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GLADMAN DEVELOPMENTS LTD

LAND OFF STORRIDGE ROAD, WESTBURY

AIR QUALITY ASSESSMENT

MAY 2026

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LAND OFF STORRIDGE ROAD, WESTBURY

AIR QUALITY ASSESSMENT

MAY 2026

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EXECUTIVE SUMMARY

An updated detailed air quality assessment, based on the potential impacts associated with a proposed development on Land off Storrige Road, Westbury, has been conducted using the atmospheric dispersion model, ADMS-Roads. The proposed development comprises up to 165 residential dwellings and associated infrastructure.

The assessment has considered dust and fine particulate matter during the construction phase, and road traffic emissions during the operational phase. During the construction phase, the risk of dust soiling effects is classed as medium for demolition, high for earthworks and construction, and medium for trackout; the risk of human health effects is classed as low for demolition, earthworks, construction and for trackout. Mitigation measures have been proposed to further reduce any potential impacts based on best practice guidance.

For the operational phase, annual mean NO₂, PM₁₀ and PM_{2.5} concentrations have been modelled at sixteen existing sensitive receptor locations as well as at two proposed on-site receptor locations, using the most recent Emission Factor Toolkit available from DEFRA (version 13.1). Predicted annual mean concentrations have been compared to the relevant air quality objectives.

The assessment concludes that the operational phase of the development will result in concentrations of NO₂, PM₁₀ and PM_{2.5} remaining below the air quality objectives, both without and with the development in the 2031 Opening/Future Year. The impact of the development is predicted to be negligible at all sixteen existing sensitive receptors and two proposed sensitive receptors that were assessed. Air quality effects are therefore considered to be not significant.

The assessment demonstrates that the proposed development will not lead to an unacceptable risk from air pollution, or to any breach in national objectives. Therefore, there are no material reasons in relation to air quality why the proposed scheme should not proceed, subject to appropriate planning conditions.

1 INTRODUCTION

1.1 Background

- 1.1.1 Wardell Armstrong LLP (WA) (part of SLR Consulting Limited) has been commissioned by Gladman Developments Ltd to undertake an updated air quality assessment to accompany an outline planning application for the demolition of number 5 and 6 Storridge Road and the erection of up to 165 dwellings with public open space, landscaping, sustainable drainage system and vehicular access point from Storridge Road. All matters reserved except for means of access. It should be noted that three planning applications for the site have been submitted previously for similar proposals, which have been refused by Wiltshire Council, however air quality was not a reason for refusal.
- 1.1.2 The proposed development site is located to the northwest of Westbury town centre. To the north, the site is bordered by commercial and industrial areas; with open land beyond. To the east, the site is bordered by existing residential areas and open land which has an approved planning application for 145 dwellings; with Dilton Marsh to Westbury railway line beyond. To the south, the site is bordered by existing residential dwellings; with Storridge Road beyond. To the west, the site is bordered by open land and woodland; with commercial and industrial areas and a car trading centre beyond.
- 1.1.3 This report details the results of the air quality assessment undertaken to accompany a planning application for the proposed development. The report discusses the potential dust and particulate matter impacts associated with the demolition and construction phase, and an assessment of the potential air quality impacts of the additional road traffic generated by the proposed development.
- 1.1.4 Air pollutant concentrations are considered at sixteen existing sensitive receptor locations in the vicinity of the proposed development, and also at two proposed receptor locations within the development site itself.
- 1.1.5 The assessment has been undertaken using the most recent version of the Emission Factor Toolkit (EFT v13.1), which was released by Defra in March 2025.

2 LEGISLATION AND POLICY CONTEXT

2.1 Relevant Air Quality Legislation and Guidance

2.1.1 The air quality assessment has been undertaken in accordance with the following legislation and guidance:

- The Environment Act 1995, as amended 2021;
- Department of Environment, Food and Rural Affairs, The Air Quality Strategy for England, August 2023;
- The Air Quality Standards Regulations 2010;
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023;
- Department for Environment, Food and Rural Affairs, Environmental Improvement Plan, December 2025;
- Department for Environment, Food and Rural Affairs, Local Air Quality Management Technical Guidance LAQM.TG(22), August 2022;
- The Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction (v2.2), January 2024;
- Environmental Protection UK and the Institute of Air Quality Management, Guidance on Land-Use Planning & Development Control: Planning for Air Quality, January 2017;
- Ministry of Housing, Communities and Local Government, National Planning Policy Framework, December 2024, as amended February 2025;
- Department for Communities and Local Government, Planning Practice Guidance: Air Quality, November 2019; and
- Wiltshire Council Air Quality Supplementary Planning Document (SPD), July 2025.

2.1.2 Further details of these documents are included in **Appendix A**.

2.2 Assessment Criteria

2.2.1 The relevant air quality objectives and limit values for this assessment are included within Table 1.

Table 1: Air Quality Objectives and Limit Values Relevant to the Assessment*

Pollutant	Objective/Limit Value	Averaging Period	Obligation
Nitrogen Dioxide (NO ₂)	200µg/m ³ , not to be exceeded more than 18 times a year	1-hour mean	All local authorities
	40µg/m ³	Annual mean	All local authorities
Particulate Matter (PM ₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	England, Wales and Northern Ireland
	40µg/m ³	Annual mean	England, Wales and Northern Ireland
Particulate Matter (PM _{2.5})	Limit Value of 20µg/m ³	Annual mean	England, Wales and Northern Ireland
	Limit Value of 10µg/m ³ , to be achieved by 2040**	Annual mean	England

**In accordance with the Air Quality Standards Regulations 2010*

***In accordance with the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023*

2.2.2 Further details of where these objectives and limit values apply are detailed in **Appendix A.**

3 ASSESSMENT METHODOLOGY

3.1 Consultation and Scope of Assessment

3.1.1 The assessment methodology was originally discussed with Steven Manning, Environmental Health Officer (EHO) at Wiltshire Council (WC) via email correspondence, between 16th September 2016 and 1st September 2017.

3.1.2 A summary of the original consultation undertaken is provided in Table 2.

Table 2: Summary of Consultation		
Assessment Stage	Proposed Method	Response
Construction phase assessment to consider dust and fine particulate matter (PM ₁₀)	Qualitative assessment in accordance with Institute of Air Quality Management (IAQM) guidance.	No objection to method
Operational phase assessment to consider nitrogen dioxide (NO ₂) and fine particulate matter (PM ₁₀ and PM _{2.5})	Detailed assessment using the ADMS-Roads atmospheric dispersion model, in accordance with Environmental Protection UK (EPUK)/IAQM guidance, and with all predicted concentrations compared to air quality objectives/limit values	
	2016 meteorological data from Larkhill recording station	
	Background NO ₂ , PM ₁₀ and PM _{2.5} concentrations from 2013-based DEFRA default maps	
	Assessment undertaken using EFT v7.0 emission factors.	
	Model verification to be undertaken using a number of suitable local authority diffusion tubes.	SPC is covered by a LAPPC permit relating to particulate emissions which it currently satisfies so no further work required
	It is noted that, approximately 50m to the north, lies SPC which is a manufacturer of rubber compounds. At this stage, we are not aware of any visible stacks on the building, and the premises of SPC does not lie upwind of the site when considering the predominant wind direction. It is considered unlikely that activities at these premises will lead to significant air quality effects for future residents of the proposed development.	

3.1.3 The EHO advised that other potential processes should be considered, including EA permitted processes in Westbury.

3.1.4 Since the above consultation was undertaken, the scope of the air quality assessment has changed. The changes to the air quality assessment methodology are as follows:

- **2024** meteorological data from Larkhill meteorological recording station has been used;
- Background NO₂, PM₁₀ and PM_{2.5} concentrations from **2021-based** DEFRA default maps have been used; and
- The assessment has been undertaken using EFT **v13.1** emission factors.

3.1.5 The updated methodology was sent to WC on the 4th of December 2025. Nadine Cahill, EHO at WC, responded in the 11th of December 2025 requesting that the assessment is undertaken in accordance with the WC Air Quality SPD, which was approved in October 2025. Therefore, the requirements of the SPD have been incorporated into this assessment.

3.2 Construction Phase Assessment

3.2.1 To assess the impacts associated with dust and particulate matter releases during the construction phase of the development, an assessment has been undertaken in accordance with guidance from the Institute of Air Quality Management (IAQM)¹. Further details of the construction assessment methodology are provided in **Appendix B**.

3.2.2 The closest sensitive human receptors to where construction phase activities will take place are mostly residential and are detailed in Table 4. However, it should be noted that the assessment includes consideration of all sensitive receptors within 250m of the site boundary, in accordance with IAQM guidance.

Table 4: Closest Existing Sensitive Receptors Considered in the Construction Phase Assessment

Receptor	Direction from the Site	Approximate Distance from the Site Boundary (m)
Existing Residential Properties along Storrige Road.	South West	20m at the closest point
Existing Residential Properties along The Ham.	South East	20m at the closest point

¹ Institute of Air Quality Management, Guidance on the Assessment of Dust from Demolition and Construction (v2.2), January 2024

3.2.3 There are no ecological receptors, or potentially dust sensitive statutory designated habitat sites, within 50m of the site and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s). Ecological effects do not therefore need to be considered within this assessment.

3.2.4 The criteria used to assess the construction impact of the proposed development, and the associated significance of effects at existing sensitive receptors, are included in **Appendix B**.

3.3 Operational Phase Assessment

3.3.1 The air dispersion model ADMS-Roads (CERC, Version 5.0.1.3) has been used to assess the impacts associated with road traffic emissions during the operational phase assessment. The impacts have been assessed in accordance with guidance from Environmental Protection UK (EPUK) and the IAQM². Further details of the modelling and assessment methodology are provided in **Appendix C**.

3.3.2 NO₂, PM₁₀ and PM_{2.5} concentrations have been predicted at existing and proposed sensitive receptors, as these are the pollutants considered most likely to exceed the objectives and limit values.

