

TOWN & COUNTRY PLANNING ACT 1990 (AS AMENDED)

**PLANNING APPEAL
BY
WAIN HOMES (NORTH WEST) LIMITED**

**AGAINST THE REFUSAL OF FULL PLANNING PERMISSION
BY HIGH PEAK BOROUGH COUNCIL
FOR A RESIDENTIAL DEVELOPMENT OF LAND AT DINTING VALE,
DINTING, GLOSSOP, DERBYSHIRE**

**PROOF OF EVIDENCE (AIR QUALITY)
FOR
ELIZABETH WHITTALL**

20/05/2024

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1. Introduction

- 1.1 This Proof of Evidence is submitted to the Inquiry in relation to air quality issues associated with the refusal of the planning application for the Land at Dinting Vale, Dinting in Glossop, Derbyshire (planning reference HPK/2022/0456).
- 1.2 Wain Homes (North West) Ltd has applied for planning permission for: *“Proposed residential development comprising 92 dwellings including areas of public open space, landscaping and associated works.”*
- 1.3 In the Decision Notice, the High Peak Borough Council refused the planning application on the grounds of four reasons. This Proof of Evidence is specifically in relation to Refusal Reason 1, which states: *“The A57 Dinting Vale is already designated as an Air Quality Management Area (AQMA) and there is potential for the level of air pollution in the area to be further increased due to increased traffic levels, leading to concerns around the impact on health of people, in particular children, in the area. Whilst it is acknowledged that the developer proposes Section 106 Contributions towards Air Quality Monitoring in the area and sustainable travel feasibility studies, this will not mitigate the actual impact of the development. As such the proposal is contrary to Policy EQ10 of the adopted High Peak Local Plan 2016 and the NPPF.”*
- 1.4 A resolution of the Council's Development Control Committee on 22nd April 2024 determined that the Council will offer no evidence at Inquiry in relation to Refusal Reason 1 subject to the scheme incorporating good practice measures with regard to air quality in the form of the submitted Travel Plan (**Document 2.36**), as well as the agreed Section 106 contribution, as detailed in the Statement of Common Ground.
- 1.5 This Proof of Evidence therefore focuses on the objections raised by third parties.

2. Qualifications and Experience

- 2.1 I am employed by Royal HaskoningDHV as a Senior Environmental Consultant in the UK company's Environment, Renewables and Resilience Advisory Group. The company is an independent, international engineering and environmental

consultancy, with around 6,000 staff in offices based in 30 countries. There are around 600 staff in the UK, and I have been employed in a consultancy role for nearly 3 years. My specialism is in air quality management, emissions impact assessment and atmospheric dispersion modelling. I provide services to clients in Environmental Impact Assessment (EIA), development consenting, compliance and due diligence.

- 2.2 I have a Bachelor of Science Honours Degree in Biology. I am an Associate Member of the Institute of Air Quality Management and of the Institution of Environmental Sciences.
- 2.3 Prior to my current role I was employed as an Environmental Consultant for 4 years at IDOM which is an independent, international engineering, architecture and environmental consultancy. Whilst there I completed air quality impact assessments for a wide range of developments including large scale residential, industrial and mixed-use schemes.
- 2.4 My current project work as a Senior Environmental Consultant includes the delivery of several air quality chapters for inclusion in Environmental Statements for Nationally Significant Infrastructure Projects. The projects entail detailed air pollutant emissions modelling from road transport and regular stakeholder engagement.

3. Scope of Evidence

3.1 This Proof of Evidence provides responses to third party objections to the proposed development made on air quality grounds. The evidence draws on information provided in the air quality impact assessments and the subsequent air quality technical note prepared by Royal HaskoningDHV which is the evidence considered by High Peak Borough Council in reaching their resolution on 27th October 2023.

3.2 Following submission of the air quality impact assessment which formed part of the submitted planning application, High Peak Borough Council requested the consideration of the effect of the proposed A57 link road scheme on traffic levels within the study area. A revised air quality assessment was therefore submitted which included a detailed assessment of the impact of project generated road traffic emissions in the event the A57 link road scheme was given consent. Following this, High Peak Borough Council requested further clarification of the assessment methodology, in response to which Royal HaskoningDHV prepared a technical note. Subsequently, High Peak Borough Council Environmental Health Officer agreed with the findings of the assessment.

3.3 The relevant documents described above are:

- Air Quality Assessment, Royal HaskoningDHV, Report Reference: PC2304-RHD-ZZ-XX-RP-Z-0001, 10 August 2022.
- Revised Air Quality Assessment, Royal HaskoningDHV, Report Reference: PC4629-RHD-ZZ-XX-RP-Z-0001, 28 February 2023 (**Document 2.10**).
- Air Quality Assessment Technical Note, Royal HaskoningDHV, Report Reference: PC4629-RHD-ZZ-XX-ME-Z-0001, 03 August 2023 (**Document 2.35**).

