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# Rebecca Road, Pershore

Lioncourt Homes Limited and Touch  
Developments Ltd

**Air Quality Assessment**  
July 2024





## Document Control

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## Record of Revisions

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## Executive Summary

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Rappor Consultants Limited was appointed by Lioncourt Homes Limited and Touch Development Ltd to undertake an air quality assessment to support the application for a residential development at land north of Rebecca Road in Pershore. An outline application is being submitted for the erection of up to 115 residential dwellings with all matters reserved with the exception of access, including open space, landscaping, drainage and associated works. The proposed development Site is located within the administrative area of Wychavon District Council.

A qualitative construction phase dust assessment was undertaken in accordance with Institute of Air Quality Management guidance and measures were recommended to minimise emissions during construction activities. With the implementation of these mitigation measures the impact of construction phase dust emissions was considered to be 'not significant' in accordance with Institute of Air Quality Management guidance.

The scale, location and traffic generation associated with the development was reviewed relative to the screening criteria set out in Worcestershire Regulatory Services Technical Planning Guidance and Institute of Air Quality Management and Environmental Protection UK guidance. Whilst the development proposes more than 100 residential units, the trip generation for the proposals identified that no roads would experience an increase in road traffic above the relevant screening criteria in IAQM and EPUK guidance and therefore, detailed dispersion modelling of development-generated road traffic was not undertaken.

Consideration was given to the exposure of future residents of the Site to air pollution. The Site is not located in an AQMA and local air quality monitoring data identified that local pollutant concentrations were well below current relevant air quality objectives. Additionally, a review of local emission sources identified no significant sources of emissions that would significantly influence air quality within the Site. The Site was therefore considered suitable for the proposed residential use with regard to air quality.



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# 1 Introduction

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## General

- 1.1 Rappor Consultants Limited was instructed by Lioncourt Homes Limited and Touch Developments Ltd to undertake an air quality assessment for a proposed residential development at land north of Rebecca Road in Pershore ('the Site'). Outline permission is sought for the erection of up to 115 residential dwellings with all matters reserved with the exception of access, including open space, landscaping, drainage and associated works.
- 1.2 The assessment considers the potential impacts of the proposed development during both the construction and operational phases. A qualitative construction phase assessment was undertaken in accordance with relevant guidance. An operational phase road traffic emissions screening assessment was undertaken to consider the impact of development-generated road traffic on local air quality. Consideration was also given to the suitability of the Site for the proposed sensitive use.
- 1.3 The assessment takes account of relevant local and national policy and guidance. A glossary of terms utilised in this report is provided in **Appendix A**.

## Site Location

- 1.4 The Site is located north of Rebecca Road on the western edge of Pershore and lies within the administrative area of Wychavon District Council. The Site currently comprises agricultural land. The Site is bound to the north by the B4084 Worcester Road with Allesborough Cottage and agricultural land beyond. To the east and south of the Site are residential dwellings and Rebecca Road. Further agricultural land forms the western boundary of the Site.
- 1.5 The Site location is illustrated in **Figure 1.1**.



Figure 1.1 Site Location





## 2 Relevant Policy and Guidance

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### National Legislation and Planning Policy

2.1 The following national legislation and planning policy is relevant to air quality and was considered throughout this air quality assessment:

- European Parliament, EU 2008 Ambient Air Quality Directive (2008)<sup>1</sup>;
- HMSO, Air Quality (England) Regulations (2000)<sup>2</sup>;
- HMSO, Environment Act (1995)<sup>3</sup>;
- HMSO, Environment Act (2021)<sup>4</sup>;
- Department for Environment, Air Quality Strategy (1997)<sup>5</sup>;
- Department for the Environment, Food and Rural Affairs (DEFRA), Air Quality Strategy (2007)<sup>6</sup>;
- Department for the Environment, Food and Rural Affairs, The Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020)<sup>7</sup>;
- HMSO, The Environmental Targets (Fine Particulate Matter) (England) Regulations (2023)<sup>8</sup>;
- Department for the Environment, Food and Rural Affairs, Air Quality Strategy: Framework for Local Authority Delivery (2023)<sup>9</sup>;
- Department for the Environment, Food and Rural Affairs, Environmental Improvement Plan 2023 (2023)<sup>10</sup>;
- Ministry of Levelling Up, Housing and Communities, National Planning Policy Framework (NPPF) (2023)<sup>11</sup>; and
- Ministry for Housing, Communities and Local Government, Planning Practice Guidance (PPG) for air quality (2019)<sup>12</sup>.

