



Air Quality Assessment:

The Peartree Pub, Winchester Road, Boorley Green

Imperial Homes Southern Counties Limited

23<sup>rd</sup> May 2026

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### Report Details:

|                     |                                                  |
|---------------------|--------------------------------------------------|
| <b>Report Title</b> | Air Quality Assessment                           |
| <b>Site</b>         | The Peartree Pub, Winchester Road, Boorley Green |
| <b>Client</b>       | Imperial Homes Southern Counties Limited         |
| <b>Report No.</b>   | H3755b – AQ – v1                                 |

### Version History:

| Version | Date                      | Notes          | Author                                 | Checked                                    |
|---------|---------------------------|----------------|----------------------------------------|--------------------------------------------|
| V1      | 23 <sup>rd</sup> May 2026 | Original Issue | Will Totty <small>MSc AMIEnvSc</small> | Nick Hawkins <small>MSc MIOA MIAQM</small> |
|         |                           |                |                                        |                                            |
|         |                           |                |                                        |                                            |
|         |                           |                |                                        |                                            |

*This report has been prepared by Hawkins Environmental Limited for the sole purpose of assisting in gaining planning consent for the proposed development described in the introduction of this report.*

*This report has been prepared by Hawkins Environmental Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.*

*This assessment takes into account the prevailing conditions at the time of the report and assesses the impact of the development (if applicable) using data provided to Hawkins Environmental Limited by third parties. The report is designed to assist the developer in refining the designs for the proposed development and to demonstrate to agents of the Local Planning Authority that the proposed development is suited to its location. This should be viewed as a risk assessment and does not infer any guarantee that the site will remain suitable in future, nor that there will not be any complaints either from users of the development or from impacts emanating from the development site itself.*

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## 1. INTRODUCTION

### 1.1. Overview

Hawkins Environmental Limited has been instructed by Imperial Homes Limited to undertake an Air Quality Assessment for the proposed redevelopment of The Pear Tree Inn, situated on Winchester Road in the village of Boorley Green. The site lies within the non-metropolitan Borough of Eastleigh, in the non-metropolitan County of Hampshire.

Air quality is a material consideration within the planning system because new development can both influence and be affected by air pollutant concentrations. During the planning process, it has been identified that the site requires an Air Quality Assessment to determine whether there are constraints on the suitability of the site for residential use, and to determine whether the proposed development would have an adverse impact on local air quality.

Air quality is embedded in national and local planning policy, supported by guidance from bodies such as the Department for Environment, Food & Rural Affairs (Defra) and the Institute of Air Quality Management (IAQM), which together promote the integration of air quality considerations into sustainable development decision-making.

This assessment has been conducted in line with the above guidance in order to determine whether the proposed development achieves compliance with national, regional and local planning policy. It assesses air quality relating to both the construction phase (most importantly PM<sub>10</sub> and coarse dust particles) and the operational life of the development (most importantly NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> from transport and building emissions).

A glossary of terms is detailed in **Appendix 1**.

### 1.2. Site Description

The proposed development site is situated on Winchester Road, a primarily residential street connecting the village of Boorley Green in the south to Horton Heath in the north, on the suburban fringes of the city of Southampton.

The site is currently a field currently used by the pub as a garden.

The proposed development will see the construction of six new residential dwellings.

The local planning authority is Eastleigh Borough Council.

A location plan of the proposed development site is provided in **Figure 1.1** below.

Figure 1.1: Site Location Plan



## 2. LEGISLATION, POLICY & GUIDANCE

### 2.1. Legislation

The legislative framework governing air quality in England is based on the primary legislation of the *Environment Act 1995* and the *Environment Act 2021*; as well as secondary legislation, *The Air Quality Standards Regulations 2010* and *The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023*.

#### 2.1.1. Environment Act 1995, Part IV

The *Environment Act 1995* is a major piece of primary legislation addressing environmental issues in the UK, including air quality.

The Act established the Environment Agency to regulate pollution, enforce environmental laws, and protect natural resources.

Part IV of the Act focuses on air quality, providing a legal framework for its management and improvement.

Part IV requires the UK government to develop and maintain a *National Air Quality Strategy* (see **Section 2.2.1**) with standards, objectives and measures for improving air quality, and introduced the *Local Air Quality Management (LAQM)* regime (see **Section 2.3.3**), mandating local authorities to monitor and assess air quality in their areas.



#### 2.1.2. Air Quality Standards Regulations 2010

The *Air Quality Standards Regulations 2010* are a piece of secondary legislation, which transpose Directive 2008/50/EC (the Ambient Air Quality and Cleaner Air for Europe Directive) of the European Parliament into UK law.

The Regulations set limits for pollutant concentrations to protect human health and the environment. These limits remain in force post-Brexit as retained EU law.

The Regulations contain legally binding Limit Values that must not be exceeded. These are set for individual pollutants (sulphur dioxide, nitrogen dioxide, benzene, lead, PM<sub>10</sub>, PM<sub>2.5</sub> and carbon monoxide), specifying a concentration, an averaging time over which it is measured, the number of exceedances allowed per year (if any) and a date by which it must be achieved. Some pollutants have more than one Limit Value covering different averaging times.

The Regulations also contain Target Values for other pollutants (ozone, arsenic, cadmium, nickel, mercury, polycyclic aromatic hydrocarbons), structured similarly, which while not legally binding, must be met where possible without disproportionate costs.

The UK is bound to the Limit Values to mitigate harmful effects on health and the environment. The *National Air Quality Objectives (NAQOs)*, as presented in the *National Air Quality Strategy* (see **Section 2.2.1**), are largely based on the Limit Values.



The Limit Values are based on an assessment of the health effects of each pollutant and are therefore a good indicator as to whether air quality in the vicinity of a development may be detrimental to human health. The limit values are presented in **Table 2.1**.

**Table 2.1: Air Quality Standards Regulations 2010 – Limit Values**

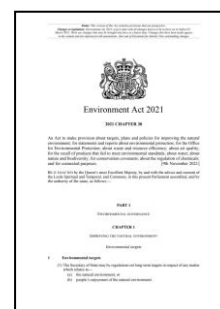
| Pollutant                           | Averaging Period                  | Limit Value                                                                      |
|-------------------------------------|-----------------------------------|----------------------------------------------------------------------------------|
| Sulphur Dioxide (SO <sub>2</sub> )  | One Hour                          | 350 µg/m <sup>3</sup> not to be exceeded more than 24 times per calendar year    |
|                                     | One Day                           | 125 µg/m <sup>3</sup> not to be exceeded more than three times per calendar year |
| Nitrogen Dioxide (NO <sub>2</sub> ) | One Hour                          | 200 µg/m <sup>3</sup> not to be exceeded more than 18 times per calendar year    |
|                                     | Calendar Year                     | 40 µg/m <sup>3</sup>                                                             |
| Benzene                             | Calendar Year                     | 5 µg/m <sup>3</sup>                                                              |
| Lead                                | Calendar Year                     | 0.5 µg/m <sup>3</sup>                                                            |
| PM <sub>10</sub>                    | One Day                           | 50 µg/m <sup>3</sup> not to be exceeded more than 35 times per calendar year     |
|                                     | Calendar Year                     | 40 µg/m <sup>3</sup>                                                             |
| PM <sub>2.5</sub>                   | Calendar Year                     | 20 µg/m <sup>3</sup>                                                             |
| Carbon Monoxide                     | Maximum daily running 8-hour mean | 10 mg/m <sup>3</sup>                                                             |

### 2.1.3. Environment Act 2021

The *Environment Act 2021* is a further significant piece of primary legislation in the UK that formed part of a new legal framework for environmental protection post-Brexit.

The Act made further provisions for air quality, primarily addressing the issue of fine particulate matter by mandating the setting of new targets for PM<sub>2.5</sub> concentrations.

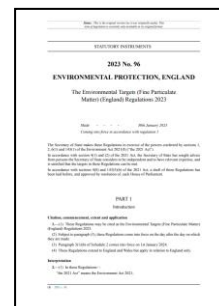
It also refined and strengthened the LAQM regime introduced under the *Environment Act 1995*, furthering the basis for the introduction of Clean Air Zones, and established the Office for Environmental Protection to protect and improve the environment by holding government and public authorities to account for their environmental policies.