3.3.3 Air dispersion modelling has been carried out to estimate pollutant concentrations, due to road traffic emissions, for four assessment scenarios as follows:

- **Scenario 1:** 2024: Verification and Base Year, the most recent year for which traffic flow information, local monitored pollution data and meteorological data are available;
- **Scenario 2:** 2031 Opening Year, without the proposed development in place but including committed developments; and
- **Scenario 3:** 2031 Opening Year, with the proposed development in place, including committed developments.

Existing Sensitive Receptors

3.3.4 A number of representative existing sensitive receptors (identified as ESR 1 to ESR 16) have been selected for consideration in the air quality assessment. These have been chosen based on their sensitivity and their proximity to roads which will be affected by development generated traffic.

² Moorcroft and Barrowcliffe et al, Land-Use Planning and Development Control: Planning for Air Quality (v1.2), January 2017

3.3.5 Details of the receptors considered are provided in Table 5, and their locations are shown on Drawing GM13536-001.

Table 5: Existing Sensitive Receptors Considered in Operational Phase Assessment				
Receptor	Address	Grid Reference		Receptor Type
		Easting	Northing	
ESR 1	Storrige Road	386048	152236	Residential
ESR 2	The Ham	386074	152230	Residential
ESR 3	Station Road	386566	151795	Residential
ESR 4	Rosefield Way	386680	151661	Residential
ESR 5	Station Road	386681	151624	Residential
ESR 6	Station Road	386899	151497	Residential
ESR 7	Eden Vale Road	386886	151462	Residential
ESR 8	Station Road	387058	151343	Residential
ESR 9	Haynes Road	387087	151307	Residential
ESR 10	West End	387094	151338	Residential
ESR 11*†	Warminster Road	387262	151091	Residential
ESR 12*	Warminster Road	387251	151106	Residential
ESR 13	Warminster Road	387287	151109	Residential
ESR 14	Hawkeridge Road	386088	153650	Residential
ESR 15	Westbury Road	386777	154970	Residential
ESR 16	Storrige Road	385959	152314	Residential
*Located inside the Westbury AQMA				
†Modelled at 4m to represent a first floor dwelling				

3.3.6 The criteria used to assess the operational impact of the proposed development, and the associated significance of effects at existing sensitive receptors, are included in **Appendix C**.

Proposed Sensitive Receptors

3.3.7 Two proposed sensitive receptors (referred to as PR 1 and PR 2) have been selected within the development site boundary.

- 3.3.8 Pollutant concentrations at the proposed receptors have been predicted for scenario 3 only (as detailed in paragraph 3.3.3). It is only necessary to consider the ‘with development’ scenario for the proposed receptors as they will not experience any ‘without development’ conditions. It is not therefore necessary to consider the changes in pollutant concentrations at the proposed receptors.
- 3.3.9 Details of the proposed sensitive receptors are provided in Table 6, and their locations are shown on Drawing GM13536-001.

Table 6: Proposed Sensitive Receptors Considered in the Operational Phase Assessment			
Receptor Point	Location	Grid Reference	
		Easting	Northing
PR 1	Location considered to be representative of the closest proposed residential properties to the site access and Storrige Road; in the south western part of the site	386014	152344
PR 2	Location considered to be representative of one of the closest proposed residential properties to B3097 The Ham; in the south eastern part of the site	386081	152330

- 3.3.10 The predicted concentrations at the proposed receptors have been assessed against the air quality objectives and limit values detailed in Table 1.

3.4 Limitations and Uncertainties

- 3.4.1 Air quality assessments make use of official sources of information (i.e. vehicle emission factors and background concentrations) which have historically been considered to be overly optimistic. Monitoring data collected by the UK Government and local authorities over the past few years has shown that annual mean NO₂ concentrations remained higher than previously expected (especially in roadside locations). This was widely thought to be due to the lower-than-expected decline in NO_x emissions from diesel vehicles (even as new Euro standards have been introduced), coupled with an overall increase in the number of diesel vehicles on the road.
- 3.4.2 The vehicle emission factors used in this assessment are from Defra’s Emission Factor Toolkit (EFT v13.1)³, which is the most up-to-date version available.

³ Defra Local Air Quality Management webpages (<https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html>)

- 3.4.3 A position statement was produced by the IAQM in 2018 which dealt specifically with the use of EFT v8.0 and the consideration of uncertainties in predicting future air quality⁴. The statement concluded that the approaches for dealing with this uncertainty should be decided on a case-by-case basis but may include the use of a sensitivity test in which it is assumed that NO_x emissions will not reduce as quickly over time as within the EFT.
- 3.4.4 A later study provided evidence that EFT v9.0 may be relied upon to predict the ‘most likely’ future emissions reductions, as long as model verification has been undertaken using monitored data from 2016 or later⁵.
- 3.4.5 The IAQM has now withdrawn its 2018 position statement on the consideration of uncertainties in predicting future air quality⁶. A growing body of evidence suggests that the latest COPERT vehicle emission factors used in EFT v9.0 (and later) reflect real-world NO_x emissions more accurately. As a result, the IAQM judge that “an exclusively vehicle emissions-based sensitivity test is no longer necessary”. This is provided that the assessment has been verified using monitoring data from 2016 or later.
- 3.4.6 A recent statement from the IAQM has been released⁷ concerning the use of 2020 and 2021 datasets, and the appropriate base year scenario to use in air quality assessments when undertaking model verification. IAQM now recommend that when model verification is undertaken, either 2019 or 2022 (or later) should be used as the last typical pre and post pandemic years, to help “avoid introducing additional uncertainty to the results, and that any adjustment factor so derived is appropriate”. Where traffic data is based on 2019 data or before, then it remains appropriate to use a 2019 base year (with associated 2019 monitoring data). However, where traffic data is based on 2022 onwards, then a 2022 onwards base year (and associated monitoring data) should be used for model verification purposes.
- 3.4.7 In accordance with Defra guidance, the air quality assessment has been carried out using EFT v13.1. As model verification has been undertaken, following the latest guidance from the IAQM, it is not considered necessary to carry out a sensitivity analysis. A 2024 base year has been used in the assessment. Further information on

⁴ Institute of Air Quality Management, Dealing with Uncertainty in Vehicle NO_x Emissions within Air Quality Assessments v1.1, July 2018

⁵ Air Quality Consultants, Performance of Defra’s Emission Factor Toolkit 2013 – 2019, February 2020

⁶ Available on the Institute of Air Quality Management website (https://iaqm.co.uk/wp-content/uploads/2013/02/iaqm_uncertainty_vehicle_NOx_emission_withdrawn-02.pdf)

⁷ Institute of Air Quality Management, Use of 2020 and 2021 Monitoring Datasets, v1.1, December 2023

model verification and the vehicle emission factors used in the assessment are provided in **Appendix C**.

3.4.8 Several steps have been taken to ensure the model is as accurate and representative as possible. These comprise:

- Consultation has been undertaken with WC in an attempt to confirm their agreement with the methodology used within the assessment;
- The latest Defra LAQM tools have been incorporated into the assessment following their release in March 2025;
- Meteorological data, obtained from the Larkhill Meteorological Recording Station, has been incorporated into the assessment;
- Two nearby WC operated diffusion tube monitoring locations have been considered within the assessment to allow model verification to take place. A model verification factor has been applied to NO_x concentrations, which are then input into the Defra NO_x to NO₂ calculator tool to predict total NO₂ concentrations at each receptor considered in the assessment; and
- Extensive detailed modelling of the roads included in the study area has been undertaken. Individual road lengths, widths, road canyons and vehicle speeds have been reviewed in detail, as have the locations of the ESRs, PSRs and the diffusion tubes, in relation to their proximity to the modelled roads, to ensure all information is as accurate as possible.

4 BASELINE SITUATION

4.1 Potential Pollutant Sources in the Local Area

- 4.1.1 The main source of pollution affecting the proposed development site is considered to be road traffic emissions associated with Storrige Road to the southwest, and B3097 The Ham to the southeast.
- 4.1.2 The proposed development site is also located to the east of the West Wiltshire Trading Estate, which includes a number of industrial/commercial premises.
- 4.1.3 It is noted that, approximately 50m to the north, lies SPC which is a manufacturer of rubber compounds. At this stage, we are not aware of any visible stacks on the building, and the premises of SPC does not lie upwind of the site when considering the predominant wind direction. WC have confirmed that SPC is covered by an LAPPC permit relating to particulate emissions which it currently satisfies so it is considered unlikely that activities at these premises will lead to significant air quality effects for future residents of the proposed development
- 4.1.4 After reviewing the surrounding area, it is noted that Rainbow Paints Ltd, located approximately 650m to the west/northwest of the proposed development (post code: BA13 4JU) operates solvent-based paint spraying. Given the small scale of Rainbow Paints Ltd and the long distance involved, it is considered unlikely that the solvent spraying activities at Rainbow Paints Ltd will lead to significant air quality or odour effects for future residents of the proposed development.
- 4.1.5 With regard to EA permitted processes in Westbury, the 2024 Pollution Inventory⁸, the most recent available, was reviewed. It is noted that the following companies are located in the area:
- **Hills Waste Solutions Ltd** and **Arla Foods Ltd** (BA13 4WD), approximately 370m to the south west of the proposed development;
 - **Faccenda Foods Ltd** (BA13 4JL), approximately 980m to the north west of the development site; and
 - **Waste Matters Ltd** and **Absolute Solvents Ltd** (BA13 4EN), approximately 750m to the south west of the proposed development site.
- 4.1.6 The 2024 Pollution Inventory shows that the quantity of pollution released from the above companies were all below the reporting thresholds, except for Arla Foods

⁸ Environment Agency, 2024 Pollution Inventory, available at <https://data.gov.uk/dataset/pollution-inventory>

Limited, which has records of releasing 'Particulate matter – total' above reporting threshold during 2024. There is currently no representative PM₁₀ and PM_{2.5} monitoring location in the vicinity of the proposed development site. In order to provide more information, PM₁₀ and PM_{2.5} background concentrations at the proposed development site has been obtained from the 2021 – based Defra default concentration maps.