### Local Planning Policy

2.2 The following local planning policy was reviewed with regards to air quality and a summary of any relevant policies is provided in **Appendix B**:

- Wychavon District Council, South Worcestershire Development Plan (2016)<sup>13</sup>; and

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<sup>1</sup> European Parliament (2008) Council Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe

<sup>2</sup> HMSO (2000) Statutory Instrument 2000 No. 928, The Air Quality (England) Regulations 2000 (as amended), London: HMSO

<sup>3</sup> HMSO (1995) The Environment Act 1995, London: TSO

<sup>4</sup> HMSO (2021) The Environment Act 2021, London: TSO

<sup>5</sup> Department of the Environment (DoE) (1997) The UK National Air Quality Strategy, London: HMSO

<sup>6</sup> Department of the Environment, Food and Rural Affairs (Defra) (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

<sup>7</sup> Department of the Environment, Food and Rural Affairs (Defra) (2020) The Environment (Miscellaneous Amendments) (EU Exit) Regulations, London: HMSO

<sup>8</sup> HMSO (2023) The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

<sup>9</sup> Defra (2023) Air Quality Strategy: Framework for Local Authority Delivery

<sup>10</sup> Defra (2023) Environmental Improvement Plan 2023, First revision of the 25 Year Environment Plan

<sup>11</sup> Ministry for Housing, Communities and Local Government (2023) National Planning Policy Framework, HMSO London

<sup>12</sup> Ministry for Housing, Communities and Local Government (2019) Planning Practice Guidance Air Quality

<sup>13</sup> Wychavon District Council (2016) South Worcestershire Development Plan



- Wychavon District Council, South Worcestershire Development Plan Review (2023)<sup>14</sup>.

## **Air Quality Guidance**

2.3 The following air quality guidance was utilised in the air quality assessment:

- DEFRA, Local Air Quality Management Technical Guidance (LAQM.TG) 22 (2022)<sup>15</sup>;
- Institute of Air Quality Management (IAQM), Guidance on the assessment of dust from demolition and construction (2024)<sup>16</sup>;
- IAQM and Environmental Protection UK (EPUK), Land-Use Planning and Development Control: Planning for Air Quality (2017)<sup>17</sup>; and
- Worcestershire Regulatory Services, Technical Guidance Note for Planning (2023)<sup>18</sup>.

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<sup>14</sup> Wychavon District Council (2023) South Worcestershire Development Plan Review

<sup>15</sup> Defra (2022) Local Air Quality Management Technical Guidance LAQM.TG(22)

<sup>16</sup> Institute of Air Quality Management (2024) Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London

<sup>17</sup> Institute of Air Quality Management and Environmental Protection UK (2017) Land-Use Planning and Development Control: Planning for Air Quality

<sup>18</sup> Worcestershire Regulatory Services (2023) Technical Guidance Note for Planning





### 3 Assessment Methodology

#### Consultation

- 3.1 Consultation was undertaken with Worcestershire Regulatory Services (WRS), WDC's appointed environmental health consultants, detailing the proposed scope of works and assessment methodology to be utilised within the air quality assessment. A response was received from WRS in which the proposed assessment scope and methodology was agreed. Details of the consultation with WRS is provided in **Appendix C**.
- 3.2 The assessment methodology is detailed below.

#### Construction Phase - Dust Assessment

- 3.3 A qualitative assessment of the potential for construction phase activities to influence local air quality through dust soiling, human health and ecological effects was undertaken utilising the methodology set out in IAQM guidance<sup>16</sup>. The IAQM guidance provides a four-step approach, summarised below:
- Step 1: Screen the need for a detailed assessment. Where relevant sensitive receptors are located within 250m of the Site boundary, or within 50m of roads used by construction vehicles up to 500m from the Site, the assessment should progress to Step 2. No further assessment is required if there are no receptors within the specified distances of the works.
  - Step 2: Assess the risk of dust impacts using the following steps:
    - a) Define the potential dust emission magnitude for demolition, earthworks, construction and trackout, as appropriate;
    - b) Define the sensitivity of the area to dust; and
    - c) Define the risk of impacts.
  - Step 3: Identify appropriate site-specific mitigation based on the identified dust risk;
  - Step 4: Determine the significance of residual effects.

#### Operational Phase – Screening Assessment

##### WRS Technical Guidance for Planning

- 3.4 WRS guidance<sup>18</sup> provides development classification criteria to determine when a detailed air quality assessment may be required for planning applications. The criteria take into consideration the proposed land use and the scale of development in addition to location relative to areas of poor air quality e.g. AQMAs. The development proposals were reviewed against the classification criteria to determine the appropriate level of assessment for the development. **Table 3.1** details the classification criteria for residential development.

**Table 3.1: Residential Development Classification Criteria**

Development Type	Examples of Development
Residential	<ul style="list-style-type: none"> <li>• 100 or more dwellings outside of existing AQMAs or other areas of poor air quality.</li> <li>• It is likely that smaller developments will require a detailed air quality assessment within an AQMA or area of poor air quality (indicative criteria of 10 dwellings or more).</li> </ul>



## IAQM and EPUK Land Use for Planning Guidance

- 3.5 Consideration was also given to the IAQM and EPUK guidance<sup>17</sup> which provides screening criteria to determine whether a detailed assessment of development-generated road traffic emissions is potentially required. The screening criteria are split into two stages:

### Stage One:

- 3.6 The Stage One criteria detailed below are utilised to determine whether there is the need to proceed to Stage Two of the screening assessment:
- If any of the following apply:
    - a) 10 or more residential units or a Site area greater than 0.5ha; or
    - b) More than 1,000m<sup>2</sup> of floorspace for all other use classes or a Site area of greater than 1ha;
  - Coupled with any of the following:
    - a) The development has more than 10 parking spaces; or
    - b) The development will have a centralised energy facility or other centralised combustion process.

