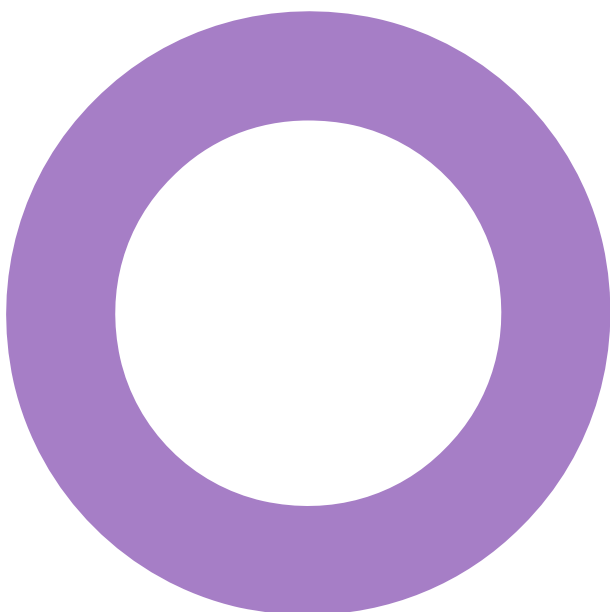


**Dunham Bush Site.
Downley Road, Havant.
Canmoor on behalf of Royal
London.**

AIR QUALITY
AIR QUALITY ASSESSMENT

REVISION 01 – 14 JUNE 2024



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	23/05/2024	First Draft	AJ	OP	CE
01	14/06/2024	First Issue	AJ	OP	CE

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Executive summary.

Hoare Lea have been commissioned by Canmoor on behalf of Royal London to undertake an Air Quality Assessment to support the planning application for the proposed industrial development on Downley Road, Havant, PO9 2JD (the 'Application Site').

The proposals comprise the demolition of the existing building and the re-development of the Application Site to create a single industrial building split into three units, having E(g)(iii), B2 and B8 uses with ancillary offices, car parking, service areas and soft landscaping (the 'Proposed Development').

The baseline assessment has shown that the Application Site is not located within an Air Quality Management Area (AQMA). The air quality monitoring data and Defra predicted background concentrations in the vicinity of the Application Site show there are no predicted exceedances of the long and short term Air Quality Objectives (AQOs) for Nitrogen Dioxide (NO₂) or Particulate Matter (PM₁₀ & PM_{2.5}). There are no sources of industrial or waste emissions expected to influence the Proposed Development.

The impacts of demolition and construction work on dust soiling and ambient fine particulate matter concentrations have been assessed and appropriate mitigation measures have been recommended. Provided these mitigation measures are implemented and included within a dust management plan, for example through a planning condition, the residual impacts from the construction phase are considered to be not significant.

The traffic generated by the Proposed Development has been screened against the criteria set-out in the Environmental Protection United Kingdom (EPUK) and Institute of Air Quality Management (IAQM) planning guidance to determine the need for a detailed assessment. This screening assessment has shown that the potential impact of additional road traffic on local air quality is considered insignificant and a detailed assessment is not required.

The energy strategy for the Proposed Development is all electric. As no combustion sources are proposed during normal operation, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment.

A qualitative Site Suitability Assessment has shown that pollutant concentrations are in compliance with the 1-hour and annual mean NO₂ AQOs and therefore, the Application Site is considered suitable for industrial use without mitigation.

Based on the assessment results, the Application Site is considered suitable for the Proposed Development without the inclusion of mitigation, air quality should not be considered as a constraint to the planning consent and the Proposed Development conforms to the principles of the National Planning Policy Framework Plan and the Havant Borough Core Strategy.

1. Introduction.

Hoare Lea have been commissioned by Canmoor on behalf of Royal London to undertake an Air Quality Assessment to support the planning application for the proposed industrial development on Downley Road, Havant, PO9 2JD (the 'Application Site').

1.1 Proposed development.

The proposals comprise the demolition of the existing building and the re-development of the Application Site to create a single industrial building split into three units, having E(g)(iii), B2 and B8 uses with ancillary offices, car parking, service areas and soft landscaping (the 'Proposed Development').

The proposed energy strategy is all electric, with 10% of the building's energy supply being produced by roof mounted solar panels. As no combustion sources are proposed for the primary energy supply, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment.

The proposed ventilation strategy will utilise openable windows in the office spaces, Variable Refrigerant Flow (VRF) units suspended in the ceiling of the building.

1.2 Application site description and location.

The Application Site is located within Havant Borough Council (HBC) administrative area at the approximate National Grid Reference (NGR): X 472810 Y 107630. The Application Site is bound by Downley Road to the west, the Portsmouth Direct railway line to the east, and industrial buildings to the north and south.

