EAST SIDE COASTAL RESILIENCY

SANDRESM1 | PROJECT AREA 1

AIR QUALITY MONITORING REPORT

Q3 | 2022

ISSUE DATE: DECEMBER 15, 2022
PERIOD COVERED: JULY-SEPTEMBER 2022
PREPARED BY: HNTB-LIRO JOINT VENTURE
WITH DATA COLLECTED BY: SA ENGINEERING, LLC.
SUBCONSULTANT TO IPC RESILIENCY PARTNERS

NYC DDC Department of Design and Construction

NEW YORK CITY DEPARTMENT OF DESIGN & CONSTRUCTION IN PARTNERSHIP WITH THE CITY OF NEW YORK

TABLE OF CONTENTS

PART 1 3
I. Air Quality Monitoring: Introduction 4
How to Read the Data Plots 6
II. Executive Summary 8
Summary of Air Quality Monitoring Reports: 10
PART 2 11
Summary of Data July 2022: 12
JULY 2022 DATA PLOTS 13
Summary of Data August 2022: 22
AUGUST 2022 DATA PLOTS 24
Summary of Data September 2022: 33
SEPTMEBER 2022 DATA PLOTS 35
APPENDIX 44
I. ESCR Air Quality Management Program 45
II. RESOURCES 47

PART 1

I. Air Quality Monitoring: Introduction

The East Side Coastal Resiliency (ESCR) project is a coastal protection initiative, jointly funded by the City of New York and the federal government, aimed at reducing flood risk due to coastal storms and sea level rise on Manhattan's East Side from East 25th Street to Montgomery Street. The ESCR project will protect 110,000 New Yorkers from the impacts of climate change by increasing resiliency for communities, properties, businesses, critical infrastructure, and public open spaces. In addition to providing flood protection, the project will strengthen and enhance waterfront spaces on Manhattan's East Side by improving accessibility, increasing ecological diversity, and delivering improved recreational amenities to a vibrant and highly diverse community.

The project is divided into three project areas: Project Area 1 (from Montgomery Street to E. 15th Street, including East River Park), Project Area 2 (E. 15th Street to E. 25th Street, including Murphy Brothers Playground, Stuyvesant Cove Park, and Asser Levy Playground), and Parallel Conveyance (work to improve inland drainage on local streets between Montgomery Street and E. 25th Street).

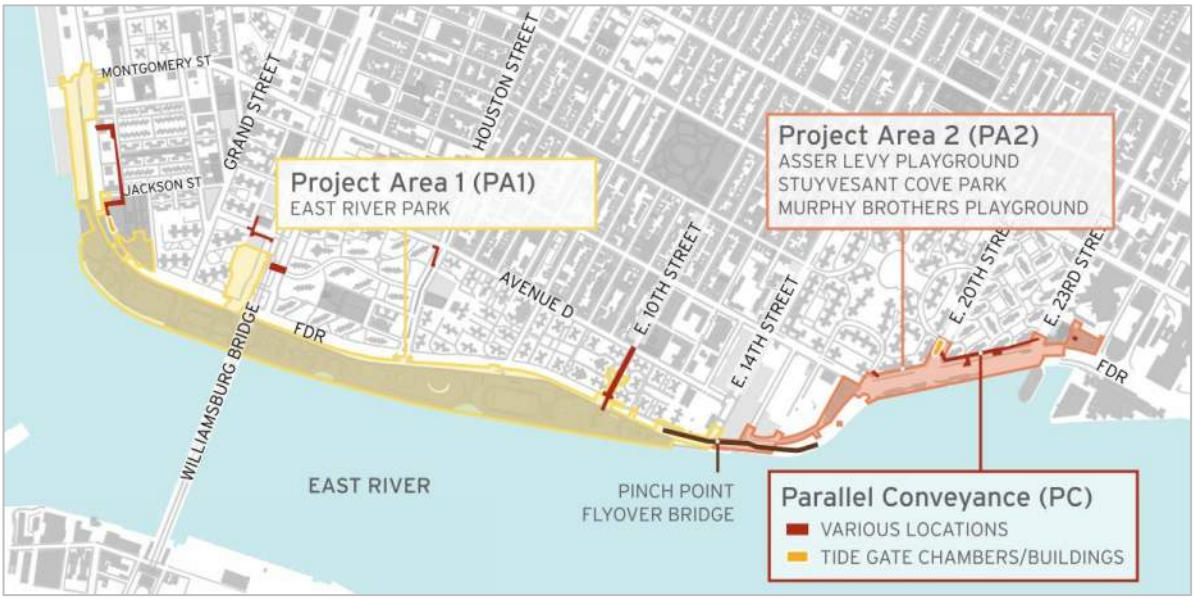


Fig.1 East Side Coastal Resiliency Project Areas

The ESCR team will be conducting air quality monitoring throughout construction in all three Project Areas to ensure the ongoing health and safety of the adjacent community. In particular, the ESCR Air Quality Monitoring program will measure levels of Particulate Matter (PM) at two sizes: PM10 and PM2.5.

As described by the Environmental Protection Agency (EPA):

> PM stands for **particulate matter** (also called particle pollution): the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope. Particle pollution includes:
>
> - PM10: inhalable particles, with diameters that are generally 10 micrometers and smaller (typically from dust)

- PM2.5: fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller (typically from vehicle emissions)

The Clean Air Act requires EPA to set national air quality standards for particulate matter, as one of the six criteria pollutants considered harmful to public health and the environment. The law also requires EPA to periodically review the standards to ensure that they provide adequate health and environmental protection, and to update those standards as necessary. National Ambient Air Quality Standards (NAAQS) for PM pollution specify a maximum amount of PM to be present in outdoor air.

The **Permissible Exposure Limit (PEL)** is a regulatory limit to protect public health/welfare set by the NAAQS in line with the requirements of the Clean Air Act on the amount or concentration of a substance in the air. The EPA has set a **24-hour time weighted average (TWA)** as standard for evaluating PM levels, meaning that they average potential PM exposure over a 24-hour period. This is also referred to as the **daily value**. In the line graphs presented in the ESCR monthly data plots, readings are averaged in 15-minute intervals and do not represent the standard TWA of 24-hrs. This more conservative approach will help the ESCR project team monitor the project's effect on air quality more closely.

The **Action Level (AL)** is lower than the PEL and represents a level set by the ESCR Air Quality Monitoring Plan which, when reached, will alert the contractor that there has been an increase in particulate matter so that they can assess construction activities and take necessary measures to remediate the condition. Automated alerts are dispatched to the general contractor and the construction management team whenever the AL is exceeded.

The table here illustrates the PEL and AL for net PM2.5 and PM10 concentrations over a 24-hour TWA. These levels are measured in micrograms per cubic meter air (µg/m3):

	Action Level (AL) over a 24-hour TWA	**Permissible Exposure Limit (PEL) over a 24-hour TWA**
PM2.5	25 µg/m3	35 µg/m3
PM10	100 µg/m3	150 µg/m3

The ESCR Final Environmental Impact Statement analyzed the potential impact of the construction on community air quality and determined that **with consistent air quality monitoring and application of measures to reduce pollutant emissions and suppress dust, "construction of the Preferred Alternative would not result in any predicted concentrations above the National Ambient Air Quality Standards (NAAQS)** for NO2, CO, and PM10 or the de minimis thresholds for PM2.5 from nonroad and on-road sources. **Therefore, *no significant adverse air quality impacts are predicted* from the construction of the Preferred Alternative."** (ESCR FEIS, Chapter 6.10 Construction Air-Quality, 6.10-2)

Along with air quality monitoring, the contractor is required to take extensive preventative measures to control dust and limit vehicle emissions. Potential mitigation techniques include but are not limited to:

- use of water spray for roads, trucks, excavation areas and stockpiles
- use of anchored tarps to cover stockpiles
- use of truck covers during soil transport within site limits and during off-site transport
- employment of extra care during dry and/or high-wind periods
- use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface

- use of a truck wheel wash at site access/egress points to prevent fugitive dust and off-site migration of dust and other particulates

How to Read the Data Plots

The PM readings that follow by month in this report are shown in data plots, as below. The data plots illustrate **PM** levels in a **15-minute TWA.** As mentioned above, the federal limits for PM exposure are evaluated on a **24-hour TWA**. By evaluating PM readings on the 15-minute TWA, the ESCR project can ensure that Net PM never exceeds the 24-hour TWA, or daily value.

Fig.2 Sample Air Quality Data Plot

The **Net particulate matter (Net PM)** readings are determined as the difference between the upwind and downwind monitoring stations as determined on any day given the wind speed and wind direction. At each construction location at least two air quality monitors are required to determine the Net PM. The Net PM value is important because it measures the **potential increase of particulate matter due to construction activities**. If the wind-speed is less than 0.5 meters per second, the downwind station is considered undetermined and the Net PM will be absent from the data plot. In these circumstances, high readings at one or both monitoring stations will still be noted, however the increased levels in the PM readings may be due to conditions unrelated to construction.

An **exceedance** is a daily value that is above the level of the 24-hour time weighted average after rounding to the nearest 10 µg/m3 (i.e., values ending in 5 or greater are to be rounded up).

An **exceptional event** is an uncontrollable event caused by natural sources of particulate matter or an event that is not expected to recur at a given location. Inclusion of such a value in the computation of exceedances or averages could result in inappropriate estimates of their respective expected annual values.

An **outlier** is a data point on a graph or in a set of results that is very much bigger or smaller than the next nearest data point. For example, outliers among monitoring data can be due to instrument malfunctions, the influence of harsh environments, and the limitation of measuring methods.

II. Executive Summary

This report summarizes the PM readings for ESCR Project Area 1 (PA1), collected by SA Engineering, environmental subconsultant to the PA1 contractor, IPC Resiliency Partners (IPC) from July through September 2022. The PA1 contract requires a minimum of six (6) air quality monitoring stations throughout construction, which will be relocated as necessary to reflect the phased construction activities. Figure 3 details the locations of the air quality monitoring stations from April-July 2022.

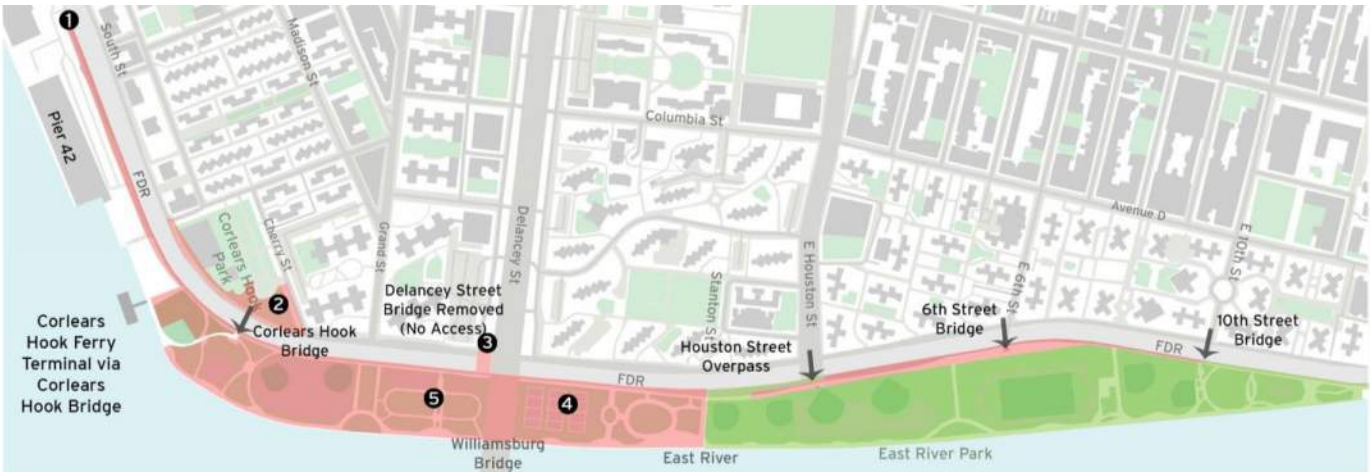


Fig.3 ESCR Project Area 1 Phase 1 Air Quality Monitoring Station Locations, April 2022 - June 2022

Due to increased construction activities, by July 15, 2022 of this period, the monitors were relocated and/or installed at the locations shown below; each monitor began recording upon installation. For this report, each monitor will be referred to as "AQM-#" – referring to the numbers in Figure 4. Currently fourteen (14) air quality monitoring stations are active throughout the construction area perimeter.

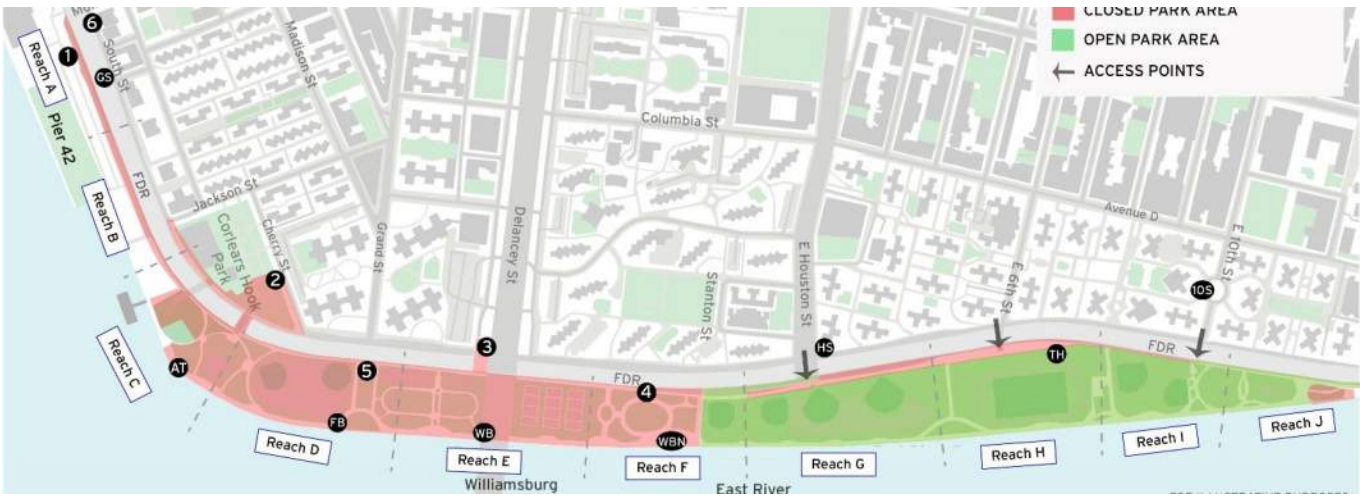


Fig. 4 ESCR Project Area 1 Phase 1 Air Quality Monitoring Station Locations, July-September 2022

No monitors were installed, replaced, or removed after July 15, 2022 of this reporting period.

Work Activities during this period:

Reach A:

- Con Edison steam line work at Montgomery Street (includes weekend work)

Reach B:

- Load out of stockpiled soil
- Demolition and removal of existing FDR barrier and fence (overnight hours: 9:00 PM – 5:30 AM)
- Pre-drilling and installation of floodwall

Corlear's Hook Park :

- Demolition of Corlear's Hook pedestrian bridge and west abutment (includes weekend work and overnight hours: 9:00 PM – 5:30 AM)
- Excavate at bridge abutment and clearing and grubbing site

Reach C:

- Clearing and grubbing site
- Asbestos abatement of amphitheater (includes weekend work)

Reach D:

- Install stone columns (includes weekend work)
- marine soil loading and support services
- Demolition and removal of concrete bulkhead (includes weekend work)
- Sewer excavation and pile driving (includes weekend work)

Reach E:

- Sewer excavation and pile driving (includes weekend work)
- Demolition and removal of concrete esplanade (includes weekend work)
- Install stone columns (includes weekend work)
- Excavation of Oil-O-Static lines trench for carbon fiber wrapping (includes weekend work)

Reach F:

- Demolition and removal of concrete esplanade (includes weekend work)

Reach G:

- Backfilling and paving of the Oil-O-Static lines trench
- Installing carbon fiber wrapping on Oil-O-Static lines trench

Reach H:

- Construction of access path
- Excavation and backfilling of the Oil-O-Static lines trench

Though air quality is monitored 24/7, typical day time work hours during the period of this report are 7:00 am – 3:30 pm, unless otherwise noted above.

