

Air Quality Assessment
London Road, Devizes

**Client: Highgrove Group (Reading) Limited on behalf of PRZM Real Estate and
Aldi Stores Ltd**

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Prepared by	Alec Barnett	Alec Barnett	Alec Barnett	
Position	Air Quality Consultant	Senior Air Quality Consultant	Senior Air Quality Consultant	
Reviewed by	Natasha Jones	Natasha Jones	Natasha Jones	
Position	Air Quality Consultant	Air Quality Consultant	Air Quality Consultant	
Authorised by	Claire Meddings	Claire Meddings	Claire Meddings	
Position	Director	Director	Director	
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Serendipity Labs, Building 7, Exchange Quay, Salford, M5 3EP

info@red-env.co.uk | 0161 706 0075 | www.red-env.co.uk

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Executive Summary

Redmore Environmental Ltd was commissioned by Highgrove Group (Reading) Limited on behalf of PRZM Real Estate and Aldi Stores Ltd to undertake an Air Quality Assessment in support of a hybrid planning application for an Aldi foodstore, drive thru unit and EV charging hub (the 'Proposed Development') on land to the south of London Road, Devizes.

An Air Quality Assessment was undertaken to:

- Assess potential impacts associated with fugitive dust emissions during the construction phase of the Proposed Development;
- Assess potential impacts associated with road transport emissions during the operational phase of the Proposed Development; and,
- Identify any requirement for relevant mitigation measures.

Potential construction phase air quality impacts from fugitive dust emissions were assessed as a result of demolition, earthworks, construction and trackout activities. It is considered that the use of the identified site-specific control measures would provide suitable mitigation for a development of this size and nature and reduce potential impacts to an acceptable level.

Potential impacts during the operational phase of the proposals may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the development. Dispersion modelling was therefore undertaken to predict pollutant concentrations at sensitive locations as a result of emissions from the highway network both with and without the development in place. Results were subsequently verified using local monitoring data.

Review of the dispersion modelling results indicated that air quality impacts as a result of traffic generated by the development were not predicted to be significant at any sensitive location in the vicinity of the site.

A number of mitigation measures were identified in line with the requirements of the Wiltshire Council Air Quality Supplementary Planning Document in order to reduce potential impacts during the operational phase. The identified measures are considered suitable for a development of this size and nature and meet the requirements of the document.

Based on the assessment results, air quality factors are not considered a constraint to issuing planning permission for the Proposed Development.

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1.0 INTRODUCTION

1.1 Instruction

- 1.1.1 Redmore Environmental Ltd was commissioned by Highgrove Group (Reading) Limited on behalf of PRZM Real Estate and Aldi Stores Ltd to undertake an Air Quality Assessment in support of the Proposed Development on land to the south of London Road, Devizes.

1.2 Site Location and Context

- 1.2.1 The site is located on land to the south of London Road, Devizes, at approximate National Grid Reference (NGR): 402405, 163059. The relevant Local Authority (LA) is Wiltshire Council (WC). Reference should be made to Figure 1 for a map of the site and surrounding area.
- 1.2.2 The Proposed Development comprises a hybrid planning application for the demolition of the existing structures on site and subsequent construction of an Aldi foodstore alongside associated car parking and infrastructure in full, alongside a drive thru unit and Electric Vehicle (EV) charging hub in outline. The full element of the proposals include the provision of four rapid EV spaces, six fast EV spaces and passive provision for a further 24 EV bays. Further EV spaces will be provided as part of the outline element of the scheme through the EV charging hub that forms part of this phase development.

1.3 Assessment Scope

- 1.3.1 The proposals have the potential to cause air quality impacts at sensitive locations. As such, an Air Quality Assessment was undertaken to:
- Assess potential impacts associated with fugitive dust emissions during the construction phase of the Proposed Development;
 - Assess potential impacts associated with road transport emissions during the operational phase of the Proposed Development; and,
 - Identify any requirement for relevant mitigation measures.
- 1.3.2 This is detailed in the following report.

2.0 LEGISLATION AND POLICY

2.1 Legislation

2.1.1 The Air Quality Standards Regulations (2010) and subsequent amendments include Air Quality Limit Values (AQLVs) for the following pollutants:

- Nitrogen dioxide (NO₂);
- Sulphur dioxide;
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (PM₁₀);
- Particulate matter with an aerodynamic diameter of less than 2.5µm (PM_{2.5});
- Benzene; and,
- Carbon monoxide.

2.1.2 Air Quality Target Values were also provided for several additional pollutants. It should be noted that the AQLV for PM_{2.5} stated in the Air Quality Standards Regulations (2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020).

2.1.3 The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published on 28th April 2023¹. The document contains standards, objectives and measures for improving ambient air quality, including a number of Air Quality Objectives (AQOs). These are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedences over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

2.1.4 The Environmental Improvement Plan 2025² was published in December 2025, providing long term and Interim Targets in order to reduce population exposure to PM_{2.5}. The Concentration Target for 2040 was adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).

¹ AQS: Framework for Local Authority Delivery, DEFRA, 2023.

² Environmental Improvement Plan 2025, DEFRA, 2025.

2.1.5 Table 1 presents the AQOs, Interim Target and Concentration Target for pollutants considered within this assessment.

Table 1 Air Quality Objectives/Interim Target/Concentration Target

Pollutant	Air Quality Objective/Interim Target/Concentration Target	
	Concentration ($\mu\text{g}/\text{m}^3$)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
PM _{2.5}	10 ^(a)	Annual mean
	10 ^(b)	Annual mean

Note: (a) Interim Target to be achieved by 2030.

(b) Concentration Target to be achieved by 2040.

2.1.6 Table 2 summarises the advice provided in DEFRA guidance³ on where the AQOs for pollutants considered within this report apply.

Table 2 Examples of Where the Air Quality Objectives Apply

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
Annual mean	All locations where members of the public might be regularly exposed Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access Hotels, unless people live there as their permanent residence Gardens of residential properties Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term

³ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Averaging Period	Objective Should Apply At	Objective Should Not Apply At
24-hour mean	All locations where the annual mean objective would apply, together with hotels Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access

2.2 Local Air Quality Management

2.2.1 LAs are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves comparing present and likely future pollutant concentrations against the AQOs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 2, are likely to be exceeded, the LA is required to declare an Air Quality Management Area (AQMA). For each AQMA the LA is required to produce an Air Quality Action Plan, the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.

2.3 Dust

2.3.1 The main requirements with respect to dust control from industrial or trade premises not regulated under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as construction sites, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

"any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."

2.3.2 Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the LA is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

2.4 National Planning Policy

2.4.1 The revised National Planning Policy Framework⁴ (NPPF) was published in December 2024 and amended in February 2025. The document sets out the Government's planning policies for England and how these are expected to be applied.

2.4.2 The purpose of the planning system is to contribute to the achievements of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives including the following of relevance to air quality:

"c) an environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

2.4.3 Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of

⁴ NPPF, Ministry of Housing, Communities and Local Government, 2024.

soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality [...]."

- 2.4.4 The NPPF specifically recognises air quality as part of delivering sustainable development and states that:

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

- 2.4.5 The implications of the NPPF have been considered throughout this assessment.

2.5 **National Planning Practice Guidance**

- 2.5.1 The National Planning Practice Guidance⁵ (NPPG) web-based resource was launched by the Department for Communities and Local Government to support the NPPF and make it more accessible. The air quality pages are summarised under the following headings:

1. What air quality considerations does planning need to address?
2. What is the role of plan-making with regard to air quality?
3. Are air quality concerns relevant to neighbourhood planning?
4. What information is available about air quality?
5. When could air quality considerations be relevant to the development management process?
6. What specific issues may need to be considered when assessing air quality impacts?

⁵ <https://www.gov.uk/guidance/air-quality--3>.

7. How detailed does an air quality assessment need to be?
8. How can an impact on air quality be mitigated?

2.5.2 These were reviewed and the relevant guidance considered as necessary throughout the undertaking of this assessment.

2.6 Local Planning Policy

2.6.1 The Wiltshire Core Strategy⁶ was adopted by WC in January 2015. A review of the document identified the following policies of relevance to this report:

"Core Policy 55:

Air quality

Development proposals, which by virtue of their scale, nature or location are likely to exacerbate existing areas of poor air quality, will need to demonstrate that measures can be taken to effectively mitigate emission levels in order to protect public health, environmental quality and amenity. Mitigation measures should demonstrate how they will make a positive contribution to the aims of the Air Quality Strategy for Wiltshire and where relevant, the Wiltshire Air Quality Action Plan. Mitigation may include:

- i. landscaping, bunding or separation to increase distance from highways and junctions
- ii. possible traffic management or highway improvements to be agreed with the local authority
- iii. abatement technology and incorporating site layout/separation and other conditions in site planning
- iv. traffic routing, site management, site layout and phasing
- v. where appropriate, contributions will be sought toward the mitigation of the impact a development may have on levels of air pollutants."

⁶ Wiltshire Core Strategy, WC, 2015.

"Core Policy 57

Ensuring high quality design and place shaping

A high standard of design is required in all new developments, including extensions, alterations, and changes of use of existing buildings. Development is expected to create a strong sense of place through drawing on the local context and being complementary to the locality. Applications for new development must be accompanied by appropriate information to demonstrate how the proposal will make a positive contribution to the character of Wiltshire through:

[...]

v.ii having regard to the compatibility of adjoining buildings and uses, the impact on the amenities of existing occupants, and ensuring that appropriate levels of amenity are achievable within the development itself, including the consideration of privacy, overshadowing, vibration, and pollution (e.g. light intrusion, noise, smoke, fumes, effluent, waste or litter)

[...]."

2.6.2 WC has produced an 'Air Quality Supplementary Planning Document'⁷ as part of an overarching Low Emissions Strategy to reduce road transport emissions in the county. It is aimed at helping WC deliver AQO compliance through cost effective service planning brought about by the joint working and relevant Local Plan policies. This document has been considered as necessary throughout the assessment.

2.6.3 The above policies and SPD were taken into consideration throughout the undertaking of the assessment.

⁷ Air Quality Supplementary Planning Document, WC, 2023.

3.0 METHODOLOGY

3.1 Introduction

3.1.1 The Proposed Development has the potential to cause air quality impacts during the construction and operational phases. These have been assessed in accordance with the following methodology, which was agreed with Peter Nobes, Senior Public Protection Officer at WC, on 7th August 2025.

3.2 Construction Phase Assessment

3.2.1 There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction V2.2'⁸.

3.2.2 Activities on the proposed construction site have been divided into four types to reflect their different potential impacts. These are:

- Demolition;
- Earthworks;
- Construction; and,
- Trackout.

3.2.3 The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and,
- The risk of health effects due to a significant increase in exposure to PM₁₀.

3.2.4 The assessment steps are detailed below.

⁸ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Step 1 - Screen the Need for an Assessment

3.2.5 Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the boundary or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment proceeds to Step 2. Additionally, should ecological receptors be identified within 50m of the site or the construction vehicle route up to 250m from the site entrance, then the assessment also proceeds to Step 2.

3.2.6 Should sensitive receptors not be present within the relevant distances then **negligible** impacts would be expected and further assessment is not necessary.