### 2.1.4. Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

The *Environmental Targets (Fine Particulate Matter) (England) Regulations 2023* are a piece of secondary legislation to protect human health and the environment by setting new legally binding targets on concentrations of PM<sub>2.5</sub> under the framework set out in the *Environment Act 2021*. The two targets are:

- Annual mean concentrations of PM<sub>2.5</sub> to be 10 µg/m<sup>3</sup> or lower by 2040, with an interim target of 12 µg/m<sup>3</sup> by 2028.
- Population exposure to PM<sub>2.5</sub> to be reduced by 35% compared to 2018 levels by 2040, with an interim target of a 22% reduction by 2028.



The two targets are designed to work together to drive actions that both reduce concentrations where it is highest and reduce the pollution that everyone in the country experiences.

It should be noted that the meaning of ‘Targets’ here is different to that in the *Air Quality Standards Regulations 2010*, wherein “Target Values” have specific meaning. Both PM<sub>2.5</sub> Targets described in the *Environmental Targets (Fine Particulate Matter) (England) Regulations 2023* as set out above are legally binding in the way that “Limit Values” are in the 2010 Regulations.

In response to the new targets, Defra in October 2024 published *PM<sub>2.5</sub> Targets: Interim Planning Guidance*, which aimed to assist with the consideration of the targets in planning decisions, see **Section 2.3.2**.

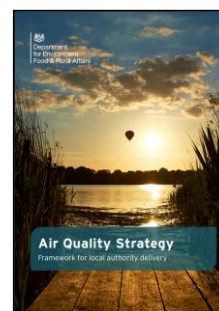
In December 2025 Defra published the policy paper *Air quality Environment Act target delivery plan* which revised the interim targets from the above to an annual mean concentration of 10 µg/m<sup>3</sup> by 2030 and a 30% reduction in population exposure by 2030. This is considered increasingly ambitious in response to good progress towards the previous interim targets.

## 2.2. Planning Policy and Strategy

### 2.2.1. National Air Quality Strategy (2023)

As per the legislation of Part IV of the *Environment Act 1995*, successive governments have produced, maintained and updated air quality policy in the form of various Air Quality Strategy policy papers.

The original *National Air Quality Strategy 1997* was the first UK-wide strategy to set standards and objectives for major air pollutants. It was replaced by the *Air Quality Strategy for England, Scotland, Wales and Northern Ireland* in 2000 with an addendum in 2003, which tightened several of the objectives and introduced a new one for polycyclic aromatic hydrocarbons. A further update came in 2007 with subsequent revisions in 2011, with new objectives for PM<sub>2.5</sub>.



In April 2023 the UK Government published a document, *Air Quality Strategy: Framework For Local Authority Delivery*, which supersedes the 2007 Strategy in respect of England only.

Like its predecessors, *Air Quality Strategy: Framework For Local Authority Delivery* sets out the *National Air Quality Objectives* (NAQOs). The NAQOs currently mirror several of the legally binding limit values as set out in

the *Air Quality Standards Regulations 2010*, as presented in **Table 2.1**. The NAQOs also currently incorporate the new legally binding PM<sub>2.5</sub> targets as set out in the *Environmental Targets (Fine Particulate Matter) (England) Regulations 2023*, as presented in **Section 2.1.4**.

## 2.2.2. National Planning Policy Framework (2024)

The National Planning Policy Framework (NPPF) was first published in March 2012 and has been regularly revised, with the latest version published in December 2024 and amended in February 2005 in response to proposed reforms to the planning system under the Starmer ministry.

The NPPF sets out England's planning policies and guidance on their application. It guides Local Planning Authorities in preparing Local Plans which, alongside the NPPF, form the basis for determining planning applications.

The NPPF states that *"the purpose of the planning system is to contribute to the achievement of sustainable development"* including the provision of homes, commercial development and supporting infrastructure in a sustainable manner. Sustainable development is framed around economic, social and environmental objectives. The NPPF also supports a presumption in favour of sustainable development, unless adverse impacts would significantly and demonstrably outweigh the benefits.

With specific regard to air quality, the NPPF states that planning policies and decisions should prevent development from *"contributing to, being put at unacceptable risk from, or being adversely affected by"* unacceptable levels of pollution, and that development should, wherever possible, help improve local air quality.

The NPPF further requires planning policies and decisions to *"sustain and contribute towards compliance"* with relevant limit values and national objectives, taking account of AQMAs, Clean Air Zones and cumulative impacts. Opportunities to improve air quality or mitigate impacts should be identified, including through traffic and travel management and green infrastructure.

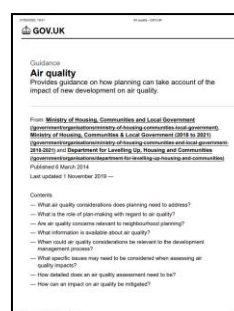


## 2.2.3. Planning Practice Guidance: Air Quality (2019)

Planning Practice Guidance (PPG) was launched as online guidance to support the NPPF, with the first Air Quality guidance published in March 2014. The guidance has since been revised, most recently in November 2019, and explains how planning should take account of the impact of new development on air quality.

The PPG notes that Defra undertakes an annual national assessment of air quality, using modelling and monitoring to determine compliance with relevant Limit Values. It states that the potential impact of new development should be considered where this assessment indicates that relevant limits have been exceeded, or are close to being exceeded.

The guidance explains that whether air quality is relevant to a planning decision will depend on the nature of the development and its location. In particular, concerns may arise where development could have an adverse effect in areas where air quality is already poor, especially where it could affect the implementation of air quality strategies or action plans, or risk breaching legal obligations.



With respect to Air Quality Assessments, the PPG states that assessments should be “*proportionate to the nature and scale of development proposed and the potential impacts*”, taking account of existing air quality conditions, and are therefore likely to be locationally specific.

#### 2.2.4. Eastleigh Borough Local Plan 2016-2036 (2022)

Eastleigh Borough Local Plan policy identifies air quality as a key environmental and transport-related issue, particularly in relation to road traffic and existing AQMAs.

Policy DM8 provides the principal development management policy, requiring development to avoid unacceptable air pollution impacts and requiring air quality to be treated as a material consideration where proposals are within or adjacent to AQMAs, could give rise to a new AQMA, or could prejudice implementation of an Air Quality Action Plan.

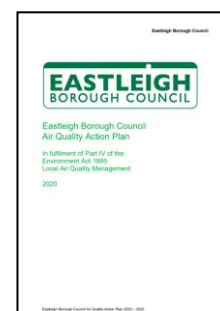
This is supported by strategic and development management transport policies requiring new development to minimise transport emissions, pollution and congestion, encourage sustainable modes of travel and provide appropriate mitigation where traffic impacts arise.



#### 2.2.5. Eastleigh Borough Air Quality Action Plan 2020-2025 (2020)

Eastleigh Borough Council also have an Air Quality Action Plan which covers the period 2020-2025 and was prepared under the LAQM framework.

It remains useful in identifying local air quality priorities and borough-wide measures, although it predates the adoption of the Eastleigh Borough Local Plan 2016-2036 (2022) and reflects the former position of four declared AQMAs; with two having been revoked since.



### 2.3. Best Practice Guidance

#### 2.3.1. Land-Use Planning & Development Control: Planning for Air Quality (2017)

*Land-Use Planning & Development Control: Planning for Air Quality*, jointly published by the IAQM and Environmental Protection UK (EPUK) in May 2015 and updated in January 2017, serves as a comprehensive guide for integrating air quality considerations into the planning system.

Specific guidance is given on undertaking an air quality assessment for planning, including how to assess both the impacts of existing air quality on a new development, or the impacts of new developments on air quality in their area. It also discusses how to determine the significance of the effects arising from such air quality impacts.

Guidance is also given on screening criteria for different types of assessment, the verification of air quality models, identification of appropriate receptors, and appropriate mitigation measures.



