

Air Quality and Dust Monitoring Monthly Report – January 2021

Three Rivers District Council



Department for Transport

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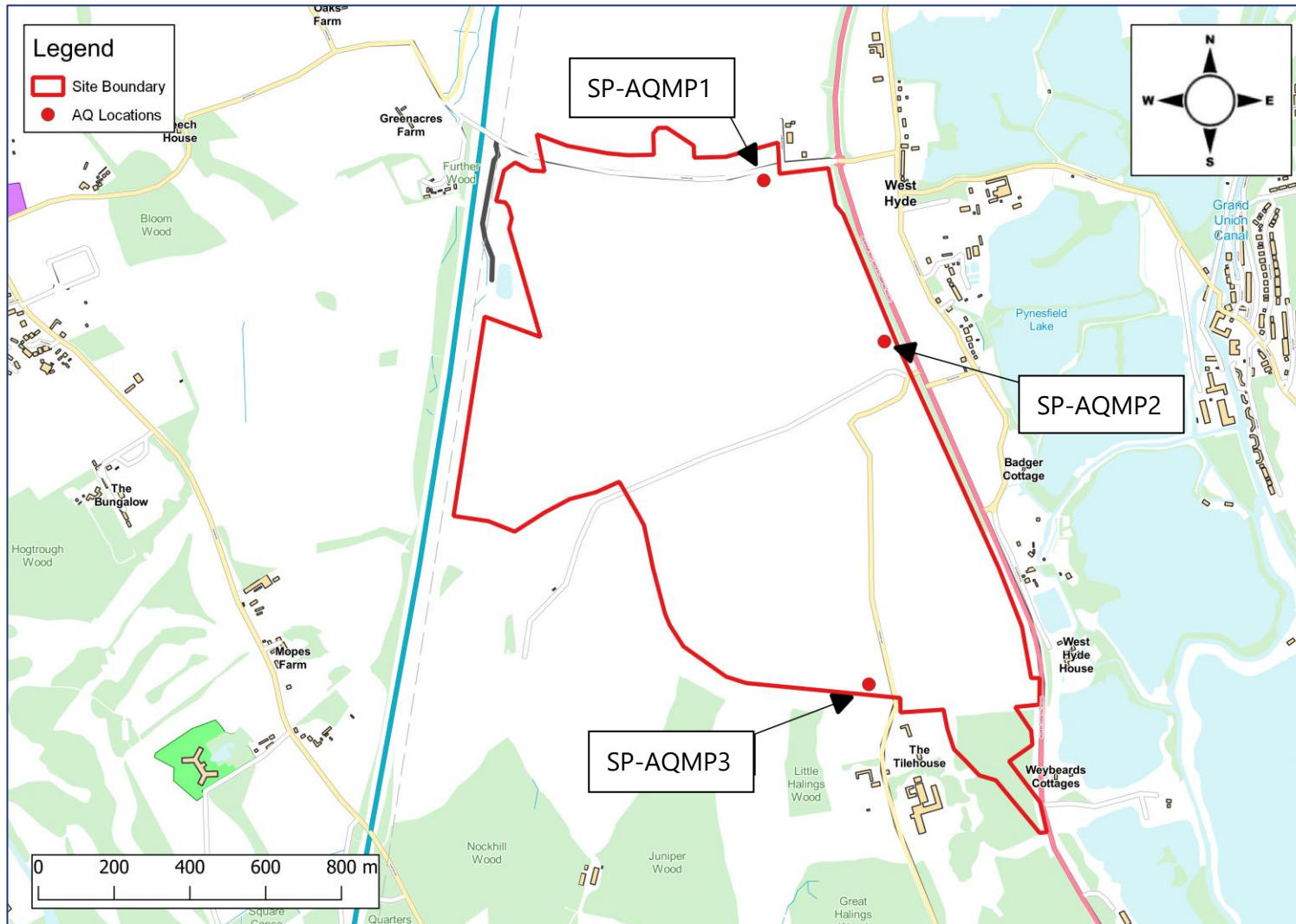
Monthly Summary

