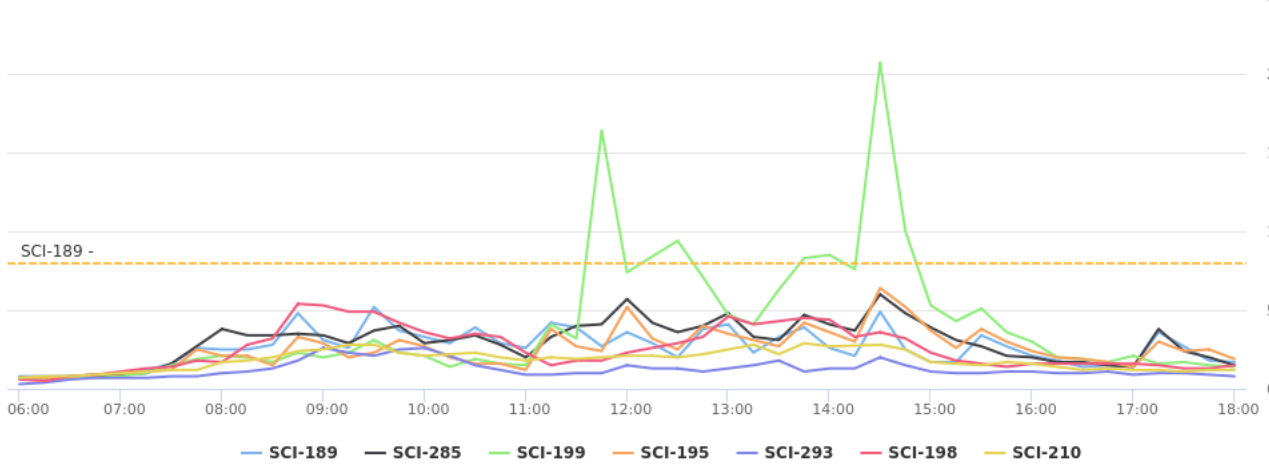
Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m³  
20



Science Building - Maximum Value Daily Trend - PM1.0 (ug/mg3)

µg/m³  
25



## PM2.5 Monitoring

### PM2.5 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

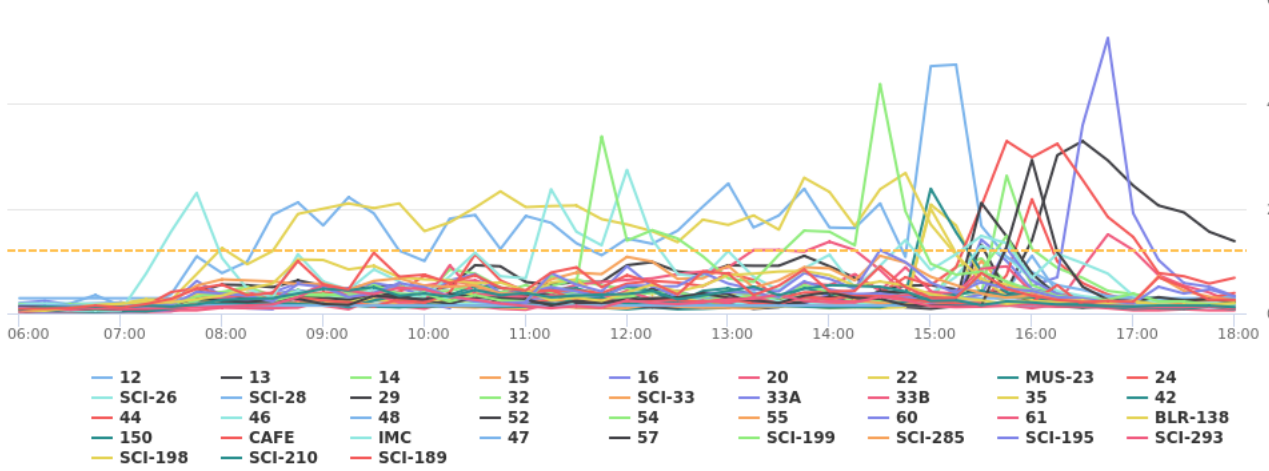
IAQ - yellow = 12 ug/m3; MCPS notified at 4-hours

