

## **Air Quality and Dust Monitoring Monthly Report – June 2020**

**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 Three Rivers District Council (TRDC) during June 2020.
- 1.1.2 Figure 1 in Appendix A indicates the current worksite together with the dust monitoring locations for June 2020.
- 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](http://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 commenced within TRDC in July 2017 and is expected to be completed by mid-August 2020. The current worksite at the Chiltern Tunnel South Portal Compound is presented in Appendix A, Figure 1. During the month of June, the following activities took place:
- Ongoing works at the South Cutting, which include: soil nailing, viaduct precast and backfilling, soil treatment, stripping works, drilling and grouting, canopy tubes and associated earthworks – anticipated completion date of mid-July 2020;
  - Ongoing works at the West Hyde Embankment, which include: drilling and grouting - anticipated completion date of mid-August 2020;
  - Ongoing superstructures work include: Main office, canteen, cabin, induction centre and general warehouse installation, miscellaneous indoor works, water storage tank and water treatment plant installation (started 29/06);
  - Ongoing civil works include: Drainage of surface and foul water pipework and manholes, ducting and chambers, watermain and valves, RC foundations, bar, slab and wall form work installation, concrete roads, batching plant, slip forming pavement and hand lay pavement; and
  - Other ongoing works include grout block: drilling and grouting - anticipated completion date of mid-August 2020.
- 1.1.5 Two (2) dust monitors are installed around the worksite, where earthworks, construction and trackout activities are underway. These sites returned a medium dust risk rating (for works currently active on site).
- 1.1.6 Dust monitoring locations and results are presented in Appendix B, Table 2, together with a line chart of monthly data from each dust monitor presented in Figures 2 and 3. 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 mitigations.

- 1.1.7 The trigger level for PM<sub>10</sub> concentrations of 190 µg/m<sup>3</sup>, over a 1-hour period, 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 four (4) dust trigger alerts recorded at SP-AQMP1-TRDC and six (6) dust trigger alerts recorded at SP-AQMP2-TRDC during the June 2020 monitoring period. Details of the trigger alert investigations and remediations are presented in Appendix B, Table 3.
- 1.1.9 Data capture was below 90% for SP-AQMP2-TRDC for the month of June 2020. This was due to a damaged power cable and as a result no data was recorded between the 14/06/20 and the 24/06/20. The cable was replaced and monitoring resumed.
- 1.1.10 Table 1 provides a summary of the complaint information related to dust or air quality received during the reporting period (June 2020), together with the findings of any related investigations.

Table 1: Summary of complaints received during June 2020 in TRDC

Complaint Reference No.	Worksite Reference	Description of complaint	Results of investigation
HS2-20-40103-C	Chiltern Tunnel South Portal Compound	A complaint around dust settling on property in and around West Hyde was received on 2 <sup>nd</sup> June 2020.	A response was provided highlighting the mitigation measures applied across HS2 sites to control dust. In particular the south portal site has four Bowsers currently being deployed on site on during all works to ensure that areas identified as a source of airborne dust are watered down immediately. Speed limits of 10 mph on any unsurfaced roads within the site – these roads are also supervised by traffic marshalls. We will look to reduce the speed limits further if weather conditions are likely to worsen air quality. Damping down of works areas identified as potential sources of dust before and during works – the need for this this is assessed before any works begin.

# Appendix A –Monitoring Locations

Figure 1: Worksites and Monitoring locations during June 2020



## Appendix B – Dust Monitoring Results

Table 2: Dust monitoring locations and June 2020 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 <sub>10</sub> concentration (µg/m <sup>3</sup> )	Minimum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Maximum 1-hour PM <sub>10</sub> concentration (µg/m <sup>3</sup> )	Number of 1-hour periods exceeding trigger level of 190 µg/m <sup>3</sup>	Data capture (%)
SP-AQMP1-TRDC	502885, 191488	On the northern boundary of the site with Chalfont Lane	M	Yes	Yes	12.5	1.5	494.6	4	98
SP-AQMP2-TRDC	502872, 190833	On the southern boundary of the site with Denham Way	M	Yes	Yes	21.8	2.0	360.0	6	66

Table 3: Summary of exceedances during period (June 2020)