- 1.1.1 This Summary Report is published in fulfilment of commitments detailed in the High Speed Rail (London-West Midlands) Environmental Minimum Requirements, Annex 1: Code of Construction Practice, for the nominated undertaker to present the results of dust monitoring undertaken in the Three Rivers District Council (TRDC) area during January 2021.
- 1.1.2 Figure 1 in Appendix A indicates the current worksite together with the dust monitoring locations for January 2021.
- 1.1.3 This summary should be read in conjunction with the overview monitoring report available from www.gov.uk/government/collections/monitoring-the-environmental-effects-of-hs2, which highlights: the applicable standards and guidance, as well as the air quality and dust monitoring methodologies to be implemented by nominated undertakers throughout construction.
- 1.1.4 The current phase of works at the South Portal site commenced within TRDC in July 2017 and is currently ongoing. The South Portal site as presented in Appendix A, Figure 1, includes the following ongoing activities:
- General Plant: wheel washers, generators and site wide support plant;
 - Earthworks and Drainage: soil strip, excavate, filling, subgrade and ground stabilisation;
 - Road and Hardstanding: surfacing, grading and excavation;
 - Civils: platforms, accommodation and slabs, and removal of materials stored in SP10 (car park extension);
 - Superstructure;
 - I&M Installation: Tilehouse Lane cutting;
 - Tilehouse Lane Overbridge: Bridge beams and deck;
 - Stockpiling: INNS stockpile management and storage of excavated materials from CSP in SP10;
 - Chalfont Lane Establishment - Phase D & F Fencing and STP acid storage fencing;
 - Temporary Batching Plant; Batching aggregate & cement delivery and batching plant operation;
 - Batching Plant 1, 2 and 3: Installation of batching plant units, collection of concrete for D-wall activity at vent shaft sites and batching plant 2&3-deliveries and operation;
 - Site Installation: slurry treatment plant, TBM and factory fit-outs, tunnel boring machine and STP gantry installation;
 - Tunnel Amenities: A&B component grouting plant;
 - Tunnel Precast Factory: Factory NB2 production; and,
 - Shire Lane Culvert: Preparing Ground, Backfilling, Foundation slab, walls, roof slab, wing walls and transition.
- 1.1.5 Three (3) dust monitors are installed around the worksite, where earthworks, construction and trackout activities are underway. This site returned a medium dust risk rating.

- 1.1.6 Dust monitoring locations and results for January 2021 are presented in Appendix B, Table 1, together with a line chart of monthly data from each dust monitor, presented in Figures 2, 3 and 4. All continuous dust monitoring is undertaken using indicative monitors. Despite being Environment Agency (MCERTS) certified, indicative monitors carry a higher level of uncertainty than reference monitors, and therefore cannot be strictly compared with Air Quality Standards for human health and the environment. The purpose of the monitoring undertaken is to ensure the effectiveness of the on-site mitigation.
- 1.1.7 The trigger level for PM₁₀ concentrations of 190 µg/m³, measured as a 1-hour mean, in accordance with the updated guidance document '*Guidance on Monitoring in the Vicinity of Demolition and Construction Sites – (October 2018)*' has been applied.
- 1.1.8 There were five (5) dust trigger alerts recorded during the monitoring period (January 2021). Exceedances are presented in Appendix B, Table 2.
- 1.1.9 Data capture for monitors SP-AQMP1, SP-AQMP2 and SP-AQMP3 was below 90% for the month of January 2021. Missing data was due to technical issues and/or loss of power due to renewable energy power loss (insufficient sunlight/wind). Technical issues have been or are in the process of being resolved and an alternative power source is being explored to resolve the intermittent solar power issues. These three dust monitors were installed between the 05/01/2021 and the 07/01/2021, so data is not available prior to these dates.
- 1.1.10 There were no (0) complaints, relating to dust or air quality, received during this reporting period (January 2021).

Appendix A – Worksite and Dust Monitoring Locations

Figure 1: Three Rivers District Council Worksites and Monitoring locations during January 2021



Appendix B – Dust Monitoring Results

Table 1: Dust monitoring locations and January 2021 Results

Monitoring site ID	Coordinates (X,Y)	Location description	Dust risk rating for site	Monitoring site active during period	Change to site since previous period report	Mean 1-hour PM ₁₀ concentration (µg/m ³)	Minimum 1-hour PM ₁₀ concentration (µg/m ³)	Maximum 1-hour PM ₁₀ concentration (µg/m ³)	Number of 1-hour periods exceeding trigger level of 190 µg/m ³	Data capture (%)
SP-AQMP1	502885, 191488	On the northern boundary of the site at Chalfont Lane	M	Yes	Yes	9.6	1.0	67.5	0	77
SP-AQMP2	503209, 190991	On the eastern boundary of the site at Denham Way	M	Yes	Yes	17.4	1.0	646.0	5	44
SP-AQMP3	503154, 190062	On the southern boundary of the site at Tilehouse Lane	M	Yes	Yes	8.3	0.3	36.7	0	57