Ventilation - orange = 150 ug/m3; MCPS notified at 2-hours

Health & Safety - red = 250 ug/m3; MCPS notified at 8-hours

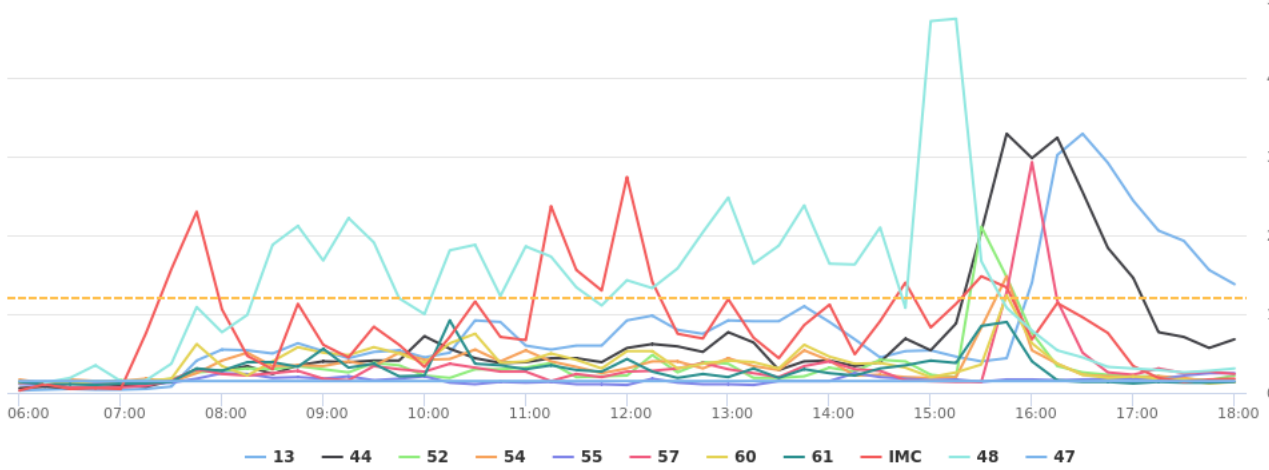
All PM2.5 Sensors Main & Science Buildings Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
60



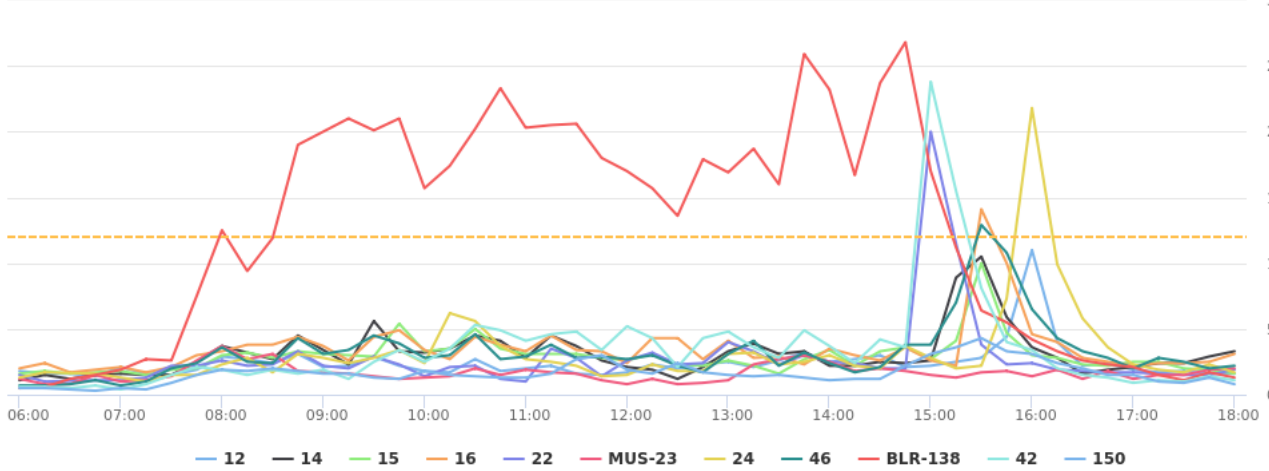
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