Monitoring Site ID	Period of trigger alert & Concentration recorded	Investigation	Outcomes / Resolution / Remedial measures implemented
SP-AQMP2-TRDC	<u>02/06/2020</u> 11:01 - 12:00: 238.0 µg/m <sup>3</sup>	During the trigger alerts, there were two activities ongoing in proximity to the dust monitor. These activities are note attributable to ALIGN works, and included: <ul style="list-style-type: none"> <li>Drainage works at gate 6 and septic tank excavation taking place; and</li> <li>Dust released from the concrete site road on which type 1 aggregate is stored, following excavator vehicle movements.</li> </ul>	The concrete road was dampened down following the trigger alerts and again during the morning of the next day (03/06) to prevent further trigger alerts.  With the current hot and dry weather being experienced, additional attention to ensuring good housekeeping measures are in place across the site in line with the Code of Construction Practice.
SP-AQMP2-TRDC	<u>02/06/2020</u> 12:01 - 13:00: 223.7 µg/m <sup>3</sup>		
SP-AQMP2-TRDC	<u>02/06/2020</u> 15:01 - 16:00: 261.0 µg/m <sup>3</sup>		
SP-AQMP1-TRDC	<u>05/06/2020</u> 13:01 - 14:00: 198.2 µg/m <sup>3</sup>	At the time of the trigger alerts, stripping of low-lying topsoil/grass and the creation of platform made up of type 1 aggregate was underway.	Dust suppression continued to be deployed, and works were completed when the second trigger alert was received.

SP-AQMP1-TRDC	<u>05/06/2020</u> 15:01 - 16:00: 233.2 µg/m <sup>3</sup>	These activities were taking place in close proximity to the monitor at approximately 10 m away. No dust plumes were visible on site and dust suppression was in place.	Contractors again reminded of the importance of good housekeeping measures and dust suppression techniques during this dryer period.
SP-AQMP1-TRDC	<u>26/06/2020</u> 13:01 - 14:00: 408.4 µg/m <sup>3</sup>	Platform creation works are taking place close to the monitor, involving lime stabilisation works which is the likely cause of exceedance.  To avoid future exceedances, it has been agreed that the Wirgen mixer, which is an integrated machine which can spread and mix simultaneously, will be utilised in this area. The usual method is to dump lime and cultivate it in using the mixer on a different setting. This proposed method will be slower but creates less dust.	Immediate remedial measure was to allocate the tractor with the water bowser to the area shortly after the exceedance, to dampen down and minimise dust release.
SP-AQMP2-TRDC	<u>26/06/2020</u> 14:01 - 15:00: 229.0 µg/m <sup>3</sup>	Haul road in use, with vehicles passing in close proximity to the monitor.	Immediate remedial measure was dampening down the Haul road to minimise dust release, however steep sections of the haul road are not damped down as this may cause vehicles to lose traction with the road, posing health and safety risks to site personnel.
SP-AQMP2-TRDC	<u>26/06/2020</u> 15:01 - 16:00: 360.0 µg/m <sup>3</sup>	Dust suppression is being carried out as and when required for Tilehouse Lane Cutting. A speed limit of 7 mph in the immediate location is controlled by a Traffic Marshal.	
SP-AQMP2-TRDC	<u>26/06/2020</u> 16:01 - 17:00: 198.3 µg/m <sup>3</sup>	The quarry road is still being used by the quarry, ALIGN are damping down the crossing point.  To avoid future exceedances, Align will look at damping down more of the road.	
SP-AQMP1-TRDC	<u>30/06/2020</u> 08:01 - 09:00: 494.6 µg/m <sup>3</sup>	The new method involving the Wirgen mixer, which is an integrated machine which can spread and mix simultaneously, is now being utilised in this area for the platform stabilisation works.  However, the plant is currently operating less than 1m from the Air Quality Monitor.  The area was already dampened down as a result of the ongoing rain.	Works were stopped after the trigger alert was received, however due to the proximity of the monitor to the works and that the rainfall received had dampened down the area, no further action was taken.  Works were slowly recommenced, and no further trigger alerts have been received.