4. Review of and responses to matters raised by third parties

4.1 A number of objections were made by members of the general public on air quality grounds. I have reviewed all these objections and have categorised them into five main areas of concern. These are as follows:

- Concern 1 - Dinting Vale Air Quality Management Area (AQMA): Most of the objections raised had concerns regarding the impact of the proposed development on levels of air pollution within the Dinting Vale AQMA.
- Concern 2 - Dinting Church of England Primary School: Concerns were raised on the impact of the proposed development on air pollution levels experienced by children at the Dinting Church of England Primary School.
- Concern 3 – Traffic emissions from increased congestion: There are concerns that the proposed development will increase congestion along the A57 Dinting Vale and therefore increase pollutant emissions from idling vehicles.
- Concern 4 – Air quality monitoring data relied upon for the assessment: A few of the third party objections raised concerns with the monitoring data relied upon for the air quality assessment.
- Concern 5 – Mitigation: The general public are concerned that the mitigation included within the design of proposed development is not sufficient to mitigate the impact of the project. Mitigation includes the measures within the Travel Plan (**Document 2.36**) and the Section 106 contribution.

4.2 A response has been provided below to each of the concern areas. All third party objections are summarised in Appendix 1 along with the relevant response(s) to the concerns raised.

Response to Concern 1 - Dinting Vale AQMA

- 4.3 The proposed development is not located within an AQMA. However, Dinting Vale (A57), the road adjacent to the proposed development, was declared an AQMA in 2019 in respect of annual mean concentrations of nitrogen dioxide (NO₂) and road traffic accessing the proposed development would use this route.
- 4.4 The assessment of the air quality impact of traffic exhaust emissions considered the impact of the development on public exposure within Dinting Vale AQMA. The assessment considered 10 sensitive receptor locations in total, six of which were located within Dinting Vale AQMA, these are shown on Figure 4-1 of the Revised Air Quality Assessment (**Document 2.10**). A receptor is defined as a location of representative public exposure within the study area and these were selected where existing air pollutant concentrations were greatest and/or where the greatest changes would be predicted.
- 4.5 The assessment considered the impact of the proposed development on air quality in the opening year of the development (2026). At the time of undertaking the assessment, the Mottram Bypass (A57 Link Road scheme) had been granted a Development Consent Order but was the subject of a Judicial Review, which inevitably leads to some uncertainty over the scheme being provided. As the A57 Link Road scheme is predicted to impact traffic flows through the study area, the assessment considered the opening year scenario both with and without the A57 Link Road in operation.
- 4.6 The assessment was carried out in accordance with accepted technical guidance published by Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM), 'Land Use Planning and Development Control: Planning for Air Quality', 2017 ('the EPUK & IAQM Guidance'). The EPUK & IAQM Guidance is widely applied in air quality assessment of development, was produced for the purposes of assessment of air quality effects of infrastructure development, and the methodology was accepted by High Peak Borough Council.

- 4.7 The EPUK & IAQM Guidance sets out an approach for the consideration of the change in air quality, which is predicted to occur at a sensitive receptor, in the context of the existing absolute air pollutant concentration at that location. Therefore, where higher pollutant concentrations are experienced at a location of public exposure, a more critical impact significance is applied, as described in Table 3-5 of the Revised Air Quality Assessment (**Document 2.10**).
- 4.8 Detailed modelling was undertaken to assess how vehicle emissions would disperse and what the level of impact would be on local receptors. In consultation with High Peak Borough Council the approach and method were agreed with the applicant.
- 4.9 The key emissions from road transport are nitrogen dioxide (NO₂) and fine particulate matter (expressed as the PM₁₀ and PM_{2.5} size fractions), as these are the air pollutants which are most likely to reach or exceed health-based standards.
- 4.10 The air quality assessment demonstrated that predicted annual mean concentrations of NO₂, PM₁₀ and PM_{2.5} would be below the UK Government's prescribed Objectives both in the existing baseline situation (2019) and with the development fully occupied (2026) at all modelled human receptor locations. Based on the magnitude of change in modelled concentrations, a 'negligible' impact was predicted at all receptor locations, in accordance with the accepted guidance (EPUK & IAQM Guidance). This includes residential properties and Dinting Church of England School located within Dinting Vale AQMA.
- 4.11 The assessment therefore determined the effect of the proposed development on local air quality, including that within Dinting Vale AQMA, as not significant.
- 4.12 The assessment was also based on a conservative approach as the provided traffic data were based upon a quantum of development of 111 residential units, instead of the proposed 92. The trip generation figures used within the assessment are therefore robust and the assessment is considered a reasonable 'worst-case'.