Summary of Air Quality Monitoring Reports:

For the months of July - September 2022, construction-related levels of PM at both net PM2.5 and PM10 levels did not surpass Daily PEL as set by federal standards for the 24-hour TWA, or daily value, and did not cause air quality concerns to the public or on-site workers. The contractor, IPC, in conjunction with the contractor's environmental specialist, has successfully implemented mitigation techniques at both AL as well as PEL (15-minute TWA) to suppress construction activity effects on air quality in East River Park.

July 2022:

- PM10 levels surpassed the PEL (15-minute TWA) at AQM-FB on July 19; AQM-AT on July 27; and AWM-4 on July 8 and July 22.

- PM2.5 levels surpassed the PEL (15-minute TWA) at AQM-1 on July 2 and July 15; AQM-AT on July 27; and AQM-4 on July 8 and July 29.

August 2022:

- PM10 levels surpassed the PEL (15-minute TWA) at AQM-1 on August 17; AQM-FB/AQM-WB on August 25; AQM-WB on August 26; AQM-4 on August 13; AQM-10S on August 13; and AQM-TH on August 25.

- PM2.5 levels surpassed the PEL (15-minute TWA) at AQM-1 on August 5, August 12, August 16, and August 17 ; AQM-3 on August 10; AQM-FB/AQM-WB on August 25; AQM-WB on August 26; AQM-4 on August 12, August 13, and August 15; and AWM-TH on 8/25.

September 2022:

- PM10 levels surpassed the PEL (15-minute TWA) at AQM-5 on September 8; AQM-FB on September 20; AQM-10S September 19; and AQM-HS on September 22.

- PM2.5 levels surpassed the PEL (15-minute TWA) at AQM-6 on September 25; AQM-5 on September 8; AQM-FB on September 20 and September 26; AQM-TH on September 3; AQM-10S on September 19; and AQM-HS on September 22.

Baselines:

- PM10 baseline AQM at the site were previous determined to be between 0.149 and 5.00 µg/m3
- PM2.5 baseline AQM at the site were previous determined to be between 0.105 and 4.09 µg/m3

PART 2

Summary of Data July 2022:

PM10 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-FB on 7/19 for 15 minutes;
- AQM-AT on 7/27 for 1 minute; and
- AQM-4 on 7/8 for 21 minutes and 7/29 for 22 minutes.

PM2.5 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-1 on 7/2 for 16 minutes and 7/15 for 3 minutes;
- AQM-AT on 7/27 for 1 minute; and
- AQM-4 on 7/8 for 23 minutes and 7/29 for 41 minutes.

For the month of July 2022, construction-related PM net 2.5 or 10 levels did not surpass Daily PEL (24-hour time weighted average).

PM 10 µg/m3

- PM 10 µg/m3 levels surpassed the PEL (15-minute time weighted average) on four occasions (7/8, 7/19, 7/27, and 7/29) for between 1 and 22 minutes.
    - AQM-FB is located near the Fireboat house along the East River; the elevated readings on 7/19 were determined to be due to demolition activities or construction vehicle/barge traffic in the vicinity of the monitor.
    - AQM-AT is located near the former amphitheater and Corlears Hook pedestrian bridge; the elevated readings on 7/27 were determined to be due to a construction vehicle/barge traffic in the vicinity of the monitor.
    - AQM-4 is located near the former Tennis house along the shared use path/construction access road and Franklin D. Roosevelt East River Drive (FDR); elevated readings on 7/8 and 7/29 were determined to be likely caused by a road cleaning vehicle traveling near the monitor.

PM 2.5 µg/m3

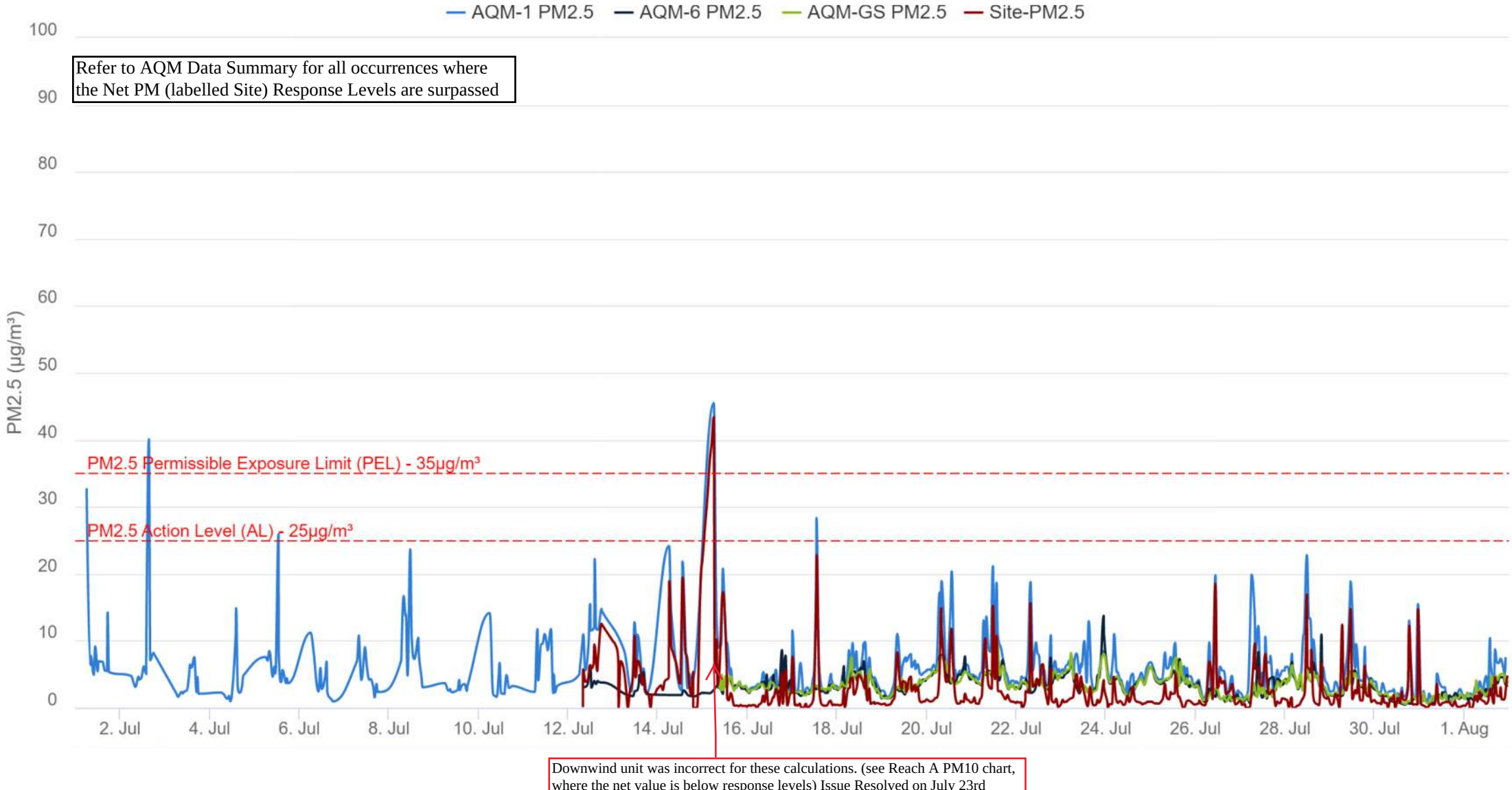
- PM 2.5 µg/m3 levels surpassed the PEL (15-minute TWA) at AQM-1 on five occasions (7/2, 7/8, 7/15, 7/27, and 7/29) for between 1 and 41 minutes.
    - AQM-1 is located near the site access gate at Gouverneur Slip West and adjacent to another construction site and an FDR entry ramp; elevated readings on 7/2 and 7/15 were determined to be due to non-site vehicular activity in the vicinity of the monitor.
    - AQM-AT is located near the former amphitheater and Corlears Hook pedestrian bridge; the elevated readings on 7/27 were determined to be due to a construction vehicle/barge traffic in the vicinity of the monitor.
    - AQM-4 is located near the former Tennis house along the shared use path/construction access road and Franklin D. Roosevelt East River Drive (FDR); elevated readings on 7/8 and 7/29 were determined to be likely caused by a road cleaning vehicle traveling near the monitor.

Mitigation Measures

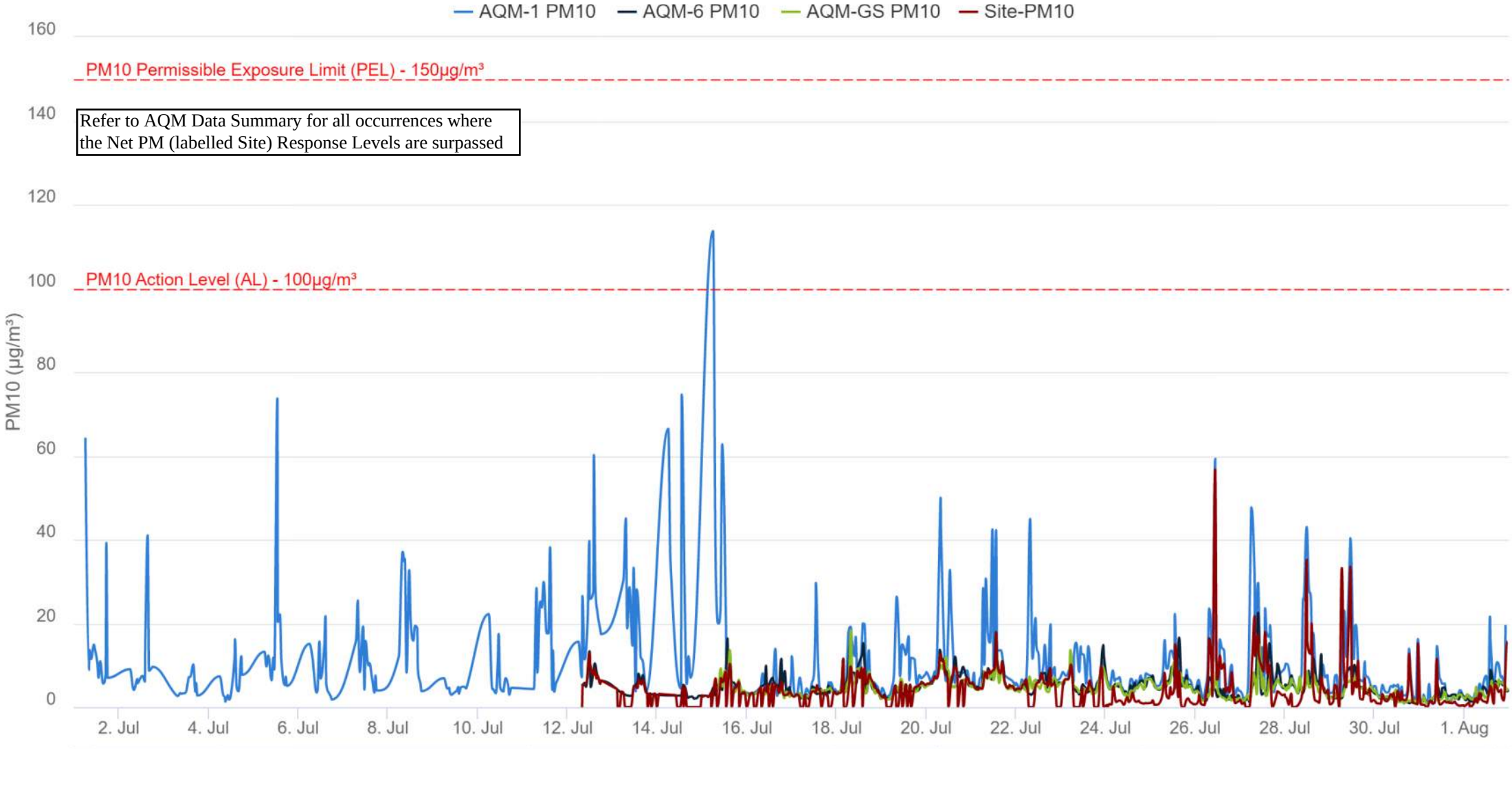
- Throughout the month, construction activity was closely monitored, and dust mitigation techniques were continuously implemented to successfully contain any airborne particulates created due to construction activity.

JULY 2022 DATA PLOTS

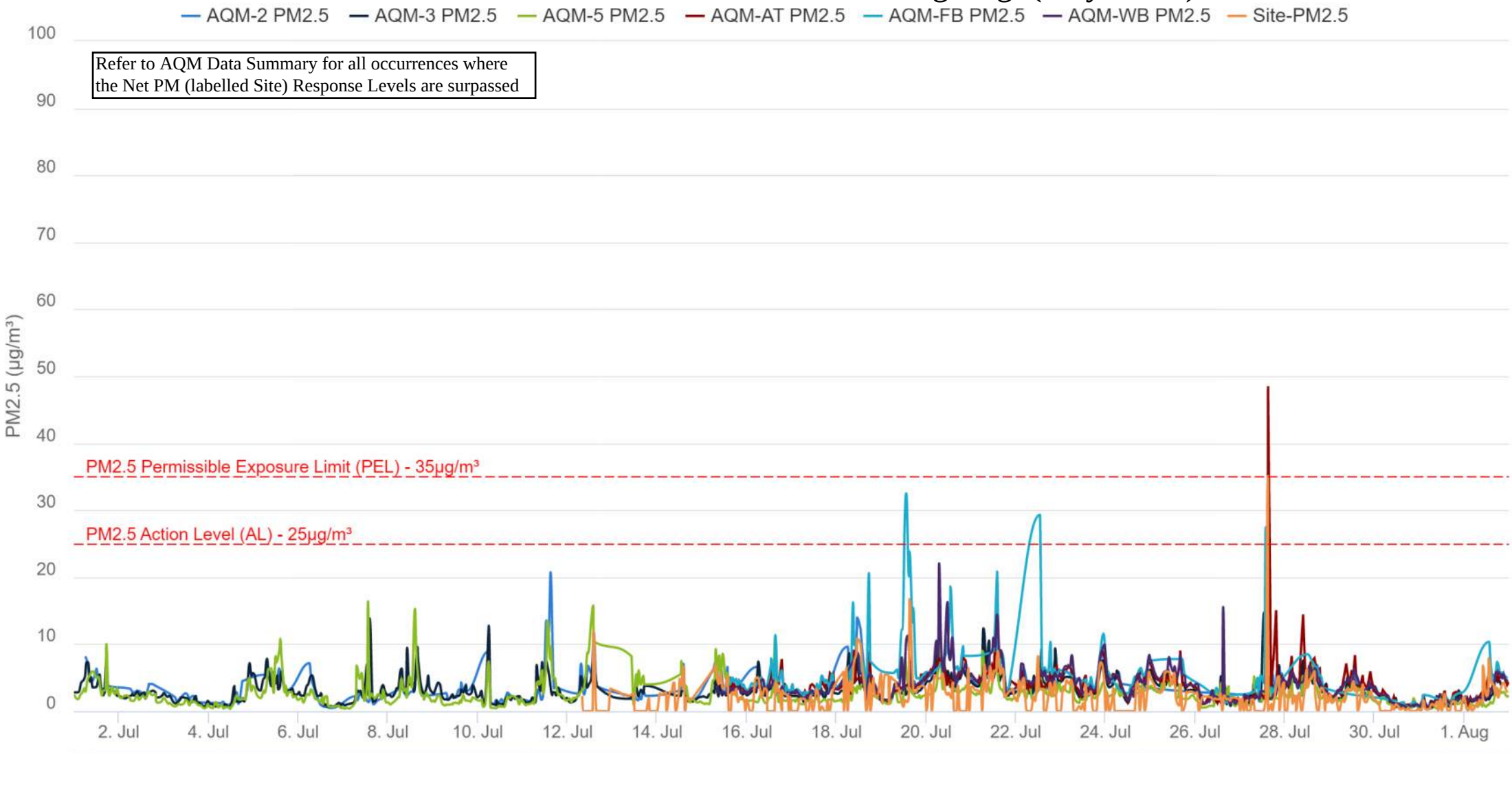
Reach A - PM2.5 - 15 min Running avg. (July 2022)



