



Essential Living (Swiss Cottage) Limited

100 Avenue Road, London

Air Quality Monitoring Quarterly Report – 1st March 2018 to 31st May 2018

Project No. 442346-09

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RSK GENERAL NOTES

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Client: Essential Living (Swiss Cottage) Limited

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Group Limited.

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1 INTRODUCTION

RSK Environment Ltd (RSK) was commissioned by Essential Living (Swiss Cottage) Limited to undertake air quality monitoring during the demolition and construction works at 100 Avenue Road, London. The monitoring is being undertaken with reference to existing air quality in the area and relevant air quality legislation, policy and guidance, and is intended to enable the client discharge the following planning condition (application number 2014/1617/P, Condition 24):

“Before any works or construction commences details of at least two real time particulate air quality monitors shall be submitted to and agreed in writing by the Local Planning Authority. Such details shall include the location, number and specification of the monitors, including evidence of the fact that they have been installed in line with guidance outlined in the GLA’s Control of Dust and Emissions during Construction and Demolition Supplementary Planning Guidance. The monitors shall be installed 1 month prior to the development taking place and must be retained and maintained on site for the duration of the development in accordance with the details thus approved. Real time data from the monitors should be available online, and council officers provided access to this data. In addition, quarterly reports should be sent to the Air Quality officer for the duration of the works. These should detail any exceedances of the trigger action level (which is 250 $\mu\text{g}/\text{m}^3$), and the action that was taken to remedy this.”

RSK Environment Ltd installed two ‘Osiris’ particle monitors at the 100 Avenue Road development site in March 2016 as per the Greater London Authority’s ‘The Control of Dust and Emissions during Construction and Demolition - Supplementary Planning Guidance’ published in April 2014. Due to ongoing delays to the proposed demolition and construction programme, RSK decommissioned the two Orisis particle monitors during October 2017 at the request of the client.

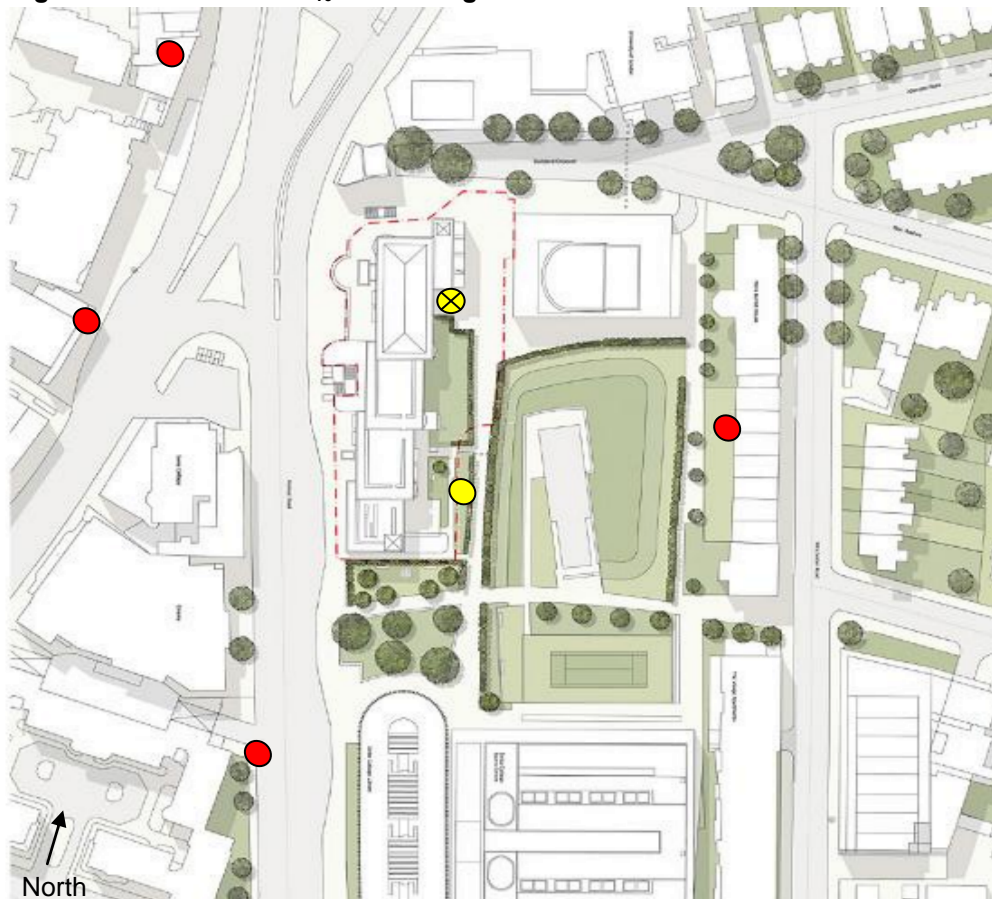
It is understood that some minor demolition works, initially comprising the removal of the staircase at the front of the building, was planned for commencement during December 2017 and as such RSK were instructed to reinstall particle monitors during late October 2017. At this time, 2no. TSI Environmental Dust Trak units (‘TSI Units’) were installed at the site. These monitors are considered to record PM_{10} and $\text{PM}_{2.5}$ concentrations ($\mu\text{g}/\text{m}^3$) more reliably than other monitors, and therefore these were considered a suitable alternative to the Osiris units. The monitors were installed at the same monitoring locations, due to the very short duration of the initially proposed demolition works and on-site constraints in providing an external power supply and appropriate site security.

