

THEATRE SQUARE PROJECT ENVIRONMENTAL MONITORING REPORT

REPORT PREPARED BY JOHN F HUNT LTD

Report Reference:	032	Author:	Tom Seath
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Core Site Working Periods:	Weekdays – 08:00 hrs to 18:00 hrs Saturdays – 08:00 hrs to 13:00 hrs	Monitoring Period:	27.06.22-03.07.22

Environmental Monitoring Parameters

Parameter	Trigger (Amber)	Action (Red)
Noise Level	75 dB(A) Laeq 1hr	80 dB(A) Laeq 1hr
	70 dB (A) Laeq (08:00 – 18:00)	75 dB (A) Laeq (08:00 – 18:00)

Parameter	Trigger (Amber)	Action (Red)
Environmental Dust Units PM10	150ug/m ³ 15 min	250ug/m ³ 15 min

Noise Criteria

British Standard BS 5228-1:2009: 2014 Code of practice for noise and vibration control on construction and open sites – Part 1 Noise, provides guideline levels for assessing the effects of noise on humans. These guidelines are presented below in Table 3.1.1.

Table E.1 Example threshold of significant effect at dwellings

Assessment category and threshold value period (L_{Aeq})	Threshold value, in decibels (dB)		
	Category A ^{A)}	Category B ^{B)}	Category C ^{C)}
Night-time (23.00–07.00)	45	50	55
Evenings and weekends ^{D)}	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE 1 A significant effect has been deemed to occur if the total L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.

NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a significant effect is deemed to occur if the total L_{Aeq} noise level for the period increases by more than 3 dB due to construction activity.

NOTE 3 Applied to residential receptors only.

^{A)} Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

^{B)} Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

^{C)} Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

^{D)} 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

Table 3.1.1: Guidance on the effects of noise levels on human receptors inside buildings.

Receptor	Receptor Type	Site Action Level	
		LAeq 10hr dB(A)	
		Amber	Red
Residential Properties	Residential	70	75
Market	Commercial	70	75
Theatre	Commercial	70	75
Library	Commercial	70	75

Air Quality Criteria

Authority	Pollutant	Objective	Measured as	Relevance
EC/UK Air Quality Standard	PM10	250µg/m ³ . Exceeded < 35 times/annum	15-minute intervals	Air quality in relation to public health

Table 3.2.1: Environmental Dust Standards.

Measured levels exceeding 250µg/m³ are considered to represent a significant impact to the surrounding environment over a 15-minute mean. Therefore, it is important to assess any methods of work that represent a risk and implement dust suppression techniques accordingly.

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For the purposes of monitoring and managing dust levels from the site, Amber and Red site action levels have been adopted. An Amber site action level of $150\mu\text{g}/\text{m}^3$ will be used to provide early warning of dust levels which may result in complaints occupants from neighbouring buildings, while a Red site action level of $250\mu\text{g}/\text{m}^3$ has been adopted.

Receptor	Receptor Type	Site Action Level	
		15-minute Intervals Dust ($\mu\text{g}/\text{m}^3$)	
		Amber	Red
Residential Properties	Residential	150	250
Market	Commercial	150	250
Theatre	Commercial	150	250
Library	Commercial	150	250

Actions to be taken following site action level exceedance

Amber Exceedance

Where an Amber exceedance occurs due to site activity, the site manager will monitor site emissions relevant to the alert and where necessary review methods of working. The site manager will also assess whether remaining work could continue to exceed the Amber threshold and if so, modify working methods, where practicable.

Red Exceedance

Where a Red exceedance occurs due to site activity, the site manager will stop the relevant activity whilst alternative construction methodology options are investigated, and where practicable adopted. If effective remedial action is not obvious, the site will consider an alternative technique or additional mitigation measures.