### Stage Two:

- 3.7 Where the proposed development exceeds the criteria set out in Stage One, the following indicative criteria are used to determine whether a detailed assessment of development-generated road traffic emissions is required.
- 3.8 The Stage Two screening criteria are:
- A change in Light Duty Vehicles (LDVs) flows of:
    - a) More than 100 Annual Average Daily Traffic (AADT) flow within or adjacent to an Air Quality Management Area (AQMA); or
    - b) More than 500 LDVs as an AADT elsewhere.
  - A change in Heavy Duty Vehicles (HDVs) of:
    - a) More than 25 AADT flow within or adjacent to an AQMA; or
    - b) More than 100 AADT flow elsewhere.

- 3.9 Where none of the Stage Two criteria are exceeded, IAQM and EPUK guidance<sup>17</sup> states:

*“there should be no requirement to carry out an air quality assessment of the impact of the proposed development on the local area, and the impacts can be considered to have insignificant effects”.*

## Operational Phase – Site Suitability

- 3.10 As the proposed development will introduce new sensitive uses to a Site where no existing sensitive uses are located, consideration was given to the suitability of the Site for the residential use. The current relevant air quality objectives were utilised to consider Site suitability and are detailed in **Table 3.2**.



**Table 3.2: Relevant Air Quality Standards and Objectives utilised in the Assessment**

Pollutant	Averaging Period	Air Quality Objective ( $\mu\text{g.m}^{-3}$ )	Date to Achieve by
NO <sub>2</sub>	Annual Mean	40	31 December 2005
	1-hour mean not to be exceeded more than 18 times per year	200	31 December 2005
PM <sub>10</sub>	Annual Mean	40	31 December 2004
	24-hour mean not to be exceeded more than 35 times per year	50	31 December 2004
PM <sub>2.5</sub>	Annual Mean	20	1 January 2020
	<i>Annual Mean</i>	<i>10</i>	<i>31 December 2040</i>
	<i>Annual Mean Interim Target*</i>	<i>12</i>	<i>31 January 2028</i>

\*Detailed within the Environmental Improvement Plan 2023.

Italics denotes future air quality objectives that will come into force in the future.



## 4 Construction Phase Dust Assessment

- 4.1 Construction phase activities associated with demolition, earthworks, construction and trackout have the potential to generate dust and particulate matter which may influence local air quality at sensitive receptor locations.
- 4.2 As there are existing sensitive receptors within the distances set out in IAQM guidance<sup>16</sup>, a construction phase dust assessment was undertaken. The assessment includes determining the dust emission magnitude for construction phase activities and identifying the sensitivity of the area to determine the overall risk of construction phase dust impacts. Mitigation measures proportionate to the level of dust impacts identified are then recommended to minimise the impact of construction phase activities on local air quality.

### Assessing Risk of Dust Impacts

#### Defining the Dust Emission Magnitude

- 4.3 The scale and nature of construction phase activities were compared to the criteria set out in IAQM guidance<sup>16</sup> to define the initial dust emission magnitude for each activity. **Table 4.1** summarises the dust emission magnitude for each activity and provides the justification for each assigned magnitude.

**Table 4.1: Dust Emission Magnitude**

Activity	Dust Emission Magnitude	Justification
Demolition	N/A	No demolition is required as part of the proposed development and therefore this has not been considered further.
Earthworks	Medium	The total Site area is greater than 18,000m <sup>2</sup> but less than 110,000m <sup>2</sup> .
Construction	Medium	The volume of buildings to be constructed is greater than 12,000m <sup>3</sup> but less than 75,00m <sup>3</sup> .
Trackout	Small	Less than 20 outward HDV movements are anticipated in any one day at the height of construction activity.

#### Defining the Sensitivity of the Area

- 4.4 The proximity of receptors to construction phase activities was reviewed alongside meteorological conditions and receptor use classes to define the sensitivity of the area. In accordance with IAQM guidance<sup>16</sup>, different use classes can be more or less sensitive to dust and particulate matter emissions during the construction phase based on parameters such as the level of amenity typically expected and the duration of time spent at the location. **Table 4.2** details the sensitivity of the area to dust soiling and human health effects for the different phases of construction activities. **Figure 4.1** was utilised to identify the number of sensitive receptors within the distances set out in IAQM guidance<sup>16</sup>.

**Table 4.2: Sensitivity of Study Area**

Activity	Sensitivity to Dust Soiling	Sensitivity to Human Health
Earthworks	<b>High</b> – there are between 10 and 100 highly sensitive receptors within 20m of the Site boundary. Receptors include residential dwellings and long-term car parking.	<b>Low</b> – there are between 10 and 100 highly sensitive receptors within 20m of the Site. These receptors include residential dwellings. Background PM <sub>10</sub> concentrations are less than 24µg.m <sup>-3</sup> .



Activity	Sensitivity to Dust Soiling	Sensitivity to Human Health
Construction	<b>High</b> – there are between 10 and 100 highly sensitive receptors within 20m of the Site boundary. Receptors include residential dwellings and long-term car parking.	<b>Low</b> – there are between 10 and 100 highly sensitive receptors within 20m of the Site. These receptors include residential dwellings. Background PM <sub>10</sub> concentrations are less than 24µg.m <sup>-3</sup> .
Trackout	<b>High</b> – there are between 10 and 100 highly sensitive receptors within 20m of roads to be used by construction traffic up to 200m from the Site access. Receptors include residential dwellings and long-term car parking.	<b>Low</b> – there are between 10 and 100 highly sensitive receptors within 20m of roads used by construction traffic up to 200m from the Site access. These receptors include residential dwellings. Background PM <sub>10</sub> concentrations are less than 24µg.m <sup>-3</sup> .