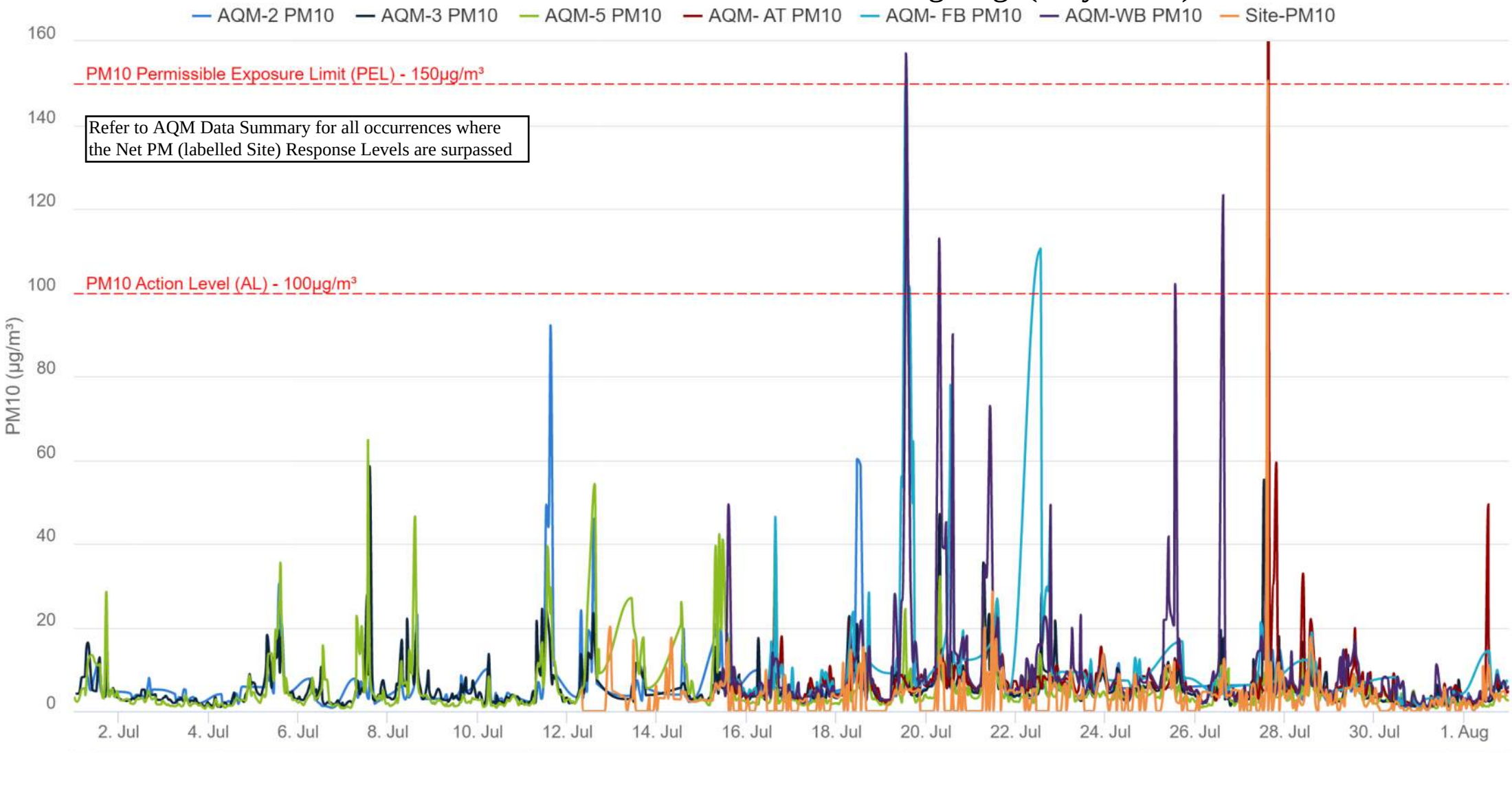
Reach A - PM10 - 15 min Running avg. (July 2022)



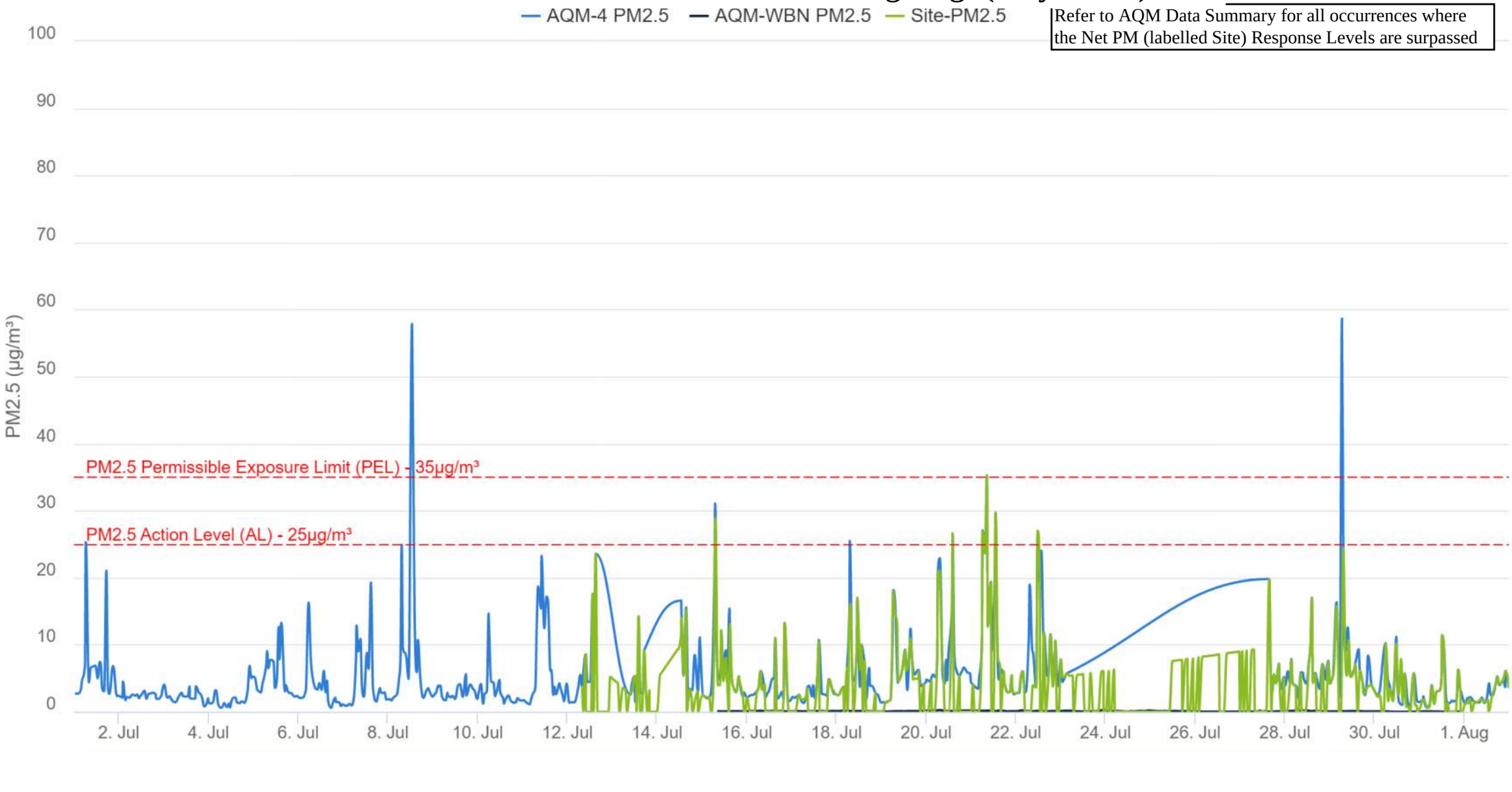
Reach C,D,& E - PM2.5 - 15 min Running avg. (July 2022)



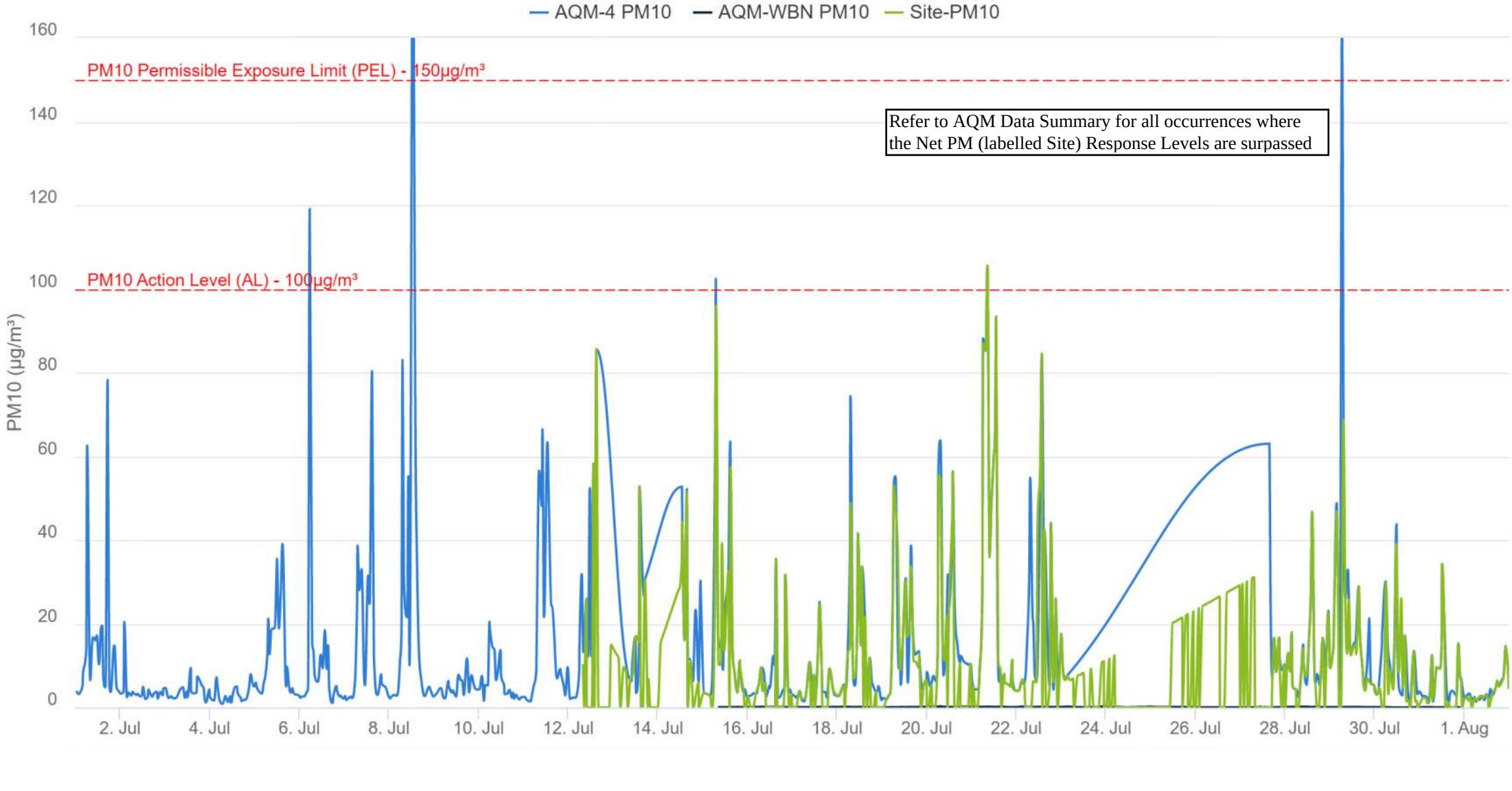
Reach C,D,& E - PM10 - 15 min Running avg. (July 2022)



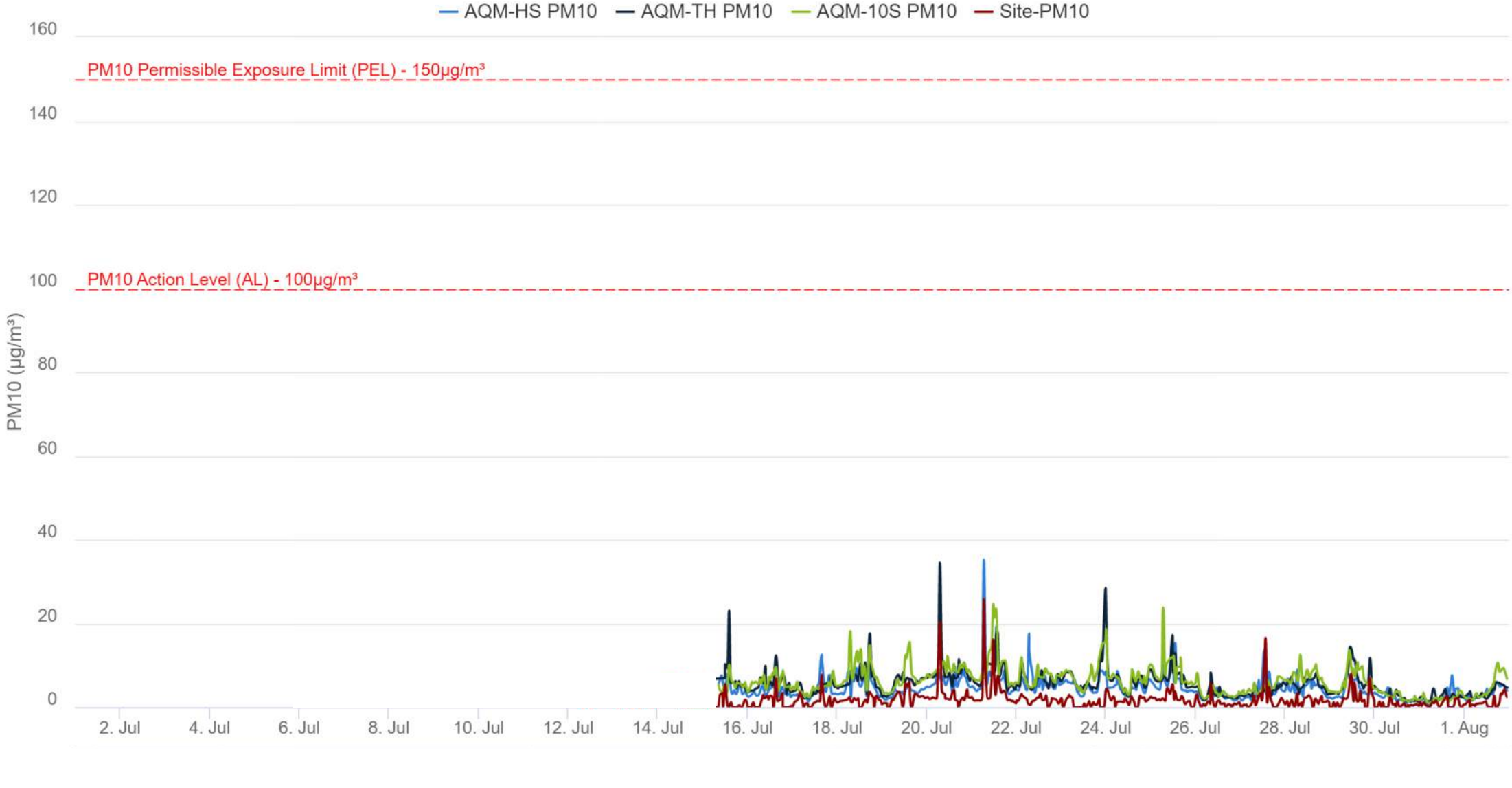
Reach F - PM2.5 - 15 min Running avg. (July 2022)