µg/m<sup>3</sup>  
50

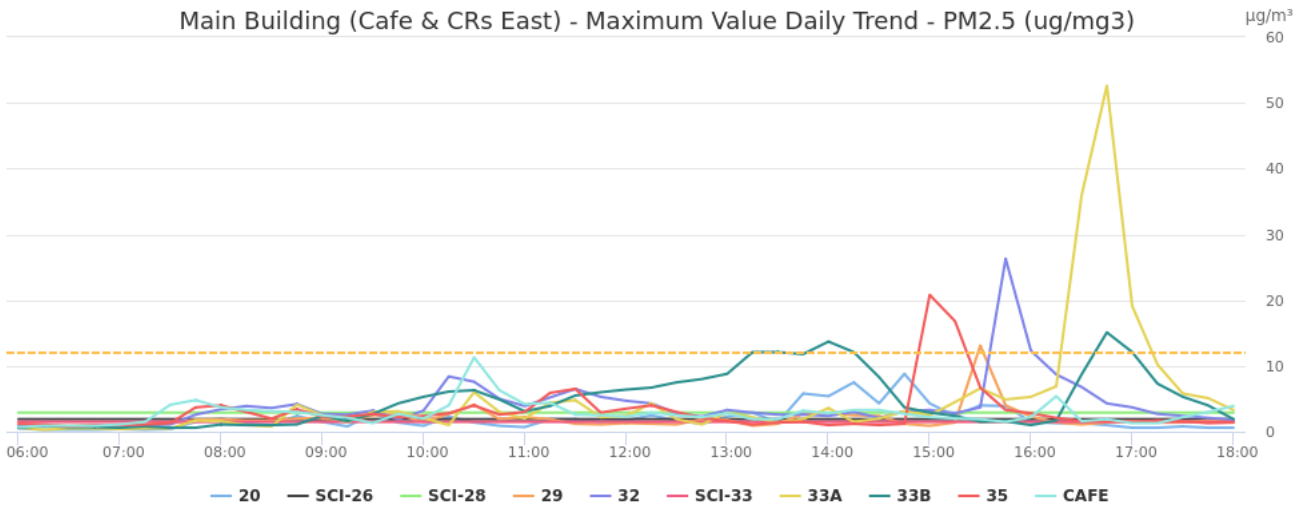


Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM2.5 (ug/mg3)

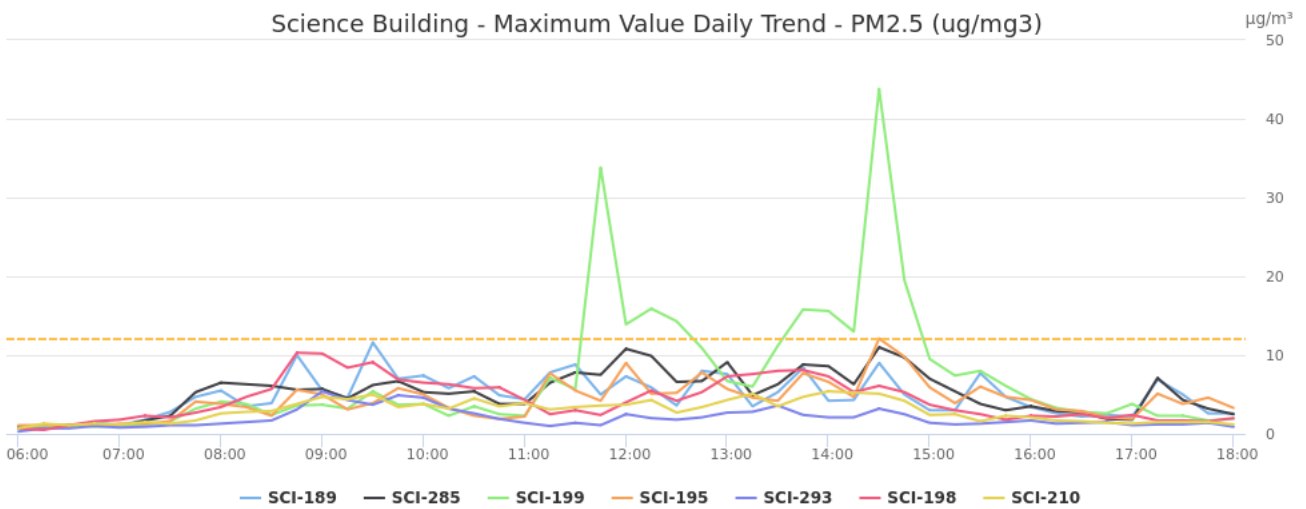
µg/m<sup>3</sup>  
30



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM2.5 (ug/mg3)