Figure 4.1: Construction Phase Dust Buffers

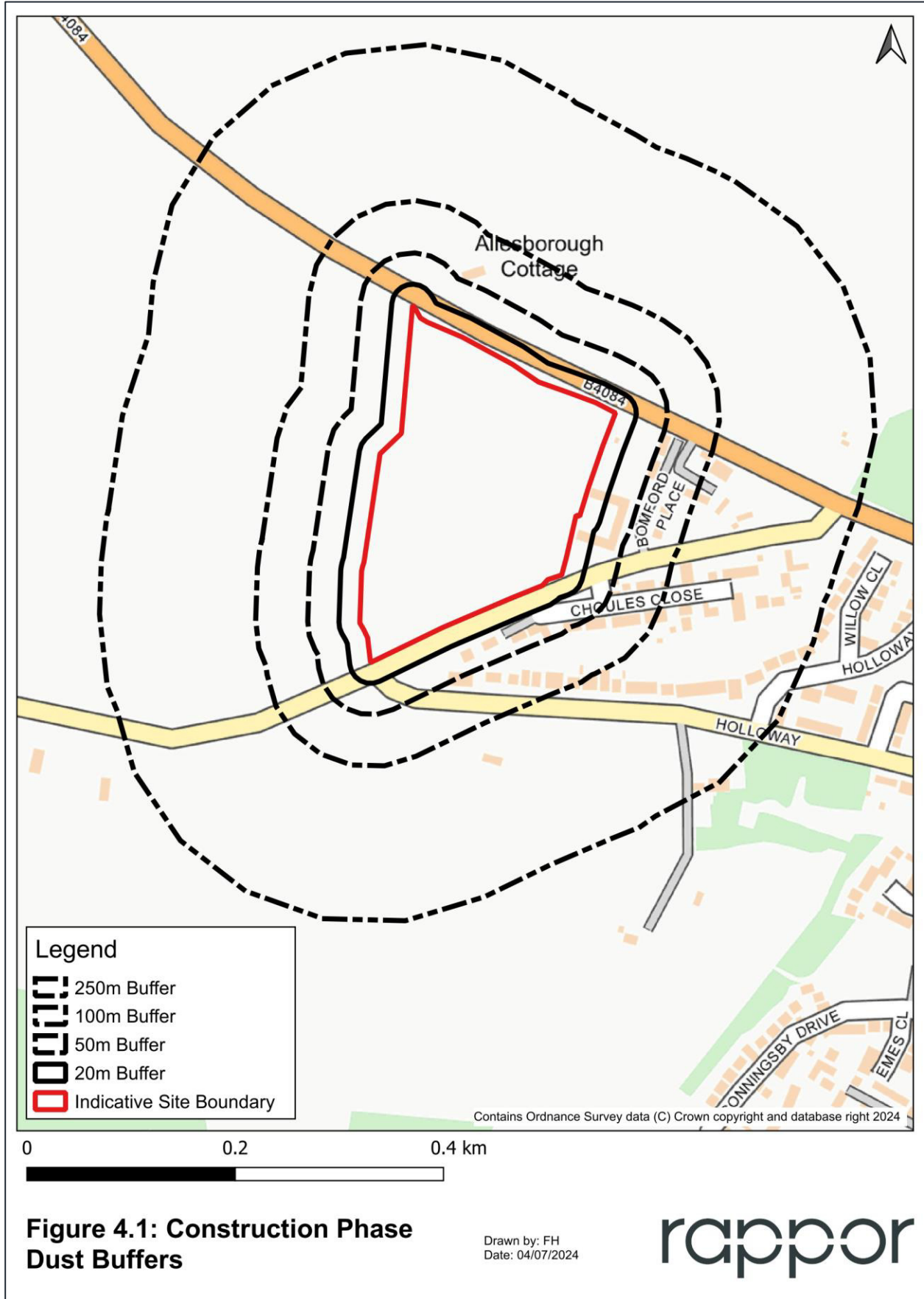


Figure 4.1: Construction Phase  
Dust Buffers



## Defining the Risk of Impacts

- 4.5 The dust emission magnitude and sensitivity of the area for demolition, earthworks, construction and trackout are then combined to determine the overall risk of impacts associated with each activity. **Table 4.3** below summarises the risk of dust impacts for each activity.

**Table 4.3: Summary of Risk of Dust Impacts**

Activity	Dust Emission Magnitude	Highest Sensitivity of Area	Risk of Dust Impact
Earthworks	Medium	High	Medium Risk
Construction	Medium	High	Medium Risk
Trackout	Small	High	Low Risk

## Mitigation

- 4.6 IAQM guidance<sup>16</sup> provides a list of dust mitigation measures that should be implemented on site during the construction phase, where practicable. Mitigation measures proportionate to the level of dust risk identified in **Table 4.3** are detailed in **Appendix D**. With the implementation of these measures, the residual impacts associated with construction phase activities are considered to be 'not significant'.