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Average Noise Levels

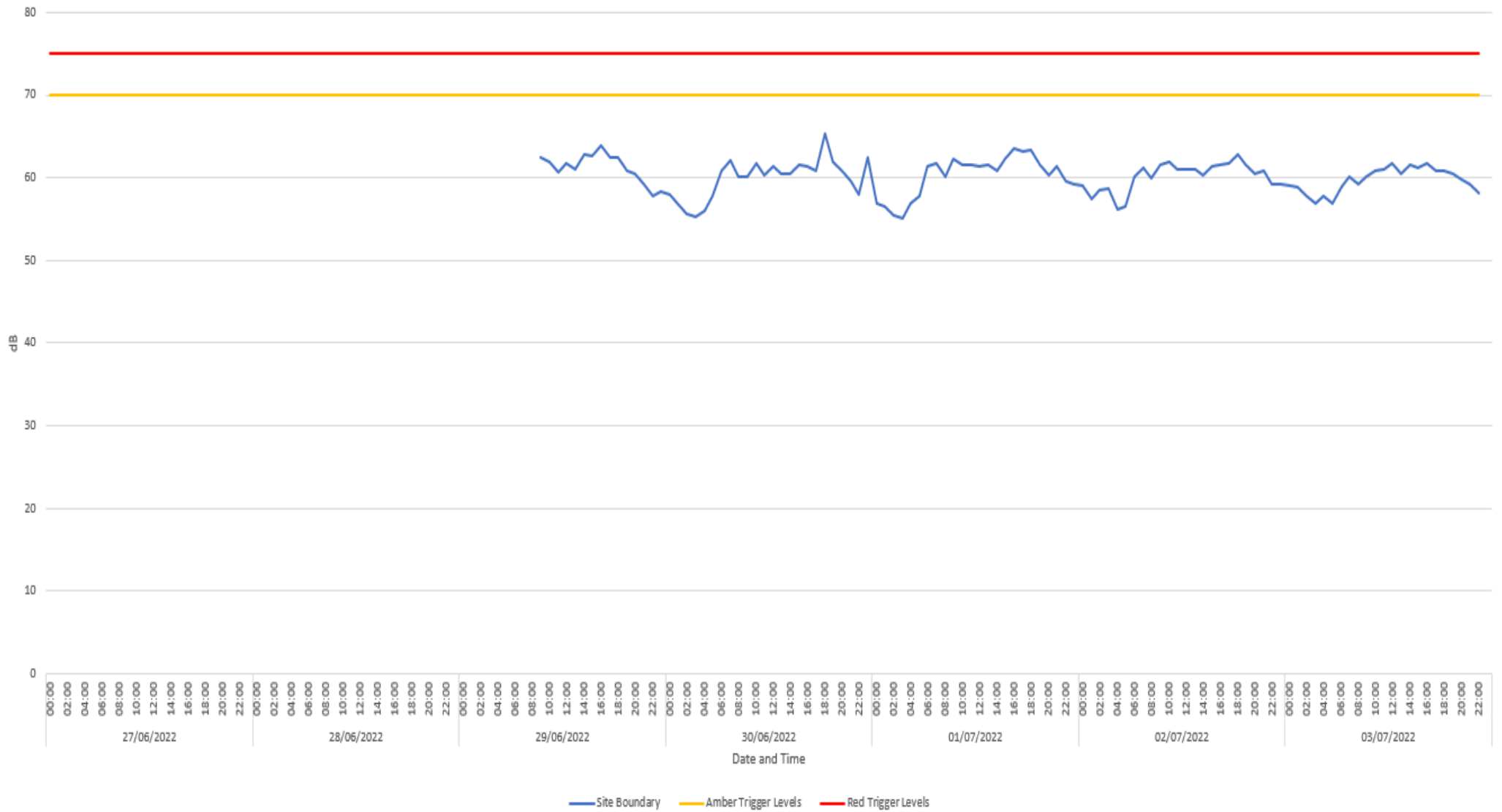


Figure 1. Noise Monitoring (27.06.22-03.07.22)