In late January the TSI units experienced technical malfunctions, and so were left in-situ and co-located with two Orisis units from 26th January 2018. The monitors were installed at the same monitoring locations. The data logging issues with the TSI units were resolved and subsequently the Orisis units were removed on 15th March 2018.

This is the ninth quarterly monitoring report following installation in March 2016 and covers data over the period from 1st March 2018 to 31st May 2018. The data presented in this report refer to the baseline conditions at the site as the demolition and construction works have not yet commenced, including the works proposed for December 2017.

Figure 1.1 shows the location of the worksite (approximate grid reference for the centre of the site is 526709, 184310), and the approximate locations of the air quality monitoring equipment on site. Two nephelometers, with web-based data hosting, were installed at the site. TSI Location 1 was also fitted with wind direction and speed sensors, to enable source directionality analysis. The site is within the jurisdiction of London Borough of Camden (LBC).

Figure 1.1: Dust and PM₁₀ Monitoring Locations at 100 Avenue Road



- TSI Nephelometer 2
- ⊗ TSI Nephelometer 1
- Nearest Existing receptors/1st floor residential receptors
- Site boundary

2 AIR QUALITY MONITORING RESULTS

2.1 PM₁₀ monitoring

Nephelometer instruments are not based on a reference equivalent method for the determination of airborne particulates; however, they do provide indicative continuous data in near real-time that may be related to the occurrence of site events, and are considered by many regulators as an appropriate and economical technique for this type of application.

These instruments measure continuous concentrations of the PM₁₀ fraction of suspended particle matter and these data are posted to a website, to allow 'on request' examination of unratified data.

Table 2.1 shows the particulate results for monitoring locations 1 and 2 for the TSI units, for the monitoring period presented in this report. During this monitoring period, there were 85 recorded exceedances of the 15-minute average 250µg/m³ PM₁₀ recommended trigger level at monitoring location 1 and 443 at monitoring location 2.

There were 18 recorded exceedance of the 50µg/m³ daily mean PM₁₀ objective at monitoring location 1 with the TSI Nephelometer for the period covered in this report. There were 37 recorded exceedances of the 50µg/m³ daily mean PM₁₀ objective at monitoring location 2 with the TSI Nephelometer for the period covered in this report; 1st March 2018 to 31st May 2018.

It should be noted that, prior to the calibration visit undertaken on 15th May 2018, the flow rate on the Nephelometer at monitoring location 2 was below the recommended range at the inlet point, meaning that the results should be treated with caution.