- 4.13 The proposed development is therefore not predicted to cause local residents or school children located within Dinting Vale AQMA to experience pollutant concentrations in exceedance of the UK Government's prescribed Objectives. These are human health-based benchmarks established to protect the general population and accounting for the young, the elderly and those susceptible to respiratory conditions.
- 4.14 In addition, High Peak Borough Council undertake ambient air quality monitoring using NO₂ diffusion tubes within the air quality assessment study area, which includes Dinting Vale AQMA. Since the air quality assessments were published, diffusion tube monitoring data for 2022 have now been published by High Peak Borough Council. Monitoring data from the assessment study area is included in Table 1.

Table 1: High Peak Borough Council's NO₂ Monitoring Data within the Assessment Study Area (2017 – 2022)

Diffusion Tube ID	Location	Site Type	Annual Mean NO ₂ – Monitored Concentration (µg m ⁻³)					
			2017	2018	2019	2020	2021	2022
HP21*	Dinting School (A57)	Roadside	44.4	41.3	38.9	29.3	32.4	29.8
HP22*	236 High Street West, Glossop (A57)	Roadside	37.2	33.6	31.3	24.7	26.4	25.7
HP25*	Dinting Vale / Glossop Road (West Bound)	Kerbside	-	53.6	46.3	36.1	36.6	37.6
HP51	21/25 Dinting Vale (A57)	Roadside	-	-	-	-	29.8	29.3
HP52	9 Dinting Vale (A57)	Roadside	-	-	-	-	26.0	25.1
HP53	6 Dinting Vale (A57)	Kerbside	-	-	-	-	33.2	32.2
* Diffusion tubes are located in duplicate								

4.15 The monitoring results included in Table 1 show that the annual mean NO₂ Objective of 40 µg m⁻³ was exceeded at two locations until 2019, which is consistent with the AQMA designation. However, since 2019, the annual mean NO₂ concentrations have dropped below the UK Air Quality Objective of 40 µg m⁻³ at all monitoring sites.

4.16 Whilst monitoring data from 2020 and 2021 should be treated with caution due to the significant impact Covid-19 pandemic had on traffic levels, it is clear from

the 2022 monitoring results that pollutant concentrations continue to decline and remain below the UK Air Quality Objective for NO₂ within Dinting Vale AQMA.

- 4.17 The highest annual mean concentration of NO₂ recorded in 2022 within the AQMA was 37.6 µg m⁻³ recorded at diffusion tube HP25. This diffusion tube is located on a lamp post within 1m of the junction between the A57 and Glossop Road. As air pollutant concentrations reduce with distance from the roadside, this monitoring site does not therefore represent relevant residential public exposure.
- 4.18 The monitoring data provided by High Peak Borough Council provides further evidence that the public are not currently exposed to unacceptable levels of pollution.
- 4.19 Reference has also been made to Defra’s background mapping data which contains estimates for pollutant concentrations from 2018 to 2023 (Defra, 2018). Table 2 includes the background map concentrations predicted for the proposed development site for the earliest year the maps are available (2018), the year assessment was completed (2023), and the opening year of the proposed development (2026).

Table 2: Predicted Annual Mean Background Map Concentrations for Grid Square 401500, 394500

Pollutant	Annual Mean Concentration (µg m ⁻³)		
	2018	2023	2026
NO ₂	9.86	8.51	7.72
PM ₁₀	9.78	9.29	9.08
PM _{2.5}	6.58	6.21	6.05

- 4.20 The predicted background concentrations of NO₂, PM₁₀ and PM_{2.5} at the Proposed Development are ‘well below’ (less than 75% of) their respective annual mean air quality Objective for all years reviewed and demonstrates pollutant concentrations are predicted to continue to decline into the future.

4.21 As pollutant emissions are predicted to decline into the future, a trend supported by the monitoring data, it is considered pollutant concentrations within Dinting Vale AQMA will be well below the UK Government's benchmarks when the proposed development is fully built out in 2026.

Concern 2: Pollutant concentrations at Dinting Church of England Primary School

4.22 In response to Concern 2, air quality, specifically in the locality of Dinting Church of England Primary School, annual mean NO₂ levels are below 75% of the UK Government's Objective for this pollutant in 2022. The monitoring data included in Table 1 shows there is a declining trend in pollutant concentrations since 2017 at diffusion tube HP21 which is located on the façade of Dinting Church of England School. Therefore, in the opening year of the development (2026), annual mean concentrations of NO₂ at Dinting Church of England Primary School will be further reduced below 75% of the air quality Objective.