Step 2 - Assess the Risk of Dust Impacts

3.2.7 Step 2 assesses the risk of potential dust impacts. A site is allocated a risk category based on two factors:

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and,
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).

3.2.8 The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.

3.2.9 Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table 3.

Table 3 Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Demolition	• Total building volume greater than 75,000m³ • Potentially dusty construction material (e.g. concrete) • On site crushing and screening • Demolition activities greater than 12m above ground level
	Earthworks	• Total site area greater than 110,000m² • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size)

Magnitude	Activity	Criteria
		- More than 10 heavy earth moving vehicles active at any one time - Formation of bunds greater than 6m in height
	Construction	- Total building volume greater than 75,000m³ - On site concrete batching - Sandblasting
	Trackout	- More than 50 Heavy Duty Vehicle (HDV) trips per day - Potentially dusty surface material (e.g. high clay content) - Unpaved road length greater than 100m
Medium	Demolition	- Total building volume 12,000m³ to 75,000m³ - Potentially dusty construction material - Demolition activities 6m to 12m above ground level
	Earthworks	- Total site area 18,000m² to 110,000m² - Moderately dusty soil type (e.g. silt) 5 to 10 heavy earth moving vehicles active at any one time - Formation of bunds 3m to 6m in height
	Construction	- Total building volume 12,000m³ to 75,000m³ - Potentially dusty construction material (e.g. concrete) - On site concrete batching
	Trackout	20 to 50 HDV trips per day - Moderately dusty surface material (e.g. high clay content) - Unpaved road length 50m to 100m
Small	Demolition	- Total building volume less than 12,000m³ - Construction material with low potential for dust release (e.g. metal cladding or timber) - Demolition activities less than 6m above ground levels - Demolition during wetter months
	Earthworks	- Total site area less than 18,000m² - Soil type with large grain size (e.g. sand) - Less than 5 heavy earth moving vehicles active at any one time - Formation of bunds less than 3m in height
	Construction	- Total building volume less than 12,000m³ - Construction material with low potential for dust release (e.g. metal cladding or timber)

Magnitude	Activity	Criteria
	Trackout	• Less than 20 HDV trips per day • Surface material with low potential for dust release • Unpaved road length less than 50m

3.2.10 Step 2B defines the sensitivity of the area around the Proposed Development to potential dust impacts. The sensitivities of specific receptors are shown in Table 4.

Table 4 Construction Dust - Sensitivities of People and Ecological Receptors

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	• Users expect high levels of amenity • High aesthetic or value property • People expected to be present continuously for extended periods of time • Locations where members of the public are exposed over a time period relevant to the AQO for PM₁₀. e.g. residential properties, hospitals, schools and residential care homes	• Internationally or nationally designated site e.g. Special Area of Conservation
Medium	• Users would expect to enjoy a reasonable level of amenity • Aesthetics or value of their property could be diminished by soiling • People or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g. parks and places of work	• Nationally designated site e.g. Sites of Special Scientific Interest
Low	• Enjoyment of amenity would not reasonably be expected • Property would not be expected to be diminished in appearance • Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, farmland, short term car parks and roads	• Locally designated site e.g. Local Nature Reserve

3.2.11 The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 5.

Table 5 Construction Dust - Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 250
High	More than 100	High	High	Medium	Low
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

3.2.12 Table 6 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 6 Construction Dust - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Background Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
High	Greater than 32µg/m ³	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m ³	More than 100	High	High	Medium	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m ³	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m ³	More than 100	Medium	Low	Low	Low
		10 - 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium		More than 10	High	Medium	Low	Low

Receptor Sensitivity	Background Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
	Greater than 32µg/m ³	1 - 10	Medium	Low	Low	Low
	28 - 32µg/m ³	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	Less than 24µg/m ³	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	-	1 or more	Low	Low	Low	Low

3.2.13 Table 7 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 7 Construction Dust - Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	Less than 20	Less than 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

3.2.14 Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

3.2.15 Table 8 outlines the risk category from demolition activities.

Table 8 Construction Dust - Dust Risk Category from Demolition Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Medium
Medium	High	Medium	Low
Low	Medium	Low	Negligible

3.2.16 Table 9 outlines the risk category from earthworks, construction and trackout activities.

Table 9 Construction Dust - Dust Risk Category from Earthworks, Construction and Trackout Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

Step 3 - Site-specific Mitigation

3.2.17 Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance⁹ to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with **negligible** risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

Step 4 - Determine Significant Effects

3.2.18 Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of

⁹ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be **not significant**.

3.2.19 The determination of significance relies on professional judgement and reasoning should be provided as far as practicable. The IAQM guidance suggests the provision of details of the assessor's qualifications and experience. These are provided in Appendix 2.

3.3 Operational Phase Assessment

3.3.1 The Proposed Development has the potential to affect existing air quality as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site. Potential impacts have therefore been defined by predicting pollutant concentrations at sensitive locations using dispersion modelling for the following scenarios:

- 2023 - Verification;
- Opening year Do-Minimum (DM) (predicted traffic flows in 2028 should the proposals not proceed); and,
- Opening year Do-Something (DS) (predicted traffic flows in 2028 should the proposals be completed).

3.3.2 Reference should be made to Appendix 1 for assessment input data and details of the verification process.

3.3.3 Locations sensitive to potential changes in off-site pollutant concentrations were identified within 200m of the highway network in accordance with the guidance provided by National Highways¹⁰ on the likely limits of pollutant dispersion from road sources. The criteria provided within DEFRA guidance¹¹ on where the AQOs apply, as summarised in Table 2, was utilised to determine worst-case receptor positions in the vicinity of links likely to be affected by changes in traffic flows as a result of the Proposed Development.

3.3.4 The significance of predicted air quality impacts was determined in accordance with the guidance provided within the IAQM document 'Land-Use Planning & Development

¹⁰ LA 105: Air Quality, National Highways, 2024.

¹¹ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Control: Planning for Air Quality¹². Using this methodology impacts were defined based on the interaction between the predicted pollutant concentration from the DS scenario and the magnitude of change between the DM and DS scenarios, as outlined in Table 10.

Table 10 Significance of Operational Phase Road Vehicle Exhaust Emissions Impact

Concentration at Receptor in Assessment Year	Predicted Concentration Change as Proportion of AQO/Concentration Target (%)			
	1	2 - 5	6 - 10	> 10
75% or less of AQO/Concentration Target	Negligible	Negligible	Slight	Moderate
76 - 94% of AQO/Concentration Target	Negligible	Slight	Moderate	Moderate
95 - 102% of AQO/Concentration Target	Slight	Moderate	Moderate	Substantial
103 - 109% of AQO/Concentration Target	Moderate	Moderate	Substantial	Substantial
110% or more of AQO/Concentration Target	Moderate	Substantial	Substantial	Substantial

3.3.5 The matrix shown in Table 10 is intended to be used by rounding the change in percentage pollutant concentration to whole numbers, which makes it clearer which cell the impact falls within. It should be noted that changes of 0%, i.e. less than 0.5%, are described as **negligible**.

3.3.6 Following the prediction of impacts at discrete receptor locations, the IAQM document¹³ provides guidance on determining the overall air quality impact significance of the operation of a development. The following factors are identified for consideration by the assessor:

- The existing and future air quality in the absence of the Proposed Development;
- The extent of current and future population exposure to the impacts; and,
- The influence and validity of any assumptions adopted when undertaking the prediction of impacts.

¹² Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

¹³ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

3.3.7 The IAQM guidance states that an assessment must reach a conclusion on the likely significance of the predicted impact. Where the overall effect is **moderate** or **substantial**, the effect is likely to be considered **significant**, whilst if the impact is **slight** or **negligible**, the impact is likely to be considered **not significant**. It should be noted that this is a binary judgement of either it is **significant** or it is **not significant**.

4.0 BASELINE

4.1 Introduction

- 4.1.1 Existing air quality conditions in the vicinity of the Proposed Development site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

4.2 Local Air Quality Management

- 4.2.1 As required by the Environment Act (1995), as amended by the Environment Act (2021), WC has undertaken review and assessment of air quality within its area of jurisdiction. This process has indicated that annual mean concentrations of NO₂ are above the AQO within the district. As such, eight AQMAs have been declared. The closest of these to the site is described as follows:

"AQMA 7 Devizes - Main roads through the town."

- 4.2.2 The Proposed Development is adjacent to the AQMA. As such, there is the potential for vehicles travelling to and from the Proposed Development to increase pollution levels in this sensitive area. This has been considered throughout the assessment.
- 4.2.3 WC has concluded that concentrations of all other pollutants considered within the AQS are currently below the relevant AQOs. As such, no further AQMAs have been designated.

4.3 Air Quality Monitoring

- 4.3.1 Monitoring of pollutant concentrations is undertaken by WC throughout its area of jurisdiction. Recent NO₂ concentrations recorded in the vicinity of the Proposed Development, as provided in WC's '2024 Air Quality Annual Status Report (ASR)¹⁴, are shown in Table 11.

¹⁴ 2024 Air Quality ASR, WC, 2024.

Table 11 Monitoring Results

Monitoring Site		Monitored NO ₂ Concentration (µg/m ³)			
		2020	2021	2022	2023
5	Windsor Drive, Devizes	16.5	17.8	16.9	14.9

4.3.2 As shown in Table 11, annual mean NO₂ concentrations were below the AQO of 40µg/m³ at the '5 - Windsor Drive' monitor in recent years. Reference should be made to Figure 2 for a map of the survey position.

4.3.3 Pollutant concentrations during 2020 and 2021 were affected by changes to travel patterns associated with the COVID-19 pandemic. The results should therefore be viewed with caution. However, data for 2022 and beyond is now considered representative of post-pandemic conditions. This is supported by the IAQM¹⁵, who have adopted the following position:

"ambient air quality monitoring data for the year 2022 and beyond is generally considered to represent the current post-pandemic baseline."

4.3.4 Monitoring of PM₁₀ or PM_{2.5} concentrations is not undertaken within the vicinity of the site.

4.4 Background Pollutant Concentrations

4.4.1 Predictions of background pollutant concentrations on a 1km by 1km grid basis have been produced by DEFRA for the entire of the UK to assist LAs in their Review and Assessment of air quality. The Proposed Development site is located in grid square NGR: 402500,163500. Data for this location was downloaded from the DEFRA website¹⁶ for the purpose of the assessment and is summarised in Table 12.

¹⁵ Use of 2020 and 2021 Monitoring Datasets - IAQM Position Statement V1.1, IAQM, 2023.

¹⁶ <https://uk-air.defra.gov.uk/data/iaqm-background-maps?year=2023>.

Table 12 Background Pollutant Concentration Predictions

Pollutant	Predicted Background Pollutant Concentration (µg/m³)		
	2023	2025	2028
NO ₂	6.71	6.40	5.92
PM ₁₀	12.36	12.18	11.91
PM _{2.5}	6.74	6.58	6.35

- 4.4.2 As shown in Table 12, predicted background NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant AQOs and Concentration Target at the Proposed Development site.

4.5 Sensitive Receptors

- 4.5.1 A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. These have been defined for construction dust and road vehicle exhaust emission impacts in the following Sections.