- 4.1.7 The 2024 PM₁₀ and PM_{2.5} background pollutant concentrations for the proposed development site (Defra Grid Square: 386500, 152500) are 11.11µg/m³ and 6.65µg/m³ respectively. The annual mean air quality objective for PM₁₀ concentrations is 40µg/m³, the annual mean target value for PM_{2.5} concentrations is 20µg/m³ and the interim target for PM_{2.5}, which is to be achieved by 2040, is 10µg/m³.
- 4.1.8 The background concentrations for the site are well below the relevant objective/target values. Therefore, it is considered unlikely that activities at Arla Foods Ltd will lead to significant air quality effects for future residents of the proposed development.

4.2 Wiltshire Council Local Air Quality Management

- 4.2.1 The proposed development site is located within the administrative area of Wiltshire Council (WC), which is responsible for the management of local air quality.
- 4.2.2 There are currently eight AQMAs declared by WC, as a result of exceedances of the annual mean NO₂ objective; the Westbury AQMA is located within Westbury approximately 1.7km to the south east of the proposed development, therefore the site is not considered to be located in an area of known poor air quality.
- 4.2.3 A review of the 2025 WC Annual Status Report (ASR) was undertaken to identify monitoring locations within the vicinity of the proposed development. There are three roadside NO₂ diffusion tubes located in Westbury: 21, 22 and 23. These diffusion tubes measured NO₂ concentrations of 23.5µg/m³, 29.9µg/m³, and 19.7µg/m³ in 2024, respectively, and have been used in the model verification process.
- 4.2.4 It should be noted that the proposed development is located close to several employment centres such as the West Wiltshire Trading Estate and the Westbury Trading Estate, meaning there is only a short distance to local employment hubs from the site which allows for several transport options such as walking and cycling. The proposed development is also located less than 400m away from the Westbury Rail Station and therefore the site has convenient public transport links to the wider area.

The base design of the site therefore has minimised any potential air quality impact by allowing for sustainable travel to be a viable option for future residents of the site.

4.3 Background Air Pollutant Concentrations

4.3.1 The air quality assessment needs to take into account background concentrations upon which the local, traffic derived pollution is superimposed.

4.3.2 As there are currently no representative NO₂, PM₁₀ or PM_{2.5} background monitoring locations in the vicinity of the proposed development site, background concentrations have been obtained from the 2021-based Defra default concentration maps, for the appropriate grid squares⁹.

4.3.3 The background pollutant concentrations used in this assessment are detailed in Table 7.

Table 7: Background Pollutant Concentrations Used in the Air Quality Assessment.				
Pollutant	Annual Mean Concentrations (µg/m³)			
	NO_x	NO₂	PM₁₀	PM_{2.5}
2024 Base Year				
ESR 1 – ESR 2 (386500, 152500)	7.73	6.12	11.11	6.65
ESR 3 – ESR 7 (386500, 151500)	7.60	6.02	11.15	6.91
ESR 8 – ESR 13 (387500, 151500)	8.51	6.71	11.66	7.17
ESR 14 (386500, 153500)	7.54	5.97	11.37	6.76
ESR 15 (386500, 154500)	7.42	5.88	11.40	6.71
ESR 16 (385500, 152500)	9.53	5.43	11.11	6.65
2031 Opening Year/Future Year				
ESR 1 – ESR 2 & PSR 1 – PSR 2 (386500, 152500)	6.27	5.01	10.51	6.13
ESR 3 – ESR 7 (386500, 151500)	5.98	4.78	10.55	6.38
ESR 8 – ESR 13 (387500, 151500)	6.43	5.13	11.06	6.63

⁹ Accessed through the Defra Local Air Quality Management webpages (<http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>)

Table 7: Background Pollutant Concentrations Used in the Air Quality Assessment.

Pollutant	Annual Mean Concentrations (µg/m³)			
	NO _x	NO ₂	PM ₁₀	PM _{2.5}
ESR 14 (386500, 153500)	6.17	4.93	10.75	6.23
ESR 15 (386500, 154500)	5.91	4.73	10.78	6.18
ESR 16 (385500, 152500)	8.18	6.45	11.14	6.12
<i>*Obtained from the Defra 2021-based background maps</i>				

4.4 Modelled Baseline Concentrations at Existing Sensitive Receptors

4.4.1 The baseline assessment (i.e. scenarios 1 and 2) has been carried out for the existing sensitive receptors considered, in accordance with Defra guidance (i.e. using EFT v13.1). The adjusted NO₂ and unadjusted PM₁₀ and PM_{2.5} concentrations are detailed in Table 8.

Table 8: Predicted Adjusted NO₂ and Unadjusted PM₁₀ and PM_{2.5} Concentrations at Existing Sensitive Receptors for Scenarios 1 and 2

Receptor	Calculated Annual Mean Concentrations (µg/m³)					
	Scenario 1: 2024 Base Year			Scenario 2: 2031 Opening/Future Year, Without Development but including Committed Developments		
	NO ₂	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀	PM _{2.5}
ESR 1	9.20	11.62	6.92	6.28	10.99	6.38
ESR 2	10.50	11.85	7.05	6.83	11.22	6.50
ESR 3	9.39	11.90	7.31	6.21	11.27	6.77
ESR 4	9.11	11.84	7.28	6.09	11.21	6.73
ESR 5	8.81	11.77	7.24	5.96	11.15	6.70
ESR 6	9.67	11.96	7.34	6.37	11.33	6.80
ESR 7	11.12	12.28	7.52	9.23	11.67	6.98
ESR 8	10.03	12.17	7.44	6.67	11.55	6.89
ESR 9	10.29	12.16	7.44	6.91	11.53	6.88
ESR 10	15.45	12.90	7.85	9.48	12.22	7.25
ESR 11	23.32	14.32	8.62	12.61	13.52	7.93

Table 8: Predicted Adjusted NO₂ and Unadjusted PM₁₀ and PM_{2.5} Concentrations at Existing Sensitive Receptors for Scenarios 1 and 2

Receptor	Calculated Annual Mean Concentrations (µg/m ³)					
	Scenario 1: 2024 Base Year			Scenario 2: 2031 Opening/Future Year, Without Development but including Committed Developments		
	NO ₂	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀	PM _{2.5}
ESR 12	30.51	15.73	9.38	16.29	14.80	8.62
ESR 13	24.03	14.66	8.79	12.72	13.77	8.07
ESR 14	10.62	12.11	7.19	7.09	11.47	6.63
ESR 15	16.04	12.91	7.54	9.16	12.17	6.91
ESR 16	6.70	11.38	6.79	6.98	11.40	6.26
<i>NO₂ concentrations obtained by inputting predicted NO_x concentrations into the NO_x to NO₂ calculator¹⁰ in accordance with LAQM.TG(22)</i>						

- 4.4.2 The results show that all predicted NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant objectives and limit value, including the PM_{2.5} interim target of 10µg/m³, which is achieved to be reached by 2040.

¹⁰ Defra Local Air Quality Management webpages (<http://laqm.defra.gov.uk/tools-monitoring-data/no-calculator.html>)

5 IMPACT ASSESSMENT

5.1 Construction Phase Assessment

Step 2 – Impact Assessment

5.1.1 In accordance with the IAQM guidance, the main activities to be considered during the construction phase of the proposed development are demolition, earthworks, construction and trackout.

5.1.2 Residential properties No. 5 and No. 6 along Storrige Road will be demolished to build a new access road to the proposed development. Earthworks covers the processes of soil-stripping, ground-levelling, excavation and landscaping. Construction activities will focus on the proposed buildings, access roads car parking areas. Trackout is defined as the transport of dust and dirt by vehicles travelling from a construction site on to the public road network. This may occur through the spillage of dusty materials onto road surfaces or through the transportation of dirt by vehicles that have travelled over muddy ground on the site. This dust and dirt can then be deposited and resuspended by other vehicles.

Step 2A

5.1.3 Step 2A of the assessment defines the potential dust emission magnitude from earthworks, construction and trackout in the absence of site-specific mitigation.

5.1.4 Examples of the criteria for the dust emission classes are detailed in **Appendix B**. The results of this step are detailed in Table 9.

Step 2B

5.1.5 Step 2B of the construction phase dust assessment defines the sensitivity of the area, taking into account the significance criteria detailed in **Appendix B**, for earthworks, construction and trackout. The sensitivity of the area to each activity is assessed for potential dust soiling, human health effects and ecological effects.

5.1.6 For demolition, there are currently between 1 and 10 receptors (residential) within 20m of where these activities are due to take place.

5.1.7 For earthworks and construction, there are currently between 10 and 100 receptors (mainly residential) within 50m of where these activities may take place, which is assumed to be the site boundary for the purposes of this assessment.

5.1.8 For trackout, there are between 10 and 100 receptors (mainly residential) within 50m of where trackout may occur for a distance of up to 250m from the site entrance.

Step 2C

5.1.9 Step 2C of the construction phase dust assessment defines the risk of impacts from each activity, by combining the dust emission magnitude with the sensitivity of the surrounding area.

5.1.10 The risk of dust impacts from each activity, with no mitigation in place, has been assessed in accordance with the criteria detailed in **Appendix B**. The results of this step are detailed in Table 9.

Summary of Step 2

5.1.11 Table 9 details the results of Step 2 of the construction phase assessment for human receptors.

Table 9: Construction Phase Dust Assessment for Human Receptors				
	Activity			
	Demolition	Earthworks	Construction	Trackout
Step 2A				
Dust Emission Magnitude	Small ^a	Medium ^b	Large ^c	Medium ^d
Step 2B				
Sensitivity of Closest Receptors	High	High	High	High
Sensitivity of Area to Dust Soiling Effects	Medium	Medium	Medium	Medium
Sensitivity of Area to Human Health Effects	Low ^e	Low ^e	Low ^e	Low ^e
Step 2C				
Dust Risk: Dust Soiling	Low Risk	Medium Risk	Medium Risk	Medium Risk
Dust Risk: Human Health	Negligible	Low Risk	Low Risk	Low Risk
<i>a. Total building volume <12,000m³, construction material with low potential for dust release.</i> <i>b. Total site area estimated to be between 18,000m² and 110,000m²</i> <i>c. Total building volume estimated to more than 75,000m³, with potentially dusty construction materials</i> <i>d. Number of construction phase vehicles estimated to be between 20 and 50 movements per day</i> <i>e. Background annual mean PM₁₀ concentration is taken from the LAQM Defra default concentration maps, for the appropriate grid square for 2025</i>				

Step 3 – Mitigation

- 5.1.12 During the construction phase, the implementation of effective mitigation measures will substantially reduce the potential for nuisance dust and particulate matter to be generated.
- 5.1.13 Step 2C of the assessment has identified that the risk of dust soiling and human health effects is not negligible for all the activities and therefore site-specific mitigation will need to be implemented to ensure dust effects from these activities will be not significant.