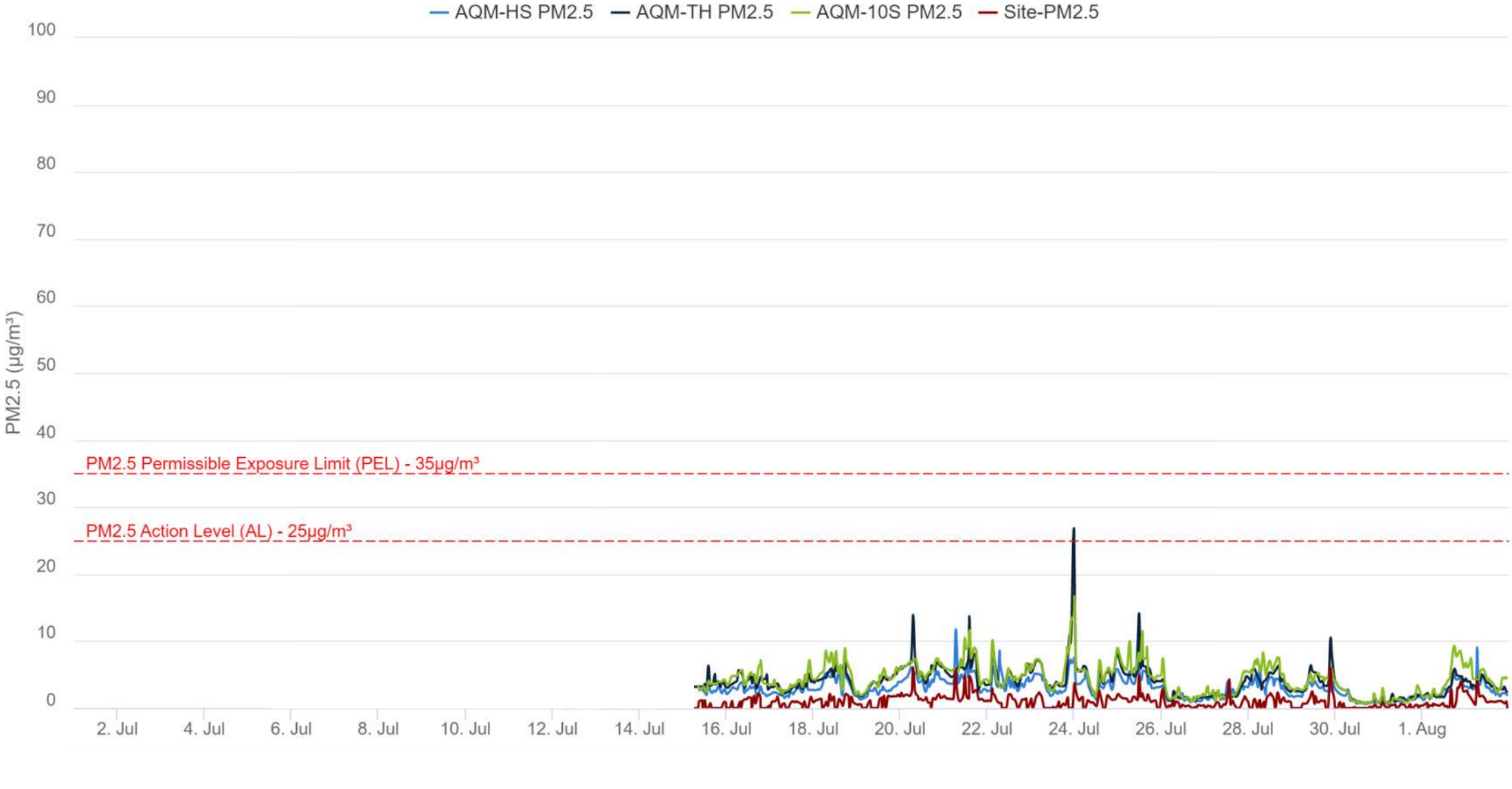
Reach F - PM10 - 15 min Running avg. (July 2022)



Reach G, H & I - PM10 - 15 min Running avg. (July 2022)



Reach G, H & I - PM2.5 - 15 min Running avg. (July 2022)



Summary of Data August 2022:

PM10 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-1 on 8/17 for 15 minutes;
- AQM-FB/AQM-WB on 8/25 for 21 minutes;
- AQM-WB on 8/26 for 40 minutes;
- AQM-4 on 8/13 for 15 minutes;
- AQM-10S on 8/13 for 15 minutes; and
- AQM-TH on 8/25 for 15 minutes.

PM2.5 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-1 on 8/5 for 15 minutes, 8/12 for 14 minutes, 8/16 for 23 minutes, and 8/17 for 15 minutes;
- AQM-3 on 8/10 for 15 minutes;
- AQM-FB/AQM-WB on 8/25 for 15 minutes;
- AQM-WB on 8/26 for 14 minutes;
- AQM-4 on 8/12 for 15 minutes, 8/13 for 15 minutes, and 8/15 for 41 minutes; and
- AWM-TH on 8/25 for 15 minutes.

<u>For the month of August 2022, construction-related PM net 2.5 or 10 levels did not surpass Daily PEL (24-hour time weighted average).</u>

PM 10 µg/m3

- PM 10 µg/m3 levels surpassed the PEL on six occasions (8/13, 8/17, 8/25, and 8/26) for between 15 and 40 minutes.
    - AQM-1 is located near the site access gate at Gouverneur Slip West and adjacent to another construction site and an FDR entry ramp; the elevated readings on 8/17 were determined to be due to vehicular traffic in the vicinity of the monitor.
    - AQM-FB/AQM-WB are located near the East River in the vicinity of the Fireboat House and Williamsburg Bridge, respectively; elevated readings on 8/25 and 8/26 were determined to be caused by demolition and/or construction activity or a construction vehicle/barge traffic in the vicinity of the monitor.
    - AQM-4 is located near the former Tennis house along the shared use path/construction access road and Franklin D. Roosevelt East River Drive (FDR); the elevated readings on 8/13 were determined to be likely caused by a road cleaning vehicle traveling near the monitor.
    - AQM-10S is located at East 10th Street; the elevated readings on 8/13 were determined to be an anomalous reading, most likely due to a drop of water/condensation present in the inlet of the monitor.
    - AQM-TH is located near the Track House in the vicinity of the shared use path and open sections of East River Park; the elevated readings on 8/25 were likely caused by a third-party smoking or grilling near the monitor.

PM 2.5 µg/m3

- PM 2.5 µg/m3 levels surpassed the PEL on 11 occasions (8/5, 8/10, 8/12, 8/15, 8/16, 8/17, 8/25, and 8/26) for between 14 and 41 minutes:
    - AQM-1 is located near the site access gate at Gouverneur Slip West and adjacent to another construction site and an FDR entry ramp; the elevated readings on 8/5, 8/12, 8/16, and 8/17 were determined to be due to vehicular traffic in the vicinity of the monitor.

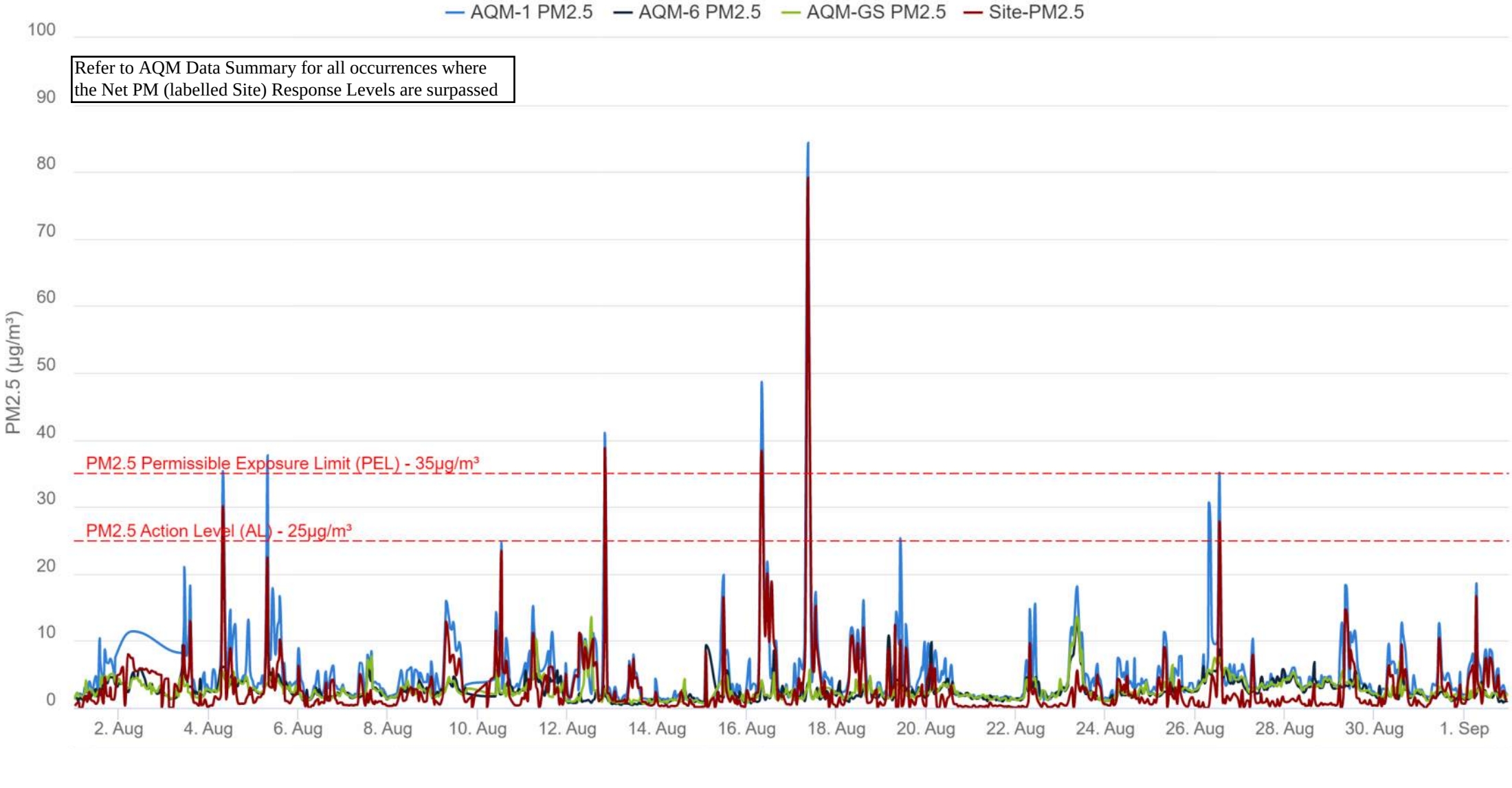
- AQM-3 is located adjacent to the Delancey Street bridge and the FDR; the elevated readings on 8/10 were determined to be due to vehicular traffic in the vicinity of the monitor.
- AQM-FB/AQM-WB are located near the East River in the vicinity of the Fireboat House and Williamsburg Bridge, respectively; elevated readings on 8/25 and 8/26 were determined to be caused by demolition and/or construction activity or a construction vehicle/barge traffic in the vicinity of the monitor.
- AQM-4 is located near the former Tennis house along the shared use path/construction access road and the FDR; elevated readings on 8/12, 8/13, and 8/15 were determined to be likely caused by a road cleaning vehicle traveling near the monitor.
- AQM-TH is located near the Track House in the vicinity of the shared use path and open sections of East River Park; the elevated readings on 8/25 were likely caused by a third-party smoking or grilling near the monitor.

Mitigation Measures:

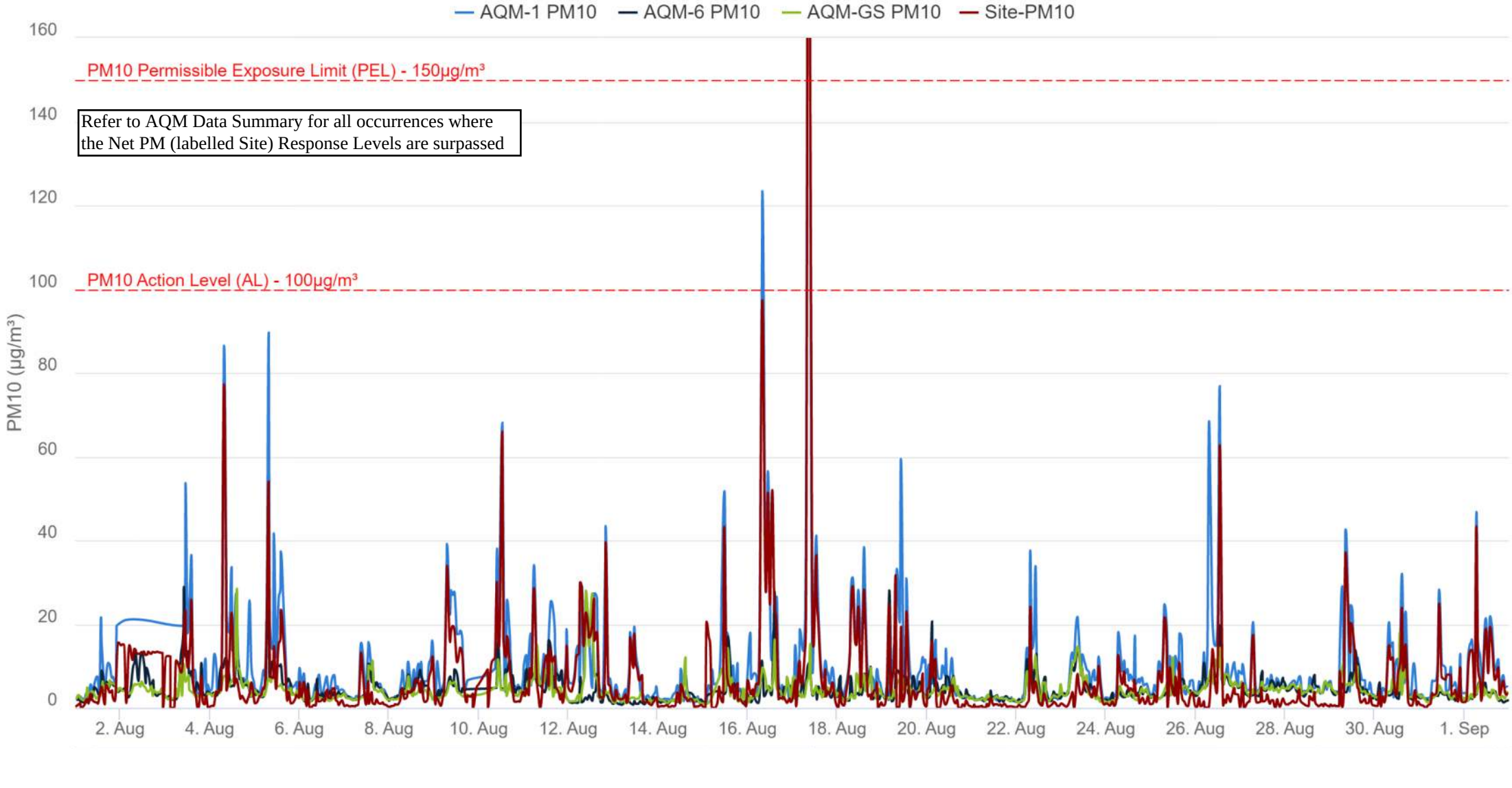
- Throughout the month, construction activity was closely monitored, and dust mitigation techniques were continuously implemented to successfully contain any airborne particulates created due to construction activity.