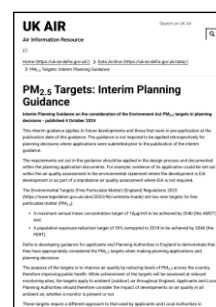
### 2.3.2. PM<sub>2.5</sub> Targets: Interim Planning Guidance (2024)

*PM<sub>2.5</sub> Targets: Interim Planning Guidance* was published by Defra in October 2024 to support applicants and local planning authorities in considering the Environment Act 2021 PM<sub>2.5</sub> targets (see **Section 2.1.4**) in planning decisions.

The statutory targets introduced in 2023 were: an annual mean concentration target of 10 µg/m<sup>3</sup> by 2040 and a 35% reduction in population exposure by 2040, relative to 2018. Interim targets were also published, which have since been updated to an annual mean concentration of 10 µg/m<sup>3</sup> by 2030 and a 30% reduction in population exposure by 2030.

Rather than focusing solely on whether a development would be affected by or contribute to an exceedance of a fixed limit value, the guidance promotes early consideration of PM<sub>2.5</sub> within the design process.

Applicants are advised to identify key sources of PM<sub>2.5</sub> and its precursors, and to demonstrate how emissions and exposure have been minimised as far as reasonably practicable. This may be addressed quantitatively or qualitatively within an Air Quality Assessment, with greater detail expected for developments close to sensitive receptors or likely to generate higher emissions.



### 2.3.3. Local Air Quality Management Technical Guidance TG22 (2022)

The LAQM process is a framework under which local authorities are required to review and manage air quality in their areas. It is governed by Part IV of the *Environment Act 1995* (see **Section 2.1.1**) and aims to ensure compliance with the NAQOs.

Local authorities are required to regularly review and assess air quality in their areas. If the review indicates that the NAQOs are being exceeded or are likely to be exceeded, local authorities must designate an AQMA. Once an AQMA has been designated, the local authority is required to develop and implement Action Plans that outline measures to improve air quality, with continuing monitoring, evaluation and reporting required.



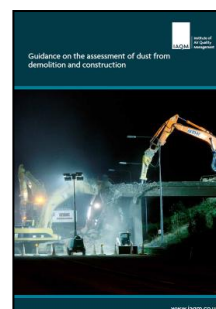
Although produced for local authorities tasked with managing air quality in their areas, TG22 provides detailed instructions on how to assess air quality using both monitoring data and modelling techniques, and evaluate whether air quality objectives are being met, and is therefore essential guidance for anyone considering air quality impacts within the planning system.

### 2.3.4. Guidance on the Assessment of Dust from Demolition and Construction (2024)

Published in 2014 and most recently amended in 2024, the *IAQM Guidance on the Assessment of Dust from Demolition and Construction* provides a structured approach to assessing dust risks arising from demolition and construction, and implementing appropriate mitigation measures.

The guidance provides the framework for a qualitative risk assessment of three different dust impacts: disamenity dust soiling, human health due to increased PM exposure, and harm to ecological receptors.

The guidance divides activity on construction sites into four categories each of which are



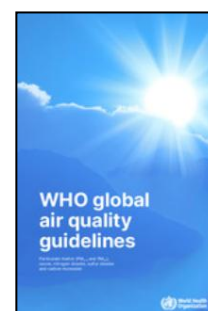
considered separately: demolition, earthworks, construction, and trackout. The likely magnitude of dust emission for each activity is combined with the sensitivity of the area (determined by the number of receptors within prescribed distance bands) to determine the risk level from each activity.

Based on the determined risk level, mitigation measures are recommended to be incorporated into a Dust Management Plan which can form part of a broader Construction and Environmental Management Plan. The guidance states that if the recommended mitigation measures are adopted, there will be no overall significant effect.

### 2.3.5. World Health Organization Air Quality Guidelines (2021)

The *World Health Organization Air Quality Guidelines* proposes air quality guideline levels for key air pollutants that pose health risks.

The guidelines cover a range of pollutants and suggest threshold levels at which health effects are unlikely to occur, based on the latest scientific evidence. They are not statutory standards or objectives for the purposes of planning decisions in England; however, they are relevant context in demonstrating that air quality policy is moving towards lower long-term exposure, particularly for PM<sub>2.5</sub>.



Due to a substantial increase in scientific evidence since 2005 (the publication of the previous guidelines), the World Health Organization (WHO) significantly lowered its guideline levels for most air pollutants in its 2021 update, such that they are now more stringent than the legally binding Limit Values as described in the *Air Quality Standards Regulations 2010* (see **Section 2.1.2**).

**Table 2.2** summarises the WHO Guideline levels.

**Table 2.2: WHO Air Quality Guideline Levels**

| Pollutant         | Average Period | WHO Guideline Value                                |
|-------------------|----------------|----------------------------------------------------|
| Nitrogen Dioxide  | One Hour       | 200 µg/m <sup>3</sup>                              |
|                   | One Day        | 25 µg/m <sup>3</sup>                               |
|                   | Calendar Year  | 10 µg/m <sup>3</sup>                               |
| PM <sub>10</sub>  | One Day        | 45 µg/m <sup>3</sup> (99 <sup>th</sup> Percentile) |
|                   | Calendar Year  | 15 µg/m <sup>3</sup>                               |
| PM <sub>2.5</sub> | One Day        | 15 µg/m <sup>3</sup> (99 <sup>th</sup> Percentile) |
|                   | Calendar Year  | 5 µg/m <sup>3</sup>                                |

### 3. METHODOLOGY

#### 3.1. Methodology Overview

The assessment of air quality considers several different areas, which have their own methodologies stemming from the various guidance discussed in **Section 2.3**. In general, an assessment will consider:

1. Establishing the baseline conditions at the proposed development site. This entails an evaluation of recent local authority reporting, historic air quality data, background concentration data, and industrial emissions. If needed, local monitoring data can be used to verify a dispersion model for predicting pollutant concentrations. See **Section 3.3**.
2. Constraints of existing air quality on the proposed development. This considers the site's suitability for use by comparing pollutant concentrations at the site to relevant air quality objectives. Where local data indicates that concentrations may not be compliant, dispersion modelling can be used to predict pollutant concentrations. See **Section 3.4**.
3. Air quality impacts of the proposed development on local receptors. An impact assessment considers both emissions from increased traffic and the energy strategy. A dispersion model can be used to model the impact of these new sources if they meet a screening threshold. Impacts are assessed based on both the change caused by the proposed development and the pre-existing air quality at a receptor. It is then determined whether any impacts would be likely to lead to significant effects, i.e. to health. See **Section 3.5**.
4. Impacts from demolition and construction at local receptors. The risk of dust impacts from the construction phase are assessed qualitatively in terms of their potential to cause effects in terms of disamenity, health or ecology. See **Section 3.6**.
5. Compliance with any local air quality policies where required, for example emissions benchmarking or damage cost analysis.
6. Consideration of ecological impacts if in proximity to a designated site. This is typically a screening assessment to identify risks of significant adverse effects on European designated sites (Special Protection Area, Special Area of Conservation, or Ramsar sites).

The methodologies are discussed in the subsections below, along with a description of the methods used to identify receptors and the determination of effect significance.

#### 3.2. Identification of Receptors

*Land-Use Planning & Development Control: Planning for Air Quality* (see **Section 2.3.1**) states that receptor locations should be chosen both within a proposed development (site suitability), as well as on roads significantly affected by it (impact assessment), even if distant to it, and particularly if within, AQMA's.

The guidance notes “*These receptors will represent locations where people are likely to be exposed for the appropriate averaging time (dependent on the air quality objective being assessed against)*”.

This is critical as it identifies that sensitivity to air quality is related to the time spent in a location. For example, annual mean objectives should be used to assess anywhere a person may be present for sustained periods over a year, for example dwellings.

Although users wouldn't be present for the appropriate averaging time, hospitals and schools would also be assessed against annual mean objectives, owing to the higher sensitivity of their users.

Offices and commercial uses would not usually be assessed against annual objectives, given that most users would be healthy adults who would spend less than 25% of the hours in a year there, however assessment against daily or hourly mean objectives would be necessary.

Similarly, hotels may not be assessed against annual mean objectives, however hostels, sheltered accommodation and student accommodation would be considered the same as dwellings, as residents could be expected to stay for several months.