Recommendations for Site-Specific Mitigation

- 5.1.14 Specific mitigation relating to dust control may be in the form of construction best practices; in accordance with the WC Air Quality SPD, it is recommended that a Construction Environmental Management Plan (CEMP) is prepared to detail dust-suppression measures which would reduce any potential impact. Recommendations for mitigation within the IAQM guidance include:

- Soft strip inside buildings before demolition;
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as water can be directed to where it is needed;
- Revegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- Protection of surfaces and exposed material from winds until disturbed areas are sealed and stable;
- Dampening down of exposed stored materials, which will be stored as far from sensitive receptors as possible;
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;
- Avoidance of activities that generate large amounts of dust during windy conditions;
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery;
- Avoid dry sweeping of large areas;

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use;
- Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport;
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable);
- Minimisation of vehicle movements and limitation of vehicle speeds – the slower the vehicle speeds, the lower the dust generation;
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever the site size and layout permits; and
- Access gates to be located at least 10m from receptors, where possible.

5.1.15 All dust and air quality complaints should be recorded, and appropriate measures be taken to identify causes and reduce emissions in a timely manner. Exceptional incidents which cause dust and/or emissions, and the action taken to resolve the situation, should be recorded in a log-book and made available to WC on request.

5.1.16 It is recognised that the final design solutions will be developed with the input of the Contractor to maximise construction efficiencies, to use modern construction techniques and sustainable materials and to incorporate the particular skills and experience offered by the appointed contractor.

Step 4 – Residual Effects

5.1.17 Step 4 of the construction phase dust assessment has been undertaken to determine the significance of the dust effects arising from earthworks, construction and trackout associated with the proposed development.

5.1.18 The implementation of effective mitigation measures during the construction phase, such as those detailed in Step 3, which are advised to be incorporated into a CEMP, will substantially reduce the potential for nuisance dust and particulate matter to be generated and any residual impact should be **not significant**.

5.2 Operational Phase Assessment

Existing Sensitive Human Receptors

5.2.1 The impact assessment has been carried out for the representative existing sensitive receptors considered (i.e. ESR 1 to ESR 16) using EFT v13.1.

5.2.2 Table 10 details the predicted NO₂ concentrations for the 2031 Opening/Future Year, for both the 'Without Development' and 'With Development' scenarios, in accordance with Defra guidance (i.e. using EFT v13.1). The impact has been assessed in accordance with the descriptors included in **Appendix C**.

Table 10: Predicted Adjusted NO ₂ Concentrations at Existing Sensitive Receptors for Scenarios 2 and 3 – Using the Emission Factor Toolkit v13.1					
Receptor	Calculated Annual Mean NO ₂ Concentrations (µg/m ³) ^a				
	Without Development	With Development		Concentration Change as Percentage of AQUAL	Impact ^b
		Concentration	Percentage in Relation to AQUAL		
ESR 1	6.28	6.43	<75%	<0.5%	Negligible
ESR 2	6.83	6.93	<75%	<0.5%	Negligible
ESR 3	6.21	6.24	<75%	<0.5%	Negligible
ESR 4	6.09	6.12	<75%	<0.5%	Negligible
ESR 5	5.96	5.99	<75%	<0.5%	Negligible
ESR 6	6.37	6.41	<75%	<0.5%	Negligible
ESR 7	9.23	9.25	<75%	<0.5%	Negligible
ESR 8	6.67	6.70	<75%	<0.5%	Negligible
ESR 9	6.91	6.92	<75%	<0.5%	Negligible
ESR 10	9.48	9.51	<75%	<0.5%	Negligible
ESR 11	12.61	12.67	<75%	<0.5%	Negligible
ESR 12	16.29	16.38	<75%	<0.5%	Negligible
ESR 13	12.72	12.74	<75%	<0.5%	Negligible
ESR 14	7.09	7.15	<75%	<0.5%	Negligible
ESR 15	9.16	9.17	<75%	<0.5%	Negligible
ESR 16	6.98	7.06	<75%	<0.5%	Negligible
a. NO ₂ concentrations obtained by inputting predicted NO _x concentrations into the NO _x to NO ₂ calculator, in accordance with LAQM.TG(22)					
b. Assessed using the Impact Descriptors from the EPUK/IAQM guidance, included in Appendix C. Changes of less than 0.5% should be described as negligible					

5.2.3 Table 11 overleaf details the PM₁₀ concentrations for the 2031 Opening Year, for both the 'Without Development' and 'With Development' scenarios. The impact has been assessed in accordance with the descriptors included in **Appendix C**.

Table 11: Predicted Unadjusted PM₁₀ Concentrations at Existing Sensitive Receptors for Scenarios 2 and 3 – Using the Emission Factor Toolkit v13.1

Receptor	Calculated Annual Mean PM ₁₀ Concentrations (µg/m ³)				
	Without Development	With Development		Concentration Change as Percentage of AQAL	Impact ^a
		Concentration	Percentage in Relation to AQAL		
ESR 1	10.99	11.05	<75%	<0.5%	Negligible
ESR 2	11.22	11.27	<75%	<0.5%	Negligible
ESR 3	11.27	11.29	<75%	<0.5%	Negligible
ESR 4	11.21	11.23	<75%	<0.5%	Negligible
ESR 5	11.15	11.16	<75%	<0.5%	Negligible
ESR 6	11.33	11.35	<75%	<0.5%	Negligible
ESR 7	11.67	11.68	<75%	<0.5%	Negligible
ESR 8	11.55	11.56	<75%	<0.5%	Negligible
ESR 9	11.53	11.54	<75%	<0.5%	Negligible
ESR 10	12.22	12.24	<75%	<0.5%	Negligible
ESR 11	13.52	13.54	<75%	<0.5%	Negligible
ESR 12	14.80	14.84	<75%	<0.5%	Negligible
ESR 13	13.77	13.78	<75%	<0.5%	Negligible
ESR 14	11.47	11.49	<75%	<0.5%	Negligible
ESR 15	12.17	12.17	<75%	<0.5%	Negligible
ESR 16	11.40	11.44	<75%	<0.5%	Negligible
<i>a. Assessed using the Impact Descriptors from the EPUK/IAQM guidance, included in Appendix C. Changes of less than 0.5% should be described as negligible</i>					

5.2.4 Table 12 details the PM_{2.5} concentrations for the 2031 Opening Year, for both the ‘Without Development’ and ‘With Development’ scenarios. The impact has been assessed in accordance with the descriptors included in **Appendix C**.

Table 12: Predicted Unadjusted PM_{2.5} Concentrations at Existing Sensitive Receptors for Scenarios 2 and 3 – Using the Emission Factor Toolkit v13.1

Receptor	Calculated Annual Mean PM _{2.5} Concentrations (µg/m ³)				
	Without Development	With Development		Concentration Change as Percentage of AQAL	Impact ^a
		Concentration	Percentage in Relation to AQAL		
ESR 1	6.38	6.41	<75%	<0.5%	Negligible
ESR 2	6.50	6.52	<75%	<0.5%	Negligible
ESR 3	6.77	6.78	<75%	<0.5%	Negligible
ESR 4	6.73	6.74	<75%	<0.5%	Negligible
ESR 5	6.70	6.71	<75%	<0.5%	Negligible
ESR 6	6.80	6.81	<75%	<0.5%	Negligible
ESR 7	6.98	6.98	<75%	<0.5%	Negligible
ESR 8	6.89	6.90	<75%	<0.5%	Negligible
ESR 9	6.88	6.89	<75%	<0.5%	Negligible
ESR 10	7.25	7.26	<75%	<0.5%	Negligible
ESR 11	7.93	7.95	<75%	<0.5%	Negligible
ESR 12	8.62	8.64	<75%	<0.5%	Negligible
ESR 13	8.07	8.07	<75%	<0.5%	Negligible
ESR 14	6.63	6.64	<75%	<0.5%	Negligible
ESR 15	6.91	6.92	<75%	<0.5%	Negligible
ESR 16	6.26	6.28	<75%	<0.5%	Negligible
<i>a. Assessed using the Impact Descriptors from the EPUK/IAQM guidance, included in Appendix C. Changes of less than 0.5% should be described as negligible</i>					

5.2.5 The results of the assessment show that all predicted NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant objectives and limit value, including the PM_{2.5} interim target of 10µg/m³, which is achieved to be reached by 2040.

Proposed Sensitive Human Receptors

5.2.6 Pollutant concentrations have been modelled for proposed receptors for the 2031 ‘With Development’ Scenario 3, as detailed in Table 13 overleaf.

Table 13: Predicted Adjusted NO₂, and Unadjusted PM₁₀ and PM_{2.5} Concentrations at Proposed Sensitive Receptors for Scenario 3

Proposed Receptor	Calculated Annual Mean Concentrations (µg/m ³)		
	NO ₂	PM ₁₀	PM _{2.5}
PSR 1	5.31	10.66	6.20
PSR 2	5.31	10.65	6.20

5.2.7 The results of the assessment show that all predicted proposed receptor NO₂, PM₁₀ and PM_{2.5} concentrations are below the relevant objectives and limit value, including the PM_{2.5} interim target of 10µg/m³, which is achieved to be reached by 2040.