AUGUST 2022 DATA PLOTS

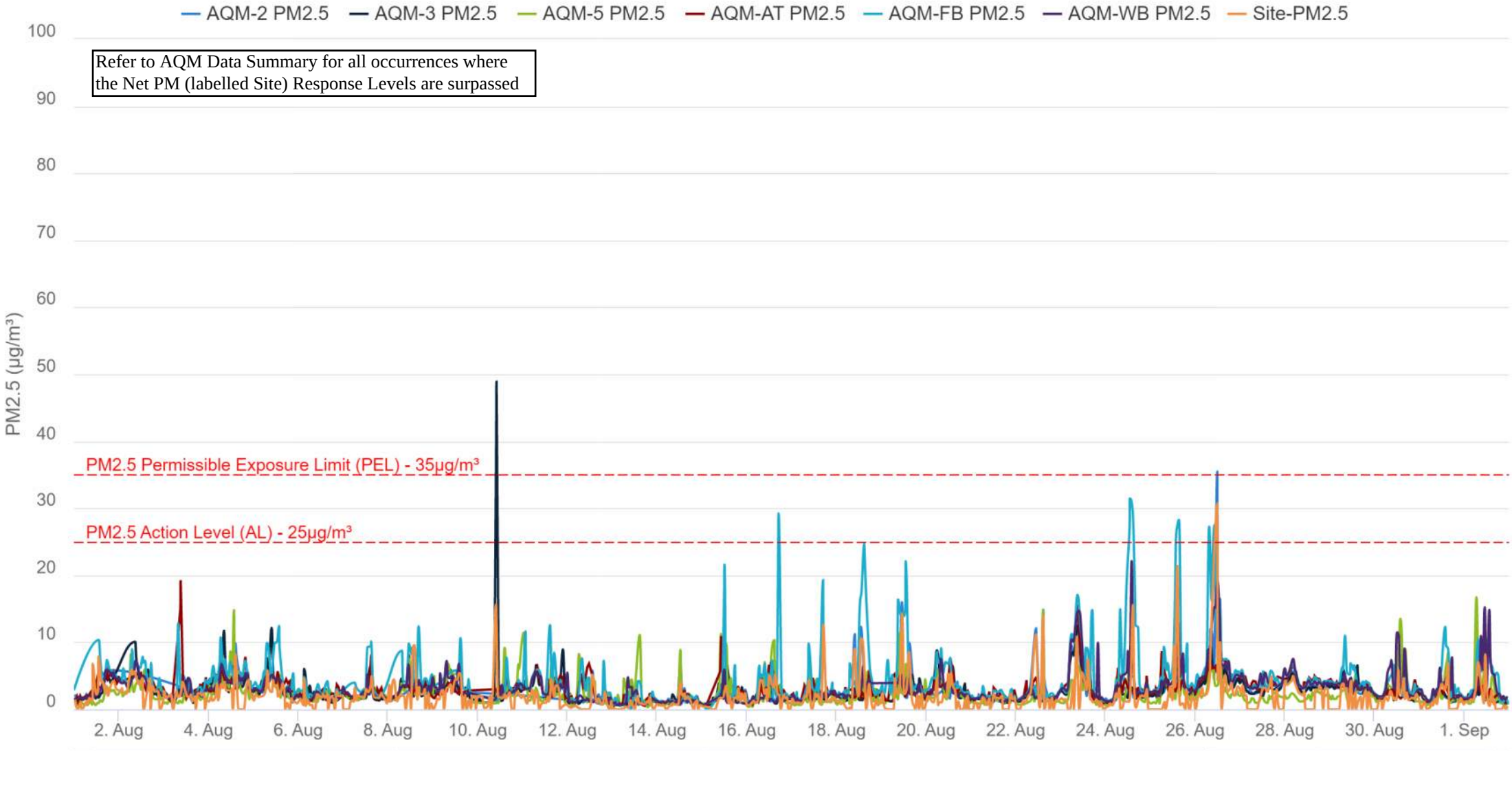
Reach A - PM2.5 - 15 min Running avg. (August 2022)



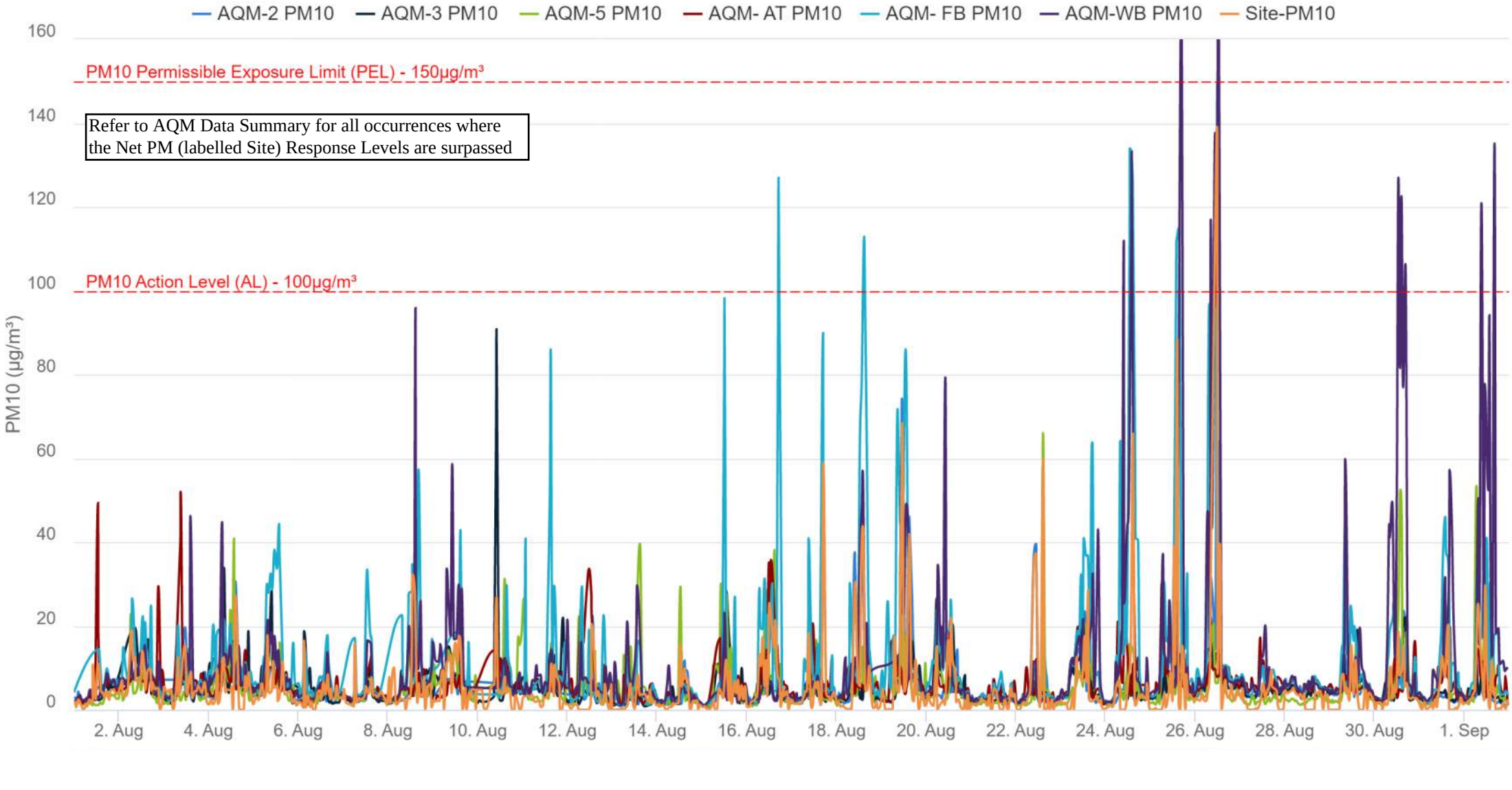
Reach A - PM10 - 15 min Running avg. (August 2022)



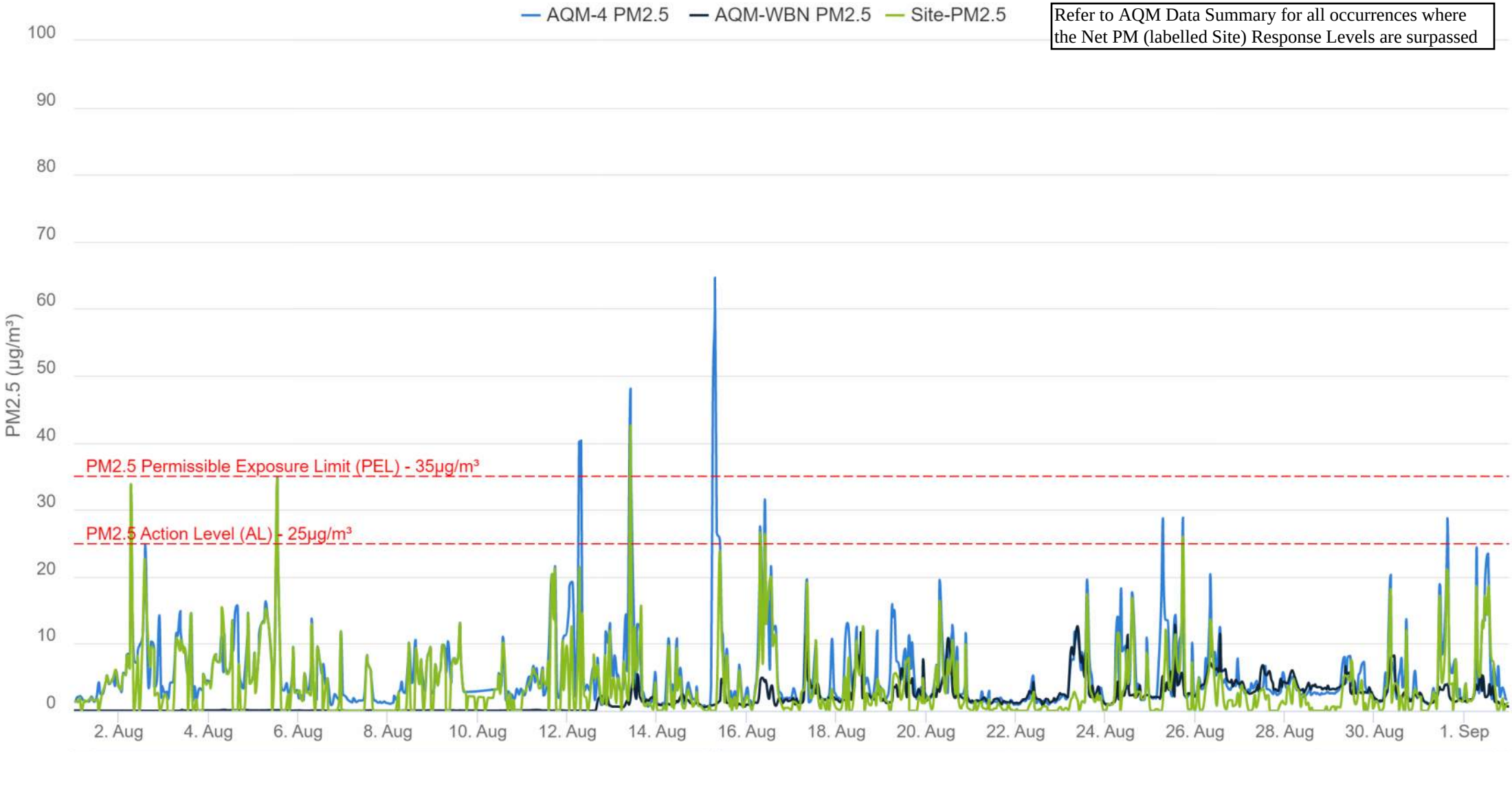
Reach C,D,& E - PM2.5 - 15 min Running avg. (August 2022)



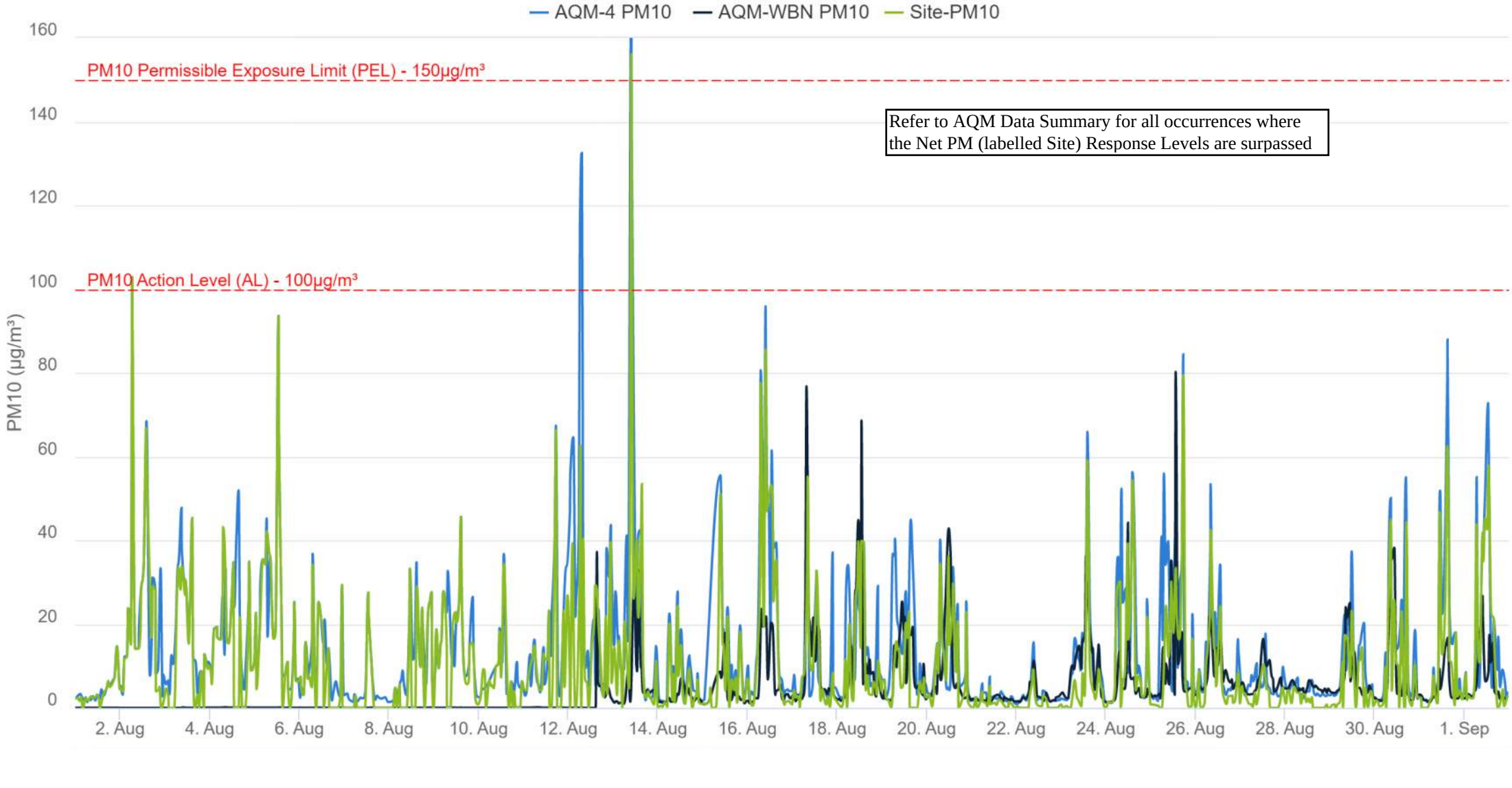
Reach C,D,& E - PM10 - 15 min Running avg. (August 2022)



