Monthly Air Quality Monitoring Report (March 2023)

Central Somers Town, Camden

May 2023

Experts in air quality management & assessment

Document Control

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Report	
Reporting Month	March 2023 (01/03/2023 to 31/03/2023)

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1 Introduction

1.1 Air Quality Consultants Ltd (AQC) has been commissioned by Morgan Sindall Construction to undertake monthly reporting of fine particulate matter (PM_{10}) during construction of the residential development (Plots 5 and 6) at Central Somers Town in the London Borough of Camden. Planning permission for the site was granted by Camden Council in October 2016 (planning reference 2015/2704/P and subsequent amendments) subject to a number of planning conditions. The Dust Management Plan (DMP) submitted in support of the application (to discharge condition 88, planning reference 2023/1522/P)[1] recommended real-time monitoring of PM_{10} be undertaken at the site in order to protect nearby sensitive receptors from the effects of dust exposure as a consequence of the ongoing construction works.

1.2 Three automatic monitoring units were installed on 13 February 2023 and are maintained by RVT Group. The monitors are certified to MCERTS Indicate standard as required by Camden Council. The location and setting of the monitors are shown in Figure 1, and photos of the monitors in-situ are shown in Figure 2 to Figure 4. The air intakes are located approximately 2.1 m above ground level.

- Position 1: The DM30 #02 monitor is located on the site hoarding adjacent to Purchese Street. The monitor was last calibrated on 2 September 2022.
- Position 2: The DM30 #07 monitor is located adjacent to the play space. The monitor was last calibrated on 5 August 2022.
- Position 3: The DM30 #24 monitor is located in the courtyard. The monitor was last calibrated on 12 October 2022.

1.3 Currently the monitors are being powered by generator and are thus only monitoring PM_{10} concentrations during site operation hours, which are Monday to Friday: 8am – 5pm. It is anticipated that a UK Power Network supply will be available mid-June, and the monitors will be measuring 24-hours per day from then on.

[1] RSK (2022) Dust Risk Assessment & Dust Management Plan - Central Somers Town, Hampden Cl, London.