Assessment of Significance for Human Receptors

5.2.8 The significance of the overall effects of the proposed development has been assessed in accordance with the EPUK/IAQM guidance. This assessment is based on professional judgement and details of the assessor's experience is included in **Appendix D**.

5.2.9 The assessment of significance has taken into account a number of factors, including:

- The baseline pollutant concentrations in 2024 and 2031 are below the relevant annual mean objectives and limit value at all existing receptors considered;
- The assessment predicts a negligible impact on concentrations of NO₂, PM₁₀ and PM_{2.5} at all existing sensitive receptors considered, with the development in place in both 'with development' assessment scenarios; and
- NO₂, PM₁₀ and PM_{2.5} concentrations within the proposed development site are predicted to be below the relevant objectives and limit value, in both 'with development' scenarios.

5.2.10 Based on the above factors, in accordance with the EPUK/IAQM guidance, the air quality effect of the proposed development is considered to be **not significant**.

Recommendations for Mitigation

5.2.11 The impact of the proposed development is predicted to be not significant for human receptors. However, mitigation measures will assist in reducing any potential impact and general best practice measures in relation to air quality could be implemented.

5.2.12 In accordance with the WC Air Quality SPD, the proposed development is classed as 'Type 2', as the number of dwellings proposed exceeds 100. Therefore, one Electric

Vehicle (EV) charging point per residential dwelling must be provided within the site. It is noted that all EV charging points are now standard for all new residential developments with associated car parking spaces¹¹.

5.2.13 The proposed development is not located in an area of poor air quality, and therefore is not considered to be exposure sensitive and does not require exposure mitigation. However, additional mitigation measures are recommended in order to minimise air pollutant concentrations within the site as much as possible.

5.2.14 This could include the use of low NO_x boilers and the implementation of a Low Emission Travel Plan. Measures such as cycle parking, green travel vouchers and promotion of sustainable transport methods such as walking, public transport and the use of low emission technologies, are proposed to be incorporated into a Low Emission Travel Plan.

¹¹ The Building Regulations 2010, "Infrastructure for the Charging of Electric Vehicles" (2021)

6 CONCLUSIONS

6.1 Construction Phase

6.1.1 The construction phase assessment has been undertaken to determine the risk and significance of dust and particulate matter effects from earthworks, construction and trackout associated with the proposed development, in accordance with guidance published by the IAQM.

6.1.2 With site specific mitigation measures in place, which are encouraged to be incorporated into a CEMP, the significance of dust and fine particulate effects from earthworks, construction and trackout is considered to be **not significant**.

6.2 Operational Phase

Existing Sensitive Receptors

6.2.1 An air quality impact assessment has been undertaken to consider the potential impact of development generated vehicles on air quality at sixteen existing sensitive human receptors.

6.2.2 The impact assessment predicts a negligible impact for all receptors and pollutants in 2031. The effect of the proposed development on human receptors is therefore considered to be **not significant**.

Proposed Sensitive Receptors

6.2.3 The assessment has also predicted pollutant concentrations at two proposed receptors within the development site.

6.2.4 Predicted NO₂, PM₁₀ and PM_{2.5} concentrations are below the annual mean air quality objective and limit value concentrations, for 2031, at the proposed sensitive receptors considered, in both 'with development' scenarios. Air quality effects within the site are, therefore, considered to be **not significant**.

Recommendations for Mitigation

6.2.5 The impact of the proposed development is predicted to be not significant. However, mitigation measures will assist in reducing any potential impact and general best practice measures in relation to air quality could be implemented. EV charging points are now standard for all new residential developments with associated car parking spaces. Therefore, additional mitigation measures could include the use of low NO_x boilers and the implementation of a Low Emission Travel Plan.

Summary

- 6.2.6 The impact assessment demonstrates that the proposed development will not lead to an unacceptable risk from air pollution, nor will it lead to any breach of national objectives as required by national policy. Therefore, there are no material reasons in relation to air quality why the proposed scheme should not proceed.

APPENDICES

Appendix A

Air Quality Legislation and Guidance

APPENDIX A: LEGISLATION AND GUIDANCE

National Air Quality Strategy

- A.1. The Environment Act 1995 requires the UK government to prepare a national Air Quality Strategy. The first UK strategy was published in March 1997, setting out policies for the management of ambient air quality. This was subsequently updated in 2023¹.
- A.2. The 2007 strategy establishes the framework for air quality management in England, Scotland, Wales and Northern Ireland. Air quality standards and objectives are set out for eight pollutants which may potentially occur at levels that give cause for concern. The strategy also provides details of the role that local authorities are required to take in working towards improvements in air quality, known as the Local Air Quality Management (LAQM) regime.
- A.3. Defra published an updated air quality strategy in April 2023 and updated in August 2023. The revised strategy supersedes the 2007 strategy in England only and provides a framework to enable local authorities to make the best use of their powers and make improvements for their communities. It also includes guidance on the new fine particulate matter targets for England.

Air Quality Standards and Objectives

- A.4. Air quality standards and objectives are set out in the strategy for the following pollutants: nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO), lead (Pb), fine particulate matter (PM₁₀), benzene (C₆H₆), 1, 3-butadiene (C₄H₆) and ozone (O₃).
- A.5. Objectives for each pollutant, except O₃, were first given statutory status in the Air Quality Regulations 2000² and Air Quality (Amendment) Regulations 2002³. These objectives are defined in the strategy as:

“the maximum ambient concentration not to be exceeded, either without exception or with a permitted number of exceedances, within a specified timescale.”

- A.6. EU limit values, set out within the Ambient Air Quality Directive 2008/50/EC⁴ (i.e. the CAFE Directive), were transposed into UK legislation on 11th June 2011 as The Air Quality

¹ Department of Environment, Food and Rural Affairs, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. August 2023

² The Air Quality Regulations 2000. SI No 928

³ The Air Quality (Amendment) Regulations 2002

⁴ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

Standards Regulations 2010. These are mostly the same as the air quality objectives in terms of concentrations; however, there are differences in determining how compliance is achieved. Although the UK is no longer part of the EU, no changes have yet been made to the objectives and limit values used in the management and assessment of air quality.

A.7. Whilst there is no specific objective for PM_{2.5} in England and Wales, a limit value of 20µg/m³ is referred to in the regulations, which has been adopted for use in this assessment (as recommended by the LAQM Helpdesk). An objective has been set for PM_{2.5} in Scotland since early 2016. The Environment Act 2021 sets out a requirement to establish a target objective for PM_{2.5}, and this has now been set through the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023. Annual mean concentrations of PM_{2.5} must now meet a target of 10 µg/m³ across England by 2040.

A.8. Examples of where these objectives and limit values apply are detailed in the Defra LAQM Technical Guidance document LAQM.TG(22)⁵ and are included in Table A.1.

Table A.1: Examples of Where the Air Quality Objectives Should Apply		
Averaging Period	Objectives Should Apply at:	Objectives Should Generally 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 facades 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
24-hour mean and 8-hour mean	All locations where the annual mean objectives would apply, together with hotels. Gardens of residential properties ^a	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term

⁵ Department for Environment, Food and Rural Affairs, Local Air Quality Management Technical Guidance LAQM.TG(22), August 2022

Table A.1: Examples of Where the Air Quality Objectives Should Apply		
Averaging Period	Objectives Should Apply at:	Objectives Should Generally Not Apply at:
1-hour mean	All locations where the annual mean and 24 and 8-hour objectives apply. Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks 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 to which the public might reasonably be expected to spend one hour or longer	Kerbside sites where public would not be expected to have regular access
15-minute mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer	
^a. Such locations should represent parts of the garden where relevant public exposure is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure to pollutants would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied		

Local Air Quality Management

- A.9. LAQM legislation in the Environment Act 1995 requires local authorities to conduct the periodic review and assessments of air quality. These aim to identify all those areas where the objectives are being, or are likely to be, exceeded. Where exceedances are likely to occur, local authorities are required to declare an Air Quality Management Area (AQMA).
- A.10. LAQM.TG(22) presents a streamlined approach for LAQM in England and Scotland; however, Northern Ireland is still considering changes to LAQM and therefore works according to the previous regime.
- A.11. The Welsh Government amended the LAQM regime in Wales in 2017 by issuing new statutory policy guidance in order to bring the system into line with the Well-being of Future Generations (Wales) Act 2015⁶. This aims to achieve compliance with the national air quality objectives in specific hotspots and to reduce exposure to pollution more widely, so as to achieve the greatest public health benefit.
- A.12. Local authorities in England are required to produce Annual Status Reports (ASRs), and

⁶ Well-being of Future Generations (Wales) Act 2015 (anaw 2)
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in Scotland and Wales, Annual Progress Reports (APRs). These replace all other reports which previously had to be submitted including Updating and Screening Assessments, Progress Reports and Detailed Assessments (which would be produced to assist with an AQMA declaration).

A.13. Local authorities now have the option of a fast track AQMA declaration option. This allows more expert judgement to be used and removes the need for a Detailed Assessment where a local authority is confident of the outcome. Detailed Assessments should however still be used if there is any doubt.

A.14. As part of the UK Government's requirement to improve air quality, selected local authorities in England are also currently investigating the feasibility of setting up Clean Air Zones (CAZs). These are areas where targeted action and co-ordinated resources aim to improve air quality within an urban setting, in order to achieve compliance with the EU limit values within the shortest possible time.

A.15. The first CAZs were implemented in Bath in March 2021, and will be implemented in Birmingham in June 2021. Since then, CAZ's have also been declared in Bradford, Bristol, Portsmouth, Sheffield and Tyneside (Newcastle and Gateshead). In addition, the London Ultra Low Emission Zone (ULEZ) has now been expanded to incorporate all London Boroughs.

National Planning Policy Framework

A.16. The National Planning Policy Framework (NPPF)⁷ was introduced in March 2012 and most recently updated in February 2025, with a draft update being released in December 2025. The NPPF requires 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 plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications.

⁷ Ministry of Housing, Communities and Local Government, National Planning Policy Framework, February 2025
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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.”