Science Building - Maximum Value Daily Trend - PM2.5 (ug/mg3)



## PM10 Monitoring

### PM10 Graphs Legend:

solid lines- indicate data from each room

dashed lines appear when data exceeds value for any period of time

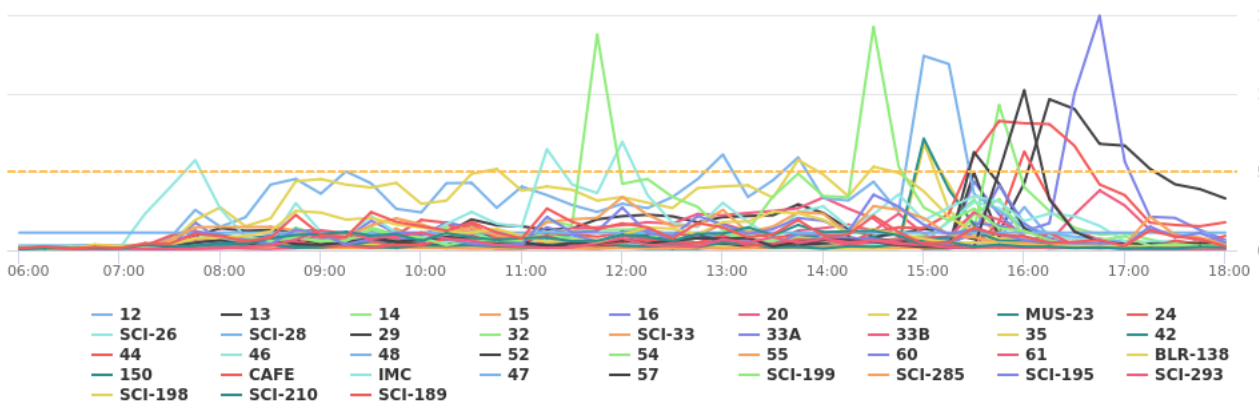
IAQ - yellow = 50 ug/m3; MCPS notified at 4-hours

Ventilation - orange = 355 ug/m3; MCPS notified at 2-hours

Health & Safety - red = 425 ug/m3; MCPS notified at 8-hours

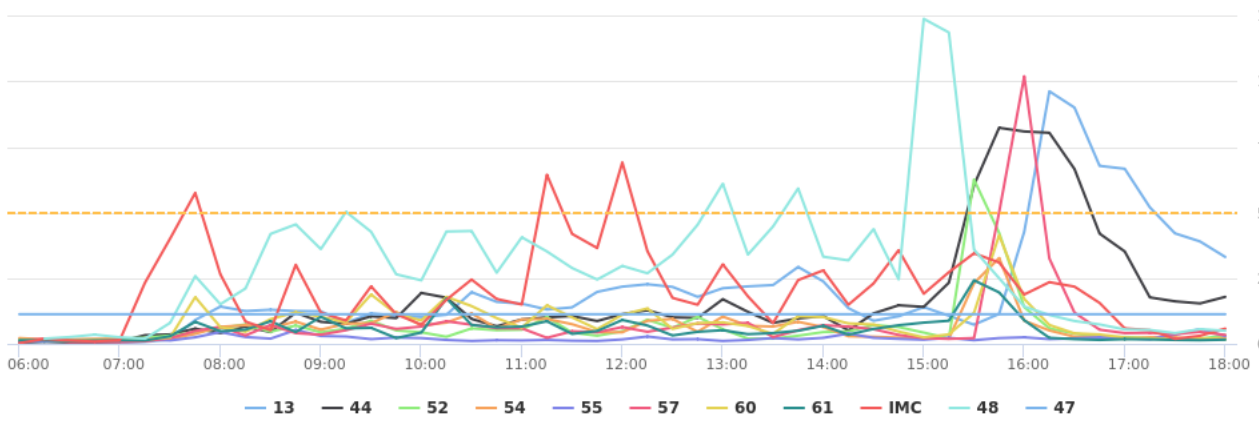
All PM10 Sensors Main & Science Buildings Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>  
200