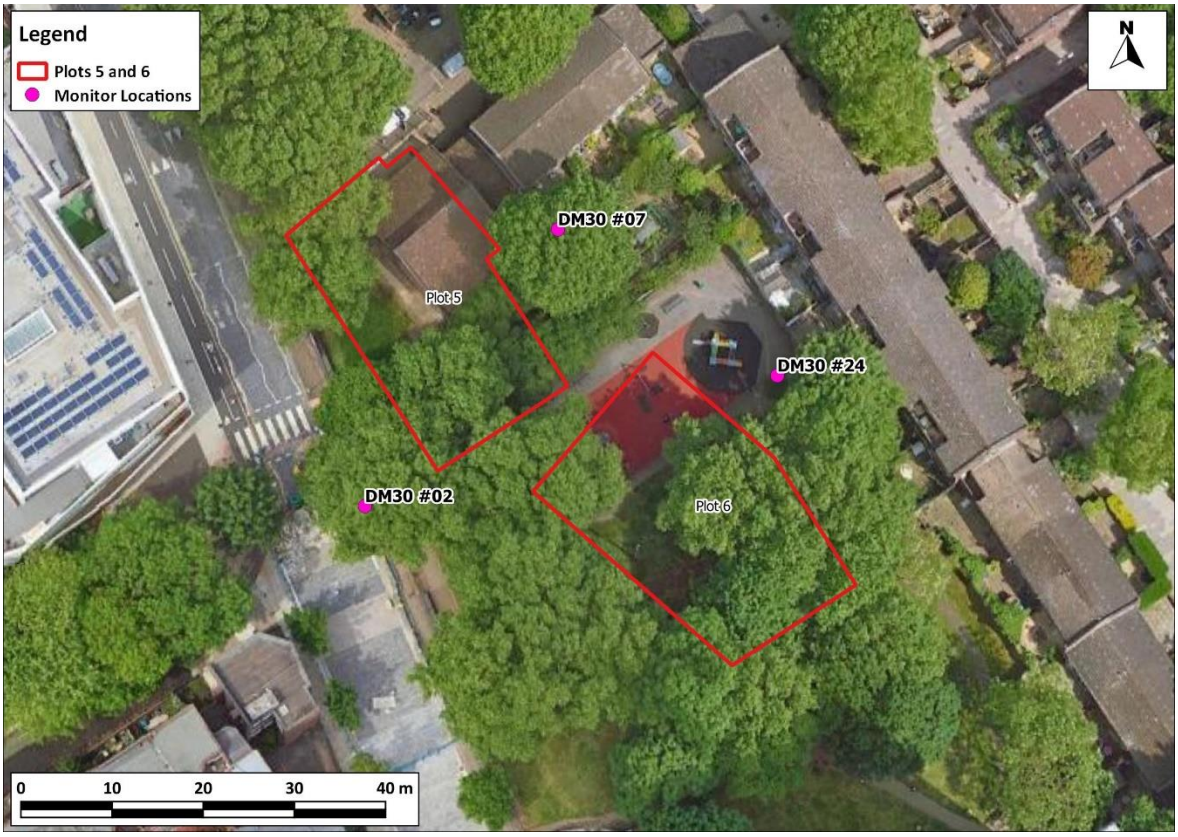

Figure 1: Location of Central Somers Town Automatic Monitors

Imagery ©2023 Bluesky, CNES / Airbus, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The GeoInformation Group.

Figure 2: Location of DM30 #02 Monitor

Figure 3: Location of DM30 #07 Monitor

Figure 4: Location of DM30 #24 Monitor

1.4 This report presents the monthly results of the dust monitoring during March 2023 and identifies any exceedances of the trigger/action levels.

London Borough of Camden Requirements

1.5 Camden Council's requirements for real-time dust monitoring are consistent with Camden and Greater London Authority (GLA) policy and industry best practice guidance. These requirements are triggered when an air quality assessment for a proposed development finds that there is a medium or high risk of dust impacts (without considering mitigation measures) during demolition or construction.

1.6 Real-time dust monitoring can be used to enable effective on-site management of the air quality impacts of demolition and construction activities through comprehensive preventative dust mitigation and, in the case of triggering a dust alert from the monitoring equipment, through the application of additional reactive dust mitigation measures.

1.7 Ultimately, the purpose of real-time dust monitoring is to ensure that the air quality impacts of demolition and construction activities are minimised as far as possible for the protection of amenity and health, both for local residents, the general public, and operatives on-site.

2 Site Action Levels

2.1 In accordance with the methodology set out in the DMP, a Site Action Level (SAL) of 190 µg/m^3 as a 1-hour mean PM_{10} concentration is adopted for the site to trigger a review of site activities and remedial action, if necessary. In addition, Camden Council's guidance sets out two further levels; early warning 'alert' and 'action' levels of 150 µg/m^3 and 250 µg/m^3, respectively, as 15-minute mean concentrations have been set. All of the trigger levels are presented in Table 1 below. The incident response procedure, should a trigger level be exceeded, is presented in the DMP.

Table 1: Trigger Levels for PM_{10}

Alert / Action Level	PM_{10} Concentration (µg/m^3)
Alert Level (as a 15-minute average)	150
Action Level (as a 15-minute average)	250
Action Level (as a 1-hour average)	190

3 Site Updates and Works Taken Place During the Monitoring Period

3.1 During this monitoring period, site works have included demolition of the existing buildings and groundworks.

4 Monitoring Summary

4.1 A summary of the 15-minute and 1-hour average PM_{10} concentrations at monitoring sites #02, #07 and #24 in are presented in Table 2 for March 2023. 24-hour average concentrations have not been reported due to insufficient data capture during the reporting period[2].

Table 2: Measured PM_{10} Concentrations at Monitors #02, #07 and #24 (µg/m³)

Statistic		Monitor		
		#02	#07	#24
15-Minute Mean	Data Capture for Month (%)	18.8	20.0	18.3
	Maximum	1,210.5	228.3	252.0
	Minimum	3.0	2.9	0.9
	Average	28.9	19.1	11.7
	Number of Exceedances of ≥150 µg/m³ Alert Level	9	1	3
	Number of Exceedances of ≥250 µg/m³ Action Level	3	0	1
1-Hour Mean [a]	Data Capture for Month (%)	17.9	18.8	17.2
	Number of Exceedances of ≥190 µg/m³ Action Level	1	0	0

[a] Calculations are based on 75% data capture for the averaging period, i.e. each hour must have at least three measurements to be classed as valid.

4.2 A summary of exceedances of the 15-minute mean alert and action levels and the 1-hour mean action level is shown in Table 3.

[2] Calculations are based on 75% data capture for the averaging period, i.e. each day must have at least 18 measurements to be classed as valid; as monitoring was only undertaken during working hours, this threshold was not met.