Planning Practice Guidance

- A.17. The Planning Practice Guidance (PPG)⁸, released in March 2014 and updated in November 2019, states that whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impacts in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife).
- A.18. Where a proposed development is anticipated to give rise to concerns about air quality, an appropriate assessment needs to be carried out. Where the assessment concludes that the proposed development (including mitigation) will not lead to an unacceptable risk from air pollution, prevent sustained compliance with national objectives or fail to comply with the requirements of the Habitats Regulations, then the local authority should proceed to decision with appropriate planning conditions and/or obligations.

⁸ Department for Communities and Local Government. Planning Practice Guidance: Air Quality, November 2019
GM13536/440.V13536/0001
MAY 2026

Appendix B

Methodology for Construction Phase Assessment

APPENDIX B: METHODOLOGY FOR CONSTRUCTION PHASE ASSESSMENT

Institute of Air Quality Management Guidance

B.1. The methodology for the construction phase dust assessment is set out in guidance from the Institute of Air Quality Management (IAQM)⁹.

Step 1

B.2. Step 1 is to screen the requirement for a more detailed assessment. The guidance states that an assessment will normally be required where there are existing sensitive human receptors within 250m of the site boundary and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

B.3. With regards to ecological receptors, the guidance states that an assessment will normally be required where there are existing receptors within 50m of the site boundary and/or within 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s).

B.4. Where any of these criteria are met, it is necessary to proceed to Step 2.

Step 2

B.5. Step 2 determines the potential risk of dust arising in sufficient quantities to cause annoyance and/or health or ecological impacts. The risk is related to:

- The activities being undertaken (demolition, number of vehicles and plant etc);
- The duration of these activities;
- The size of the site;
- The meteorological conditions (wind speed, direction and rainfall);
- The proximity of receptors to the activity;
- The adequacy of the mitigation measures applied to reduce or eliminate dust; and
- The sensitivity of receptors to dust.

B.6. The risk of dust impacts is determined using four risk categories: negligible, low, medium and high risk. A site is allocated to a risk category based upon the following two

⁹ Institute of Air Quality Management, Guidance on the Assessment of Dust from Demolition and Construction (v2.2), January 2024

factors (known as Step 2A and Step 2B).

B.7. **Step 2A** assesses the scale and nature of the works which determines the potential dust emission magnitude as small, medium or large. Examples of how the magnitude may be defined are included in Table B.1.

Table B.1: Determining the Dust Emission Magnitude of Construction Phase Activities			
Activity	Dust Emission Class		
	Large	Medium	Small
Demolition	Total building volume >75,000m ³ ; Potentially dusty construction material (e.g. concrete); On-site crushing and screening; Demolition activities >12m above ground level	Total building volume 12,000-75,000m ³ ; Potentially dusty construction material; Demolition activities 6-12m above ground level	Total building volume <12,000m ³ ; Construction material with low potential for dust release (e.g. metal cladding or timber)
Earthworks	Total site area >110,000m ² ; Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size); >10 heavy earth moving vehicles active at any one time; Formation of bunds >6m in height	Total site area 18,000-110,000m ² ; Moderately dusty soil type (e.g. silt); 5-10 heavy earth moving vehicles active at any one time; Formation of bunds 3-6m in height	Total site area <18,000m ² ; Soil type with large grain size (e.g. sand); <5 heavy earth moving vehicles active at any one time; Formation of bunds <3m in height
Construction	Total building volume >75,000m ³ ; On-site concrete batching; Sandblasting	Total building volume 12,000-75,000m ³ ; Potentially dusty construction material (e.g. concrete); On-site batching	Total building volume <12,000m ³ ; Construction material with a low potential for dust release (e.g. metal cladding or timber)
Trackout	>50 HDV (>3.5t) outward movements ^a in any one day ^b ; Potentially dusty surface material (e.g. high clay content); Unpaved road length >100m	20-50 HDV (>3.5t) outward movements ^a in any one day ^b ; Moderately dusty surface material (e.g. high clay content); Unpaved road length 50-100m	<20 HDV (>3.5t) outward movements ^a in any one day ^b ; Surface material with low potential for dust release; Unpaved road length <50m

Table B.1: Determining the Dust Emission Magnitude of Construction Phase Activities			
Activity	Dust Emission Class		
	Large	Medium	Small
a. A vehicle movement is a one way journey i.e. from A to B, and excludes the return journey b. HDV movements during a construction project may vary over its lifetime, and the number of movements is the maximum not the average			

B.8. **Step 2B** considers the sensitivity of the area to dust impacts which is defined as low, medium or high. The sensitivity categories for different types of receptors are described in Table B.2.

Table B.2: Sensitivity Categories for Dust Soiling, Human Health and Ecological Effects			
Sensitivity Category	Dust Soiling Effects	Health effects of PM ₁₀	Ecological Effects
High	Users can reasonably expect to enjoy a high level of amenity; Appearance, aesthetics or value of a property would be diminished; Examples include dwellings, museums and other culturally important collections, medium and long term car parks and car show rooms	Locations where members of the public are exposed over a period of time relevant to the air quality objective for PM ₁₀ ; Examples include residential properties, hospitals, schools, and residential care homes	Locations with an international or national designation and the designated features may be affected by dust soiling; Locations where there is a community of a particularly dust sensitive species; Examples include a Special Area of Conservation with dust sensitive features
Medium	Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; The appearance, aesthetics or value of their property could be diminished; People or property wouldn't reasonably be expected to be continuously present or regularly for extended periods of time; Examples include parks and places of work	Locations where people are exposed as workers and exposure is over a period of time relevant to the air quality objective for PM ₁₀ ; Examples include office and shop workers but will generally not include workers occupationally exposed to PM ₁₀	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; Locations with a national designation where the features may be affected by dust deposition; Examples include a Site of Special Scientific Interest with dust sensitive features

Table B.2: Sensitivity Categories for Dust Soiling, Human Health and Ecological Effects			
Sensitivity Category	Dust Soiling Effects	Health effects of PM ₁₀	Ecological Effects
Low	Enjoyment of amenity would not reasonably be expected; Property would not be diminished in appearance, aesthetics or value; People or property would be expected to be present only for limited periods of time; Examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads	Locations where human exposure is transient; Examples include public footpaths, playing fields, parks and shopping streets	Locations with a local designation where the features may be affected by dust deposition; Examples include a Local Nature Reserve with dust sensitive features

B.9. Based on the sensitivity of individual receptors, the overall sensitivity of the area to dust soiling, human health and ecological effects is then determined using the criteria detailed in Tables B.3 to B.5, respectively.

Table B.3: Sensitivity of the Area to Dust Soiling Effects on People and Property ^{ab}					
Receptor Sensitivity	Number of Receptors	Distance from Source (m) ^c			
		<20m	<50m	<100m	<250m
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low
a. The sensitivity to the area should be derived for each of the four activities b. Estimate the total number of receptors within the stated distance. Only the highest level of sensitivity from the table needs to be considered c. For trackout, distances should be measured from the side of the roads used by construction traffic. Without site specific mitigation, trackout may occur for up to 500m from large sites, 200m from medium sites and 50m from small sites, measured from the site exit. The impact declines with distance from the site and it is only necessary to consider trackout impacts up to 50m from the edge of the road					

Table B.4: Sensitivity of the Area to Human Health Impacts ^{ab}							
Receptor Sensitivity	Annual Mean PM ₁₀ Concentration ^c	Number of Receptors ^d	Distance from Source (m) ^e				
			<20m	<50m	<100m	<200m	<250m
High	>32µg/m ³	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32µg/m ³	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28µg/m ³	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24µg/m ³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32µg/m ³	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32µg/m ³	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28µg/m ³	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24µg/m ³	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low
a. The sensitivity to the area should be derived for each of the four activities b. Estimate the total number of receptors within the stated distance. Only the highest level of sensitivity from the table needs to be considered c. Most straightforwardly taken from the national background maps, but should also take account of local sources. The values are based on 32µg/m³ being the annual mean concentration at which an exceedance of the 24-hour mean objective is likely in England, Wales and Northern Ireland. In Scotland, there is an annual mean objective of 18µg/m³ d. In the case of high sensitivity receptors with high occupancy (such as schools or hospitals) approximate the number of people likely to be present. In the case of residential dwellings, just include the number of properties e. For trackout, distances should be measured from the side of the roads used by construction traffic							

Table B.5: Sensitivity of the Area to Ecological Impacts ^{ab}		
Receptor Sensitivity	Distance from the Source (m) ^c	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low
a. The sensitivity to the area should be derived for each of the four activities b. Only the highest level of sensitivity from the table needs to be considered c. For trackout, distances should be measured from the side of the roads used by construction traffic		

B.10. These two factors are combined in **Step 2C** to determine the risk of dust impacts with no mitigation applied.

B.11. The risk of dust effects is determined for four types of construction phase activities, with each activity being considered separately. If a construction phase activity is not taking place on the site, then it does not need to be assessed. The four types of activities to be considered are:

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

B.12. The risk of dust being generated by demolition activities at the site is determined using the criteria in Table B.6.

Table B.6: Risk of Dust Impacts for Demolition			
Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

B.13. The risk of dust being generated by earthworks and construction at the site is determined using the criteria in Table B.7.

Table B.7: Risk of Dust Impacts for Earthworks and Construction			
Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

B.14. The risk of dust being generated by trackout at the site is determined using the criteria in Table B.8.

Table B.8: Risk of Dust Impacts for Trackout			
Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Step 3

B.15. Step 3 of the assessment determines the site-specific mitigation required for each of the activities, based on the risk determined in Step 2. Mitigation measures are detailed in guidance published by the Greater London Authority¹⁰, recommended for use outside the capital by LAQM guidance, and the IAQM guidance document itself. Professional judgement should be used to determine the type and scale of mitigation measures required.

B.16. If the risk is classed as negligible, no mitigation measures beyond those required by legislation will be necessary.

Step 4

B.17. Step 4 assesses the residual effect, with mitigation measures in place, to determine whether or not these are significant.