## 5 Operational Phase Screening Assessment

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### WRS Technical Guidance for Planning

- 5.1 The proposed development includes 115 residential units which marginally exceeds the criteria of 100 dwellings set out in WRS guidance<sup>18</sup> for residential developments outside of Air Quality Management Areas (AQMAs). In accordance with WRS guidance<sup>18</sup>, consideration of the impact of the proposals on local air quality was therefore required. The impact of the proposals was considered using the IAQM and EPUK guidance<sup>17</sup> screening thresholds discussed below.

### IAQM and EPUK Land Use for Planning Guidance

- 5.2 The trip generation associated with the proposed development was reviewed and compared to the two stage screening criteria set out in IAQM and EPUK guidance<sup>17</sup>.

#### Stage One

- 5.3 The development proposals include more than 10 residential dwellings and more than 10 car parking spaces and therefore exceeds the Stage One criteria set out in IAQM and EPUK guidance<sup>17</sup>.

#### Stage Two

- 5.4 The proposed development will generate an additional 510 trips as a 24-hour AADT, all of which will be LDVs. The trip generation marginally exceeds the relevant Stage Two screening criteria of 500 LDVs outside an AQMA however, consideration was given to how the development-generated traffic will distribute onto the local road network. Upon leaving the Site access, no one road link will experience a change in traffic above the 500 LDV threshold.
- 5.5 In accordance with IAQM and EPUK guidance<sup>17</sup>, where the Stage Two criteria are not exceeded on the local road network adjacent to sensitive receptors, a detailed assessment of the impact of the proposed development on local air quality is not required, and the proposed development is considered to have an insignificant effect. This approach was agreed with WRS in consultation.

### Development Measures

- 5.6 Whilst the proposed development is not predicted to give rise to any significant air quality impacts as a result of development-generated traffic, measures are incorporated into the proposals to further minimise emissions associated with the operation of the proposed development.
- 5.7 Measures include:
- Preparation of a Travel Plan to be provided to all residents as part of a Travel Pack on occupation. The Pack will include details of local public transport options, footpaths and cycleways and car club schemes to promote the use of public transport and active travel.
  - Installation of Electric Vehicle charging points at each dwelling to promote to uptake of low emission vehicle technologies.





- Appointment of a Travel Plan Co-ordinator to monitor the effectiveness of Travel Plan measures and act as an initial contact point for new residents to promote the measures within the Travel Plan.
- Provision of pedestrian and cycleways to the Site to promote active and sustainable travel.



## 6 Opening Phase – Site Suitability

- 6.1 The Site currently comprises agricultural land with no existing sensitive uses present on Site. As the proposed development will introduce new sensitive uses to the Site, consideration was given to the suitability of the Site for residential use with regard to air quality.
- 6.2 A review of the following sources was undertaken to consider Site suitability:
- WDC’s Annual Status Reports and Local Air Quality Management regime;
  - Aerial imagery of the Site and local area; and
  - Proposed development masterplan.

### Local Air Quality Management and Monitoring

- 6.3 The Site is not located within, or in the vicinity of, an AQMA. WDC undertakes nitrogen dioxide (NO<sub>2</sub>) monitoring as part of its duty under the Local Air Quality Management (LAQM) regime. **Table 6.1** details the monitored NO<sub>2</sub> concentrations at monitoring locations in the vicinity of the Site in recent years.

**Table 6.1: WDC NO<sub>2</sub> Monitoring Data (µg.m<sup>-3</sup>)**

Site	X	Y	Site Type	Annual Mean NO <sub>2</sub> Concentration				
				2018	2019	2020	2021	2022
EPS8	395048	245527	Roadside	26.9	21.9	16.8	18.6	20.7
EPS9	394571	245377	Suburban	12.0	10.0	8.6	8.4	9.4

- 6.4 The data in **Table 6.1** illustrate that annual mean NO<sub>2</sub> concentrations in the vicinity of the Site were well below the annual mean NO<sub>2</sub> objective of 40µg.m<sup>-3</sup>. The monitoring data illustrates a downward trend in concentrations in the Pershore area over the past five years.

### Local Emission Sources

- 6.5 The Site is located on the western edge of Pershore. The primary emission source in the vicinity of the Site is considered to be road traffic emissions, with the B4084 Worcester Road forming the northern boundary of the Site. A review of traffic count data provided by the Department for Transport<sup>19</sup> was undertaken to consider the level of traffic on the closest primary roads in the vicinity of the Site. **Table 6.2** details the most recent traffic count data available from the DfT for these road links.

**Table 6.2: DfT Traffic Count Data in the Local Area**

Road	Traffic Flow	
	AADT	HDV
B4084 Worcester Road (count 948821)	7,314	265

<sup>19</sup> Department for Transport (2023) <https://roadtraffic.dft.gov.uk/#14/52.1069/-2.1116/basemap-countpoints>



Road	Traffic Flow	
	AADT	HDV
A4104 Three Springs Road (count 57699)	9,333	370
A4104 Station Road (count 80871)	10,447	502

- 6.6 The traffic data detailed in **Table 6.2** illustrates that the primary road network in the vicinity of the Site does not carry significant road traffic levels that may give rise to elevated pollutant concentrations.
- 6.7 There are no railway lines or significant industrial installations in the vicinity of the Site that are considered to influence pollutant concentrations within the Site.