Table 2: Summary of exceedances during period (January 2021)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
SP-AQMP2	22/01/2021 00:01 - 01:00: 285 µg/m ³	On investigation, the trigger alerts are likely due to wind whipping of nearby (within 3m) loose earth mounds and monitor being located immediately beside site-vehicle haul route.	Concentrations at this monitor are to be closely monitored, and good housekeeping measures (in line with the Code of Construction Practice) continue to be implemented across all works.
	24/01/2021 06:01 - 08:00: 646 µg/m ³ (x2)		
	26/01/2021 09:01 - 10:00: 205 µg/m ³		
	27/01/2021 01:01 - 02:00: 470 µg/m ³		

Figure 2: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP1 for January 2021

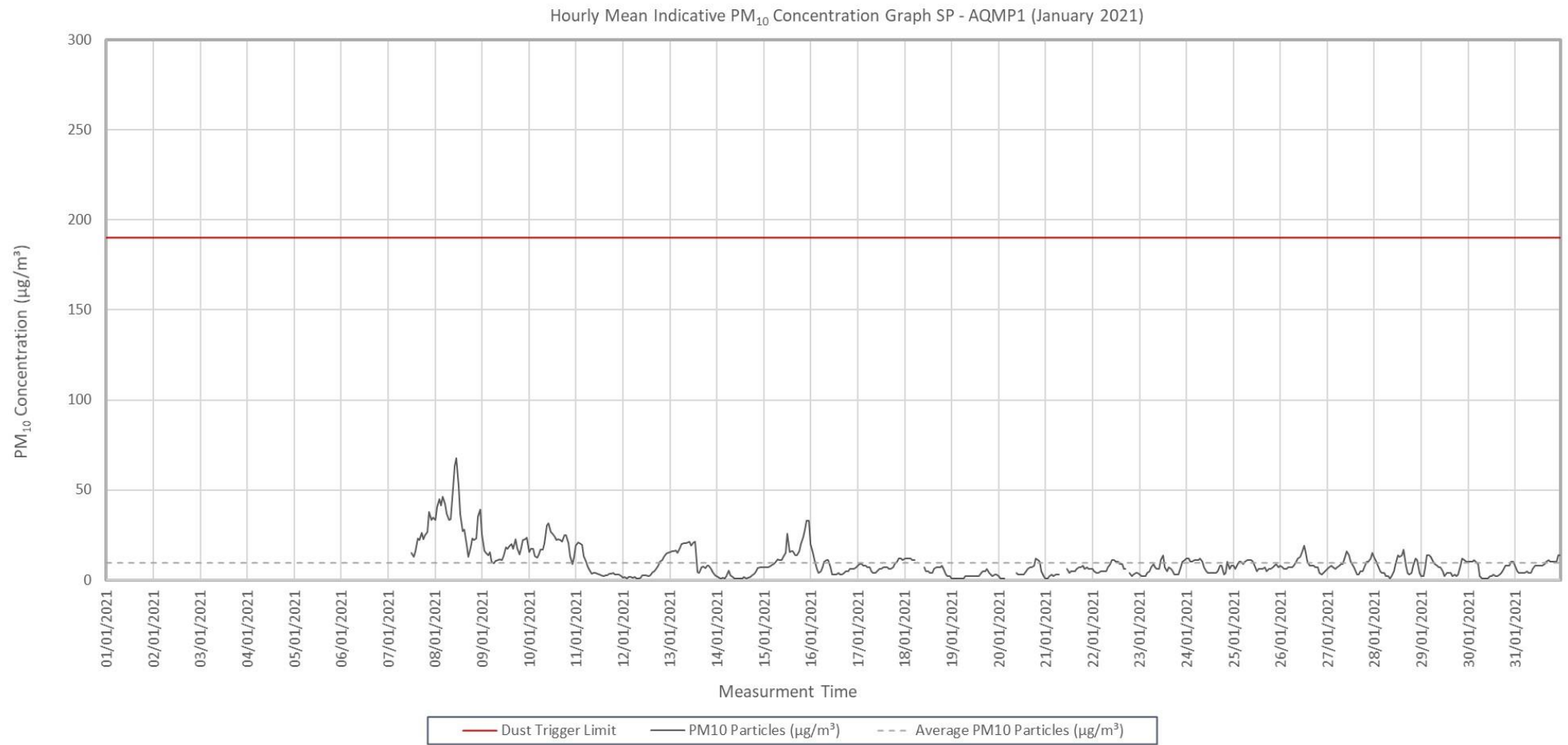


Figure 3: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP2 for January 2021