Construction Phase Sensitive Receptors

- 4.5.2 Receptors sensitive to potential dust impacts during demolition, earthworks and construction were identified from a desk-top study of the area up to 250m from the site boundary. These are summarised in Table 13.

Table 13 Demolition, Earthworks and Construction Dust Sensitive Receptors

Distance from Site Boundary (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	1 - 10	0
Up to 50	More than 100	0
Up to 100	More than 100	-
Up to 250	More than 100	-

- 4.5.3 Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 50m from the road network within 250m of the site access. These are summarised in Table 14.

Table 14 Trackout Dust Sensitive Receptors

Distance from Site Access Route (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	10 - 100	0
Up to 50	More than 100	0

4.5.4 There are no ecological receptors within 50m of the site boundary or the access route within 250m of the site entrance. As such, ecological impacts have not been assessed further within this report.

4.5.5 Based on the criteria shown in Table 4, the sensitivity of the receiving environment to potential dust impacts was determined as a combination of **medium** and **high**. This was because the identified receptors included places of work and residential properties. It should be noted that only receptors of **medium** sensitivity are present within 20m of the boundary.

Operational Phase Sensitive Receptors

4.5.6 Locations sensitive to potential operational phase road vehicle exhaust emission impacts were identified from a desk-top study and are summarised in Table 15.

Table 15 Operational Phase Road Vehicle Exhaust Emission Sensitive Receptor Locations

Receptor		NGR (m)	
		X	Y
R1	Residential - London Road	402275.6	163051.2
R2	Residential - London Road	402242.1	163031.7
R3	Residential - London Road	402222.3	163019.2
R4	Residential - London Road	402195.2	163001.3
R5	Residential - Rupert Close	402277.5	162958.5
R6	Residential - Ferozeshah Road	402352.6	162987.0
R7	Residential - Horton Road	402440.9	163014.1
R8	Residential - London Road	401966.5	162713.4

Receptor		NGR (m)	
		X	Y
R9	Residential - London Road	401914.6	162684.0
R10	Briggs Lodge Residential and Nursing Home	401715.1	162376.3
R11	Residential - London Road	401787.0	162424.1
R12	Residential - London Road	401865.6	162514.9
R13	Residential - London Road	401908.6	162576.5

4.5.7 Reference should be made to Figure 3 for a graphical representation of road vehicle exhaust emission sensitive receptor locations.

5.0 CONSTRUCTION PHASE ASSESSMENT

5.1 Introduction

- 5.1.1 There is the potential for air quality impacts as a result of the construction of the Proposed Development. These are assessed in the following Sections.

5.2 Step 1 - Screen the Need for an Assessment

- 5.2.1 The undertaking of activities such as demolition, excavation, ground works, cutting, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul roads and highway surfaces.
- 5.2.2 The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.
- 5.2.3 The desk-study undertaken to inform the baseline identified a number of sensitive receptors within 250m of the site boundary. As such, a detailed assessment of potential dust impacts was required.

5.3 Step 2a - Define the Potential Dust Emission Magnitude

Demolition

- 5.3.1 Demolition will be undertaken at the start of the construction phase and will involve clearance of the existing structures on site. The total building volume to be demolished is less than 12,000m³. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from demolition is therefore **small**.

Earthworks

- 5.3.2 Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as site levelling and landscaping. The area of the site is less than 18,000m². In

accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from earthworks is therefore **small**.

Construction

- 5.3.3 Due to the size of the Proposed Development, the total building volume will be less than 12,000m³. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from construction is therefore **small**.

Trackout

- 5.3.4 Based on the site area and provision of existing hard standing, it is anticipated that the unpaved road length will be less than 50m. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from trackout is therefore **small**.

5.4 Step 2b - Define the Sensitivity of the Area

Dust Soiling

- 5.4.1 Table 13 shows that there are more than 100 **high** sensitivity receptors within 50m of the site boundary. The sensitivity of the area with respect to dust soiling from demolition, earthworks and construction, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.
- 5.4.2 Table 14 shows that there are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to dust soiling from trackout, as defined using the criteria summarised in Table 5, is therefore considered to be **high**.

Human Health

- 5.4.3 As shown in Table 12, the highest annual mean PM₁₀ background concentration at the site is 12.18µg/m³. As shown in Table 6, where the background annual mean PM₁₀ concentration is below 24µg/m³ and there are more than 100 **high** sensitivity receptors within 50m of the site boundary, the sensitivity of the area to potential human health from demolition, earthworks and construction is **low**.

- 5.4.4 There are more than 100 **high** sensitivity receptors within 20m of the road network within 250m of the site access. The sensitivity of the area with respect to human health from trackout, as defined using the criteria in Table 6, is therefore considered to be **medium**.

5.5 Step 2c - Define the Risk of Dust Impacts

- 5.5.1 The derived dust emission magnitude for each activity has been combined with the sensitivity of the area to determine the risk of unmitigated impacts in line with the methodology set out in Table 8 and Table 9. A summary of the risk from each dust generating activity is provided in Table 16.

Table 16 Summary of Potential Unmitigated Dust Risks

Potential Impact	Activity	Step 2A - Dust Emission Magnitude	Step 2B - Sensitivity of the Area	Step 2C - Risk
Dust Soiling	Demolition	Small	High	Medium
	Earthworks	Small	High	Low
	Construction	Small	High	Low
	Trackout	Small	High	Low
Human Health	Demolition	Small	Low	Negligible
	Earthworks	Small	Low	Negligible
	Construction	Small	Low	Negligible
	Trackout	Small	Medium	Low

- 5.5.2 As indicated in Table 16, the potential risk of dust soiling is **medium** from demolition and **low** from earthworks, construction and trackout. The potential risk of human health impacts is **low** from trackout and **negligible** from demolition, earthworks and construction.
- 5.5.3 It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase.

5.6 **Step 3 - Site-specific Mitigation**

5.6.1 The IAQM guidance¹⁷ provides potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These have been adapted for the Proposed Development site as summarised in Table 17. These may be reviewed prior to the commencement of construction works and incorporated into a Construction Environmental Management Plan (CEMP) if required by the LA.

Table 17 Fugitive Dust Emission Mitigation Measures

Issue	Control Measure
Communications	• Develop and implement a stakeholder communications plan that includes community engagement before work commences on site • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Display the head or regional office contact information • Develop and implement a Dust Management Plan or similar, which may include measures to control other emissions, approved by the LA
Site management	• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken • Make the complaints log available to the LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book
Monitoring	• Carry out regular site inspections, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions

¹⁷ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

Issue	Control Measure
Site preparation	- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible - Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site - Fully enclose site or specific operations where there is a high potential for dust production and they are active for an extensive period - Avoid site runoff of water or mud - Keep site fencing, barriers and scaffolding clean using wet methods - Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used - Cover, seed or fence stockpiles to prevent whipping
Operating vehicle/machinery and sustainable travel	- Ensure all vehicles switch off engines when stationary - no idling vehicles - Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable
Operations	- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques - Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate - Use enclosed chutes and conveyors and covered skips - Minimise drop heights and use fine water sprays wherever appropriate - Ensure equipment is available to clean any dry spillages, and clean up spillages as soon as reasonably practicable using wet cleaning methods
Waste management	Avoid bonfires or burning of waste materials
Demolition	- Ensure effective water suppression is used during demolition operations - Avoid explosive blasting, using appropriate manual or mechanical alternatives - Bag and remove any biological debris or damp down such material before demolition
Construction	- Avoid scabbling (roughening of concrete surfaces), if possible - Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	- Use water-assisted dust sweeper on access and local roads, if required - Avoid dry sweeping of large areas - Ensure vehicles entering and leaving site are covered to prevent escape of materials - Implement a wheel washing system, if required

5.7 **Step 4 - Determine Significant Effects**

- 5.7.1 Assuming the relevant mitigation measures outlined in Table 17 are implemented, the residual impacts from all dust generating activities is predicted to be **not significant**, in accordance with the IAQM guidance¹⁸.

¹⁸ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

6.0 OPERATIONAL PHASE ASSESSMENT

6.1 Introduction

6.1.1 The Proposed Development has the potential to increase concentrations of NO₂, PM₁₀ and PM_{2.5} as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during the operational phase. An assessment was therefore undertaken using dispersion modelling in order to quantify potential changes in pollutant concentrations at sensitive locations in the vicinity of the site.

6.1.2 The assessment considered the following scenarios:

- 2023 - Verification;
- 2028 - DM; and,
- 2028 - DS.

6.1.3 The DM scenario (i.e. without development) included baseline traffic data, inclusive of anticipated growth for the relevant assessment year. The DS scenario (i.e. with development) included baseline traffic data, inclusive of anticipated growth for the relevant assessment year, in addition to predicted vehicle trips associated with the operation of the proposals.

6.1.4 For the purpose of the assessment, traffic data for 2028 was utilised as the Proposed Development opening year. Air quality is predicted to improve in the future. However, in order to provide a robust assessment, emission factors for 2023 were utilised within the dispersion model. The use of 2028 traffic data and 2023 emission factors is considered to provide a conservative scenario and therefore a sufficient level of confidence can be placed within the predicted pollution concentrations.

6.1.5 Reference should be made to Appendix 1 for full assessment input details.

6.2 Potential Development Impacts

Predicted Concentrations

6.2.1 Annual mean NO₂ concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in Table 18.

Table 18 Predicted Annual Mean NO₂ Concentrations

Receptor		Predicted Annual Mean NO ₂ Concentration (µg/m ³)		
		DM	DS	Change
R1	Residential - London Road	13.50	13.90	0.40
R2	Residential - London Road	13.17	13.47	0.30
R3	Residential - London Road	12.93	13.18	0.25
R4	Residential - London Road	12.38	12.58	0.20
R5	Residential - Rupert Close	10.00	10.12	0.12
R6	Residential - Ferozeshah Road	9.63	9.71	0.08
R7	Residential - Horton Road	10.18	10.25	0.07
R8	Residential - London Road	17.26	17.38	0.12
R9	Residential - London Road	12.62	12.69	0.07
R10	Briggs Lodge Residential and Nursing Home	13.72	13.78	0.06
R11	Residential - London Road	16.05	16.15	0.10
R12	Residential - London Road	16.82	16.92	0.10
R13	Residential - London Road	14.24	14.32	0.08

6.2.2 As indicated in Table 18, predicted annual mean NO₂ concentrations were below the AQO of 40µg/m³ at all receptor locations in both scenarios.

6.2.3 Reference should be made to Figures 4 and 5 for graphical representations of annual mean NO₂ concentrations across the assessment area for the DM and DS scenarios, respectively.