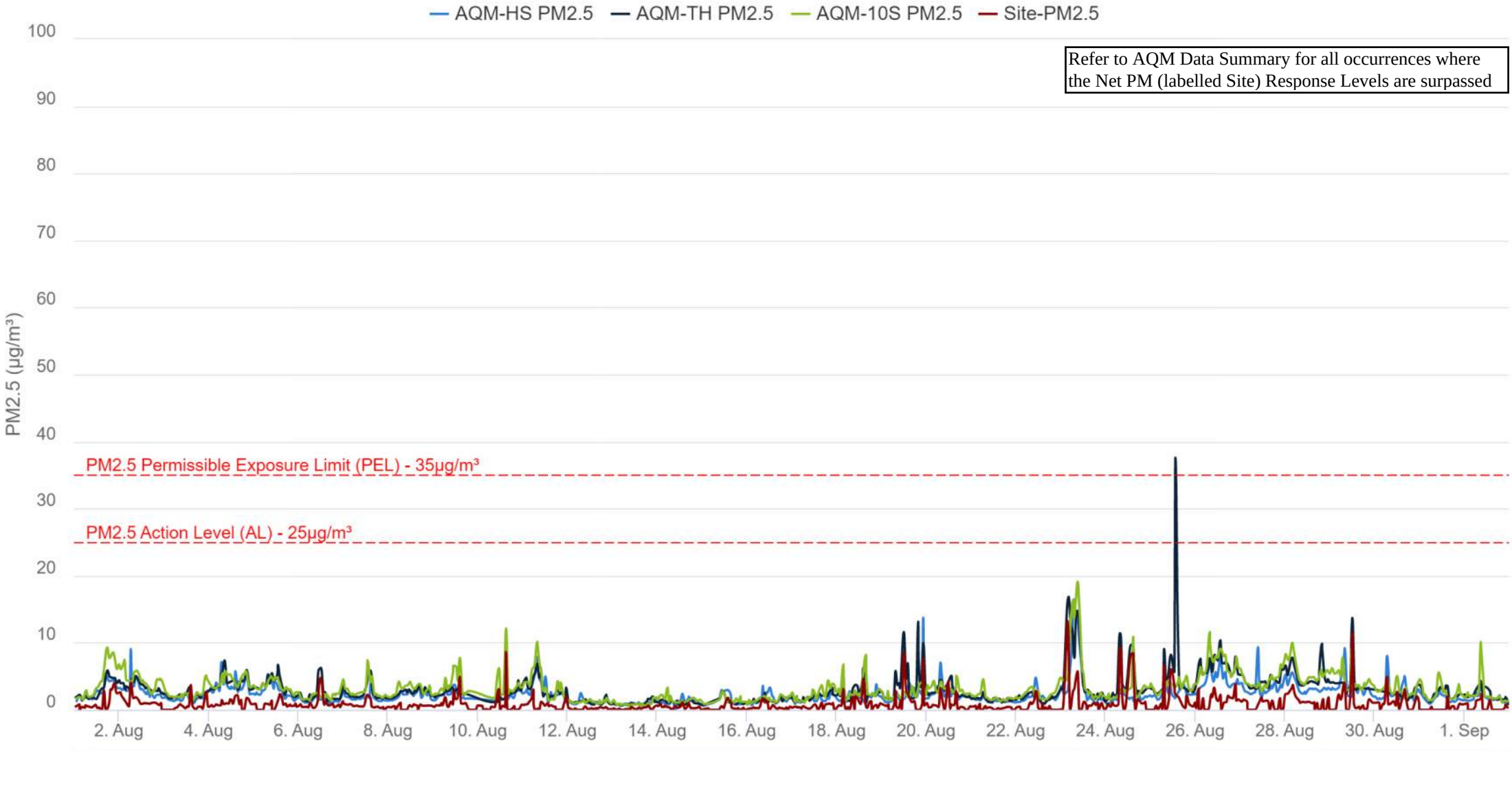
Reach F - PM2.5 - 15 min Running avg. (August 2022)



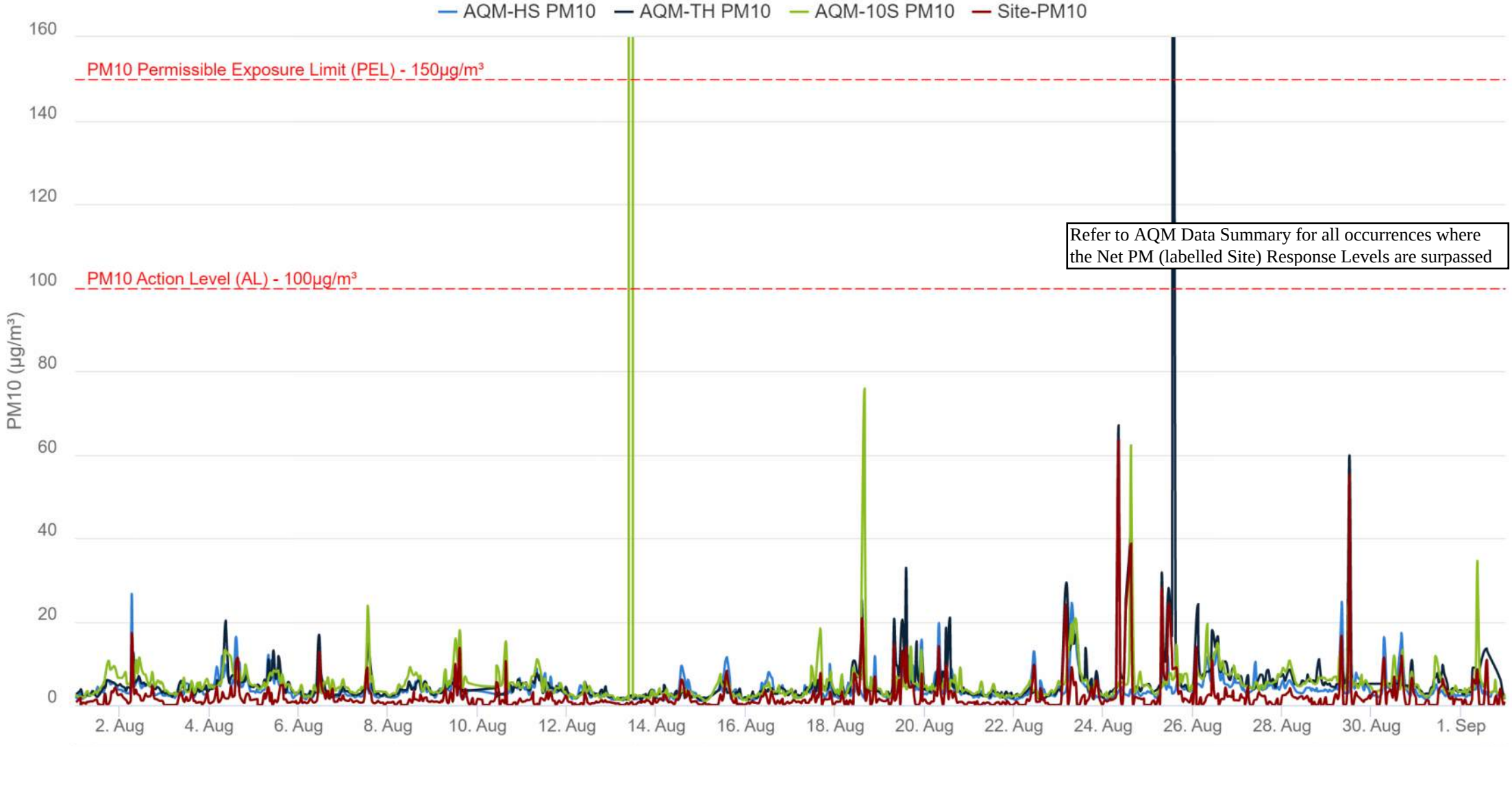
Reach F - PM10 - 15 min Running avg. (August 2022)



Reach G, H & I - PM10 - 15 min Running avg. (August 2022)



Reach G, H & I - PM2.5 - 15 min Running avg. (August 2022)



Summary of Data September 2022:

PM10 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-5 on 9/8 for 4 minutes;
- AQM-FB on 9/20 for 19 minutes;
- AQM-10S on 9/19 for 15 minutes; and
- AQM-HS on 9/22 for 9 minutes;

PM2.5 levels surpassed the PEL (15-minute TWA) at the following locations:

- AQM-6 on 9/25 for 17 minutes;
- AQM-5 on 9/8 for 2 minutes;
- AQM-FB on 9/20 for 19 minutes and 9/26 for 9 minutes;
- AQM-TH on 9/3 for 15 minutes;
- AQM-10S on 9/19 for 16 minutes; and
- AWM-HS on 9/22 for 16 minutes.

<u>For the month of September 2022, construction-related PM net 2.5 or 10 levels did not surpass Daily PEL (24-hour time weighted average).</u>

PM 10 µg/m3

- PM 10 µg/m3 levels surpassed the PEL (15-minute TWA) on four occasions (9/8, 9/19, 9/20, and 9/22) for between 4 and 19 minutes.
    - AQM-5 is located south of the Williamsburg Bridge near the construction trailers onsite; the elevated readings on 9/8 were determined to be caused by construction activities in the vicinity.
    - AQM-FB is located near the East River in the vicinity of the Fireboat House; elevated readings on 9/20 were determined to be caused by demolition and/or construction activity in the vicinity of the monitor.
    - AQM-10S is located at East 10th Street; the elevated readings on 9/19 were determined to be outside of working hours.
    - AQM-HS is located at East Houston Street and the FDR; the elevated readings on 9/22 were caused were determined to be an anomalous reading, most likely due to a drop of water/condensation present in the inlet of the monitor.

PM 2.5 µg/m3

- PM 2.5 µg/m3 levels surpassed the PEL (15-minute TWA) on eight occasions (9/3, 9/8, 9/16, 9/19, 9/20, 9/22, and 9/26) for between 2 and 19 minutes.
    - AQM-6 is located near the site at Montgomery Street and South Street; the elevated readings on 9/25 were determined to be outside of working hours.
    - AQM-5 is located south of the Williamsburg Bridge near the construction trailers onsite; the elevated readings on 9/8 were determined to be caused by construction activities in the vicinity.
    - AQM-FB is located near the East River in the vicinity of the Fireboat House; elevated readings on 9/20 and 9/26 were determined to be caused by demolition and/or construction activity in the vicinity of the monitor.
    - AQM-TH is located near the Track House in the vicinity of the shared use path and open sections of East River Park; the elevated readings on 9/3 were determined to be outside of working hours.

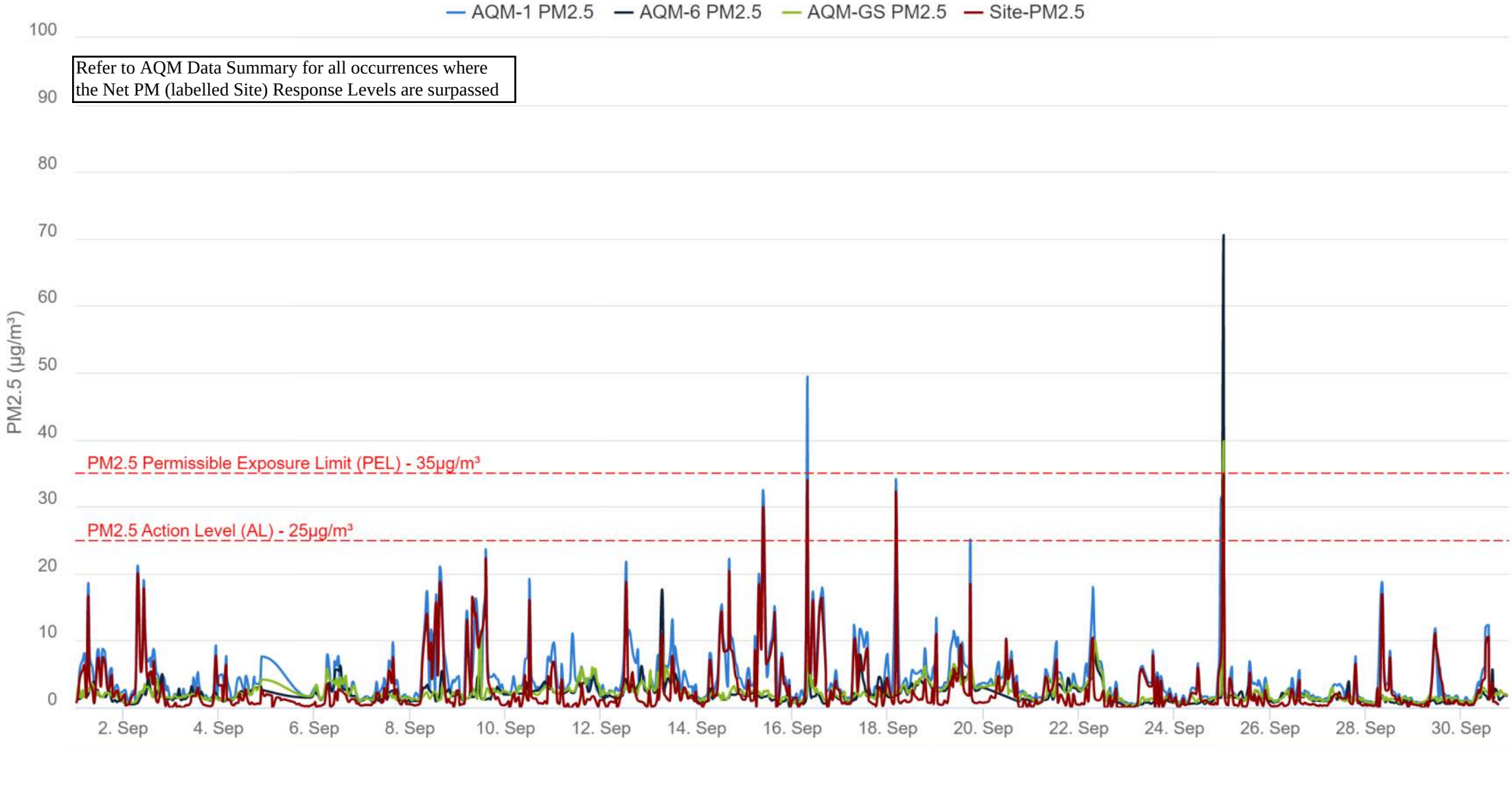
- AQM-10S is located at East 10th Street; the elevated readings on 9/19 were determined to be outside of working hours.
- AQM-HS is located at East Houston Street and the FDR; the elevated readings on 9/22 were caused were determined to be an anomalous reading, most likely due to a drop of water/condensation present in the inlet of the monitor.

Mitigation Measures

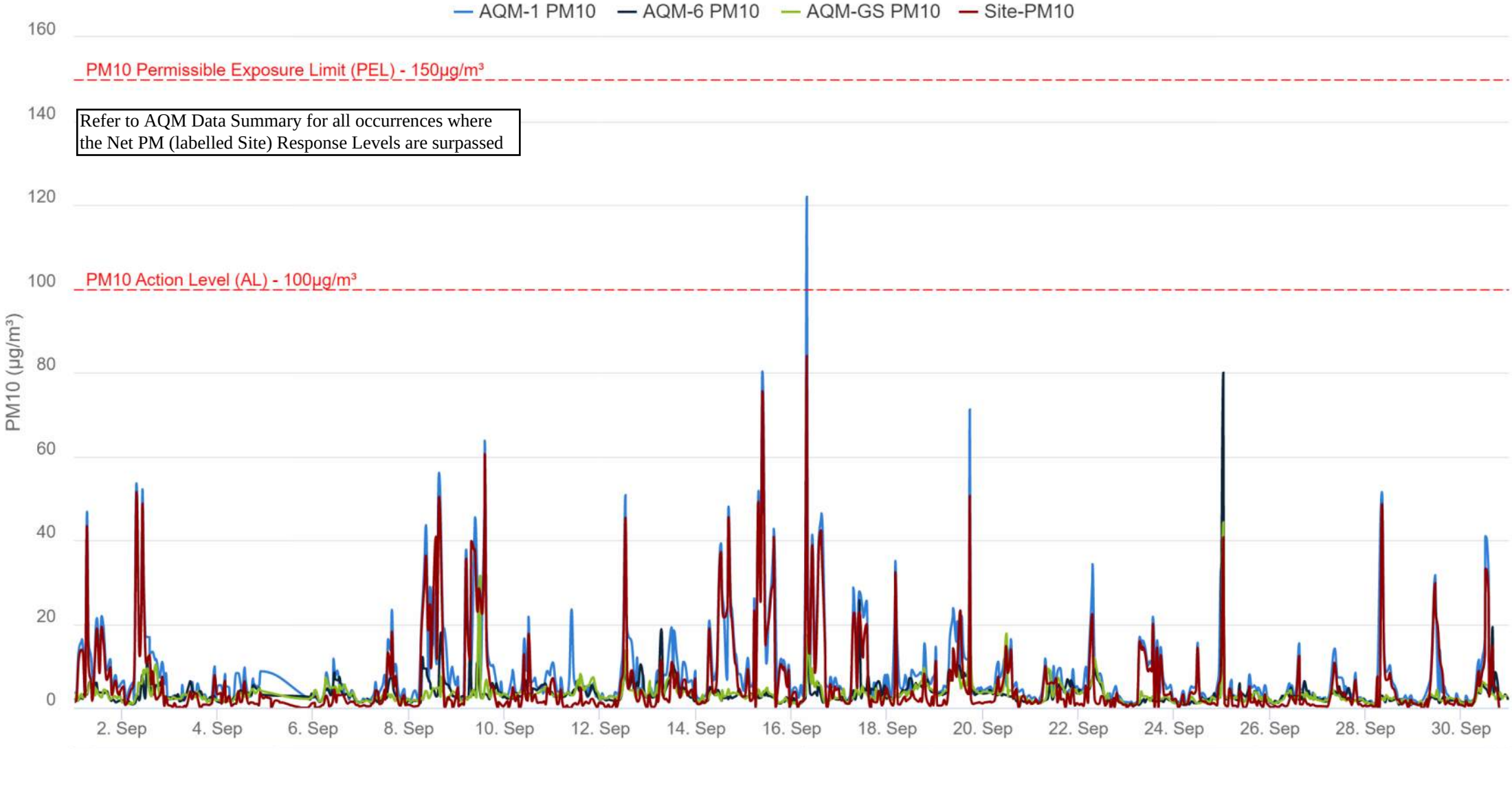
- Throughout the month, construction activity was closely monitored, and dust mitigation techniques were continuously implemented to successfully contain any airborne particulates created due to construction activity.