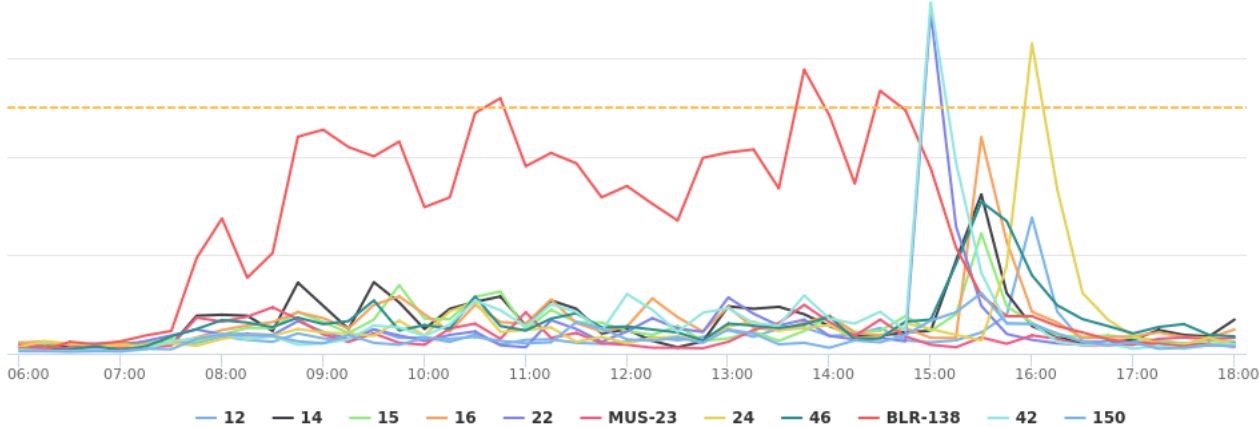
Main Building (IMC & CRs West) - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>  
150



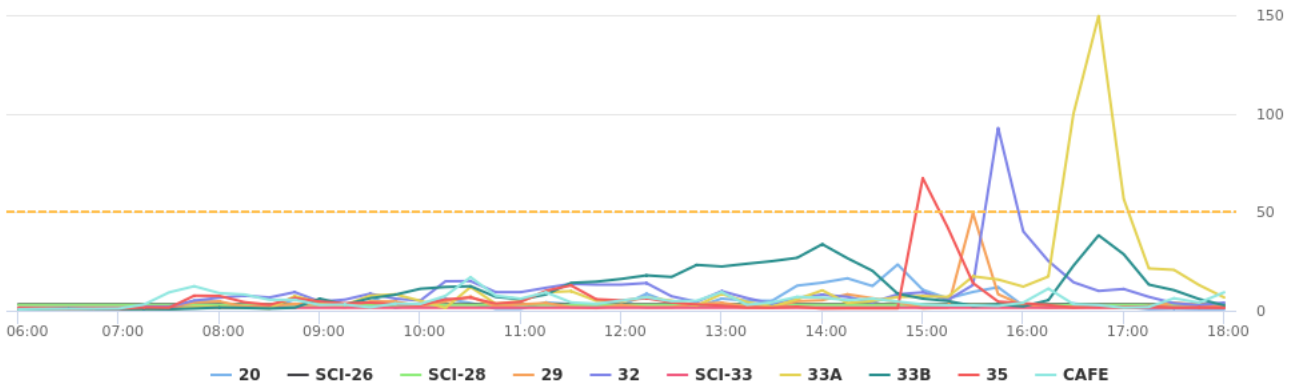
Main Building (Admin, BLR & CRs South) - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>  
80



Main Building (Cafe & CRs East) - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>  
200



Science Building - Maximum Value Daily Trend - PM10 (ug/mg3)

µg/m<sup>3</sup>  
150