Table 3: PM_{10} Alert and Action Trigger Level Exceedance Details

Monitor	Date	Time	Maximum Concentration (µg/m³)	During Working Hours?	Measure/Action Taken
Exceedances of 15-Minute 150 µg/m³ Alert Trigger Level					
#02	02/03/2023	14:45	203.6	Y	Diligence with damping down during demolition and crushing concrete on site
#02	02/03/2023	15:00	424.7	Y	
#02	02/03/2023	15:15	199.5	Y	
#02	02/03/2023	15:30	165.3	Y	
#02	03/03/2023	08:30	191.0	Y	
#02	03/03/2023	08:45	300.2	Y	
#02	07/03/2023	10:30	207.3	Y	
#02	15/03/2023	15:30	212.6	Y	
#02	27/03/2023	11:00	1,210.5	Y	
#07	27/03/2023	11:00	228.3	Y	
#24	01/03/2023	13:00	252.0	Y	
#24	01/03/2023	14:45	245.4	Y	
#24	03/03/2023	10:00	169.1	Y	
Exceedances of 15-Minute 250 µg/m³ Action Trigger Level					
#02	02/03/2023	15:00	424.7	Y	Diligence with damping down during demolition and crushing concrete on site
#02	03/03/2023	08:45	300.2	Y	
#02	27/03/2023	11:00	1,210.5	Y	
#24	01/03/2023	13:00	252.0	Y	
Exceedances of 1-Hour 190 µg/m³ Action Trigger Level					
#02	27/03/2023	10:00	314.7	Y	Diligence with damping down during demolition and crushing concrete on site

4.3 The key observations at the monitoring sites in relation to the measured concentrations of PM_{10} are summarised below.

4.4 Overall data capture for the monitoring period was 18.8% at monitor #02, 20.0% at monitor #07 and 18.3% at monitor #24. Low data capture at the monitors was due to the monitors being operational only during site hours.

15-Minute Averaging Period

- There were **nine** exceedances of the 15-minute alert level (150 µg/m³), **three** of which also exceeded the action level (250 µg/m³) at monitor #02.

- There was **one** exceedance of the 15-minute alert level (150 µg/m^3) and **no** exceedances of the action level (250 µg/m^3) at monitor #07.
- There were **three** exceedances of the 15-minute alert level (150 µg/m^3), of which **one** also exceeded the action level (250 µg/m^3) at monitor #24.
- Exceedances of the trigger levels were due to demolition, crushing and groundworks activities on site in the vicinity of monitors.
- The highest concentrations recorded were:
  - 1,210.5 µg/m^3 occurring at 11:00 on 27 March at monitor #02;
  - 228.3 µg/m^3 occurring at 11:00 on 27 March at monitor #07; and
  - 252.0 µg/m^3 occurring at 13:00 on 1 March at monitor #24.

1-Hour Averaging Period

- There was **one** exceedance of the action trigger level (190 µg/m^3) at monitor #02 and **no** exceedances at monitors #07 and #24.
- The highest concentrations recorded were:
  - 314.7 µg/m^3 occurring at 10:00 on 27 March at monitor #02;
  - 70.5 µg/m^3 occurring at 10:00 on 27 March at monitor #07; and
  - 70.3 µg/m^3 occurring at 14:00 on 1 March at monitor #24.

Concentration Plots (March 2023)