### 3.3. Baseline Investigation

To determine the baseline conditions, the following is undertaken:

1. A review of recent Air Quality Annual Status Reports published by the local planning authority as submitted to the Department for the Environment, Food and Rural Affairs (Defra).
2. Determination of whether the site is situated within a designated Air Quality Management Area (AQMA).
3. A review of air quality monitoring data in the local authority area and in proximity to the proposed development site.
4. A review of the Environment Agency's (EA) register of industrial sites under the EC Integrated Pollution Prevention and Control Directive (IPPC) to determine whether industrial sources of air pollution could be affecting the site.
5. Review of the list of registered Part A2 and Part B permitted premises under the PPC Regulations to determine whether any other sources of air pollution could be affecting the site.

### 3.4. Site Suitability

*Land-Use Planning & Development Control: Planning for Air Quality* suggests that whether an assessment of the impacts of the local area on the proposed development is required is a matter of judgement, but should take into account:

1. *“the background and future baseline air quality and whether this will be likely to approach or exceed the values set by air quality objectives;*
2. *the presence and location of Air Quality Management Areas as an indicator of local hotspots where the air quality objectives may be exceeded;*

3. *the presence of a heavily trafficked road, with emissions that could give rise to sufficiently high concentrations of pollutants (in particular NO<sub>2</sub>), that would cause unacceptably high exposure for users of the new development; and*
4. *the presence of a source of odour and/or dust that may affect amenity for future occupants of the development.”*

The assessment of site suitability considers the results of the baseline assessment and any likely changes to air quality in the area in future in addition to the above factors.

If required, dispersion modelling can be used to predict concentrations of air pollutants during the year of first use of the development. Dispersion modelling uses measured traffic flows, different emissions factors (the amount of pollutant emitted per vehicle-km, which vary by year, location and road type), and variation in regional background concentrations to predict pollutant concentrations at various receptor locations.

### 3.5. Impact Assessment

*Land-Use Planning & Development Control: Planning for Air Quality* provides screening thresholds for determining when emissions from traffic generated and from providing energy to buildings require detailed assessment, based on the number of predicted trips generated and the predicted emissions of any plant respectively.

When required, dispersion modelling is used to predict pollutant concentrations at nearby sensitive receptors for a ‘future baseline’ scenario and compare them to those for a ‘future with development’ scenario.

The change in pollutant concentration is then used alongside the prevailing long term concentration of the pollutant to determine and overall impact descriptor, which are reproduced in **Table 3.1** below.

**Table 3.1: Pollutant Change Impact Descriptors**

| Average Annual Concentration,<br>Relative to Objective | Change in Concentration, Relative to Objective |             |             |             |
|--------------------------------------------------------|------------------------------------------------|-------------|-------------|-------------|
|                                                        | 1%                                             | 2-5%        | 6-10%       | >10%        |
| <76%                                                   | Negligible                                     | Negligible  | Slight      | Moderate    |
| 76-94%                                                 | Negligible                                     | Slight      | Moderate    | Moderate    |
| 95-102%                                                | Slight                                         | Moderate    | Moderate    | Substantial |
| 103-109%                                               | Moderate                                       | Moderate    | Substantial | Substantial |
| >109%                                                  | Moderate                                       | Substantial | Substantial | Substantial |

#### 3.5.1. Operational Phase Significance Criteria

*Land-Use Planning & Development Control: Planning for Air Quality* provides a framework to assess significance in air quality assessments, with paragraph 7.4 stating:

*"the assessment framework for describing impacts can be used as a starting point to make a judgement on significance of effect, but there will be other influences that might need to be accounted for. The impact descriptors set out in Table 6.3 [Replicated in **Table 3.1** of this chapter] are not, of themselves, a clear and unambiguous guide to reaching a conclusion on significance. These impact descriptors are intended for application at a series of individual receptors. Whilst it may be that there are 'slight', 'moderate' or 'substantial' impacts at one or more receptors, the overall effect may not necessarily be judged as being significant in some circumstances".*

It goes on to state that any significance needs to be assessed using a certain amount of professional judgement and, with paragraph 7.7 stating that judgement should take into account *"the existing and future air quality in the absence of the development; the extent of current and future population exposure to the impacts; and the influence and validity of any assumptions adopted when undertaking the prediction of impacts"*.

For example, for a large development, a major adverse impact on a single receptor might be considered insignificant; however, a minor impact to 100,000 receptors might be considered to be highly significant.

Furthermore, the absolute level of pollutant concentrations are also important in determining significance; for example, a moderate impact to a small group of receptors might be considered highly significant if the pollutant concentrations were well in excess of an NAQO, however, that same moderate impact might be considered insignificant if prevailing concentrations were well below the NAQO.

### 3.6. Construction Phase

The IAQM's *Guidance on the Assessment of Dust from Demolition and Construction* (see **Section 2.3.3**) outlines a qualitative risk assessment that considers the proposed activities and local sensitivity to evaluate the significance of construction related air quality impacts using a five-step methodology:

1. **Screening:** Determine whether a detailed assessment is required. If no sensitive receptors are located within defined distances of the site boundary or the haul routes to be used by construction traffic, further assessment is not necessary.
2. **Risk Assessment:** Assess the risk of dust impacts. The risk is assessed for each of four activities – demolition, earthworks, construction, and trackout; for three different types of receptor sensitivity – the sensitivity of people and property to dust soiling, the sensitivity of people to the health effects of PM<sub>10</sub>, and the sensitivity of receptors to ecological effects. This involves:
  - a. Determining the potential dust emission magnitude based on the scale and nature of the works. This is categorised as Large, Medium or Small for each of the four activities described above.
  - b. Evaluating the sensitivity of the surrounding area. This is categorised as High, Medium or Low for each of the three types of sensitivity described above.
  - c. Combining these factors to assign a risk level (negligible, low, medium, or high) for each activity.

3. Mitigation: Identify appropriate, site-specific mitigation measures based on the risk levels established in Step 2. Local authority requirements and best practice measures should also be incorporated where relevant.
4. Residual Effects: Evaluate the effectiveness of the proposed mitigation and determine the significance of any residual dust impacts.
5. Reporting: Present the assessment outcomes, including methodology, risk levels, proposed mitigation, and conclusions, within a dust assessment report.

### 3.6.1. Construction Phase Significance Criteria

The guidance is based on the principle that with effective site specific mitigation, residual effects will usually be considered not significant. The purpose of the assessment is therefore to determine the mitigation measures required to reach such a conclusion, such measures should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement.

## 4. BASELINE CONDITIONS

### 4.1. Air Quality Review and Assessment

Under Part IV of the Environment Act (1995), local authorities are required to carry out a review of air quality within their boundaries according to the prescribed LAQM framework (see **Section 2.3.2**). The findings of this review process are published in an Air Quality Annual Status Report.

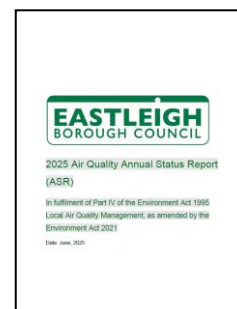
LAQM requires local authorities to identify areas that fail to achieve compliance with the National Air Quality Objectives (NAQOs). Where compliance is not achieved, local authorities must designate these areas as Air Quality Management Areas (AQMAs) and also prepare an Air Quality Action Plan (AQAP) which must identify measures to achieve compliance with the NAQOs. When reporting shows consistent compliance with the NAQOs, typically for a five year period, an AQMA can be revoked.

The pollutants considered under LAQM are NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, benzene, 1,3-butadiene, carbon monoxide and lead. Ambient concentrations of SO<sub>2</sub>, benzene, 1,3-butadiene, carbon monoxide and lead have decreased nationally to the extent that they have essentially become a non-concern within the planning system. PM<sub>2.5</sub> had no strict objective when the most recent LAQM Guidance was published (*‘work towards reducing’*); therefore the vast majority of AQMAs are declared for NO<sub>2</sub> and PM<sub>10</sub>.

Improvements in air quality in recent years have brought AQMAs back into compliance and led to revocations across the country. A shift in policy focus to the tightening legal annual objective for PM<sub>2.5</sub> from 20 µg/m<sup>3</sup> to 10 µg/m<sup>3</sup> means that this is becoming the primary pollutant of concern in most planning contexts.