6.2.4 Annual mean PM₁₀ concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in Table 19.

Table 19 Predicted Annual Mean PM₁₀ Concentrations

Receptor		Predicted Annual Mean PM ₁₀ Concentration (µg/m ³)		
		DM	DS	Change
R1	Residential - London Road	14.06	14.17	0.11
R2	Residential - London Road	13.90	13.98	0.08
R3	Residential - London Road	13.86	13.92	0.06
R4	Residential - London Road	13.79	13.84	0.05
R5	Residential - Rupert Close	13.13	13.16	0.03
R6	Residential - Ferozeshah Road	13.06	13.08	0.02
R7	Residential - Horton Road	13.24	13.26	0.02
R8	Residential - London Road	15.46	15.50	0.04
R9	Residential - London Road	14.07	14.09	0.02
R10	Briggs Lodge Residential and Nursing Home	14.39	14.41	0.02
R11	Residential - London Road	14.83	14.86	0.03
R12	Residential - London Road	15.52	15.56	0.04
R13	Residential - London Road	14.64	14.67	0.03

6.2.5 As indicated in Table 19, predicted annual mean PM₁₀ concentrations were below the AQO of 40µg/m³ at all receptor locations in both scenarios.

6.2.6 Reference should be made to Figures 6 and 7 for graphical representations of annual mean PM₁₀ concentrations across the assessment area for the DM and DS scenarios, respectively.

6.2.7 Annual mean PM_{2.5} concentrations were predicted at the sensitive receptor locations for the DM and DS scenarios. These are summarised in Table 20.

Table 20 Predicted Annual Mean PM_{2.5} Concentrations

Receptor		Predicted Annual Mean PM _{2.5} Concentration (µg/m ³)		
		DM	DS	Change
R1	Residential - London Road	7.67	7.74	0.06
R2	Residential - London Road	7.59	7.63	0.04
R3	Residential - London Road	7.56	7.60	0.04
R4	Residential - London Road	7.52	7.55	0.03
R5	Residential - Rupert Close	7.16	7.18	0.02
R6	Residential - Ferozeshah Road	7.13	7.14	0.01
R7	Residential - Horton Road	7.23	7.24	0.01
R8	Residential - London Road	8.41	8.43	0.02
R9	Residential - London Road	7.66	7.67	0.01
R10	Briggs Lodge Residential and Nursing Home	7.83	7.84	0.01
R11	Residential - London Road	8.08	8.09	0.01
R12	Residential - London Road	8.43	8.45	0.02
R13	Residential - London Road	7.96	7.98	0.01

6.2.8 As indicated in Table 20, predicted annual mean PM_{2.5} concentrations were below the Concentration Target of 10µg/m³ at all receptor locations in both scenarios.

6.2.9 Reference should be made to Figures 8 and 9 for graphical representations of annual mean PM_{2.5} concentrations across the assessment area for the DM and DS scenarios, respectively.

Predicted Impacts

6.2.10 Predicted impacts on annual mean NO₂ concentrations at the sensitive receptor locations are summarised in Table 21.

Table 21 Predicted Impacts - NO₂

Receptor		Predicted Annual Mean NO ₂ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - London Road	Below 75% of AQO	1	Negligible
R2	Residential - London Road	Below 75% of AQO	1	Negligible
R3	Residential - London Road	Below 75% of AQO	1	Negligible
R4	Residential - London Road	Below 75% of AQO	1	Negligible
R5	Residential - Rupert Close	Below 75% of AQO	0	Negligible
R6	Residential - Ferozeshah Road	Below 75% of AQO	0	Negligible
R7	Residential - Horton Road	Below 75% of AQO	0	Negligible
R8	Residential - London Road	Below 75% of AQO	0	Negligible
R9	Residential - London Road	Below 75% of AQO	0	Negligible
R10	Briggs Lodge Residential and Nursing Home	Below 75% of AQO	0	Negligible
R11	Residential - London Road	Below 75% of AQO	0	Negligible
R12	Residential - London Road	Below 75% of AQO	0	Negligible
R13	Residential - London Road	Below 75% of AQO	0	Negligible

6.2.11 As indicated in Table 21, impacts on annual mean NO₂ concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors.

6.2.12 Predicted impacts on annual mean PM₁₀ concentrations at the sensitive receptor locations are summarised in Table 22.

Table 22 Predicted Impacts - PM₁₀

Receptor		Predicted Annual Mean PM ₁₀ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R1	Residential - London Road	Below 75% of AQO	0	Negligible

Receptor		Predicted Annual Mean PM ₁₀ Concentration	Predicted Concentration Change as Proportion of AQO (%)	Impact Significance
R2	Residential - London Road	Below 75% of AQO	0	Negligible
R3	Residential - London Road	Below 75% of AQO	0	Negligible
R4	Residential - London Road	Below 75% of AQO	0	Negligible
R5	Residential - Rupert Close	Below 75% of AQO	0	Negligible
R6	Residential - Ferozeshah Road	Below 75% of AQO	0	Negligible
R7	Residential - Horton Road	Below 75% of AQO	0	Negligible
R8	Residential - London Road	Below 75% of AQO	0	Negligible
R9	Residential - London Road	Below 75% of AQO	0	Negligible
R10	Briggs Lodge Residential and Nursing Home	Below 75% of AQO	0	Negligible
R11	Residential - London Road	Below 75% of AQO	0	Negligible
R12	Residential - London Road	Below 75% of AQO	0	Negligible
R13	Residential - London Road	Below 75% of AQO	0	Negligible

6.2.13 As indicated in Table 22, impacts on annual mean PM₁₀ concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors.

6.2.14 Predicted impacts on annual mean PM_{2.5} concentrations at the sensitive receptor locations are summarised in Table 23.

Table 23 Predicted Impacts - PM_{2.5}

Receptor		Predicted Annual Mean PM _{2.5} Concentration	Predicted Concentration Change as Proportion of Concentration Target (%)	Impact Significance
R1	Residential - London Road	76 - 94% of Concentration Target	1	Negligible
R2	Residential - London Road	76 - 94% of Concentration Target	0	Negligible

Receptor		Predicted Annual Mean PM _{2.5} Concentration	Predicted Concentration Change as Proportion of Concentration Target (%)	Impact Significance
R3	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R4	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R5	Residential - Rupert Close	Below 75% of Concentration Target	0	Negligible
R6	Residential - Ferozeshah Road	Below 75% of Concentration Target	0	Negligible
R7	Residential - Horton Road	Below 75% of Concentration Target	0	Negligible
R8	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R9	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R10	Briggs Lodge Residential and Nursing Home	76 - 94% of Concentration Target	0	Negligible
R11	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R12	Residential - London Road	76 - 94% of Concentration Target	0	Negligible
R13	Residential - London Road	76 - 94% of Concentration Target	0	Negligible

6.2.15 As indicated in Table 23, impacts on annual mean PM_{2.5} concentrations as a result of the Proposed Development were predicted to be **negligible** at all receptors.

6.3 Overall Impact Significance

6.3.1 The overall significance of operational phase road traffic emission impacts was determined as **negligible**. This was based on the worst-case predicted impact at any discrete receptor location and the considerations outlined previously. Further justification is provided in Table 24.

Table 24 Overall Impact Significance

Guidance	Comment
The existing and future air quality in the absence of the development	Predicted annual mean NO₂, PM₁₀ and PM_{2.5} concentrations were below the relevant AQOs and Concentration Target at all locations in the DM scenario The predicted concentrations are considered unlikely to change significantly in the absence of the proposals given the established nature of the area. This is supported by the results of the assessment as detailed in Section 6.2
The extent of current and future population exposure to the impacts	The Proposed Development is not predicted to affect the population exposed to exceedences of the AQOs and Concentration Target
The influence and validity of any assumptions adopted when undertaking the prediction of impacts	It was assumed that vehicle exhaust emission rates and background concentrations will not reduce in future years. This provides robust results when compared with DEFRA and National Highways methodologies Due to the adopted assumptions it is considered the presented results are sufficiently robust for an assessment of this nature

- 6.3.2 The IAQM guidance¹⁹ states that only if the impact is greater than **slight**, the effect is considered **significant**. As impacts were predicted to be **negligible**, overall effects are considered **not significant**, in accordance with the stated methodology.

6.4 Interim Planning Guidance for PM_{2.5}

- 6.4.1 Interim Planning Guidance²⁰ on the consideration of the PM_{2.5} targets identified in the Environment Act (2021) in planning decisions has been produced by DEFRA. This requires evidence that the key sources of air pollution within a development have been identified and appropriate action to minimise emissions of PM_{2.5} and its precursors as far as is reasonably practicable be provided in support of planning applications. To assist the process, two questions and associated considerations are provided. These are summarised in Table 25, along with the development response.

¹⁹ Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

²⁰ <https://uk-air.defra.gov.uk/pm25targets/planning>.

Table 25 Interim Planning Guidance

Question	Response
How has exposure to PM_{2.5} been considered when selecting the development site? Factors to consider include: • Site proximity to people (particularly large populations and/or vulnerable groups, e.g. schools, hospitals, care homes, areas of deprivation) and the impact of the development on these • Site proximity to pollution sources and the impact of these on users of the development Exposure and emissions during both construction and in-use	The proposals are located on the outskirts of Devizes in proximity to commercial receptors to the north and residential areas to the south. There are a number of vulnerable groups on the wider road network serving the site, including Briggs Lodge Residential and Nursing Home. However, associated emissions are unlikely to have a significant impact on existing air quality conditions. This is supported by the assessment results in Section 6.0 The scheme comprises commercial land use, which is not considered sensitive to long-term pollutant exposure As outlined in Table 17, a number of mitigation measures will be used throughout the construction phase in order to reduce fugitive dust emissions as far as practicable. This will control potential exposure at off-site locations
What actions and/or mitigations have been considered to reduce PM_{2.5} exposure for development users and nearby receptors and to reduce emissions of PM_{2.5} and its precursors? Factors to consider include: • Site layout • The development's design • Technology used in the construction or installed for use in the development Construction and future use of the development	In order to reduce emissions of PM_{2.5} with associated impacts at nearby receptors, the following measures have also been included: • Provision of EV charging within the 'full' foodstore element of the Proposed Development to encourage the use of low emission transportation. This comprises the following: ○ Four rapid spaces; ○ Six fast spaces; and, ○ 24 passive spaces • Further EV charging spaces within the 'outline' drive thru element of the Proposed Development including a specific EV charging hub • Provision of pedestrian linkages to Horton Road and the adjacent bus stops, which will encourage sustainable travel options for staff and customers • Provision of cycle storage to encourage active travel • Production and implementation of a Travel Plan to promote sustainable transport options. This includes the following measures: ○ Travel Plan Coordinator to oversee implementation of the measures; ○ Travel Information Packs for staff to promote public transport modes;

Question	Response
	- o Promotion of the Cycle to Work Scheme; and, - o Provision of cycle parking spaces Further to the above, in order to reduce emissions during the construction phase, a number of mitigation measures will be used to minimise dust generation from associated activities

6.4.2 Based on the responses provided in Table 25 and the results of the assessment, as outlined in Sections 5.0 and 6.0, it is considered that the Proposed Development has identified key sources of air pollution and taken appropriate action to minimise emissions of PM_{2.5}.

6.5 **Wiltshire Council Air Quality SPD**

6.5.1 WC has produced an Air Quality SPD²¹ which includes direction on when an air quality assessment will be required and the associated scope of works. The guidance provides a methodology for determining the scale of a development as Type 1, Type 2 or Type 3 and the required air quality mitigation for the relevant banding. Review of the relevant criteria indicated the proposals were classified as Type 2 under the following categories:

- The Proposed Development is located within WC's administrative extents;
- The proposal has a site area greater than the 800m² threshold for Class E(a) developments; and,
- The development is not anticipated to reduce average speeds by more than 10km/h, significantly alter congestion or involve substantial infrastructure changes.