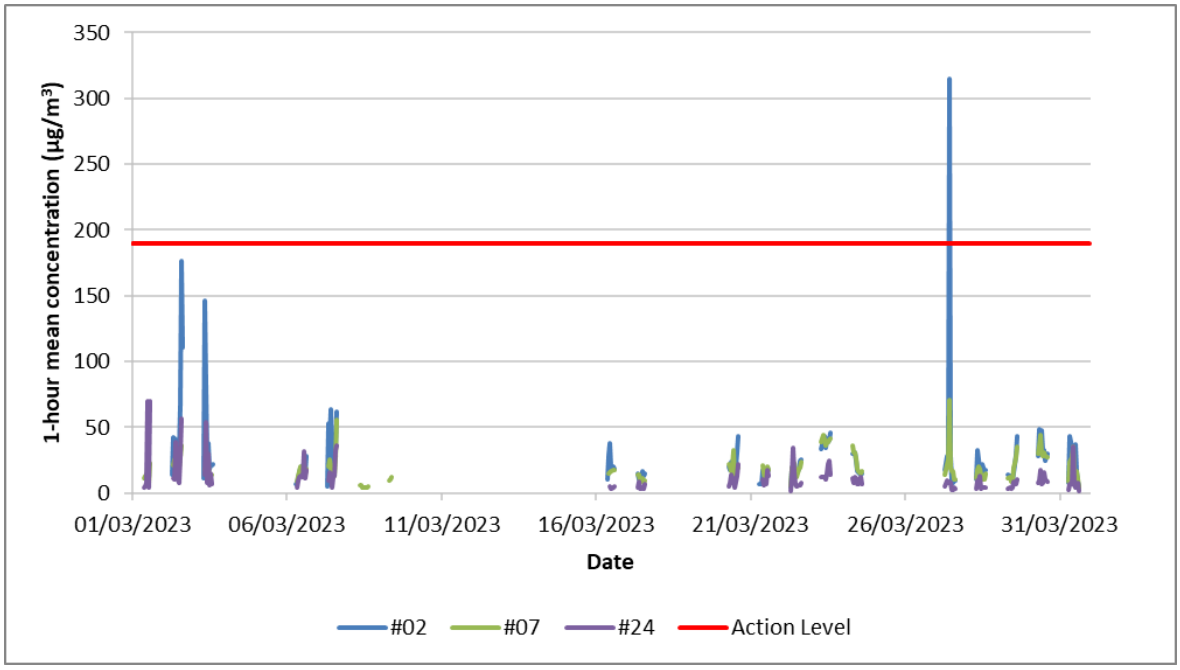

Figure 5: Measured 1-Hour Mean PM_{10} concentrations at Monitors #02, #07 and #24 during March 2023

4.5 The 1-hour mean PM_{10} concentrations presented in Figure 5 show recorded concentrations at the #02, #07 and #24 monitors to be broadly consistent for the majority of the month, with concentrations at monitor #02 being higher than those at monitors #07 and #24, particularly on 1 to 3 March and on 27 March.

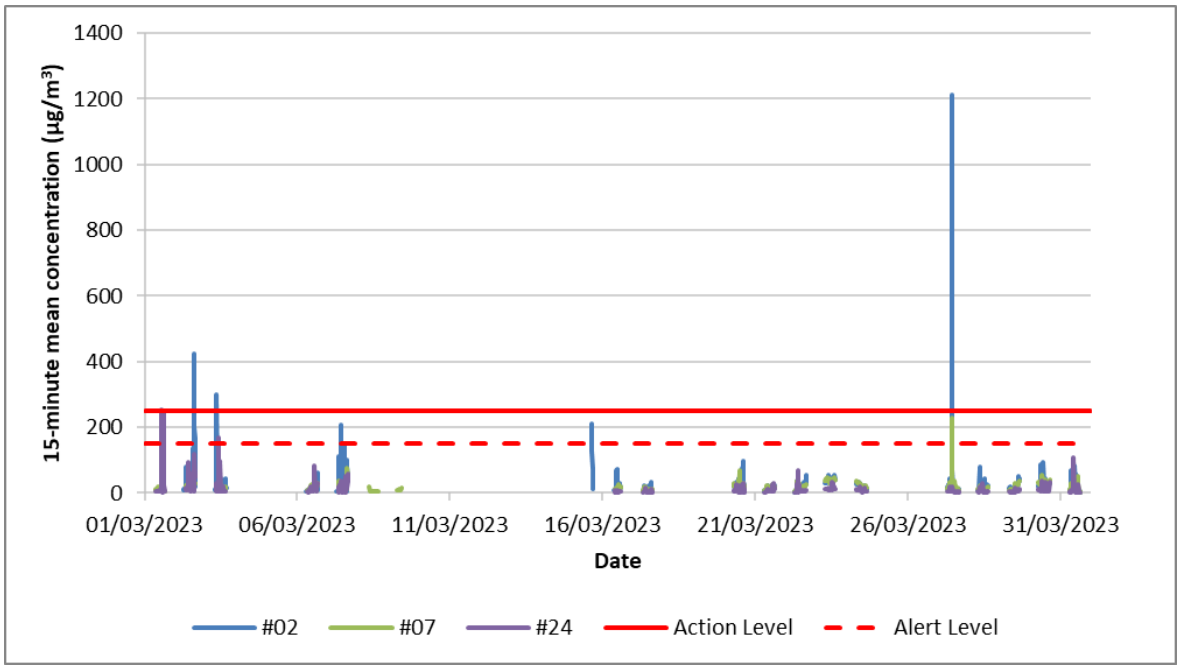

Figure 6: Measured 15-Minute Mean PM_{10} concentrations at Monitors #02, #07 and #24 during March 2023

4.6 The 15-minute mean PM_{10} concentrations presented in Figure 4 show recorded concentrations at the #02, #07 and #24 monitors to be broadly consistent for the majority of the month, with concentrations at monitor #02 being higher than those at monitors #07 and #24, particularly on 1 to 3 March, and on 15, 17 and 27 March.

5 Glossary

AQC	Air Quality Consultants
DMP	Dust Management Plan
GLA	Greater London Authority
µg/m^3	Microgrammes per cubic metre
PM_{10}	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
SAL	Site Action Level