4.23 The assessment of road traffic emissions, as discussed in response to Concern 1, includes specific consideration of pollutant concentrations at the Dinting Church of England Primary School in the opening year of the development (2026). The assessment demonstrates that the proposed development will not result in levels of air pollution in exceedance of the UK Government's human health-based benchmarks at the school. As mentioned in response to Concern 1, these benchmarks are established to protect the general population and account for the young, the elderly and those susceptible to respiratory conditions.

Concern 3 - Traffic emissions from increased congestion

4.24 The general public has raised concerns regarding the increase in traffic emissions as a result of increased congestion along the A57 Dinting Vale. The detailed assessments of traffic emissions on air quality includes consideration of congestion on pollutant concentrations experienced within the study area.

4.25 The detailed model used to predict pollutant concentrations at selected areas of public exposure used the following parameters to emulate the effects of congestion:

- Reduced vehicle speeds in areas of known congestion, as shown in Figure 1 and 2 included in the Air Quality Technical Note (**Document 2.35**);
- A time varying emissions file to take account of the variation of traffic by hour of the day and day of the week;
- The increase in traffic on the roads in the opening year of the proposed development (2026) as a result of traffic growth from committed developments.

4.26 The assessment therefore is considered robust as it deals with the effect on exhaust emissions both from idling vehicles and peak traffic movements as well as increased traffic flows from other committed developments.

Concern 4 - Air quality monitoring data relied upon for the assessment

4.27 At the time of submitting the air quality assessments, the 2022 monitoring data for High Peak Borough Council had not been published therefore it could not be included or relied upon for the assessments.

4.28 As acknowledged in the air quality assessment (**Document 2.10**), 2020 and 2021 monitoring data cannot be relied upon due to the significant impact Covid-19 pandemic had on traffic levels in these years. A base year of 2019 was therefore selected as the most recent year with reliable ambient air quality monitoring data for the purpose of model verification. This approach was agreed with High Peak Borough Council.

4.29 Model verification is the process of adjusting model outputs to improve the consistency of modelling results with respect to available monitored data. The model was verified in accordance with the accepted guidance (Local Air Quality

Management (LAQM) Technical Guidance (TG22). (LAQM.TG(22)) (Defra, 2022)). This is considered a robust approach as pollutant concentrations have continued to decline since 2019, as shown in Table 1.

4.30 One third party objection commented on the absence of site-specific monitoring at the proposed development site. However, High Peak Borough Council undertake monitoring of NO₂ throughout the study area. As this data can be relied upon for the assessment, site specific monitoring is not necessary to inform the air quality assessments. This approach was agreed with High Peak Borough Council.

Concern 5 – Mitigation measures

4.31 As detailed in the response to Concern 1, the assessment of road traffic emission has determined the effect of the proposed development on sensitive human receptors as not significant. This means that the proposed development does not result in unacceptable increases in pollutant concentrations. Therefore, mitigation is not required to reduce the impact of the project to an acceptable level. Nevertheless, the Applicant has incorporated the following mitigation measures to further reduce the impact of the proposed development and to improve air quality in local area:

- Implementation of a Travel Plan (**Document 2.36**) incorporating measures such as electric vehicle charging and cycling provisions; and,
- Section 106 contribution of £150 per residential dwelling.

5. Conclusion

5.1 The proposed development is in accordance with the relevant air quality legislation and planning guidance.

Glossary of Terms and Acronyms

AADT	Annual Average Daily Traffic
Air Quality Objective	Pollutant objectives incorporate future dates by which a standard is to be achieved, taking into account economic considerations, practicability and technical feasibility
Annual mean	<p>A mean pollutant concentration value in air which is calculated on a yearly basis, yielding one annual mean per calendar year. In the UK air quality regulations, the annual mean for a particular substance at a particular location for a particular calendar year is:</p> <ul style="list-style-type: none">- in the case of nitrogen dioxide, the mean of the hourly means for that year;- in the case of PM₁₀, the mean of the 24 hour means for that year.
AQMA	Air Quality Management Area
DEFRA	Department for Environment, Food and Rural Affairs
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LAQM.TG(22)	Local Air Quality Management Technical Guidance 2022
µg m⁻³	Microgrammes (of pollutant) per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1 µg.m ⁻³ means that one cubic metre of air contains one microgramme (millionth of a gramme) of pollutant
NO₂	Nitrogen dioxide
PM₁₀ / PM_{2.5}	Particulate matter with an average aerodynamic diameter of less than 10 microns (µm) (PM ₁₀) or less than 2.5µm (PM _{2.5}), expressed in units of µg.m ⁻³ .