6.5.2 It is noted that the Proposed Development is located adjacent to AQMA 7 Devizes which was declared by WC due exceedences of the annual mean AQO for NO₂. This has the potential to trigger the Type 3 criteria. However, as noted in the 2024 Air Quality ASR²², the monitored annual NO₂ concentration in 2024 was 28µg/m³. This is below the NO₂ AQO of 40µg/m³. The AQMA has also been compliant with the AQO over the last four years. Therefore, there is the potential for the AQMA to be revoked should there be five consecutive years of data below the objective.

²¹ Air Quality Supplementary Planning Document, WC, 2023.

²² 2024 Air Quality ASR, WC, 2024.

- 6.5.3 In addition to the above, the results of the assessment in Section 6.0 show that the Proposed Development is anticipated to have a **negligible** impact on existing receptors adjacent to the AQMA.
- 6.5.4 Based on the above, the Proposed Development is not anticipated to cause air quality deterioration in an AQMA or in an area where the annual mean NO₂ concentration is already greater than 38µg/m³. As such, the proposals do not meet the criteria for Type 3 and Type 2 was considered appropriate for the Proposed Development. This approach was agreed with Peter Nobes, Senior Public Protection Officer at WC, on 30th September 2025.
- 6.5.5 The document provides a number of mitigation measures that must be included with Type 2 developments. These are provided in Table 26.

Table 26 Mitigation

Measure	Details	Completed?	Comments
CEMP	Dust risk assessment in line with IAQM guidance?	Yes	Construction Dust Assessment completed in Section 5.0 of this Air Quality Assessment
	Suitable dust mitigation measures?	Yes	Appropriate dust mitigation measures outlined in Table 17 of this Air Quality Assessment
EV Charging	EV infrastructure at councils' minimum requirements?	Yes	The proposed 'full' element of the Proposed Development includes provision of 91 car parking spaces and a total of up to 34 EV charging points, of which 24 will initially be passive. This exceeds the council's minimum EV requirement of 20% for all commercial unit parking spaces. Further EV spaces including a specific EV charging hub are included within the 'outline' drive thru element of the Proposed Development
Exposure Mitigation	Exposure at sensitive site?	N/A	The scheme comprises commercial land use, which is not considered sensitive to long-term pollutant exposure
	Exposure mitigation considered as part of the Exposure Assessment?	N/A	
Low Emission Travel Plan	Production of a site-specific low emission travel plan	Yes	The proposal includes provision of a travel plan to encourage

Measure	Details	Completed?	Comments
	incorporating WC's minimum requirements?		future users to adopt sustainable transport modes and meets WC's minimum requirements. Measures incorporated within the travel plan include: • Travel Plan Coordinator to oversee implementation of the measures; • Travel Information Packs for staff to promote public transport modes and highlight the two bus stops immediately adjacent to the site's southern boundary on Horton Road; • Promotion of the Cycle to Work Scheme; and, Provision of cycle parking spaces.

6.5.6 The measures outlined in Table 26 will further reduce any potential for air quality impacts during the operational phase and are considered to meet WC's requirements for a Type 2 development. As such, further mitigation is not considered necessary.

7.0 CONCLUSION

- 7.1.1 Redmore Environmental Ltd was commissioned by Highgrove Group (Reading) Limited on behalf of PRZM Real Estate and Aldi Stores Ltd to undertake an Air Quality Assessment in support of the Proposed Development on land to the south of London Road, Devizes.
- 7.1.2 The Proposed Development has the potential to cause air quality impacts at sensitive locations during the construction and operational phases. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and assess potential effects as a result of the construction and operation of the proposals.
- 7.1.3 During the construction phase of the Proposed Development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM methodology²³. Site-specific dust control measures were subsequently determined. Following implementation, the residual significance of potential air quality impacts from dust generated by demolition, earthworks, construction and trackout activities are predicted to be **not significant**.
- 7.1.4 Potential impacts during the operational phase of the Proposed Development may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. Dispersion modelling was therefore undertaken in order to predict pollutant concentrations at sensitive locations as a result of emissions from the highway network both with and without the Proposed Development in place. Results were subsequently verified using local monitoring data.
- 7.1.5 Review of the dispersion modelling results indicated that impacts on annual mean NO₂, PM₁₀ and PM_{2.5} concentrations as a result of traffic generated by the Proposed Development were predicted to be **negligible** at all sensitive receptor locations. Following consideration of the relevant issues, impacts as a result of the operation of the Proposed Development were considered to be **not significant**, in accordance with the IAQM guidance.

²³ Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

7.1.6 A number of mitigation measures were identified in line with the requirements of the WC Air Quality Supplementary Planning Document. It is considered these will further control potential impacts during the operational phase.

7.1.7 Based on the assessment results, air quality factors are not considered a constraint to the Proposed Development.

8.0 **ABBREVIATIONS**

AADT	Annual Average Daily Traffic
ADM	Atmospheric Dispersion Modelling
AQMA	Air Quality Management Area
AQLV	Air Quality Limit Value
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASR	Annual Status Report
CEMP	Construction Environmental Management Plan
CERC	Cambridge Environmental Research Consultants
DEFRA	Department for Environment, Food and Rural Affairs
DM	Do-Minimum
DS	Do-Something
EFT	Emissions Factor Toolkit
EV	Electric Vehicle
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
NGR	National Grid Reference
NO ₂	Nitrogen dioxide
NO _x	Oxides of nitrogen
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
PM ₁₀	Particulate matter with an aerodynamic diameter of less than 10µm
PM _{2.5}	Particulate matter with an aerodynamic diameter of less than 2.5µm
SP	Slow Phase
WC	Wiltshire Council
Z ₀	Roughness length

Figures



Legend



Approximate
Site Boundary

Title

Figure 1 - Site Location

Project

Air Quality Assessment
London Road, Devizes

Project Reference

9656

Client

Highgrove Group (Reading) Limited
on behalf of PRZM Real Estate and
Aldi Stores Ltd

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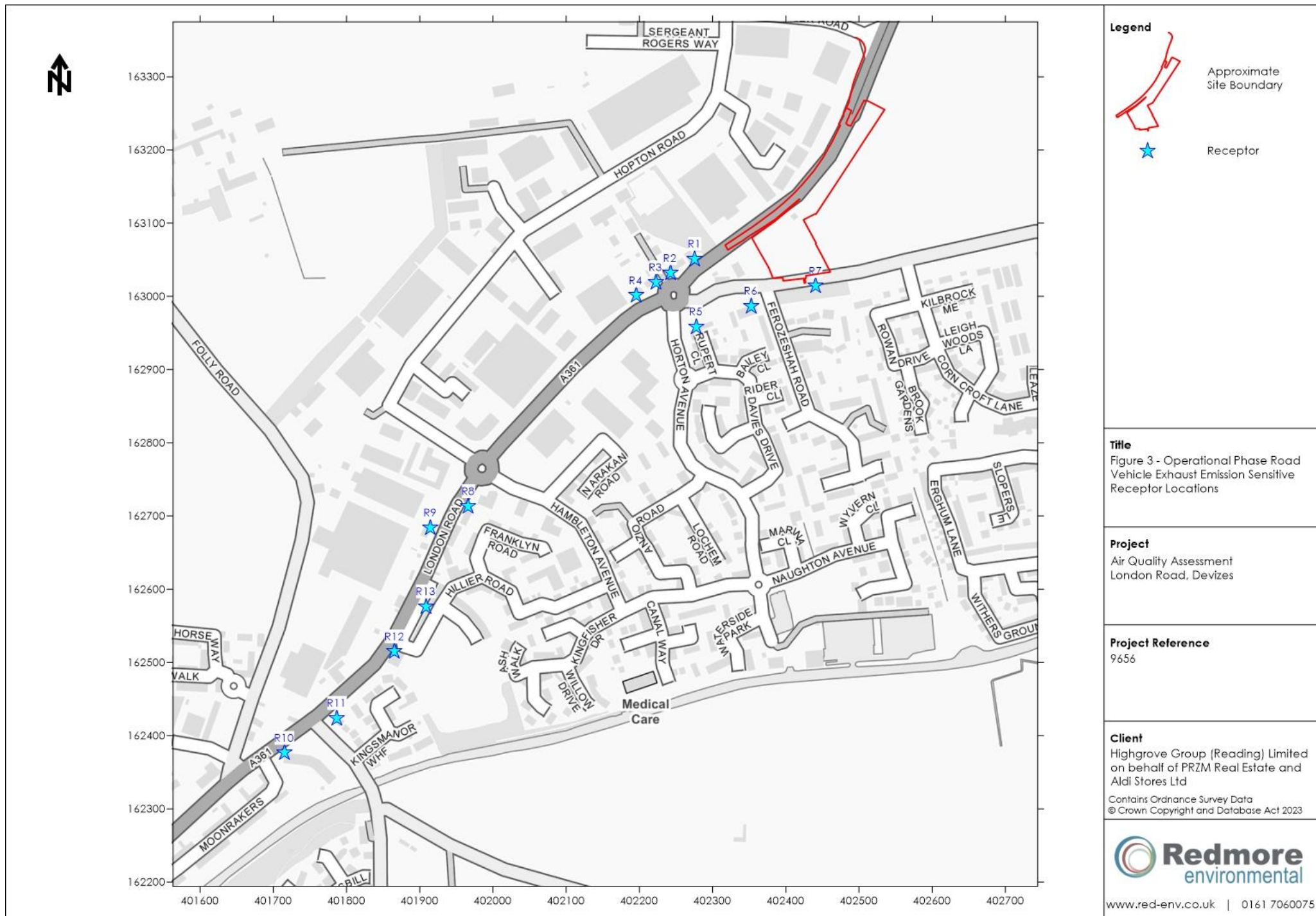