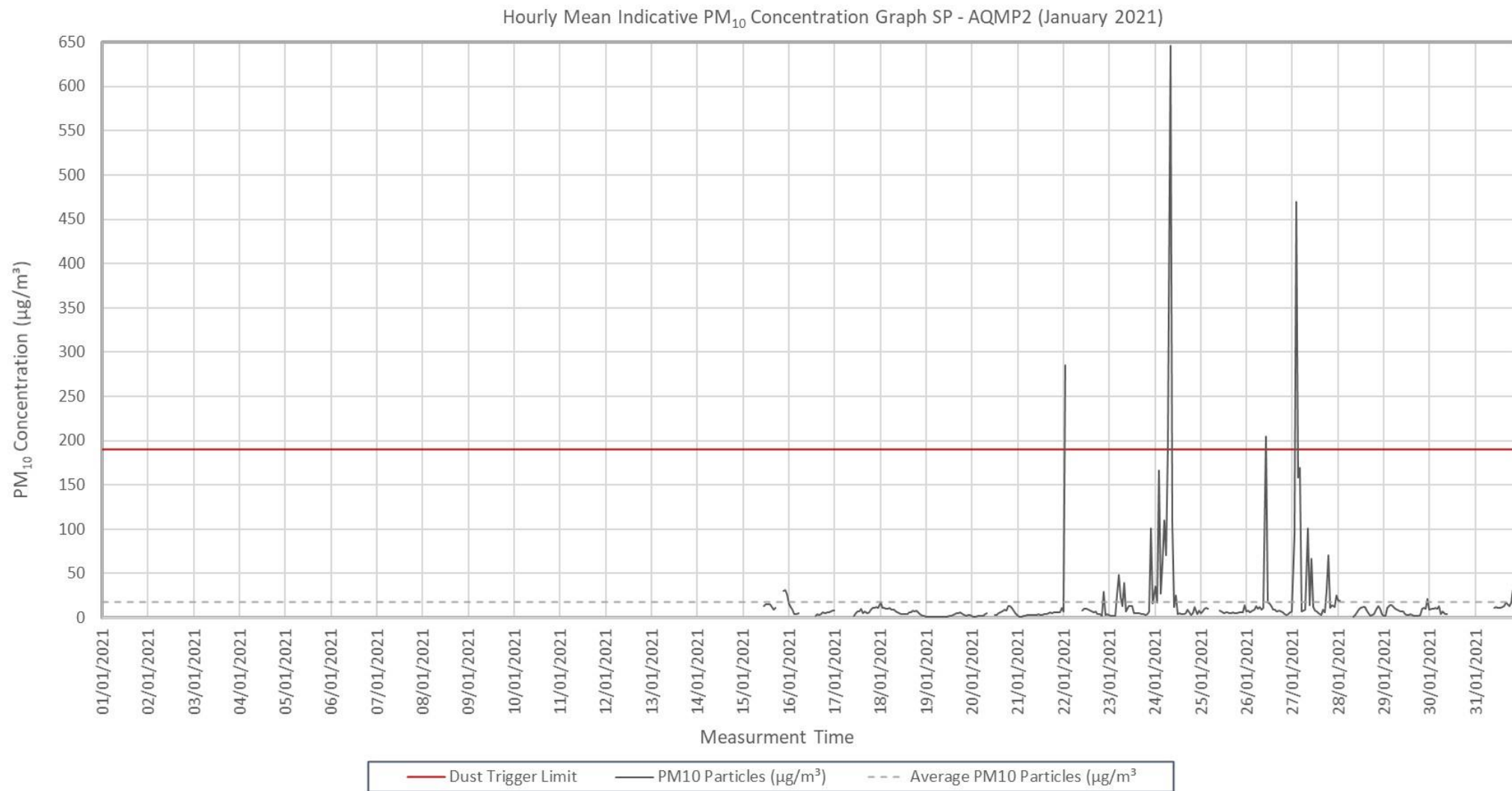


Figure 4: Continuous dust 1-hour mean indicative PM₁₀ concentration for SP-AQMP3 for January 2021