Professional Judgement

B.18. The IAQM guidance makes reference to the use of professional judgement when assessing the risks of dust and fine particulate matter from demolition and construction

¹¹ Greater London Authority, The Control of Dust and Emissions during Construction and Demolition: Supplementary Practice Guidance, 2014

sites. Details of the experience of the personnel involved with the project are provided in the air quality Chapter.

Appendix C

Methodology for Operational Phase Assessment

APPENDIX C: METHODOLOGY FOR OPERATIONAL PHASE ASSESSMENT

Air Dispersion Modelling Inputs

- C.1. The air dispersion model ADMS-Roads (CERC, Version 5.0.1.3) has been used to assess the potential air quality impacts associated with development-generated road traffic emissions. This dispersion model is widely used and accepted for the purpose of undertaking assessments to support both planning and Environmental Permit applications.

Traffic Flow Data

- C.2. The ADMS-Roads model requires the input of detailed road traffic flow data for those routes which may be affected by the proposed development. Traffic flow data has been provided for this project by Prime Transport Planning, the appointed transport consultants for the project. The study extent of the model is shown in Figure C.1.

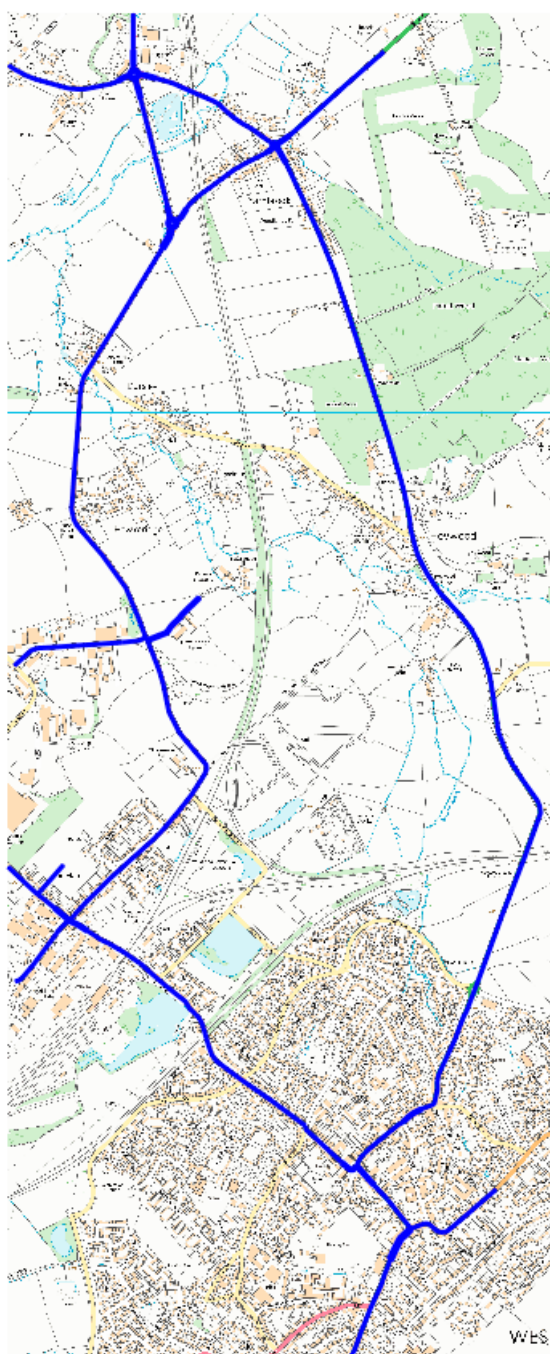


Figure c.1: Study Extent of Air Dispersion Model for Scenario 1 (Base Year). The roads modelled in the assessment can be seen in blue. ('Reproduced from Ordnance Survey Maps © Crown Copyright All Rights Reserved Licence No. 0100031673')

C.3. Data has been provided as 24-hour Annual Average Daily Traffic (AADT) flows, with HGV percentages. No average speed information was available and therefore posted speed limits have been used, with a reduction to 15kph in locations where congestion or the slowing down of vehicles would be expected.

C.4. For robustness, the traffic data includes potential increase in traffic flows on the

network from 2 committed development sites in both 'with development' scenarios (i.e. Scenario 2 and 3), references PL/2021/03749 and PL/2025/05073.

C.5. The traffic flow data used in the assessment is included in Table C.1, overleaf.

Table C.1: 24-hour AADT Traffic Data used in the assessment

Link	Link Name	Scenario 1: 2024 Verification and Base Year		Scenario 2: 2032 Without Development		Scenario 3: 2032 With Development Opening Year	
		LGV	HGV	LGV	HGV	LGV	HGV
1	A350 Warminster Road S of Haynes Road	14168	727	15097	731	15286	730
2	A350 Haynes Road N of Warminster Road	10097	668	10843	671	11031	671
3	B3098 Warminster Road N of Haynes Road	5008	86	5242	87	5242	87
4	A350 Haynes Road E of West End	10623	686	11391	690	11579	690
5	B3097 Station Road W of West End	4945	132	5476	132	5664	132
6	A350 West End N of Haynes Road	7915	591	8316	594	8316	594
7	B3097 Station Road E of The Ham	10760	73	11724	73	12017	73
8	Brook Lane S of Station Road	1050	18	1110	18	1110	18
9	Storrige Road W of The Ham	3531	77	3810	78	4489	77
10	B3097 The Ham N of Station Road	7016	77	7759	78	8145	77
11	B3097 Hawkeridge Road S of Link Road	6767	95	7578	96	7963	96
12	Link Road W of Hawkeridge Road	4475	609	4694	612	4694	612
13	B3097 Hawkeridge Road N of Link Road	10351	686	11323	688	11708	688
14	Hawkrige Business Park Access	173	0	174	0	174	0

Table C.1: 24-hour AADT Traffic Data used in the assessment

Link	Link Name	Scenario 1: 2024 Verification and Base Year		Scenario 2: 2032 Without Development		Scenario 3: 2032 With Development Opening Year	
		LGV	HGV	LGV	HGV	LGV	HGV
15	B3097 Phillips Way S of Westbury Road	7151	359	7828	360	8116	360
16	Westbury Road W of Phillips Way	7620	550	8024	553	8076	553
17	A363 North of Westbury Road	8919	200	9629	201	9866	200
18	A363 Westbury Road E of Phillips Way	8851	572	9269	576	9269	576
19	B3097 Hawkeridge Road S of Westbury Road	4117	318	4458	320	4564	319
20	A363 Westbury Road W of Hawkeridge Road	8473	559	8872	562	8872	562
21	A350 West Ashton Road N of Westbury Road	17589	1141	18569	1148	18676	1146
22	A350 Westbury Road E of Hawkeridge Road	9660	672	10114	677	10114	677
23	Storrige Road E of Site Access	3531	77	3810	78	4449	77
24	Storrige Road W of Site Access	3531	77	3810	78	3858	78
25	Proposed Site Access	0	0	0	0	686	0

Vehicle Emission Factors

- C.6. The air quality assessment has used vehicle emission factors calculated using the Emissions Factor Toolkit (EFT) version 13.1, released in March 2025. This is the most up-to-date version of the EFT currently available.
- C.7. As discussed in the section 3.4 of the report, there are uncertainties involved with the prediction of future NO₂ concentrations. However, in accordance with the latest guidance from the IAQM, a sensitivity analysis is not required as model verification has been possible using data from later than 2016¹¹.

Street Canyons

- C.8. LAQM.TG(22) states that *“street canyons can generally be defined as narrow streets where the height of buildings on both sides of the road is greater than the road width”*. The principal effects of a street canyon on the dispersion of pollution from a road source are:
- Pollution being channelled along the canyon;
 - Pollution being dispersed across the canyon by circulating flow at road height;
 - Pollutants being trapped in recirculation regions;
 - Pollutants leaving the canyon between gaps in the buildings;
 - Pollutants leaving the canyon from the canyon top; and
 - Pollutants leaving the canyon from the downstream end of the canyon.
- C.9. Street canyons have been included in the model, situated along Haynes Road, Warminster Road, West End, and Station Road.

Meteorological Data

- C.10. The meteorological data used in the air quality modelling has been obtained from the Larkhill Meteorological Recording Station, which is located approximately 29km from the proposed development site, with a difference in elevation of 81m. The meteorological data is for 2024, covering the period between 1st January and 31st December 2024.
- C.11. The 2024 wind rose for the Larkhill Meteorological Station is shown in Figure C.2.

¹¹ Available on the Institute of Air Quality Management website
(https://iaqm.co.uk/wp-content/uploads/2013/02/iaqm_uncertainty_vehicle_NOx_emission_withdrawn-02.pdf)

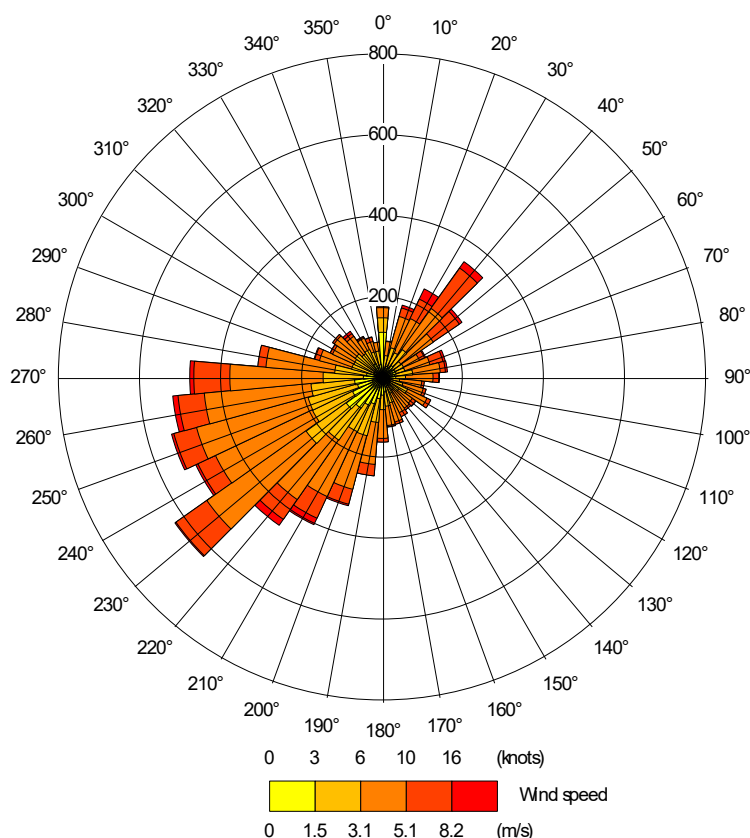


Figure C.2: 2024 Larkhill Meteorological Station Wind Rose

Dispersion and Meteorological Site Characteristics

C.12. The characteristics for the site, included in the ADMS-Roads model, are detailed in Table C.2.