SEPTMEBER 2022 DATA PLOTS

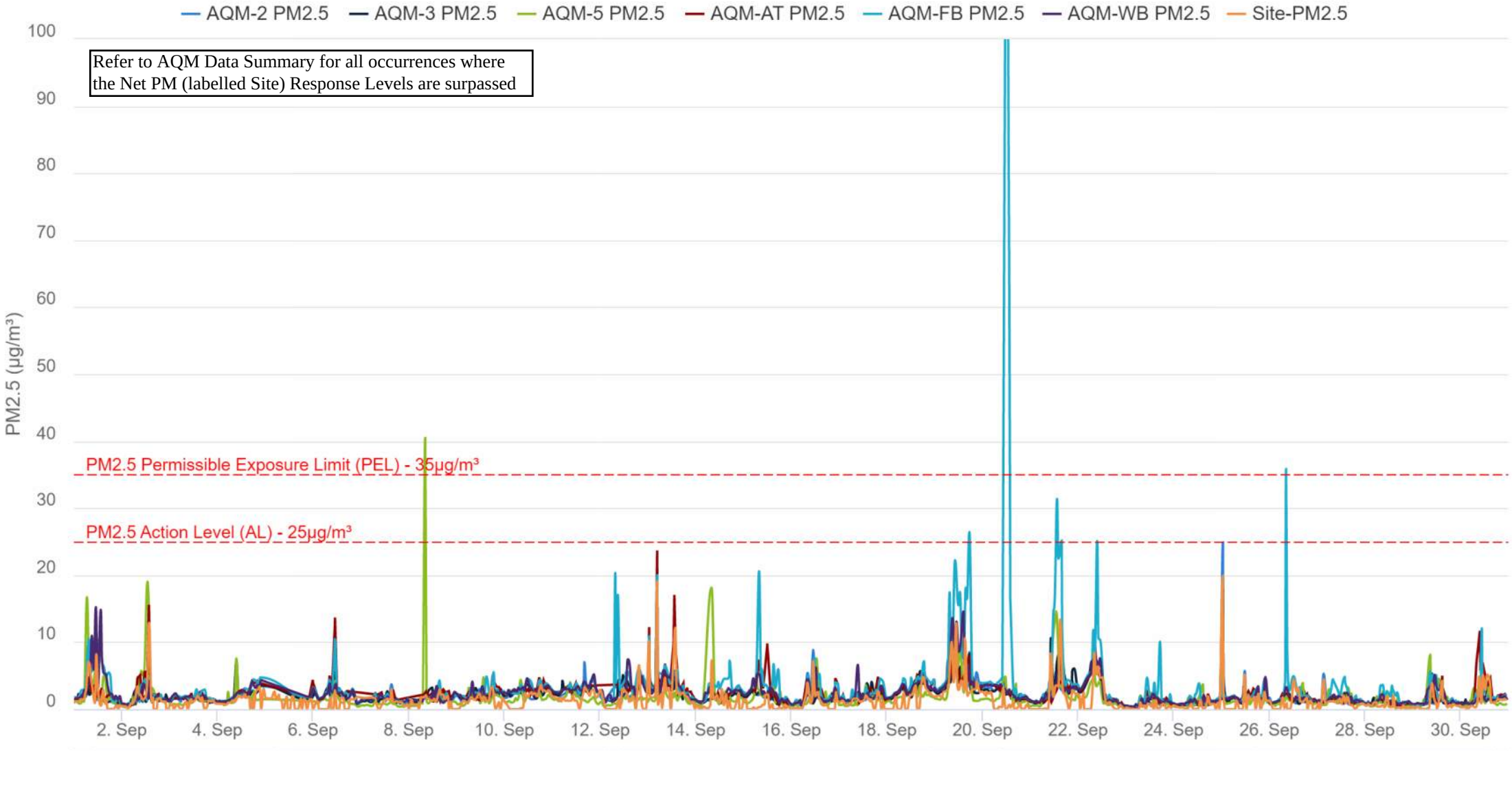
Reach A - PM2.5 - 15 min Running avg. (September 2022)



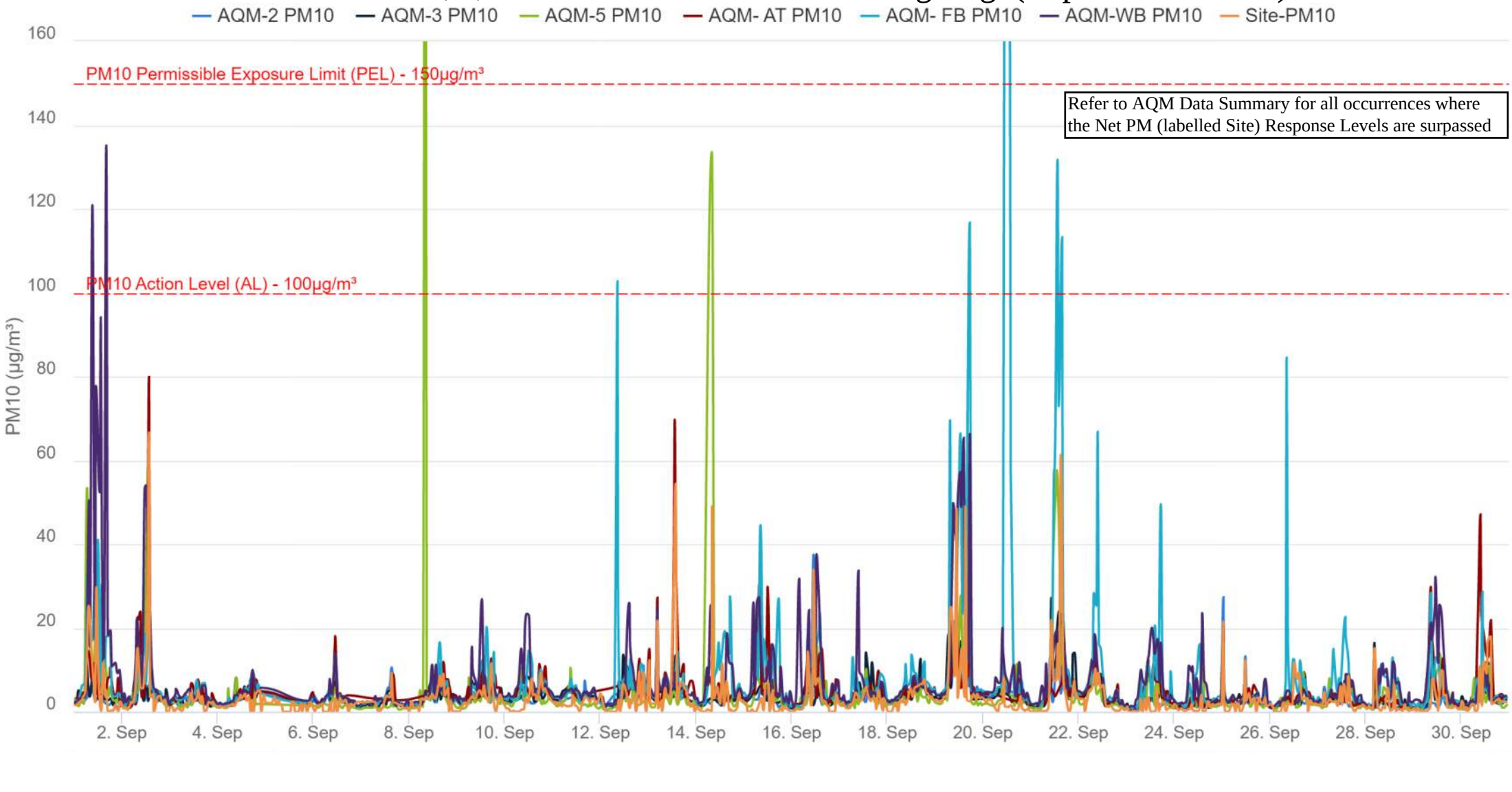
Reach A - PM10 - 15 min Running avg. (September 2022)



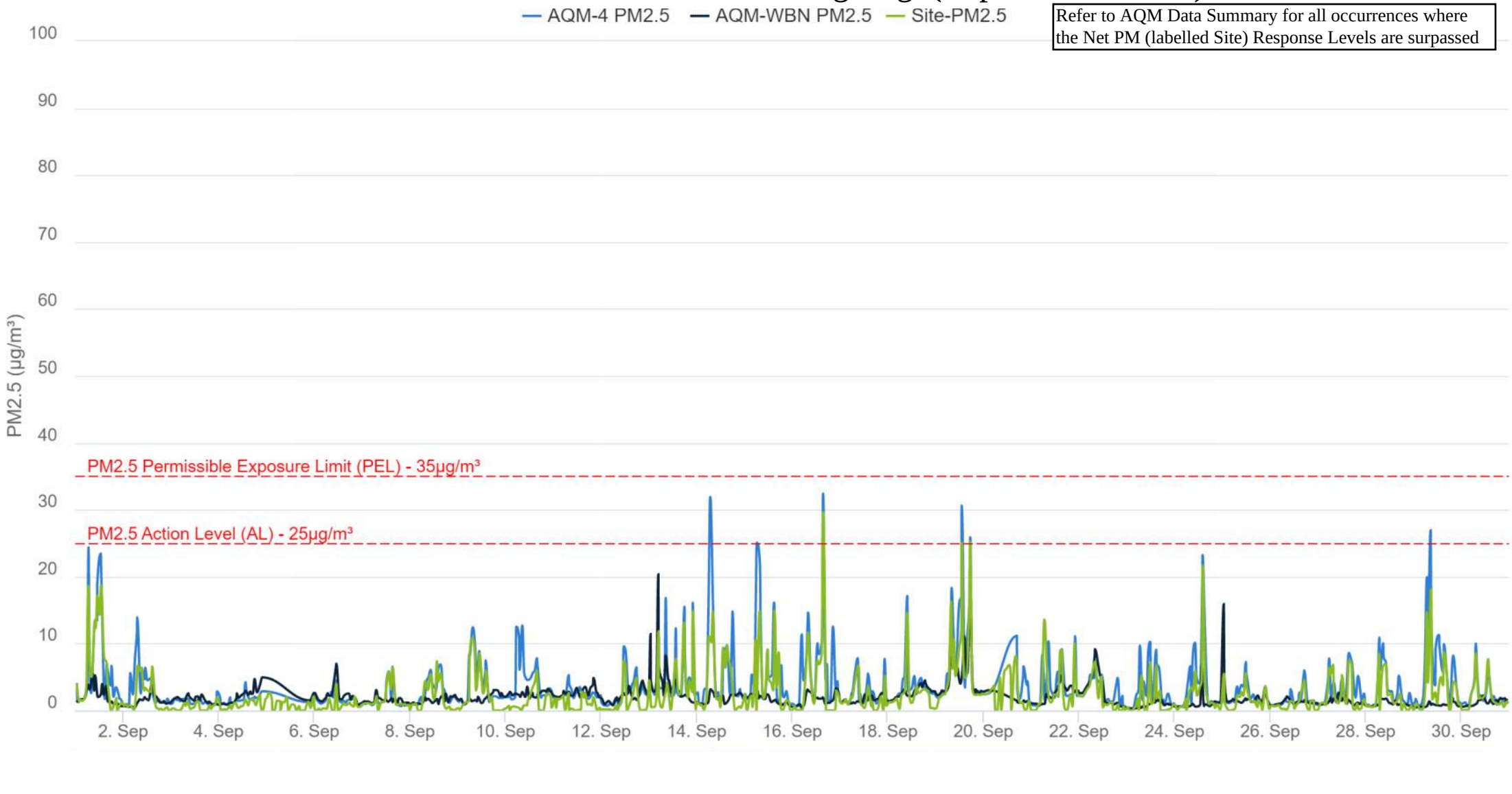
Reach C,D,& E - PM2.5 - 15 min Running avg. (September 2022)



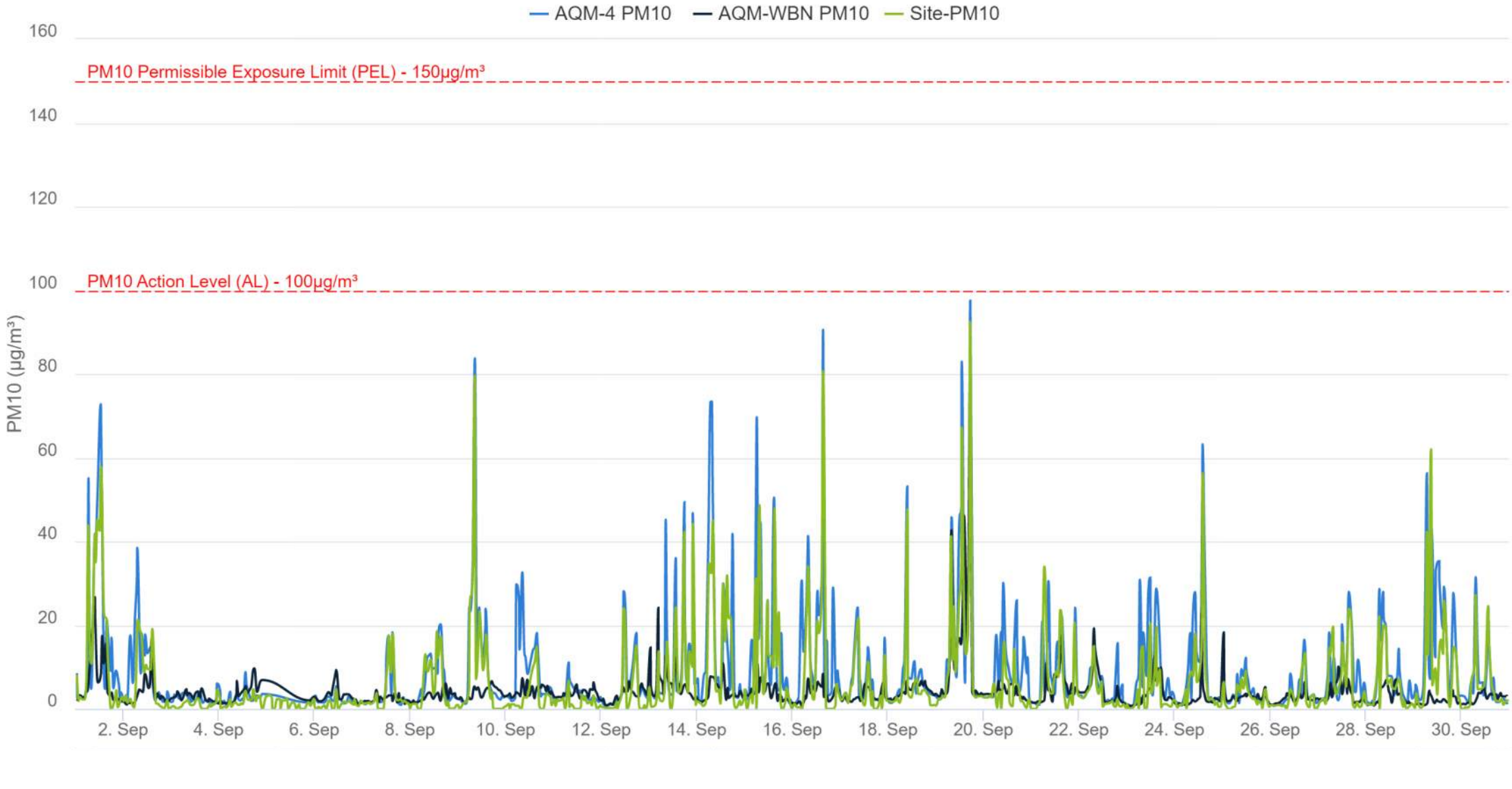
Reach C,D,& E - PM10 - 15 min Running avg. (September 2022)