### Summary

- 6.8 The Site is located in an area that experiences low traffic volumes with no other significant emission sources nearby. The Site is located in an area of existing residential use and does not propose to locate new residential properties closer to the local road network than existing residential properties. WDC has not declared an AQMA as a result of local pollutant concentrations and local air quality monitoring recorded concentrations below the current relevant air quality objectives in recent year. It is therefore considered that the Site is suitable for the proposed use with regard to air quality.



## 7 Summary and Conclusions

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- 7.1 Rappor was instructed by Lioncourt Homes Limited and Touch Developments Ltd to undertake an air quality assessment for submission with a planning application for a proposed residential development at land off Rebecca Road in Pershore.
- 7.2 A qualitative construction phase dust assessment was undertaken and mitigation measures proportionate to the level of dust risk identified are recommended. With the implementation of these measures, the impact of construction phase dust is negligible which is not significant.
- 7.3 A qualitative operational phase road traffic emissions screening assessment was also undertaken to consider the impact of the proposed development on local air quality. The two stage screening criteria set out in IAQM and EPUK guidance were not exceeded and there was no need to undertake any further detailed assessment of the impact of development-generated road traffic. Where the two stage screening criteria are not exceeded, the proposed development can be considered as having a not significant impact on local air quality as a result of development-generated traffic.
- 7.4 Whilst the proposed development will not significantly impact local air quality once operational, measures are incorporated into the design to further minimise the impact of the development on local air quality. These measures include a Travel Plan to promote active and sustainable travel, and provision of Electric Vehicle charging points.
- 7.5 A review of local air quality monitoring data and emission sources was undertaken to consider the suitability of the Site for residential use. Local monitoring data recorded concentrations below the relevant air quality objectives and the Site is located in an existing residential area with no active AQMA. Local road traffic levels were not considered to give rise to elevated pollutant concentrations locally and the proposed masterplan does not located dwellings any closer to the road network than existing properties. It was therefore considered that the Site was suitable for the proposed use with regard to the current relevant air quality objectives.



## Appendix A – Glossary



Term	Definition
AADT	Annual Average Daily Traffic flow.
Air quality objective	Policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive sub groups (see also air quality objective).
Annual mean	The average (mean) of the concentrations measured for each pollutant for one year. Usually this is for a calendar year, but some species are reported for the period April to March, known as a pollution year. This period avoids splitting winter season between two years, which is useful for pollutants that have higher concentrations during the winter months.
AQAP	Air Quality Action Plan.
AQMA	Air Quality Management Area.
AQS	Air Quality Strategy.
Defra	Department for Environment, Food and Rural Affairs.
EPUK	Environmental Protection UK.
Exceedance	A period of time where the concentrations of a pollutant is greater than, or equal to, the appropriate air quality standard.
HDV	Heavy Duty Vehicles (HGVs + buses and coaches)
HGV	Heavy Goods Vehicles.
IAQM	Institute of Air Quality Management.
LAQM	Local Air Quality Management.
LDV	Light Duty Vehicles (motorbikes, cars, vans and small trucks)
NO	Nitrogen monoxide, a.k.a. nitric oxide.
NO <sub>2</sub>	Nitrogen dioxide.
NO <sub>x</sub>	Nitrogen oxides.
Percentile	The percentage of results below a given value.
PM <sub>10</sub>	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PM <sub>2.5</sub>	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
micrograms per cubic metre (µg.m <sup>-3</sup> )	A measure of concentration in terms of mass per unit volume. A concentration of 1µg.m <sup>-3</sup> means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.



## Appendix B – Local Planning Policy



## South Worcestershire Development Plan

The South Worcestershire Development Plan contains the following policy relevant to air quality:

*“SWDP 31: Pollution and Land Instability*

*A) development proposals must be designed in order to avoid any significant adverse impacts from pollution, including cumulative ones, on any of the following:*

- [...]*
- An Air Quality Management Area.”*

## South Worcestershire Development Plan Review

The South Worcestershire Development Plan Review was ongoing at the time of assessment and policies contained within the review were considered with regard to air quality.

*“SWDPR 01: Climate Change Mitigation and Adaptation*

*[...]*

*C) To ensure that development contributes to the mitigation of, and adaptation to climate change, development proposals will be required to:*

*[...]*

*xv) submit air quality assessments to determine the likely impact of development on air quality and resulting mitigation measures;*

*[...]*

*SWDPR 37: Air Quality*

*A) For the following types of development, air quality assessment of the likely impact of the proposal on air quality must be submitted with any application:*

*[...]*

*ii) Housing developments of 100 or more dwellings;*

*[...]*

*B) Additionally, for applications within an AQMA, adjacent to an AQMA or areas at risk of becoming an AQMA, air quality assessments must be submitted for the following types of application:*

*i) Residential development of 10 or more dwellings;*

*[...]” Introduce the policy information here:*

*“Details of planning policy”*





## Appendix C – Consultation

## Freya Hoyle

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**From:** Todd Wilkes <Todd.Wilkes@worcsregservices.gov.uk>  
**Sent:** 15 July 2024 10:08  
**To:** Freya Hoyle  
**Subject:** RE: Rebecca Road, Pershore - air quality methodology

Good Morning Freya,

Apologies for the delay in getting back to you.