Table C.2: Site Characteristics		
Setting	Dispersion Site	Meteorological Site
Surface Roughness	0.5m	0.2m
Surface Albedo	0.23	0.23
Minimum Monin-Obukhov Length	30m	30m
Priestley-Taylor Parameter	1	1

NO_x to NO₂ Conversion

C.13. In accordance with the guidance within LAQM.TG(22), the ADMS-Roads model has been run to predict the road-contribution NO_x concentrations for each receptor location. These have then been converted to NO₂ concentrations using the Defra NO_x to NO₂

calculator¹².

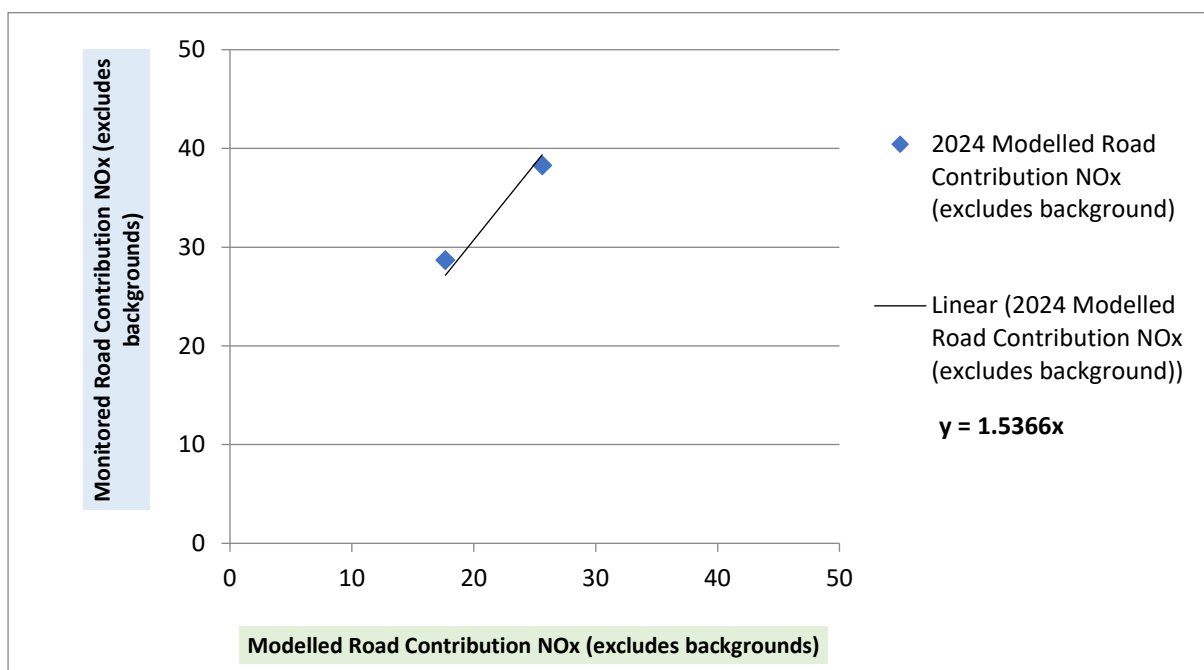
Model Validation and Verification

- C.14. LAQM.TG(22) refers to model validation as “*the general comparison of modelled results against monitoring data carried out by model developers*”. ADMS-Roads is widely accepted by regulatory authorities for use in this type of assessment.
- C.15. Model verification is used to check the performance of the model at a local level. The verification of the ADMS-Roads air dispersion model is achieved by modelling concentration(s) at existing monitoring location(s) in the vicinity of the proposed development, and comparing the modelled concentration(s) with the measured concentration(s).
- C.16. Verification has been undertaken for NO₂ only, as no PM₁₀ or PM_{2.5} monitoring locations are situated along roads where traffic flow data is available. It has, therefore, not been possible to carry out verification for modelled PM₁₀ or PM_{2.5} concentrations.
- C.17. The monitoring data that has been used in the model verification procedure is detailed in Table C.3.

Table C.3: NO ₂ Monitoring Data Used for Verification Purposes				
Monitoring Location Reference	Type	Approximate Grid Reference		2024 Bias Adjusted NO ₂ Annual Average Concentration (µg/m ³)
		Easting	Northing	NO ₂
21	Roadside Diffusion Tube	387240	151163	23.5
23	Roadside Diffusion Tube	387268	151507	19.70

- C.18. The modelled road-contribution NO_x concentration for the diffusion tubes has been compared against the measured road-contribution NO_x concentration for the same location. The measured concentrations have been derived using the Defra NO_x to NO₂ calculator, taking into account the background NO_x concentration for the local area.
- C.19. The comparison is shown in the below graph. The equation of the trend line is based on linear regression through zero, which provides an overall adjustment factor of 1.5366.

¹² Defra Local Air Quality Management web pages (<http://laqm.defra.gov.uk/tools-monitoring-data/no-calculator.html>)
GM13536/440.V13536/0001
MAY 2026



C.20. A final comparison has been made between the total measured NO₂ concentrations and total modelled NO₂ concentrations, as shown in Table C.4. Following adjustment, modelled concentrations are within 15% of measured concentrations.

Table C.4: Comparison Between Measured and Monitored NO ₂ Concentrations			
Monitoring Location Reference	Measured Total NO ₂ Concentration (µg/m ³)	Modelled Total NO ₂ Concentration (µg/m ³)	Difference (%)
21	23.5	23.90	1.70
23	19.70	19.07	-3.20

Assessment Criteria

Assessing the Impact of a Proposed Development on Human Receptors

- C.21. Guidance has been prepared by Environmental Protection UK (EPUK) and the IAQM¹³ with relation to the assessment of the air quality impacts of proposed developments and their significance.
- C.22. The impact of a development is usually assessed at specific receptors, and takes into account both the long-term background concentrations, in relation to the relevant Air Quality Assessment Level (AQAL) at these receptors, and the change with the development

¹³ Moorcroft and Barrowcliffe et al, Land-Use Planning and Development Control: Planning for Air Quality (v1.2), January 2017

in place.

C.23. The impact descriptors for individual receptors are detailed in Table C.6

Table C.6: Impact Descriptors for Individual Receptors				
Long Term Average Concentration at Receptor in Assessment Year*	Percentage Change in Concentration Relative to Air Quality Assessment Level (AQAL)*			
	1%	2-5%	6-10%	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial
*Percentage pollutant concentrations have been rounded to whole numbers, to make it easier to assess the impact. Changes of 0% (i.e. less than 0.5% or 0.2µg/m³) should be described as Negligible				

Determining the Significance of Effects

C.24. Impacts on air quality, whether adverse or beneficial, will have an effect on human health that can be judged as either 'significant' or 'not significant'.

C.25. Once the impact of the proposed development has been assessed for the individual impacts, the overall significance is determined using professional judgement. This takes into account a number of factors such as:

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

Appendix D

Professional Experience of Assessors

APPENDIX D: PROFESSIONAL EXPERIENCE OF ASSESSORS

D.1. The assessment of air quality impacts, and the significance of the associated effects, takes into account the professional judgement of the assessor. Details of the experience of the personnel involved with the project are provided below.

Hannah Fleming **Environmental Scientist (Air Quality)**
BSc (Hons), AIAQM, AMIEnvSc

Hannah joined Wardell Armstrong (now part of SLR) in 2022 after finishing a Bachelor of Science degree in Environmental Science from the University of Leeds and is part of the Acoustic and Air Quality team. Hannah has experience of carrying out air quality assessments for a variety of developments, including residential and commercial. She is involved in all aspects of the assessment, from carrying out air quality monitoring studies to analysing data, modelling and writing technical reports or chapters as part of an Environmental Statement.

Malcolm Walton **Technical Director (Air Quality)**
BSc (Env Health) Dip (Acoustics & Noise Control) MCIEH AMIOA

Malcolm holds a Bachelor of Science degree in Environmental Health and the Diploma in Acoustics and Noise Control. Malcolm is a Member of the Chartered Institute of Environmental Health and an Associate Member of the Institute of Acoustics.

Malcolm joined Wardell Armstrong (now part of SLR) in September 2001 following 12 years working as an Environmental Health Officer in several local authorities, responsible for the enforcement of environmental legislation and, in particular, air pollution and noise nuisance. Malcolm has a further 24 years consultancy experience in the technical co-ordination of environmental appraisal of large schemes to UK and international standards. Malcolm regularly carries out and co-ordinates noise and air quality assessment work associated with planning applications including EIA work and PPC permit application/compliance. He also regularly acts as expert witness in planning inquiries in respect of noise, air quality and odour.

DRAWINGS



KEY

Site Boundary

Existing Sensitive Receptors

Proposed Sensitive Receptors

Notes:

Boundaries are indicative. Aerial imagery shown for context purposes only.

REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
CLIENT					
GLADMAN DEVELOPMENTS LIMITED					
PROJECT					
LAND OFF STORRIDGE ROAD, WESTBURY					
DRAWING TITLE					
AIR QUALITY RECEPTOR LOCATION PLAN					
DRG No.		GM13536-001		REV	P0.01
DRG SIZE		A3		SUIT. CODE	---
SCALE		1:15,000		DATE	19/12/2025
DRAWN BY		HF		APPROVED BY	

wardell
armstrong

PART OF SLR

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