The most recent publicly available Annual Status Report published by Eastleigh Borough Council was published in 2025 based on data collected through 2024. At the time of publication (June 2025), one of the council's four AQMAs (AQMA 2 - M3) was in the process of being revoked; since then both it and a further AQMA (Botley) have been added to Defra's revoked AQMA list. The report concludes:

*“Monitoring data collected from both passive and automatic sites across Eastleigh Borough during 2024 confirmed continued compliance with the annual mean national objective for NO<sub>2</sub> concentrations (40 µg/m<sup>3</sup>), with no exceedances recorded at any monitoring locations. The ongoing decreasing trend in NO<sub>2</sub> concentrations, observed at the majority of monitoring locations in recent years, persisted throughout 2024. This constant improvement has supported the revocation of AQMA No. 2 (M3), which will be discussed by the Cabinet during July 2025 meeting, and the potential for revoking additional AQMAs in upcoming years.”*



### 4.2. Local Air Quality Monitoring

Eastleigh Borough Council conducts air quality monitoring using three automatic continuous monitoring stations which monitor NO<sub>2</sub> (of which Site ID ES1 also monitors PM<sub>10</sub> and PM<sub>2.5</sub>) as well as 55 passive diffusion tubes which monitor monthly average concentrations of NO<sub>2</sub>.

The most recent Annual Status Report published by the Council indicates that all 55 diffusion tubes and three automatic monitors (which are co-located) were compliant with the annual objective for NO<sub>2</sub>. Research

indicates that a compliant annual mean NO<sub>2</sub> concentration is indicative of compliance with the hourly mean objective<sup>1</sup>. The hourly mean objective was complied with at the three continuous monitoring locations.

Across all monitoring locations, which are situated mostly at kerbside and roadside locations on main roads, the highest annual average concentration in 2024 was 34.6 µg/m<sup>3</sup> (OH2 Oakhill 2 (Bridge)). There has not been a recorded exceedance of the annual NO<sub>2</sub> objective at any monitoring location in the Borough since 2021, reflected in the revocation of several of its AQMA's.

Site ID ES1 (Southampton Road) monitored concentrations that were compliant with the annual objectives for both PM<sub>10</sub> (16.4 µg/m<sup>3</sup>) and PM<sub>2.5</sub> (8.3 µg/m<sup>3</sup>); as well as the daily mean objective for PM<sub>10</sub>.

The data from the last five annual status reports indicates not only sustained compliance with the NO<sub>2</sub> NAQO but a sustained decrease in NO<sub>2</sub> concentrations generally. This reflects broader national trends over the same time period.

### 4.3. Background Concentrations

The total pollutant concentration at a receptor comprises both:

1. the contribution from explicit local emission sources such as roads and plant/industrial processes, and
2. those that are transported into an area by the wind from further away.

If all of the local sources are removed, all that remains is that which comes in from further away; this component is the background concentration. In many situations, the background concentration may represent a significant or dominant proportion of the total pollutant concentration.

Background concentrations are modelled estimates of long-term ambient pollutant concentrations away from specific local sources. Defra provide such estimates at 1 km<sup>2</sup> resolution for the whole of the UK on a year-by-year basis for the key pollutants NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>.

The current version of the background maps (reference year 2021) contains estimates for NO<sub>x</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> for the period 2021 through to 2040.

The background maps also provide an estimated breakdown of the contributions of different sources of pollution. Predicted background concentrations at the proposed development site are presented in **Table 4.1** below.

<sup>1</sup> Analysis of Relationship between 1-Hour and Annual Mean Nitrogen Dioxide at UK Roadside and Kerbside Monitoring Sites, Laxen and Marner, 2003.

**Table 4.1: Background Pollutant Concentrations**

| Location (OS Grid Square centre) | Year | Pollutant         | Predicted Background Concentration ( $\mu\text{g}/\text{m}^3$ ) | Annual Objective ( $\mu\text{g}/\text{m}^3$ ) |
|----------------------------------|------|-------------------|-----------------------------------------------------------------|-----------------------------------------------|
| 449500 114500                    | 2026 | NO <sub>2</sub>   | 10.48                                                           | 40                                            |
|                                  |      | PM <sub>10</sub>  | 12.26                                                           | 40                                            |
|                                  |      | PM <sub>2.5</sub> | 7.45                                                            | 20 (10 by 2040)                               |

Background concentrations are well below the relevant annual mean objectives. A review of local emission sources has therefore been undertaken to determine whether additional uplift from local source contributions is likely to be significant.

#### 4.4. Local Traffic Sources

The proposed development site is situated west-southwest of the B3354 Winchester Road, which is the only road source in proximity.

The Department for Transport (DfT) maintains database of road traffic count points across Great Britain. The map covers every junction-to-junction link on the motorway and A-road network, plus a sample of minor road locations.

The nearest count point to the proposed development on the B3354 is ~2 miles north in Horton Heath. Traffic was last manually counted here in 2019 and the total Average Annual Daily Flow (AADF) was measured to be 13,696 vehicles.

This would be considered in the normal range for a significant local distributor road, and would likely cause a small observable contribution to local long-term pollutant concentrations, particularly NO<sub>x</sub>/NO<sub>2</sub> close to the carriageway. However, this road increment alone is unlikely to be the dominant component over the background, even more so in the case of PM<sub>10</sub> and PM<sub>2.5</sub>, which are more regional/background driven.

#### 4.5. Industrial Emissions

Both the Environment Agency's register of industrial sites under the EC Integrated Pollution Prevention and Control Directive (IPPC) and the Local Authority's list of registered Part A2 and Part B permitted premises under the Pollution, Prevention and Control Act 1999 and the Environmental Permitting (England and Wales) Regulations 2010 have shown that there are no sites within close proximity to the proposed development site that are likely to be affecting air pollutant concentrations at the site.

## 4.6. Evaluation

An assessment of baseline air quality at the proposed development site has been undertaken. Data sources used as evidence are presented in **Table 4.2** below.

**Table 4.2: Baseline Data Sources**

| Dataset                                   | Source                                     | Year                              | Purpose                                       |
|-------------------------------------------|--------------------------------------------|-----------------------------------|-----------------------------------------------|
| Defra Background Maps                     | Defra UK-Air Air Information Resource 2021 | 2026                              | Predicted background pollutant concentrations |
| Defra AQMA Mapping; List of revoked AQMAs | Defra UK-Air Air Information Resource 2021 | Live                              | AQMA review                                   |
| Air Quality Annual Status Report          | Eastleigh Borough Council                  | Published 2025 based on 2024 data | Local monitoring data                         |
| Department for Transport Traffic Counts   | Road Traffic Statistics Map                | Most recent manual count 2019     | Local road source screening                   |
| EA permits                                | Environment Agency                         | Live                              | Industrial source screening                   |
| Local Part A2/B permits                   | Eastleigh Borough Council                  | Live                              | Screening of local regulated processes        |

A review of the latest Air Quality Annual Status Reports published by Eastleigh Borough Council indicates that there are two AQMAs remaining in the Borough following the revocation of its other two in the last year. Monitoring data indicates sustained compliance with current objectives across the Borough.

Predicted background concentrations at the proposed development site are low (NO<sub>2</sub> 26% of annual objective, PM<sub>10</sub> 31% of annual objective, PM<sub>2.5</sub> 37% of annual objective).

This is reflected in the most recent monitoring data, which indicates that pollutant concentrations at roadside locations near to the proposed development site and across the Borough are currently compliant with the NAQOs and are continuing to decline.

A review of registered industrial sites indicates that there are none nearby that could be materially contributing to air pollutant concentrations at the proposed development site.

The sole local source is the B3354 which is situated east-northeast of the proposed development. It carries a moderate traffic flow for a local distributor road but unlikely to be a dominant component of local pollutant concentrations.

Based on the above evidence it is considered that air quality at the proposed development site is compliant with current objectives, and notwithstanding the introduction of any substantial new local sources is likely to remain so.

## 5. SCOPING

Planning Practice Guidance on Air Quality (see **Section 2.2.3**) states *"Assessments need to be proportionate to the nature and scale of development proposed and the potential impacts (taking into account existing air quality conditions), and because of this are likely to be locationally specific"*.