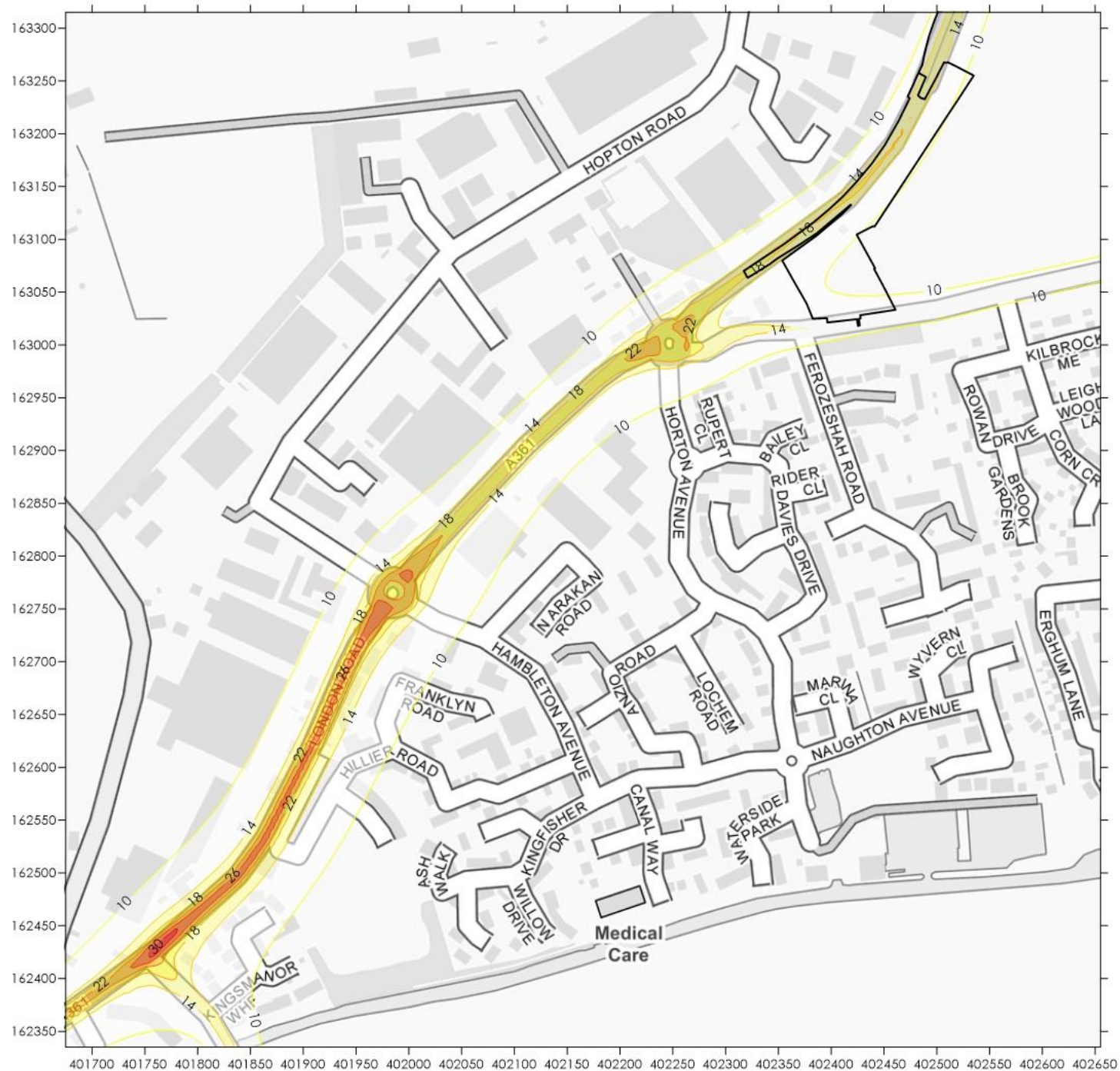
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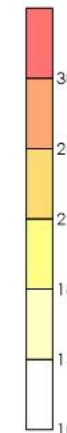




Legend



Approximate
Site Boundary



Annual Mean
NO₂ Concentration
(µg/m³)

Title

Figure 4 - Annual Mean
NO₂ Concentrations (µg/m³)
Do-Minimum

Project

Air Quality Assessment
London Road, Devizes

Project Reference

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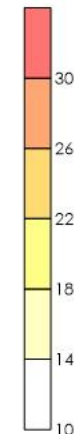
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Approximate
Site Boundary



Annual Mean
NO₂ Concentration
(µg/m³)

Title

Figure 5 - Annual Mean
NO₂ Concentrations (µg/m³)
Do-Something

Project

Air Quality Assessment
London Road, Devizes

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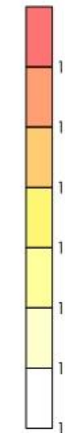
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Legend



Approximate
Site Boundary



Annual Mean
PM₁₀
Concentration
(µg/m³)

Title

Figure 6 - Annual Mean
PM₁₀ Concentrations (µg/m³)
Do-Minimum

Project

Air Quality Assessment
London Road, Devizes

Project Reference

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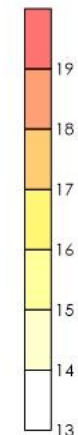
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Legend



Approximate
Site Boundary



Annual Mean
PM₁₀
Concentration
(µg/m³)

Title

Figure 7 - Annual Mean
PM₁₀ Concentrations (µg/m³)
Do-Something

Project

Air Quality Assessment
London Road, Devizes

Project Reference

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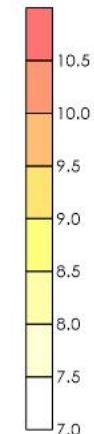
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Legend



Approximate
Site Boundary



Annual Mean
PM_{2.5}
Concentration
(µg/m³)

Title

Figure 8 - Annual Mean
PM_{2.5} Concentrations (µg/m³)
Do-Minimum

Project

Air Quality Assessment
London Road, Devizes

Project Reference

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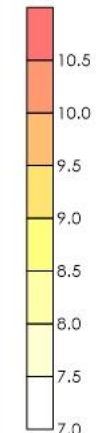
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Legend



Approximate
Site Boundary



Annual Mean
PM_{2.5}
Concentration
(µg/m³)

Title

Figure 9 - Annual Mean
PM_{2.5} Concentrations (µg/m³)
Do-Something

Project

Air Quality Assessment
London Road, Devizes

Project Reference

9656

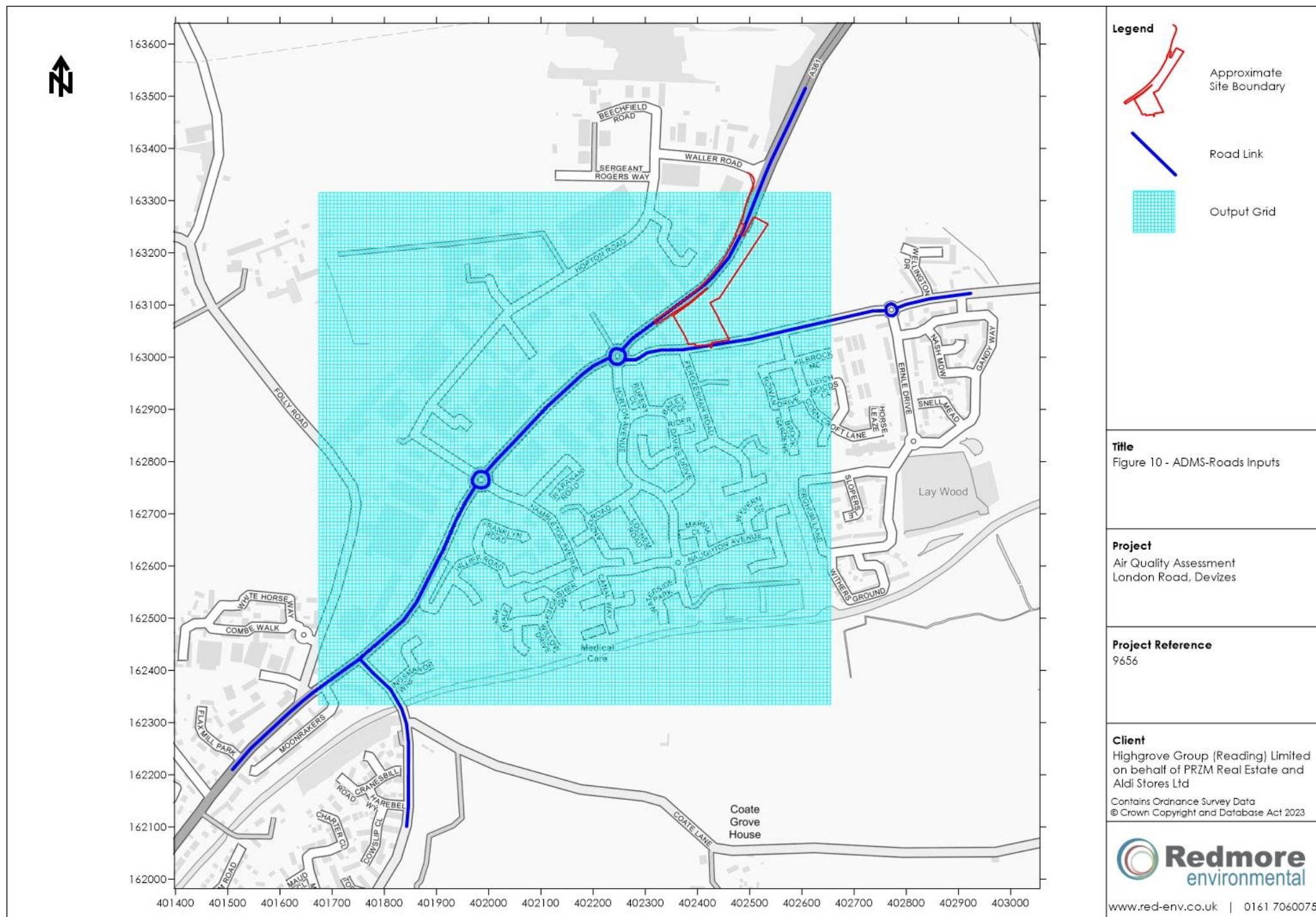
Client

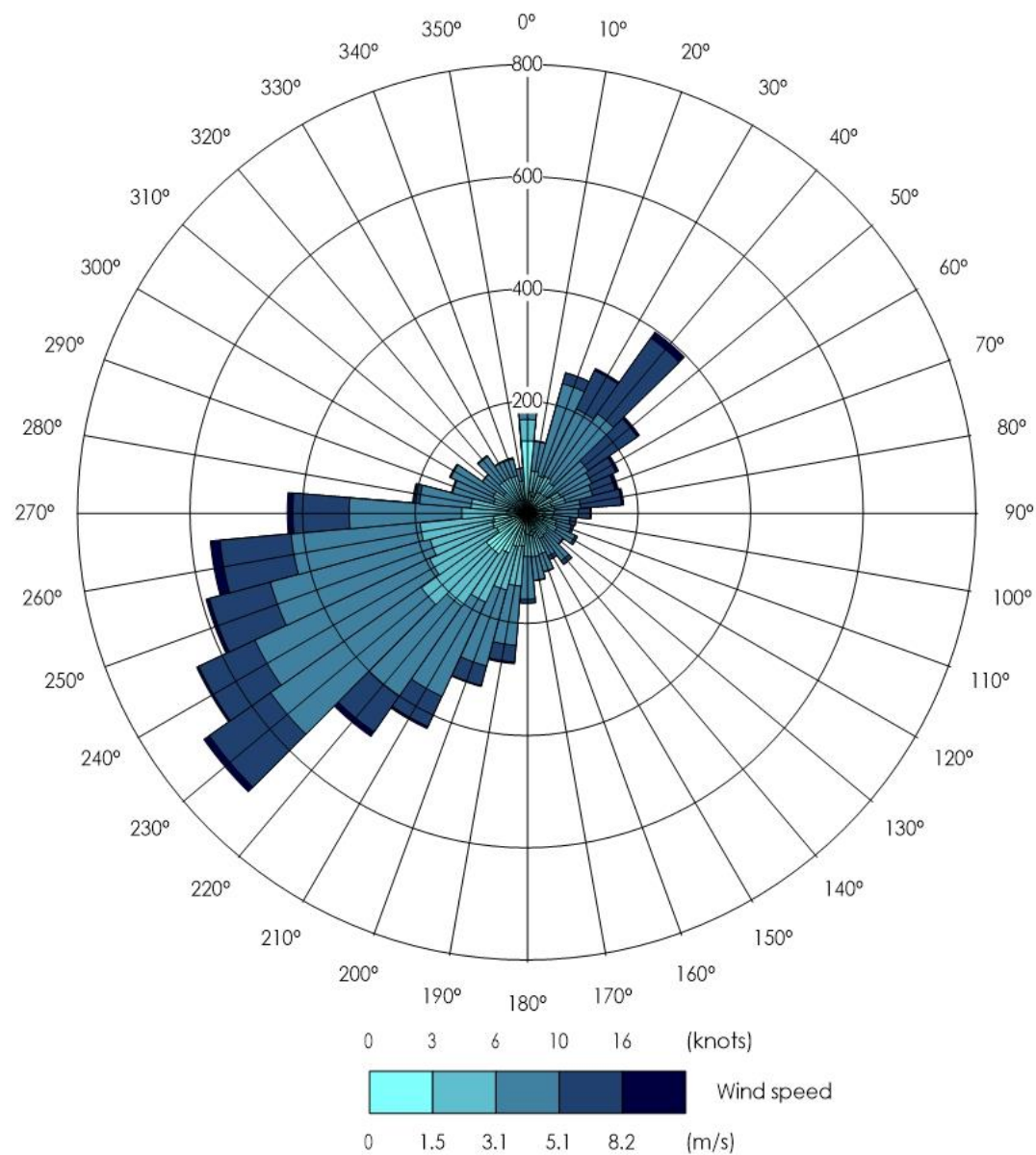
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Legend