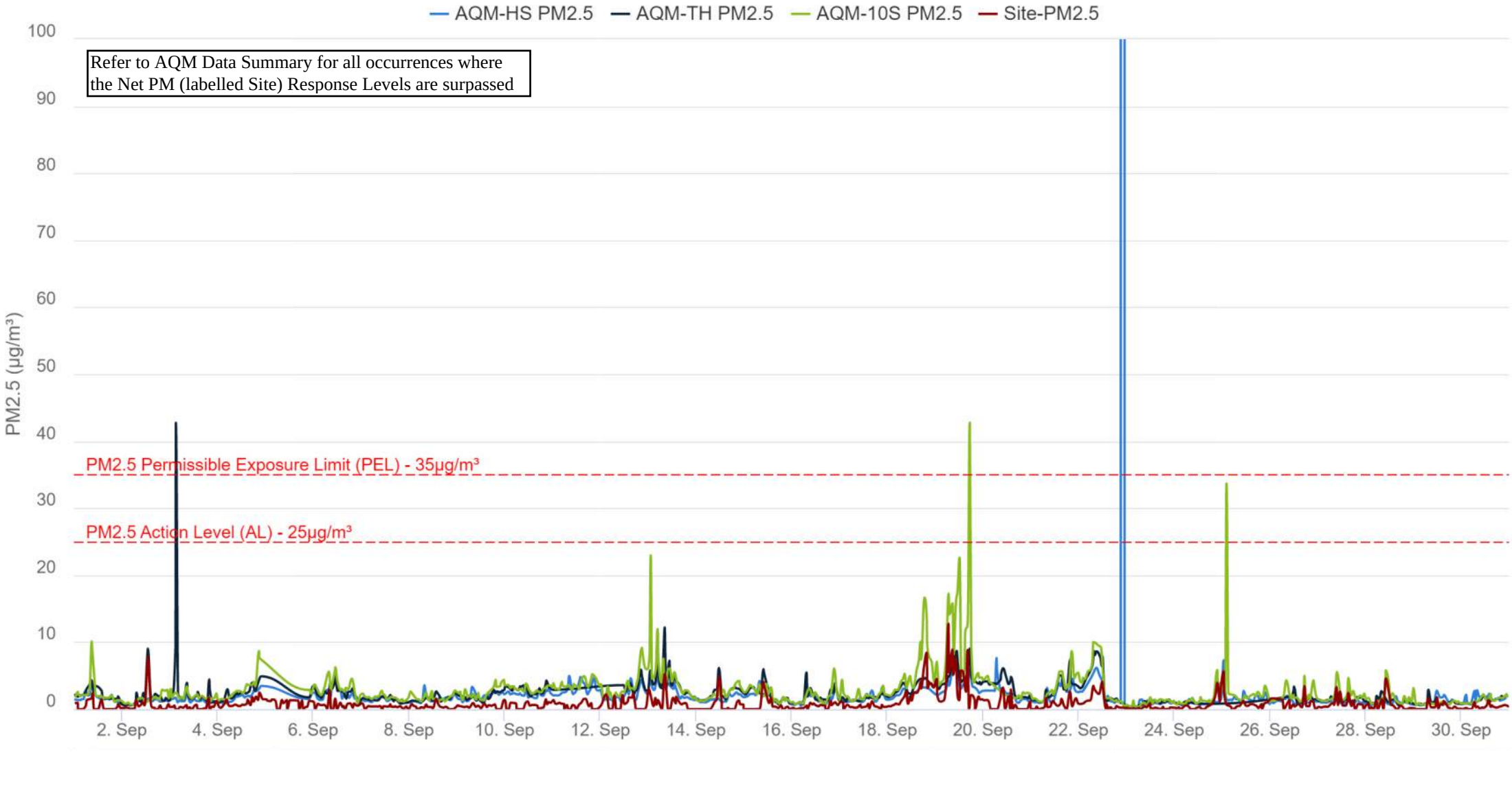
Reach F - PM2.5 - 15 min Running avg. (September 2022)



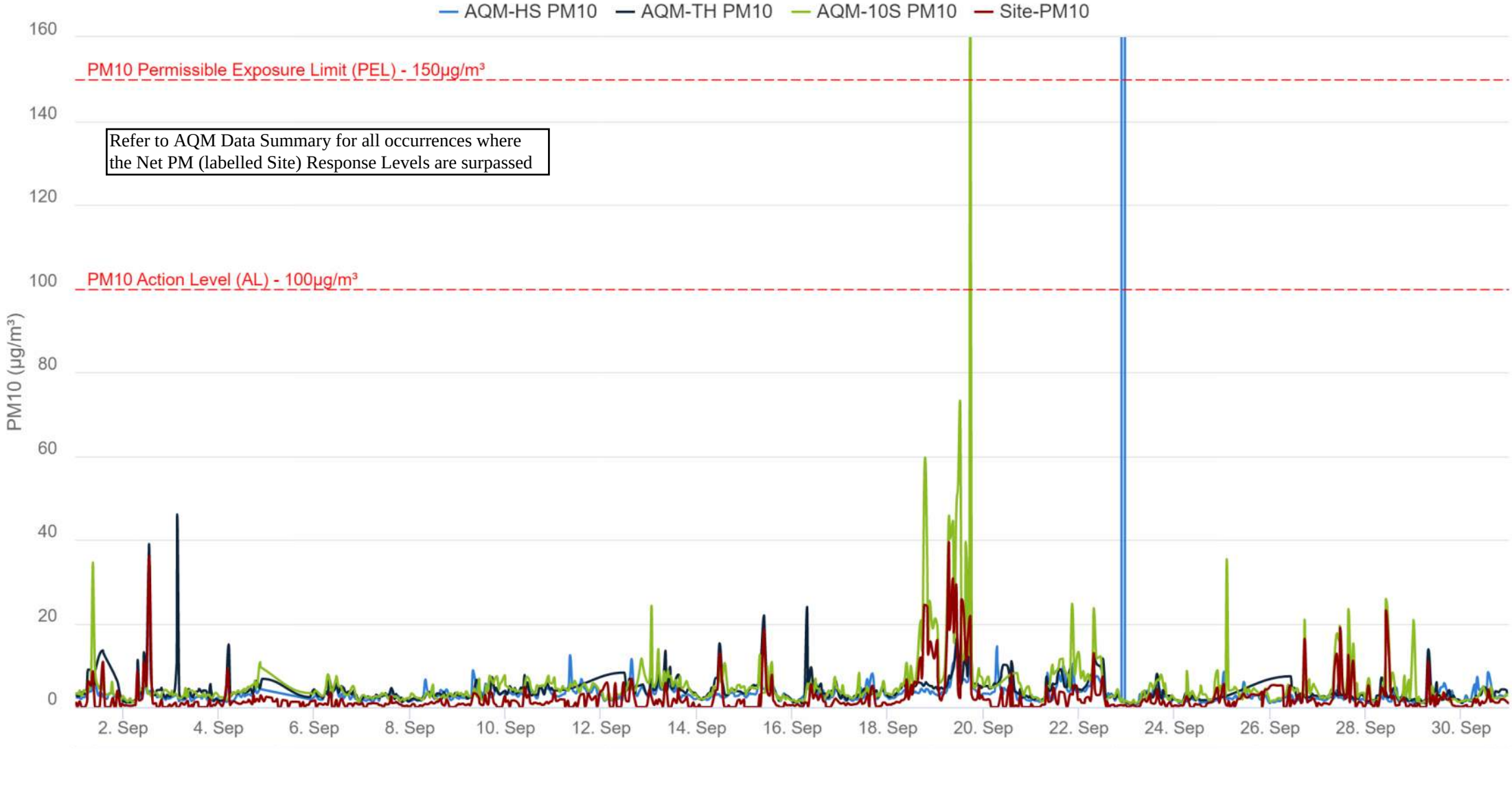
Reach F - PM10 - 15 min Running avg. (September 2022)



Reach G, H & I - PM2.5 - 15 min Running avg. (September 2022)



Reach G, H & I - PM10 - 15 min Running avg. (September 2022)



APPENDIX

I. ESCR Air Quality Management Program

Community health and safety is of utmost importance to the City of New York, the NYC Department of Design and Construction (DDC), and the East Side Coastal Resiliency Team. The ESCR Team is implementing a multi-level approach to Air Quality Management with includes:

- Step 1: Air Quality Management Plan
- Step 2: Daily Air Quality Mitigation Techniques
- Step 3: Daily Air Quality Monitoring
- Step 4: Air Quality oversight by environmental specialists

Step 1: The Air Quality Management Plan
The AQM Plan is submitted at the start of the project to outline the management of air quality for the project. It includes contractor roles and responsibilities, mitigation techniques, and action plans. This Plan is reviewed and approved by the Program Management / Construction Management (PMCM) Team HNTB-LiRo-Joint Venture, and the DDC.

Step 2: Daily Air Quality Mitigation Techniques
As mentioned in Chapter 6.6 of the EIS, Construction-Hazardous Materials Section "Dust management during soil-disturbing work would include the following: (1) use of water spray for roads, trucks, excavation areas and stockpiles; (2) use of anchored tarps to cover stockpiles; (3) use of truck covers during soil transport within site limits and during off-site transport; (4) employment of extra care during dry and/or high-wind periods; (5) use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface; and (6) use of a truck wheel wash at site access/egress points to prevent fugitive dust and off-site migration of dust and other particulates. The source(s) of any dust emissions would be identified and addressed immediately and appropriately.

Step 3: Daily Air Quality Monitoring
The air quality monitoring confirms the daily mitigation techniques in place are being implemented and are effective. Action levels are set to alert the contractor when a technique is not working, and adjustments are required to maintain the levels as set by the National Ambient Air Quality Standards (NAAQS) for PM pollution as mentioned above. Step 3 is implemented daily and mitigation techniques will vary depending on work activities. The EPA Standard Time Weighted Average (TWA) for analyzing PM levels is 24 hours, the ESCR project is analyzing levels more frequently at 15-minute TWA.

Step 4: Air Quality Oversight by Environmental Specialists
The oversight for environmental monitoring for the ESCR project is multi-tiered and includes relationships between several agencies and entities. As shown in the exhibit on the following page, a series of checks and balances have been implemented to assure compliance with environmental regulations. See *Fig. 5 East Side Coastal Resiliency Air Quality Monitoring Flow Chart*

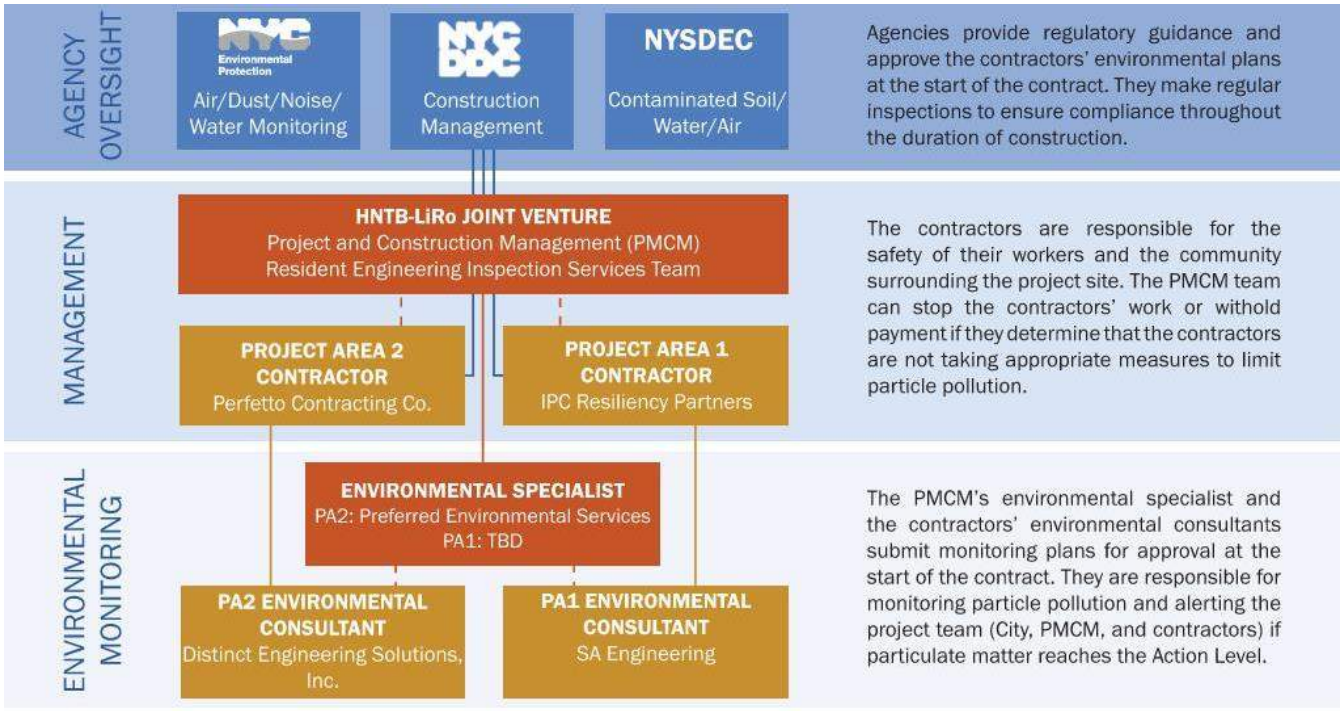


Fig.5 East Side Coastal Resiliency Air Quality Monitoring Flow Chart

II. RESOURCES

- ESCR Website: https://www1.nyc.gov/site/escr/index.page
- ESCR Environmental Review Process web page: https://www1.nyc.gov/site/escr/about/environmental-review.page
- FEIS Chapter 5.7 Hazardous Materials: https://www1.nyc.gov/assets/escr/downloads/pdf/FEIS/ESCR-EIS-Chapter-5.7-Hazardous-Materials.pdf
- FEIS Chapter 6.6 Construction Hazardous Materials: https://www1.nyc.gov/assets/escr/downloads/pdf/FEIS/ESCR-EIS-Chapter-6.6-Construction-Hazardous-Materials.pdf
- EPA Particulate Matter (PM) Pollution - Particulate Matter (PM) Basics: https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM
- EPA Particulate Matter (PM) Pollution - Setting and Reviewing Standards to Control Particulate Matter (PM) Pollution: https://www.epa.gov/pm-pollution/setting-and-reviewing-standards-control-particulate-matter-pm-pollution
- EPA Particulate Matter (PM) Pollution - National Ambient Air Quality Standards (NAAQS) for PM: https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm
- EPA Particulate Matter (PM) Pollution - Applying or Implementing Particulate Matter (PM) Standards: https://www.epa.gov/pm-pollution/applying-or-implementing-particulate-matter-pm-standards