I've now reviewed the proposal and you're methodology. I can confirm the proposed methodology and reasoning is sound and look forward to receiving the full assessment.

Any issues or questions, please feel free to get in touch.

Kind regards

### Todd Wilkes

Technical Officer

Wyre Forest House, Finepoint Way, Kidderminster, Worcestershire, DY11 7WF

E-mail: [Todd.Wilkes@worcsregservices.gov.uk](mailto:Todd.Wilkes@worcsregservices.gov.uk)

Web: <https://www.worcsregservices.gov.uk/>

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**From:** Freya Hoyle <Freya.Hoyle@rappor.co.uk>  
**Sent:** Thursday, July 11, 2024 10:41 AM  
**To:** Todd Wilkes <Todd.Wilkes@worcsregservices.gov.uk>  
**Subject:** RE: Rebecca Road, Pershore - air quality methodology

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Good morning Todd,

I hope you're well?

I was just wondering if you had received my email below and had chance to review the proposed methodology for the assessment?

I'd be grateful if you could advise if the approach is accepted to enable us to commence the works.

Best regards,

Freya

**Freya Hoyle MSc BSc MIAQM MIEEnvSc**

**Associate Director – Air Quality**

**m** 07425 083557

**t** 01242 523696 • **w** [rappor.co.uk](mailto:rappor.co.uk)

**a** Beehive Mill, Jersey Street, Ancoats, Manchester, M4 6JG

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**From:** Freya Hoyle

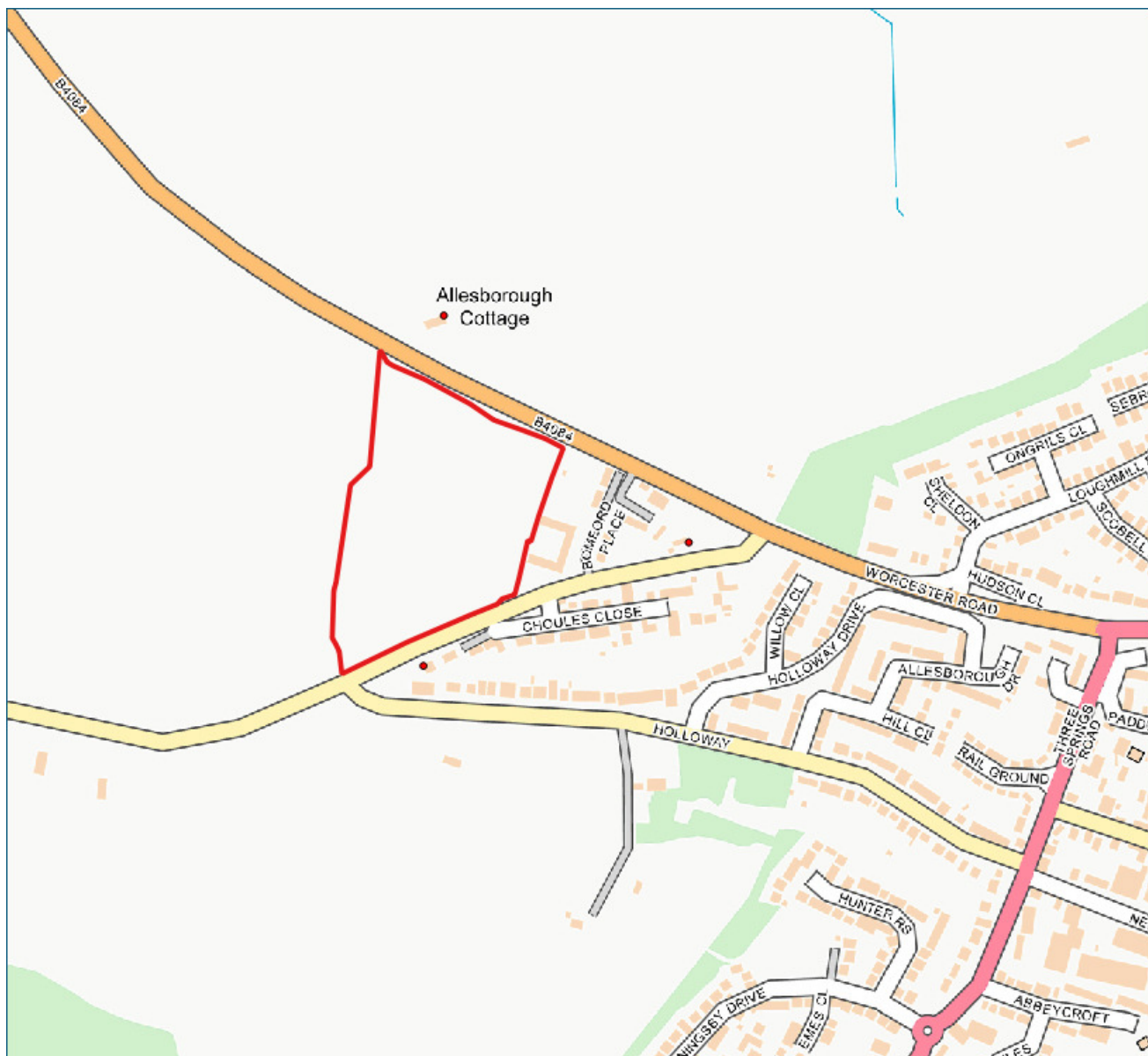
**Sent:** Wednesday, July 3, 2024 11:42 AM

**To:** 'Todd.Wilkes@worcsregservices.gov.uk' <[Todd.Wilkes@worcsregservices.gov.uk](mailto:Todd.Wilkes@worcsregservices.gov.uk)>

**Subject:** Rebecca Road, Pershore - air quality methodology

Good morning Todd,

Rappor has been instructed to prepare an air quality assessment for a proposed residential development at land off Rebecca Road in Pershore. The site location is illustrated below for reference.