Title

Figure 10 - Wind Rose of 2023
Larkhill Meteorological Data

Project

Air Quality Assessment
London Road, Devizes

Project Reference

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Client

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Appendix 1 - Assessment Input Data

Introduction

The Proposed Development has the potential to cause air quality impacts as a result of emissions associated with vehicles travelling to and from the site. In order to assess NO₂, PM₁₀ and PM_{2.5} concentrations at sensitive locations, detailed dispersion modelling was undertaken in accordance with the following methodology.

Dispersion Model

Dispersion modelling was undertaken using the ADMS-Roads dispersion model (version 5.1.0.2). ADMS-Roads is developed by Cambridge Environmental Research Consultants (CERC) and is routinely used throughout the world for the prediction of pollutant dispersion from road sources. Modelling predictions from this software package are accepted within the UK by the Environment Agency and DEFRA.

The model requires input data that details the following parameters:

- Assessment area;
- Traffic flow data;
- Vehicle emission factors;
- Spatial co-ordinates of emissions;
- Street width;
- Meteorological data;
- Roughness length (z_0); and,
- Monin-Obukhov length.

The relevant inputs are detailed in the following Sections.

Assessment Area

Ambient concentrations were predicted over the area NGR: 401675, 162335 to 402655, 163315. One Cartesian grid was included within the model to produce data suitable for contour plotting using the Surfer software package. The default intelligent grid spacing option was selected within ADMS-Roads in order to improve contour resolution within the vicinity of sources.

Reference should be made to Figure 10 for a graphical representation of the assessment grid extents.

Traffic Flow Data

Traffic data for use in the assessment, including 24-hour Annual Average Daily Traffic (AADT) flows and fleet composition as HDV proportion, was provided by Connect Consultants, the Transport Consultants for the scheme.

A summary of the traffic flow data is provided in Table A1.1.

Table A1.1 Traffic Data

Link		24-hour AADT Flow			HDV Prop. of Fleet (%)
		Verif.	2028 DM	2028 DS	
L1	A361 London Road north of site access	12,649	13,448	13,570	4.18
L2	A361 London Road south of site access	12,649	13,448	14,667	4.18
L3	A361 London Road south of site access Slow Phase (SP)	12,649	13,448	14,667	4.18
L4	Horton Road SP	5,160	7,372	7,433	3.30
L5	Horton Road	5,160	7,372	7,433	3.30
L6	Horton Road east of Ernle Drive	5,160	7,372	7,433	3.30
L7	A361 London Road south of Horton Road SP	15,274	17,379	18,030	4.09
L8	A361 London Road south of Horton Road	15,274	17,379	18,030	4.09
L9	A361 London Road north of Hopton Road SP	15,274	17,379	18,030	4.09
L10	A361 London Road south of Hopton Road SP	22,929	25,467	25,770	2.90
L11	A361 London Road south of Hopton Road	22,929	25,467	25,770	2.90
L12	A361 London Road north of Windsor Drive SP	22,929	25,467	25,770	2.90
L13	A361 London Road south of Windsor Drive SP	16,723	18,517	18,705	3.16
L14	A361 London Road south of Windsor Drive	16,723	18,517	18,705	3.16
L15	Windsor Drive SP	9,478	10,376	10,491	3.66
L16	Windsor Drive	9,478	10,376	10,491	3.66

Link		24-hour AADT Flow			HDV Prop. of Fleet (%)
		Verif.	2028 DM	2028 DS	
R1	Horton Road Roundabout	6,981	7,707	8,174	4.13
R2	Hopton Road Roundabout	9,551	10,712	10,950	3.38
R3	Ernle Drive Roundabout	2,580	3,686	3,716	3.30

Reference should be made to Figure 10 for a graphical representation of the road link locations.

Road parameters for input into the model were based on the following:

- Road widths were estimated from aerial photography and UK highway design standards;
- Vehicle speeds were estimated as an average for the relevant road link over the course of a 24-hour period;
- Vehicle speeds were determined following review of speed limits within the study extents, as well as congestion data available from GoogleMaps;
- Vehicle speeds specific to slow phases were determined using the methodology outlined in the DEFRA guidance²⁴;
- Necessary adjustments to slow phase vehicle speeds were based upon congestion data available from GoogleMaps; and,
- The length for slow phases were derived using the approaching distance of 25m outlined in the DEFRA guidance²⁵, and adjusted accordingly based on aerial photography and congestion data available from GoogleMaps.

A summary of the link parameters are provided in Table A1.2.

Table A1.2 Road Parameters

Link		Road Width (m)	Average Vehicle Speed (km/h)
L1	A361 London Road north of site access	8.5	80
L2	A361 London Road south of site access	8.1	60
L3	A361 London Road south of site access SP	16.6	20

²⁴ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

²⁵ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Link		Road Width (m)	Average Vehicle Speed (km/h)
L4	Horton Road SP	14.1	20
L5	Horton Road	7.6	60
L6	Horton Road east of Ernle Drive	5.8	40
L7	A361 London Road south of Horton Road SP	16.5	20
L8	A361 London Road south of Horton Road	8.4	60
L9	A361 London Road north of Hopton Road SP	16.8	20
L10	A361 London Road south of Hopton Road SP	16.8	20
L11	A361 London Road south of Hopton Road	7.8	40
L12	A361 London Road north of Windsor Drive SP	9.5	20
L13	A361 London Road south of Windsor Drive SP	10.2	20
L14	A361 London Road south of Windsor Drive	7.4	40
L15	Windsor Drive SP	17.9	20
L16	Windsor Drive	7.5	60
R1	Horton Road Roundabout	9.5	20
R2	Hopton Road Roundabout	8.2	20
R3	Ernle Drive Roundabout	5.6	20

Emission Factors

Emission factors for each link were calculated using the relevant traffic flows and the EFT (version 13.1). This has been produced by DEFRA and incorporates COPERT 5.8 vehicle emission factors and fleet information.

There is current uncertainty over NO₂ concentrations within the UK, with the implementation of new vehicle emission standards not resulting in the previously expected reduction in roadside levels. Therefore, 2023 emission factors were utilised in preference to the Proposed Development opening year in order to provide robust model outputs. As predictions for 2023 were verified, it is considered the results are a robust indication of conservative concentrations for the future year.

Meteorological Data

Meteorological data used in the assessment was taken from Larkhill meteorological station over the period 1st January 2023 to 31st December 2023 (inclusive). Larkhill meteorological station is located at NGR: 413654, 144740, which is approximately 21.1km south-east of the Proposed Development. It is anticipated that conditions would be reasonably similar over a distance of this magnitude. The data was therefore considered suitable for an assessment of this nature.

All meteorological records used in the assessment were provided by Atmospheric Dispersion Modelling (ADM) Ltd, which is an established distributor of data within the UK. Reference should be made to Figure 11 for a wind rose of utilised meteorological data.

Roughness Length

The z_0 is a modelling parameter applied to allow consideration of surface height roughness elements. A z_0 of 0.5m was used to describe the modelling extents. This value is considered appropriate for the morphology of the area and is suggested within ADMS-Roads as being suitable for 'parklands, open suburbia'.

A z_0 of 0.3m was used to describe the meteorological site. This value is considered appropriate for the morphology of the area and is suggested within ADMS-Roads as being suitable for 'agricultural areas (max)'.

Monin-Obukhov Length

The Monin-Obukhov length provides a measure of the stability of the atmosphere. A minimum Monin-Obukhov length of 10m was used to describe the modelling extents and meteorological extents. This is considered appropriate for the morphology of both areas and is suggested within ADMS-Roads as being suitable for 'small towns < 50,000'.

Background Concentrations

Annual mean NO₂, PM₁₀ and PM_{2.5} background concentrations for use in the assessment were taken from the DEFRA mapping study for the grid square containing the 5 - Windsor Drive, Devizes monitor, NGR: 401500, 162500. These are shown in Table A1.3.

Table A1.3 Background Pollutant Concentrations - Modelling Extents

Pollutant	Predicted 2023 Background Pollutant Concentration ($\mu\text{g}/\text{m}^3$)
NO ₂	7.04
PM ₁₀	11.48
PM _{2.5}	6.74

The values were chosen to represent concentrations throughout the dispersion modelling extents without the contribution from road vehicles as they were higher than the DEFRA background for the grid squares containing the site, as shown in Table 12.

Similarly to emission factors, background concentrations from 2023 were utilised in preference to the future year. This provided a robust assessment and is likely to overestimate pollutant concentrations during the operation of the proposal.

NO_x to NO₂ Conversion

Predicted annual mean NO_x concentrations were converted to NO₂ concentrations using the spreadsheet (version 9.1) provided by DEFRA, which is the method detailed within DEFRA guidance²⁶.

Verification

The results from a dispersion model may differ from measures concentrations for a large number of reasons, including.

- Estimates of background concentrations;
- Uncertainties in source activity data such as traffic flows and emission factors;
- Variations in meteorological conditions;
- Overall model limitations; and,
- Uncertainties associated with monitoring data, including locations.

²⁶ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Model verification is the process by which these and other uncertainties are investigated and where possible minimised. In reality, the differences between modelled and monitored results are likely to be a combination of all of these aspects.

For the purpose of the assessment, model verification was undertaken for 2023 using traffic data, meteorological data and monitoring results from this year.