		For the stabilisation method to work, the area is not able to be saturated any further prior to or during stabilisation, limiting the amount of damping down possible in the area.	
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Figure 2: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for SP-AQMP1-TRDC for June 2020

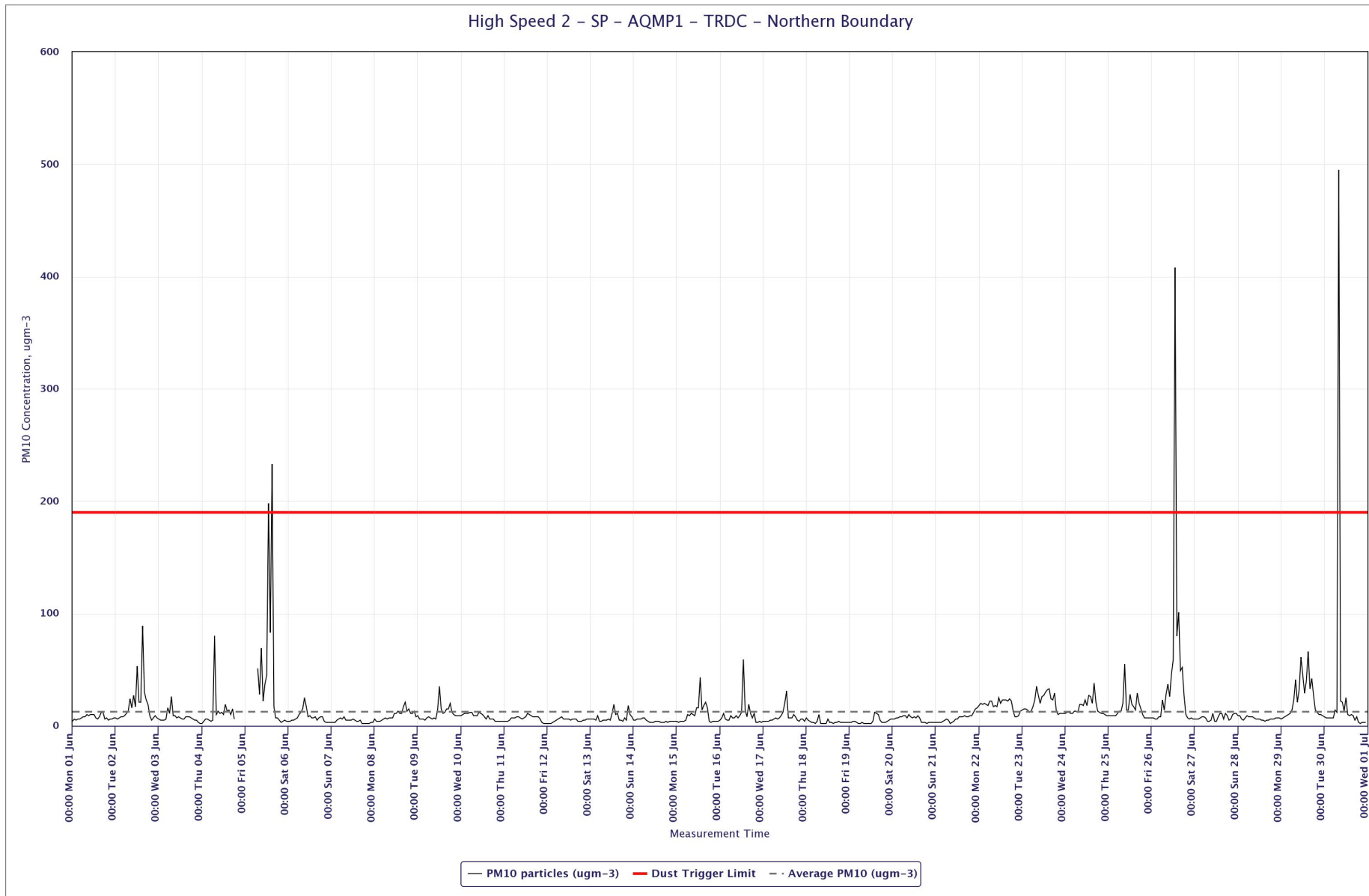


Figure 3: Continuous dust 1-hour mean indicative PM<sub>10</sub> concentration for SP-AQMP2-TRDC for June 2020