This approach is reiterated in *Land-Use Planning & Development Control: Planning for Air Quality* (see **Section 2.3.1**) which provides guidance on screening on whether an air quality assessment is required and what needs to be assessed.

### 5.1. Site Suitability

*Land-Use Planning & Development Control: Planning for Air Quality* suggests that whether an assessment of the impacts of the local area on the proposed development is required is a matter of judgement, but should take into account:

- *"the background and future baseline air quality and whether this will be likely to approach or exceed the values set by air quality objectives;*
- *the presence and location of Air Quality Management Areas as an indicator of local hotspots where the air quality objectives may be exceeded;*
- *the presence of a heavily trafficked road, with emissions that could give rise to sufficiently high concentrations of pollutants (in particular NO<sub>2</sub>), that would cause unacceptably high exposure for users of the new development; and*
- *the presence of a source of odour and/or dust that may affect amenity for future occupants of the development."*

**Section 4** of this report assesses the baseline air quality conditions at the proposed development site to be good by considering recent local authority reporting, Defra predicted background concentrations, local monitoring data and a review of industrial processes. A sustained decline in air pollutant concentrations has been reflected in the formal revocation of several AQMAs within the Borough.

As a result of the above, detailed dispersion modelling of the site is scoped out and it is considered that the proposed development is suitable for use without the need for mitigation.

### 5.2. Impact Assessment

To determine whether an assessment of the impacts of the development on the local environment is required, *Land-Use Planning & Development Control: Planning for Air Quality* suggests a two-stage approach.

The first stage is intended to screen out smaller development and/or developments where impacts can be considered to have insignificant effects, stating that for residential developments of fewer than ten units, or other land uses with a floor space of less than 1,000 m<sup>2</sup> or a site area of less than 1 hectare, an impact assessment is not required. Even above these thresholds, provision of ten or more parking spaces or a centralised energy process is required to move to the second screening stage.

The second stage relates to specific details regarding the proposed development, and gives specific triggers including the realigning of roads to be close to receptors, introducing new junctions and introducing underground parking. The two most common triggers are for vehicle trip generation and combustion processes relating to energy strategy:

- *Within an AQMA, a change of more than 100 AADT LDV (cars and small vans <3.5 tonne) or 25 AADT HDV (goods vehicles and buses >3.5 tonne).*
- *Outside of an AQMA, a change of more than 500 AADT LDV or 100 AADT HDV.*
- *Have one or more substantial combustion processes, where there is risk of impacts at relevant receptors, noting that plant with a combined emission rate of <5 mg/s is unlikely to give rise to impacts if released at a height that provides adequate dispersion. The 5 mg/s emission rate is considered approximate to a 450 kW ultra low NO<sub>x</sub> gas boiler.*

The proposed development can therefore be scoped out based on the first stage IAQM criteria by virtue of only providing six new dwellings.

### 5.3. Construction Phase

The IAQM *Guidance on the Assessment of Dust from Demolition and Construction* (see **Section 2.3.4**) states that an assessment will normally be required where there is a human receptor within 250 m of the boundary of the site; or 50 m of a route used by construction vehicles on the public highway, up to 250 m from a site entrance. It states likewise of ecological receptors' within 50 m of the boundary of the site or the same criteria from the site entrance.

A construction dust risk assessment has therefore been carried out to assess impacts during the demolition and construction phase of the proposed development. The findings of the risk assessment inform site specific mitigation measures which should be implemented to ensure there are no significant effects. Mitigation should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement.

### 5.4. Site Specific Scoping Summary

Table 5.1: Site Specific Scoping Summary

| Assessment Area   |                    | Scoping                                                                               | Detailed Modelling Required? |
|-------------------|--------------------|---------------------------------------------------------------------------------------|------------------------------|
| Site Suitability  |                    | Low background concentrations, compliant local monitoring data, no industrial sources | No                           |
| Impact Assessment | Traffic generation | Does not meet Stage 1 criteria (<10 dwellings)                                        | No                           |
|                   | Energy strategy    |                                                                                       |                              |

## Air Quality Assessment

The Pear Tree Pub, Winchester Road, Boorley Green

Imperial Homes Southern Counties Limited • 23<sup>rd</sup> May 2026 • H3755b – AQ – v1

| Assessment Area            | Scoping                                         | Detailed Modelling Required?                               |
|----------------------------|-------------------------------------------------|------------------------------------------------------------|
| Construction Dust          | Meets receptor proximity criteria;<br>scoped in | Qualitative in line with guidance,<br>see <b>Section 6</b> |
| HRA/Ecological Air Quality | No high sensitivity habitats in<br>proximity    | No                                                         |
| Local Policy Assessment    | None identified in Local<br>Plan/AQAP           | No                                                         |

## 6. CONSTRUCTION DUST RISK ASSESSMENT

The Institute of Air Quality Management's *Guidance on the assessment of dust from demolition and construction (January 2024)* (see **Section 2.3.4**) contains a methodology for determining the likelihood of significant effects arising from dust during the construction of developments. It considers that effects could arise from impacts in terms of either dust soiling, human health or ecology.

The guidance notes that the primary cause for concern is the emission of coarse particles in the PM<sub>10</sub> fraction which can be emitted during activities related to either demolition, earthworks, construction and trackout.

It is challenging to accurately quantify emissions of dust from construction activities. It is, therefore, common practice to provide a qualitative assessment of potential impacts. The IAQM guidance methodology is described in five steps:

1. A screening stage based on the proximity of receptors.
2. The actual risk assessment based on construction activities and local sensitivity.
3. Defines appropriate, site-specific mitigation measures based on the risk assessment.
4. Determines whether significant effects are likely. The guidance is underpinned by the concept that it is normally possible to prevent significant effects on receptors through the use of effective mitigation, hence the residual effect will normally be described as not significant.
5. Reporting - which the rest of this chapter constitutes and summarises in **Section 6.5**. Steps 1-4 above are discussed in **Sections 6.1-6.4** below.

### 6.1. Step 1 – Screening

The IAQM guidance states that an assessment will normally be required where there is a *human* receptor within 250 m of the boundary of the site; or 50 m of a route used by construction vehicles on the public highway, up to 500 m from a site entrance. It states likewise of *ecological* receptors' within 50 m of the boundary of the site or the same criteria from the site entrance.

This effectively scopes in the vast majority of construction sites in urban settings and many rural ones, including the proposed development site.

### 6.2. Step 2 – Risk Assessment

The IAQM guidance seeks to assess the risk of three types of impact: dust soiling (amenity) impacts, human health impacts, and ecological impacts.

It does this by considering the sensitivity of the local area to such impacts arising from four different activities: demolition, earthworks, construction and trackout.

It also considers the magnitude of emissions from each of these activities to give a risk matrix of each impact type from each activity, based on site specific construction activities and local sensitivity. As per the guidance:

*“The risk of dust arising in sufficient quantities to cause annoyance and/or health and/or ecological impacts should be determined using four risk categories: negligible, low, medium and high risk.*

*A site is allocated to a risk category based on two factors:*

- the scale and nature of the works, which determines the potential dust emission magnitude as small, medium or large (STEP 2A); and*
- the sensitivity of the area to dust impacts (STEP 2B), which is defined as low, medium or high sensitivity.*

*These two factors are combined in STEP 2C to determine the risk of dust impacts with no mitigation applied. The risk category assigned to the site can be different for each of the four potential activities (demolition, earthworks, construction and trackout). More than one of these activities may occur on a site at any one time.”*

### 6.2.1. Step 2a – Dust Emission Magnitude

**Table 6.1** summarises the dust emission magnitude for each activity, based on the size and characteristics of the site and the likely activities and materials used, justified using criteria from the IAQM Guidance.