Monitoring of NO₂ concentrations was undertaken at one location within the vicinity of roads included within the model during 2023. The result was obtained and the road contributions to total NO_x concentrations calculated following the methodology contained within DEFRA guidance²⁷. The monitored annual mean NO₂ concentration and calculated road NO_x concentration are summarised in Table A1.4.

Table A1.4 NO_x Verification - Monitoring Result

Monitoring Location		Monitored NO ₂ Concentration (µg/m ³)	Calculated Road NO _x Concentration (µg/m ³)
5	Windsor Drive, Devizes	14.9	16.75

The annual mean road NO_x concentration predicted from the dispersion model and the 2023 road NO_x concentration calculated from the monitoring results are summarised in Table A1.5.

Table A1.5 NO_x Verification - Modelling Result

Monitoring Location		Calculated Road NO _x Concentration (µg/m ³)	Modelled Road NO _x Concentration (µg/m ³)
5	Windsor Drive, Devizes	16.75	12.92

The monitored and modelled road NO_x concentrations were compared to calculate the associated ratio. This indicated a verification factor of 1.2969 was required to be applied to all modelling results.

²⁷ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Monitoring of PM₁₀ and PM_{2.5} concentrations is not undertaken within the assessment extents. The NO_x verification factor was therefore used to adjust model predictions of these species in lieu of more accurate data in accordance with DEFRA guidance²⁸.

²⁸ Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

Appendix 2 - Curricula Vitae

KEY EXPERIENCE:

Claire is a Director with specialist experience in the air quality sector

Her key capabilities include:

- Production and management of Air Quality, Dust and Odour Assessments for a wide range of clients from the residential, retail, commercial, leisure and industrial and infrastructure sectors.
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads, ADMS-6 and AERMOD. Studies have included impact assessment of ground level pollutant and odour concentrations and assessment of suitability of development sites for proposed end-use.
- Project management and co-ordination of Environmental Impact Assessments and scoping reports for developments throughout the UK.
- Assessment of fugitive dust impacts from a range of waste and industrial developments.
- Co-ordination and management of large-scale multi-disciplinary projects and submissions.
- Undertaken and overseeing pollutant monitoring campaigns.
- Provision of expert advice and attendance at DCO examination process.

SELECT PROJECTS SUMMARY:

Residential and Educational

Air Quality Assessments for a large number of proposed residential and educational developments across the UK. The assessments included consideration of construction phase dust emissions and mitigation was recommended to minimise fugitive dust emissions accordingly. The suitability of the sites for the proposed residential and educational uses was also assessed. The assessment utilised a range of assessment tools including relevant screening criteria, air dispersion modelling using ADMS-Roads, local air quality monitoring and Defra published assessment tools. Where required for sites in London, Air Quality Neutral assessments were also undertaken utilised the Greater London Authority guidance.

Air Quality Monitoring

Air Quality Assessments and overseeing air quality monitoring campaigns for a number of sites within Birmingham. Air dispersion modelling was undertaken and air quality monitoring utilising NO₂ diffusion tubes was carried out for use in verification of the dispersion model. Mitigation was recommended where appropriate to reduced the exposure of future uses of the sites to elevated pollutant concentrations.

Odour Assessments

Undertaken to support developments in the UK, including consideration of the impact of existing odour sources on proposed developments or to assess potential odour releases from proposed developments. A combination of field odour surveys and risk assessments were undertaken, with mitigation measures recommended where required.

Commercial and Retail

Foodstores across the UK - Air quality assessments for a number of proposed foodstores across the UK. Consideration was given to construction phase dust emissions and vehicle emissions generated by the foodstore operations. Relevant screening criteria and detailed air dispersion modelling were utilised in the assessment. Mitigation was recommended as required to minimise construction phase dust emissions.

Commercial development,

Workshop - Air quality assessment and input into the EIA for a proposed large scale commercial development near Workshop. Assessments of construction phase dust and operational phase road traffic emissions were undertaken and consideration was given to both human and ecological receptors.

Industrial and Infrastructure

Greater Manchester Waste PFI

Contract - Air Quality Assessments were undertaken as part of the Planning Applications and Environmental Permit applications for a number of proposed waste facilities in Greater Manchester.

Energy from Waste Development,

Scotland - Air Quality Assessment and coordination of the EIA and Environmental Permit Application for a proposed Energy from Waste development in Scotland. Considered industrial emissions from flue stacks as well as additional road traffic movements generated by the development

Strategic Rail Freight Interchange,

Hinckley - oversaw the Air Quality Assessment for the proposed Rail Freight Interchange and acted as expert witness as part of the Development Consent Order (DCO) examination process.

KEY EXPERIENCE:

Alec is an Environmental Consultant with specialist experience in the air quality sector. His key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors
- Detailed dispersion modelling of road vehicle and industrial emissions using ADMS-Roads and ADMS-6. Studies have included impact assessment of ground level pollutant concentrations and assessment of suitability of development sites for proposed end-use.
- Advanced Canyon Modelling to evaluate the impact of altered urban topography on air quality in built up areas
- Assessment of fugitive dust impacts from a range of industrial developments.
- Assessment of petrol stations to address benzene concentrations and their impact on adjacent developments.
- Periodic bioaerosol monitoring campaigns at a number of waste facilities in support of permit compliance.
- Assessment of potential effects associated with network realignment schemes and highway developments.
- Development of bespoke monitoring programmes to assess workplace exposure at commercial and industrial facilities and colleges.

SELECT PROJECTS SUMMARY:

1 Piccadilly Circus, London

Air Quality Assessment in support of a tourist hostel located within an Air Quality Management Area (AQMA). The development had the potential to expose future occupants to elevated pollution levels and cause impacts at sensitive locations. Potential emissions from the proposals were also assessed to determine compliance with the Air Quality Neutral requirements of the London Plan. Results of the assessment indicated that the site was Air Quality Neutral and air quality factors were not a constraint to the development.

Kingscroft Farm, Havant

Air Quality Assessment in support of a residential development located in close proximity to the A27 and a number of gas-fired generator sites. The development had the potential to expose future residents to elevated pollution concentrations and cause impacts at sensitive locations. Detailed dispersion modelling was undertaken using ADMS-roads to assess pollutant concentrations across the development and a comparison was made between overall concentrations with and without the development in place. Results indicated pollutant concentrations were below the relevant standards across the site and impacts associated with the development were not significant.

Trademark House, Petersfield

Odour Assessment in support of a mixed-use development at Trademark House, Petersfield. The site was located in close proximity to a petrol filling station (PFS) and associated retail unit, which may result in loss of amenity at the development site. A two stage

Odour Assessment was undertaken to assess baseline conditions across the site and consider the risk of reduced amenity. An Air Quality Benzene Assessment was also undertaken to determine potential exposure of future occupants to elevated benzene concentrations associated with the PFS. Results indicated odour effects at the site did not represent a constraint to planning consent and that exceedences of the Air Quality Objective (AQO) were not predicted at the development location

Granby Road, Buxton

Air Quality Assessment in support of a residential development on land off Granby Road, Buxton. Results of detailed dispersion modelling utilising advanced canyons indicated air quality impacts associated with the development were not significant. The scheme was also located in close proximity to Ashwood Dale Quarry. Potential impacts on future residential amenity were assessed using the Source-Pathway-Receptor approach, which indicated that existing emissions associated with the operation of the quarry were not considered significant.

Industrial Chemicals Ltd, West Thurrock

Air Quality Assessment in support of the relocation of an existing polyaluminium chloride process from Titan Works, Hogg Lane Grays, to West Thurrock Works, Stoneness Road, Grays. Results of the assessment indicated that potential emissions associated with construction and operation of the site were not significant.

KEY EXPERIENCE:

Natasha is an Environmental Consultant with specialist experience in the air quality sector. Her key capabilities include:

- Production of Air Quality Assessments in accordance with Department for Environment, Food and Rural Affairs (DEFRA) methodologies for a range of residential, commercial and industrial sectors.
- Detailed dispersion modelling of road vehicle exhaust emissions using ADMS-Roads. Studies have included impact assessments on sensitive receptors and exposure of new residents to poor air quality.
- Dispersion modelling of odour from Wastewater Treatment Works to predict the odour footprint and likely effects on amenity of nearby sensitive receptors
- Odour surveys to assess amenity and suitability of sites for potential future development for residential use.
- Production of Air Quality Neutral Assessments in accordance with The London Plan.
- Advanced canyon modelling to evaluate the impact of altered urban topography on air quality in built up areas.
- Measurement and assessment of workplace air quality. This includes monitoring of different parameters in accordance with the EH40/2005 Workplace Exposure Limits (WELS).
- Assessment of construction dust impacts from a range of development sizes.

SELECT PROJECTS SUMMARY:

Redbeck Motel, Crofton

Air Quality Assessment in support of a residential development comprising demolition of the existing motel and construction of up to 90 dwellings on land off Doncaster Road, Crofton. The development had the potential to expose future occupants to any existing air quality issues and cause impacts at sensitive locations. Dispersion modelling was undertaken using ADMS-Roads due to the number of vehicle movements expected to be generated by the development. A construction dust assessment was also performed to provide mitigation for proposed dust generating activities. Results of the study indicated that air quality impacts and fugitive dust emissions were not significant.

Arundel Road, Tangemere

Air Quality Assessment in support of a residential development at Cassons Restaurant, Tangmere. Following concerns from the Local Authority regarding the potential exposure of future residents to poor air quality, dispersion modelling was undertaken in order to predicted air quality conditions across the site. Results indicated concentrations did not represent a constraint to planning consent.

Hespin Wood, Carlisle

Monitoring and assessment of Ambient Bioaerosols in support of Environmental Permit compliance for an Open Windrow Compost. The facility has the potential to impact nearby sensitive receptors to *Aspergillus fumigatus* and Mesophilic bacteria. As such, monitoring was undertaken in accordance with the EA M9 guidance to determine conditions within the vicinity of the site. The results indicated both species were below the EA benchmark levels at all positions.

Land off Hayward Gardens, Ashburton South Estate, Putney

Air Quality Neutral Assessment in support of demolition of existing structures and construction of two new buildings to provide 43 dwellings, with a community room. The assessment was carried out in accordance with the London Plan requirements to ensure proposals did not lead to further deterioration of existing air quality. Following discussions and implementation of the identified strategies, compliance with the London Plan was achieved.

Arcade Street, Wigan

Odour Assessment in support of a conversion from existing offices to provide seven apartments. The proposals were located in close proximity to a number of hot food takeaways. As such, the Local Authority raised concerns that odour emissions may cause loss of amenity to future residents. A programme of Field Odour Surveys was undertaken to assess odour impacts from said premises. Results indicated odour effects at the site were not considered significant.

Placefirst, Exchange Quay

Workplace Air Quality Monitoring to investigate concerns that employees may be at risk of exposure to poor air quality as a result of the existing ventilation. Following a previous programme of monitoring, relative humidity levels (RH) were below the Health and Safety Executive guidelines (HSE). As such, an additional programme of monitoring was undertaken. This included monitoring of inhalable and respirable dusts, Volatile Organic Compounds, Carbon monoxide, Carbon dioxide, RH and temperature. Results indicated all parameters were below the relevant WELS and within HSE guidelines.