The proposed assessment scope and methodology for the air quality assessment is provided below and we would be grateful if you could advise if this is accepted.

Construction:

A qualitative construction phase dust assessment will be undertaken in accordance with IAQM and WRS guidance to determine the level of dust risk associated with the proposals. Mitigation measures proportionate to the level of risk identified will be recommended.

Operational Phase:

The proposed development will provide up to 120 residential units, which marginally exceeds the 100 residential unit threshold set out in WRS guidance outside of an AQMA. The trip generation associated with the proposals is 532 LDVs as a 24 hour AADT. This marginally exceeds the IAQM and EPUK guidance thresholds for developments outside an AQMA however, when considering the distribution of the development traffic, no one road link will experience an increase in traffic of more than 500 LDVs based on the routing of trips to local centres / the motorway etc.

A review of local air quality identified that local pollutant concentrations were well below current relevant air quality objectives.

Taking into consideration the existing air pollution levels, and the fact that the IAQM and EPUK screening thresholds are not exceeded on the local road network, we consider that the proposals will have an

insignificant impact on local air quality and propose to undertake a qualitative operational phase road traffic emissions impact screening assessment.

A review of local road traffic levels has identified that even the most heavily trafficked local roads experienced flows around 11,000 as an AADT. Taking into consideration the existing air pollution levels in the area, the relatively low level of traffic in the area and the absence of any other significant sources of emissions, it is considered that the site is suitable for the proposed residential use. A qualitative operational phase site suitability assessment is therefore proposed using a review of local air quality monitoring data, management regimes, emission sources and site layout.

We would be grateful if you could advise if the above approach is accepted or if there are any queries that you may have on the proposals.

Best regards,

Freya

**Freya Hoyle MSc BSc MIAQM MIEEnvSc**

**Associate Director – Air Quality**

**m 07425 083557**

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## Appendix D – Construction Phase Dust Mitigation



Mitigation Measure	Highly Recommended	Desirable
Communication	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	None
	Display the name and contact details of person(s) responsible 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 which may include measures to control other emissions, approved by the Local Authority.	
Site Management	Record all dust and air quality complaints, identify causes and take appropriate action to reduce emissions in a timely manner and record any measures taken.	None
	Make the complaints log available to the local authority when asked.	
	Record any exceptional incidents that cause dust or air emissions, either on or off site and the action taken to resolve the situation in the log book.	
Monitoring	Carry out regular inspections to monitor compliance with the Dust Management Plan, record inspection results and make an inspection log available to the local authority when asked.	Undertake daily on site and off-site inspections where receptors including roads are nearby, to monitor dust. Record inspection results and make the log available to the local authority when asked.
	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.	
	Agree dust deposition, dust-flux or real-time dust monitoring locations with the local authority, where monitoring is required. Baseline monitoring should commence at least three months prior to works on site, where possible.	
Preparing and maintain the Site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible.	None
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as stockpiles on site.	
	Fully enclose the site or specific operations where there is a high potential for dust production and the site is active for an extensive period.	
	Avoid site runoff of water or mud.	
	Keep site fencing, barriers and scaffolding clean with wet methods.	
	Remove materials that have potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on site, cover as described below.	
	Cover, seed or fence stockpiles to prevent wind whipping.	
Operating vehicle / machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling.	Impost and signpost a maximum 15 mph speed limit on surfaced and 10mph speed limited on unsurfaced haul roads and work areas.



Mitigation Measure	Highly Recommended	Desirable
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	Implement a Travel Plan that supports and encourages sustainable travel.
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.	None
	Ensure an adequate water supply to 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 from conveyors, loading shovels, hoppers and other loading and handling equipment and use fine water sprays on such equipment wherever appropriate.	
	Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable.	
Waste management	Avoid bonfires and burning of waste materials.	None
Earthworks	None	Re-vegetate earthworks and exposed areas / soil stockpiles to stabilise surfaces as soon as practicable.
		Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
		Only remove the cover in small areas during work and not all at once.
Construction	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.	Avoid scabbling (roughening of concrete surfaces) if possible.
		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.
		For smaller supplies of fine powder materials, ensure bags are sealed after use and stored appropriately to prevent dust.
Trackout	None	Use water-assisted dust sweepers on the access and local roads to remove, as necessary, any material tracked out of the site.
		Avoid dry sweeping of large areas.
		Ensure vehicles entering and leaving the site are covered to prevent any escape of materials during transportation.
		Record all inspections of haul routes and any subsequent action taking in site log book.
		Implement a wheel-washing system with rumble grids to dislodge mud prior to leaving the site, where practicable.



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