**Table 6.6.1: Dust Emission Magnitude**

| Activity     | Dust Emission Magnitude | Justification                                                                                                                                                                                                                             |
|--------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Demolition   | N/A                     | Small temporary outbuilding only.                                                                                                                                                                                                         |
| Earthworks   | Medium                  | Site meets Medium area criteria (>18,000 m <sup>2</sup> ). Some soil clay content identified; moderate level of excavation, haulage, tipping or stockpiling anticipated. Small bunds and some concurrent heavy vehicle movement possible. |
| Construction | Medium                  | Building volume meets Medium criteria (12-75,000 m <sup>3</sup> ), concrete is listed as a Medium concern which is considered likely.                                                                                                     |
| Trackout     | Small                   | Fewer than 20 daily HGV movements expected. Sections of unpaved road unlikely to exceed 50 m.                                                                                                                                             |

### 6.2.2. Step 2b – Sensitivity of the Area

The sensitivity of the area that could be impacted by the proposed development is assessed with respect to dust soiling, human health and ecology.

Each is defined largely by the number of nearby high sensitivity receptors within certain distance bands of the site boundary (or the boundary of anticipated works) and its haul routes, but also takes into account local PM<sub>10</sub> concentrations and site specific factors such as natural shelters or barriers.

The guidance also calls for professional judgement, noting that receptors lie on a spectrum of sensitivity.

The relevant distance bands relative to the proposed development site are presented in **Appendix 2**, along with tables reproduced from the IAQM guidance which show how the sensitivity of the area may be determined based on the number of receptors within those bands.

It notes that while these tables are necessarily prescriptive, professional judgement may be used to determine alternative sensitivity categories. The determination of the sensitivity of the area is presented in **Table 6.2** below.

**Table 6.2: Sensitivity of the Area**

| Potential Impact | Sensitivity of Surrounding Area To: |            |              |          | Justification                                                                                                                              |
|------------------|-------------------------------------|------------|--------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------|
|                  | Demolition                          | Earthworks | Construction | Trackout |                                                                                                                                            |
| Dust Soiling     | Low                                 | Low        | Low          | Low      | Fewer than 10 high sensitivity receptors within 20 m of site boundary and haul routes; fewer than 100 within 50 m.                         |
| Human Health     | Low                                 | Low        | Low          | Low      | Annual mean PM <sub>10</sub> concentrations <24 µg/m <sup>3</sup> ; <100 high sensitivity receptors within 20 m of boundary or haul routes |
| Ecological       | Low                                 | Low        | Low          | Low      | No local designations                                                                                                                      |

### 6.2.3. Step 2c – Assignment of Risk Descriptors

The IAQM guidance provides matrix tables for assigning a risk rating based on the dust emission magnitude of, and sensitivity to, each activity for each type of impact. A summary of the dust risk ratings, based on the above determination of dust emission magnitude and sensitivity, is presented in **Table 6.3** below.

**Table 6.3: Assignment of Dust Risk Descriptors**

| Potential Impact | Risk       |            |              |            |
|------------------|------------|------------|--------------|------------|
|                  | Demolition | Earthworks | Construction | Trackout   |
| Dust Soiling     | N/A        | Low        | Low          | Negligible |
| Human Health     | N/A        | Low        | Low          | Negligible |
| Ecological       | N/A        | Low        | Low          | Negligible |

### 6.2.4. Risk Assessment Summary

- Based on site-specific activity data and estimated local sensitivity, it is considered that the proposed development poses no risk from demolition activity and negligible risk from trackout.

- Pre-mitigation, a low risk is posed from earthworks and construction activities, with respect to dust soiling, human health and ecological impacts.
- As the highest individual risk descriptor, the site is considered a low risk site overall. The low risk rating is driven by a limited number of nearby sensitivity receptors and low local PM<sub>10</sub> concentrations.

### 6.3. Step 3 – Site Specific Mitigation

Step 2 determines that pre-mitigation, the site is considered a low risk site in respect to earthworks and construction with negligible risk from trackout. It is therefore considered a low risk site overall.

The IAQM guidance provides a comprehensive list of potential mitigation measures and suggests where these measures are highly recommended, desirable or not required based upon the risk of the site. For all sites that are assessed to have an overall risk greater than Negligible, a Dust Management Plan is recommended by the guidance, and most often required by planning condition, and should incorporate the mitigation measures recommended based on the site risk.

General measures are discussed for all sites and cover communications, site management, monitoring, preparing and maintaining the site, operating vehicle/machinery and sustainable travel, operations, and waste management. Each measure is considered either highly recommended, desirable or not required based on whether the site is low, medium or high risk. In addition to the general measures there also measures specific to each of demolition, earthworks, construction and trackout, based on their risk ratings.

Both the general and activity-specific mitigation measures listed as highly recommended or desirable for a low risk site with respect to earthworks and construction are presented in **Appendix 2**. These measures should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement.

### 6.4. Step 4 – Determining Significant Effects

Pre-mitigation, the site is considered a low risk site; however if appropriate mitigation measures are secured, as identified in Step 3, significant effects on receptors are unlikely to occur. Considering both the construction details and the specific characteristics of the site, it is anticipated that effective mitigation will be possible and residual effects will not be considered significant.

### 6.5. Step 5 – Report Summary

A construction dust risk assessment has been carried out owing to the proximity of sensitive receptors to the proposed development.

The risk assessment has considered both the likely site activities and local sensitivity to determine that the proposed development site is considered a low risk site.

Appropriate mitigation has been identified and should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement.

With such risk-appropriate mitigation in place, residual effects will not be considered significant.

## 7. MITIGATION

### 7.1. Site Suitability

Air pollutant concentrations at the proposed development site are likely to be compliant with the National Air Quality Objectives at current and in the opening year of the proposed development.

Mitigation measures to reduce the exposure of future occupiers of the proposed development are therefore not required.

### 7.2. Impact Assessment

The impacts on air quality at local sensitive receptors as a consequence of the operation and occupation of the proposed development are considered to be negligible, therefore the proposed development will not have a significant effect on local air quality.

Mitigation measures to reduce the air quality impacts of the proposed development are therefore not required.

### 7.3. Construction Phase

Appropriate mitigation measures to ensure that there will be no residual effects from the demolition and construction phases of the proposed development have been determined by the construction dust risk assessment. The full list of desirable and highly recommended measures are presented in **Appendix 2**. This should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement.

## 8. CONCLUSIONS & SUMMARY

An Air Quality Assessment has been undertaken for land at The Pear Tree Inn in Boorley Green, in accordance with the IAQM/EPUK guidance documents *Land-Use Planning & Development Control: Planning for Air Quality* (2017) and *Guidance on the Assessment of Dust from Demolition and Construction* (2024), addressing the suitability of the site for its proposed use, and the impact it may have on local air quality during both construction and its use.

Baseline air quality at the proposed development has been assessed by reviewing local authority reporting, pollutant monitoring data, predicted background concentrations, local traffic sources and local industrial emissions. It is considered that air quality at the proposed development is likely compliant with all relevant objectives and notwithstanding any major new sources is likely to remain so. The site is therefore also considered suitable for use.

An impact assessment has been scoped out as minor development which does not meet the IAQM criteria. Any impacts on local air quality are therefore considered negligible and any effects not significant.

The construction dust risk assessment has determined that the proposed development site is considered a low risk site. Appropriate mitigation has been identified and should be secured through a suitably worded planning condition requiring a Construction Environmental Management Plan or Dust Management Plan prior to commencement. With appropriate mitigation secured, it is considered that any residual effects will be not significant.

Based on the results of the assessments discussed above, which have all been carried out in accordance with the latest guidance, it is considered that the proposed development adheres to national, regional and local planning policy, and therefore that air quality concerns should not be a constraint on the proposed development.

## Appendix 1

### Glossary of Terms

## Appendix 1: Glossary of Terms

**National Air Quality Standard/National Air Quality Objective (NAQO):** 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 an assessment of the effects of each pollutant on human health including the effects on sensitive subgroups.

**Annual mean:** The average of the concentrations measured for each pollutant for one year. In the case of the Air Quality Objectives, this is for a calendar year.

**Air Quality Management Area (AQMA):** An area that a local authority has designated for action, based upon predicted exceedances of Air Quality Objectives.

**Concentration:** The amount of a (polluting) substance in a volume (of air), typically expressed as a mass of pollutant per unit volume of air (for example, microgrammes per cubic metre,  $\mu\text{g}/\text{m}^3$ ) or a volume of gaseous pollutant per unit volume of air (parts per million, ppm).