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Working Day Average

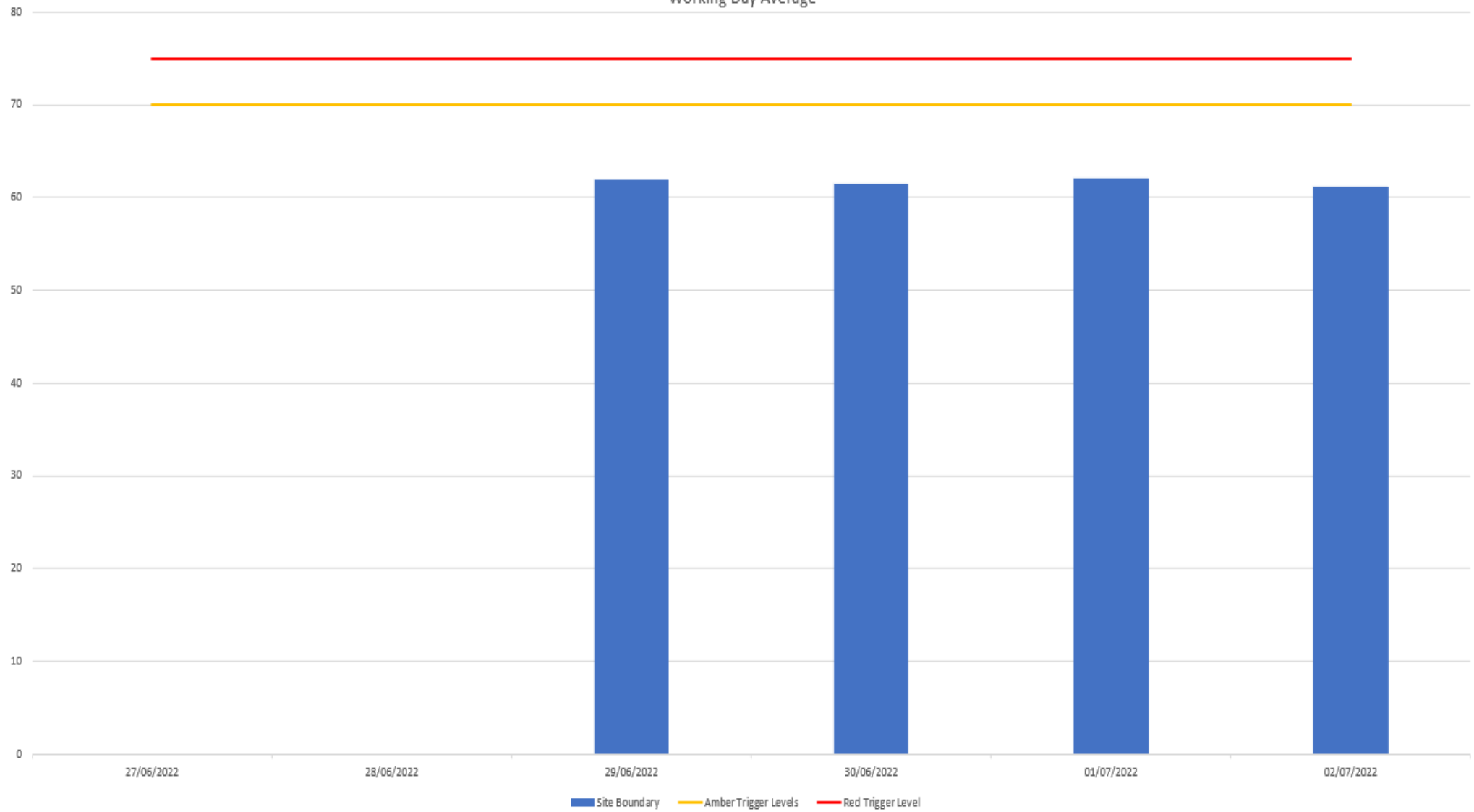


Figure 2. Noise Monitoring Working Hour Averages (27.06.22-03.07.22) – No exceedances.