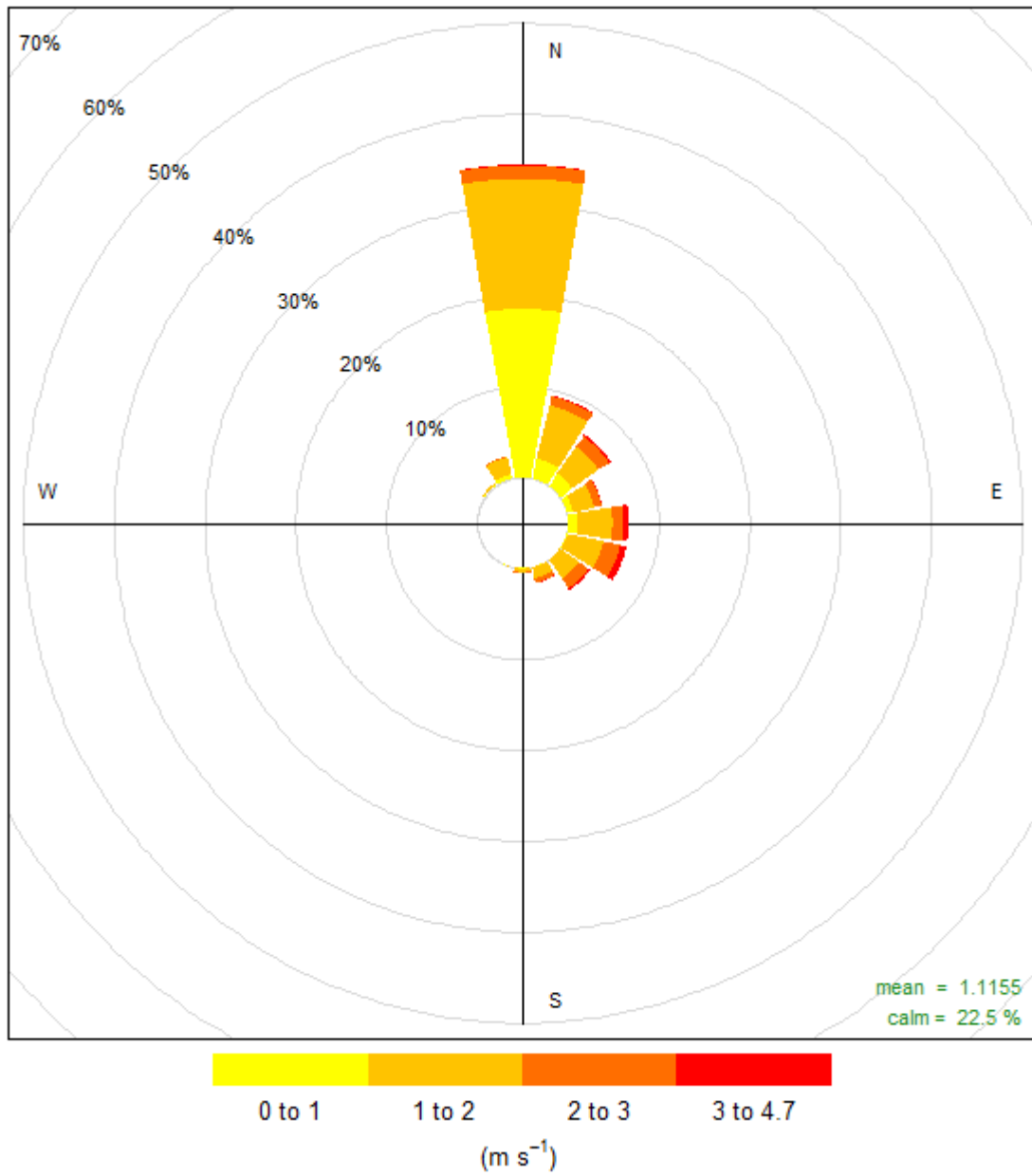
Table 2.1: TSI units - Measured Particulate Concentrations at 100 Avenue Road – Nephelometer monitoring location 1 and 2 for monitoring period 9 (1st March 2018 – 31st May 2018)

Parameter considered	PM ₁₀ monitoring location 1 – fence (µg/m ³)	PM ₁₀ monitoring location 2 – garden (µg/m ³)
Period Mean	36.9	68.7
Maximum Daily Average	248.5	541.1
Data Capture Rate (%)	88.3	96.1
Number of 15 min periods above 250 µg/m ³ limit	85	443
Number of days above the 50 µg/m ³ objective limit	18	37
Exceedance of the 40 µg/m ³ annual average objective in monitoring period? (Y/N)	No	Yes
Exceedance of the 40 µg/m ³ annual average objective in monitoring period? (Y/N)	No	Yes

2.2 Meteorological Monitoring

During the monitoring period presented in this report, from the 1st March 2018 to 31st May 2018, the meteorological monitoring station (installed at monitoring location 1) recorded that the winds were predominantly north to north-easterly, with an average wind speed of 1.1m/s. See the data graphically presented in the windrose in Figure 2.1.

Figure 2.1: Windrose for monitoring period 9 (Location 1)



3 CONCLUSIONS

Two nephelometers measuring particulate matter fractions have been installed at 100 Avenue Road, London as stipulated in Condition 24 of the planning permission issued to the proposed development.

This is the ninth of the reports which will be prepared throughout the proposed site works. The reports will be sent to LBC to discharge the abovementioned Condition 24. This report looks at the particulate and meteorological results for the period from 1st March 2018 to 31st May 2018.

This report contains data from TSI nephelometers for 1st March 2018 to 31st May 2018. There were 85 recorded exceedances of the 15-minute average $250\mu\text{g}/\text{m}^3$ PM_{10} recommended trigger level at monitoring location 1 and 443 monitoring location 2 with the TSI Nephelometer for the period 1st March 2018 to 31st May 2018.

There were 18 recorded exceedance of the $50\mu\text{g}/\text{m}^3$ daily mean PM_{10} objective at monitoring location 1 with the TSI Nephelometer for the period covered in this report. There were 37 recorded exceedances of the $50\mu\text{g}/\text{m}^3$ daily mean PM_{10} objective at monitoring location 2 with the TSI Nephelometer for the period covered in this report; 1st March 2018 to 31st May 2018.

It is understood that site works have not yet commenced and therefore any exceedances of the specified SATs at this time must be attributable to changes in baseline conditions, such that action to address the exceedances is not required.

It should be noted that, prior to the calibration visit undertaken on 15th May 2018, the flow rate on the Nephelometer at monitoring location 2 was below the recommended range at the inlet point, meaning that the results should be treated with caution. From 29th May 2018 onward, a further technical error was identified at monitoring location 2; a site visit is being arranged in mid June 2018.