**Exceedance:** A period of time where the concentration of a pollutant is greater than the appropriate Air Quality Objective.

**Nitrogen Oxides:** Nitric oxide (NO) is mainly derived from road transport emissions and other combustion processes such as the electricity supply industry. NO is not considered to be harmful to health. However, once released into the atmosphere, NO is usually very rapidly oxidised to nitrogen dioxide (NO<sub>2</sub>), which is harmful to health. NO<sub>2</sub> and NO are both oxides of nitrogen and together are referred to as nitrogen oxides (NO<sub>x</sub>).

**Particulate Matter:** Fine Particles are composed of a wide range of materials arising from a variety of sources including combustion sources (mainly road traffic), and coarse particles, suspended soils and dust from construction work. Particles are measured in a number of different size fractions according to their mean aerodynamic diameter. Most monitoring is currently focused on PM<sub>10</sub> (less than 10 microns in diameter), but the finer fractions such as PM<sub>2.5</sub> (less than 2.5 microns in diameter) is becoming of increasing interest in terms of health effects.

**$\mu\text{g}/\text{m}^3$  microgrammes per cubic metre of air:** A measure of concentration in terms of mass per unit volume. A concentration of 1  $\mu\text{g}/\text{m}^3$  means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.

## **Appendix 2**

### **Construction Dust Risk Assessment**

## Appendix 2: Construction Dust Risk Assessment

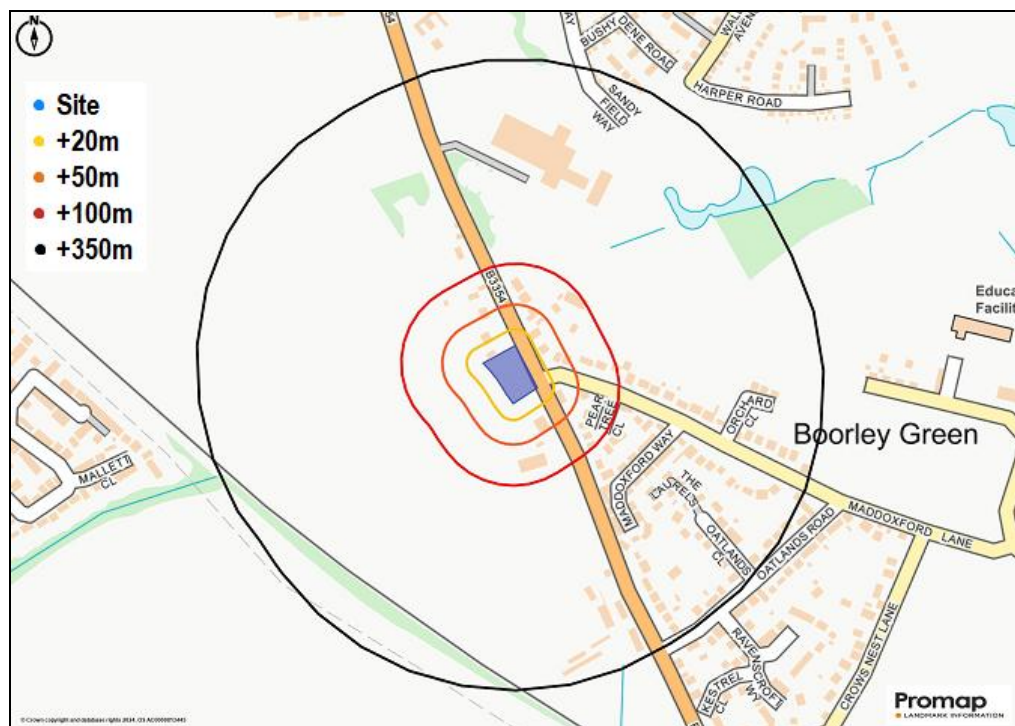
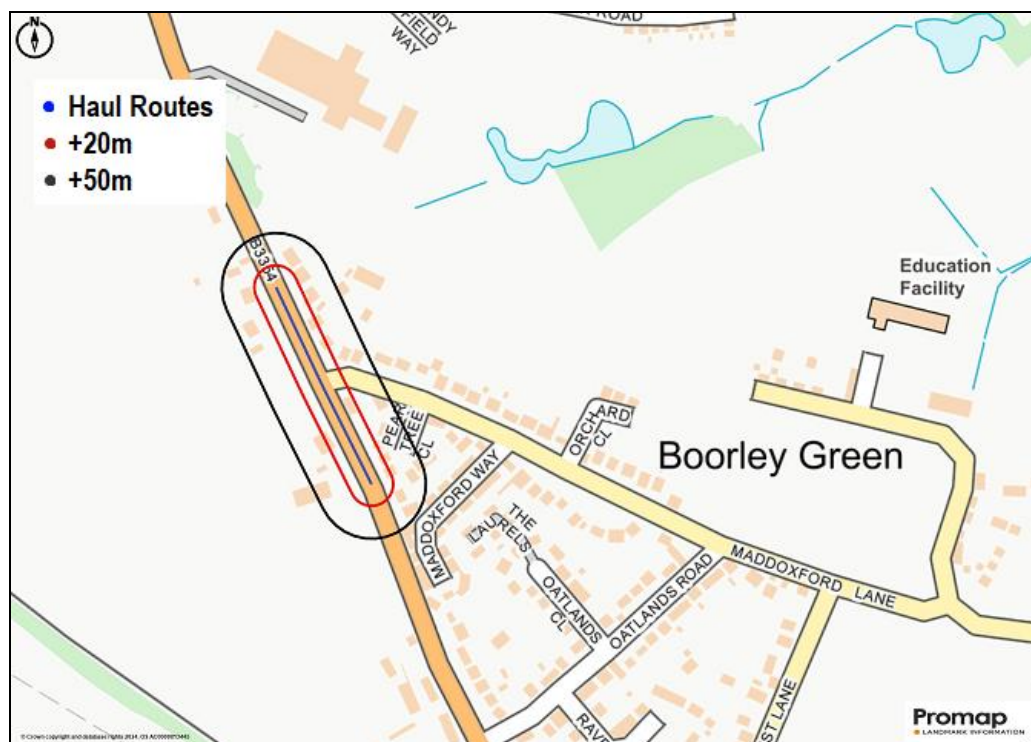


Figure 8.1: Receptor distance bands from proposed haul routes



### **General Mitigation Measures for Low Risk Sites**

- Communication
  - Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager. – *Highly Recommended*
  - Display the head or regional office contact information. – *Highly Recommended*
  - Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, realtime PM<sub>10</sub> continuous monitoring and/or visual inspections. – *Desirable*
- Site Management
  - Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. – *Highly Recommended*
  - Make the complaints log available to the local authority when asked. – *Highly Recommended*
  - Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book. – *Highly Recommended*
- Monitoring
  - Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary. – *Desirable*
  - Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked. – *Highly Recommended*
  - Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. – *Highly Recommended*
  - Agree dust deposition, dust flux, or real-time PM<sub>10</sub> continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction. – *Highly Recommended*

- Preparing and Maintaining the Site
  - Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. – *Highly Recommended*
  - Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site. – *Highly Recommended*
  - Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period. – *Desirable*
  - Avoid site runoff of water or mud. – *Highly Recommended*
  - Keep site fencing, barriers and scaffolding clean using wet methods. – *Desirable*
  - Remove materials that have a 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. – *Desirable*
  - Cover, seed or fence stockpiles to prevent wind whipping. – *Desirable*
- Operating Vehicle/Machinery and Sustainable Travel
  - Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable.
  - Ensure all vehicles switch off engines when stationary - no idling vehicles. – *Highly Recommended*
  - Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. – *Highly Recommended*
  - Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate). – *Desirable*
- Operations
  - Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. – *Highly Recommended*
  - Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. – *Highly Recommended*
  - Use enclosed chutes and conveyors and covered skips. – *Highly Recommended*
  - Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. – *Highly Recommended*

- Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. – *Desirable*
- Waste Management
  - Avoid bonfires and burning of waste materials. – *Highly Recommended*

#### **Mitigation Measures for Low Construction Risk Sites**

- Avoid scabbling (roughening of concrete surfaces) if possible. – *Desirable*
- 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. – *Desirable*