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Average PM10 Levels

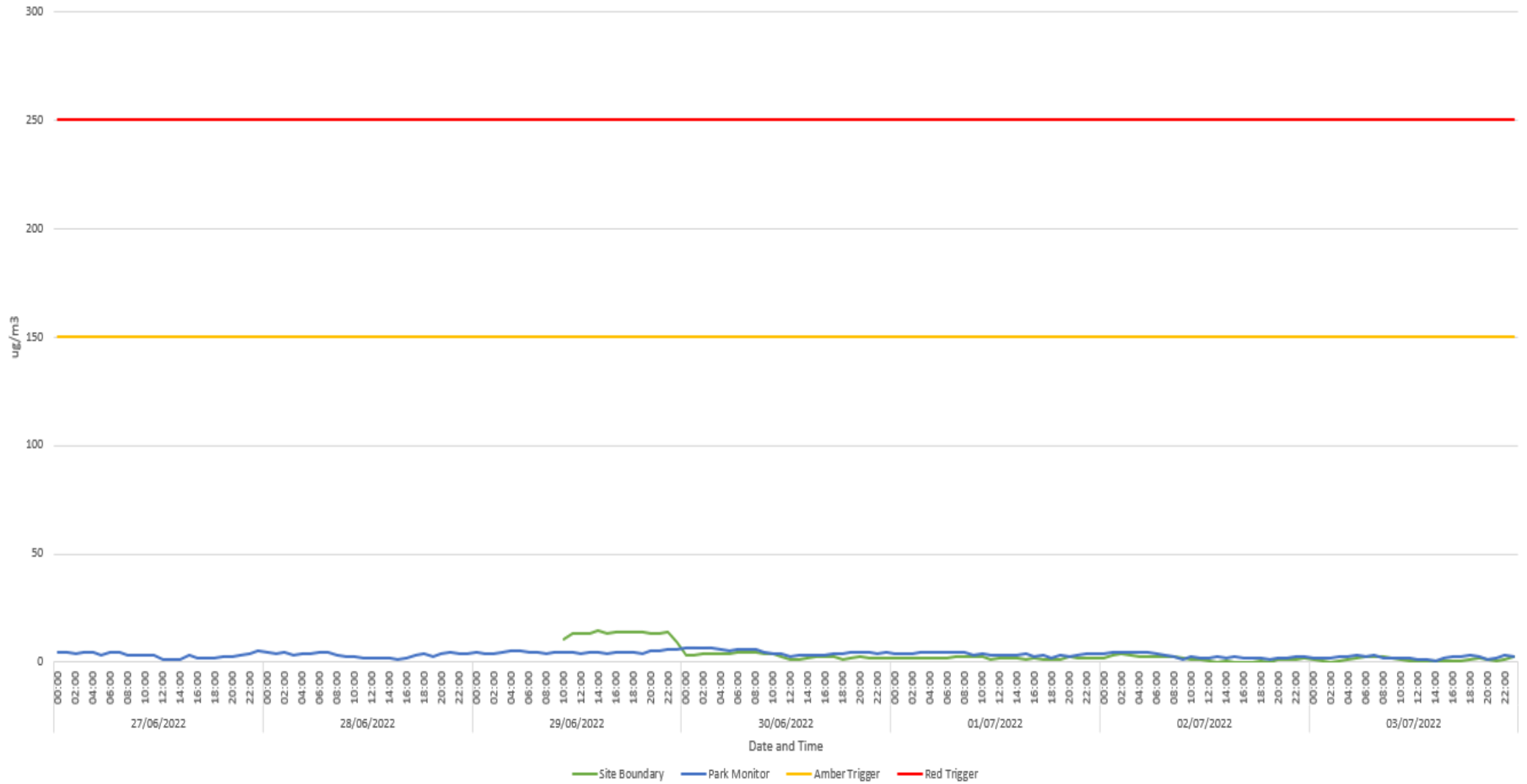


Figure 3. Dust Monitoring Averages (27.06.22-03.07.22) – No exceedances.