The Application Site is currently a single storey industrial unit fronted by two storey offices and ancillary areas. It is not located within an Air Quality Management Area (AQMA).

Figure 1 illustrates the location of the Application Site.

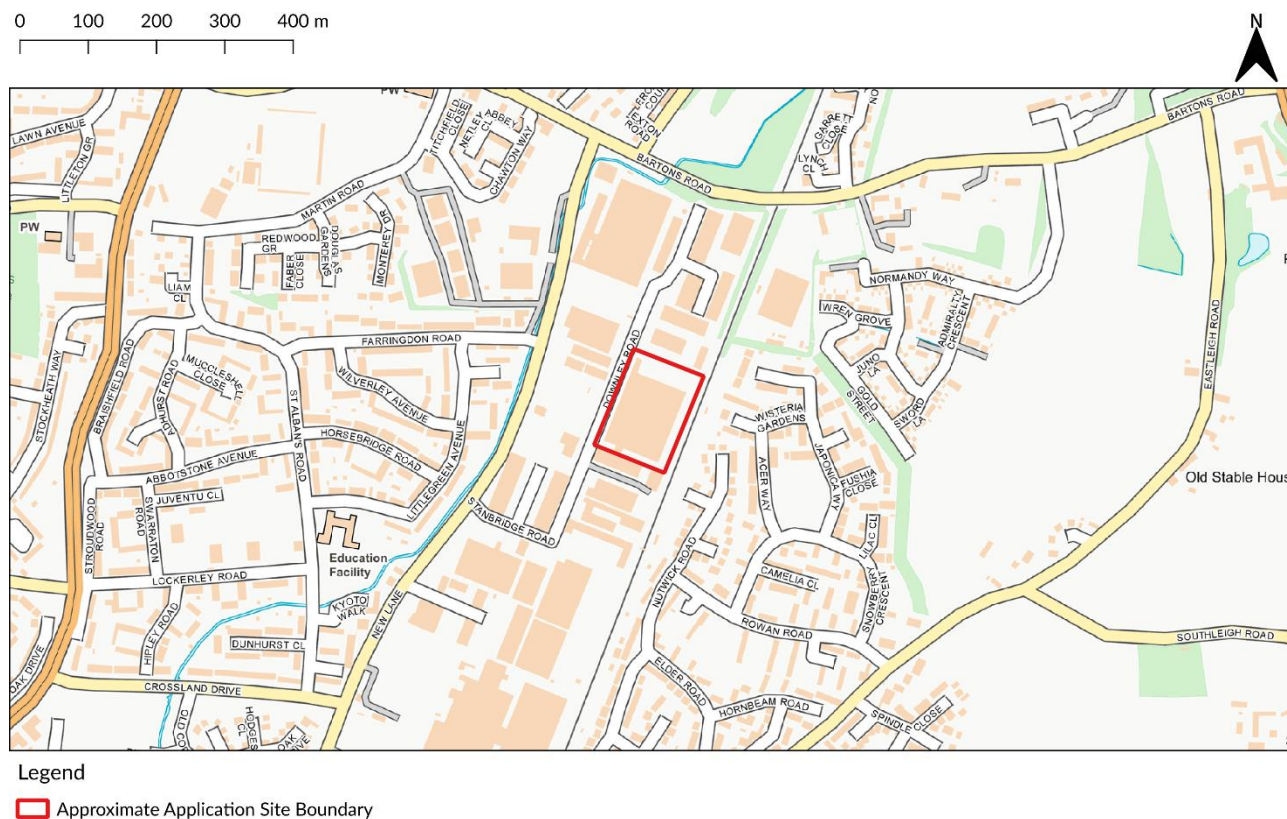


Figure 1: Location of the Application Site. Contains OS Data © Crown Copyright and Database rights 2023.

1.3 Scope of assessment.

An email detailing the proposed methodology for the Air Quality Assessment was provided to HBC on the 17th of May 2024. At the time of writing, no response has been received. A copy of the correspondence with HBC has been included in Appendix 1.

A summary of the scope of the assessment includes:

- Review of National and Local Policy;
- Determination of baseline scenario, using HBC monitoring data and Department for Environmental, Food and Rural Affairs (Defra) predicted background concentrations;
- Assessment of potential air quality impacts during the construction phase;
- Assessment of potential air quality impacts during the operational phase;
- An assessment of the suitability of the Application Site for its proposed use; and
- Identification of required mitigation measures.

2. Legislation, policy and guidance documents.

2.1 Legislation

The following legislation has informed the Air Quality Assessment and is detailed further in the Appendix 2:

- The Environment Act ^{1,2}.
- The Air Quality Strategy³.
- The Air Quality (England) Regulations 2000⁴.
- The Air Quality (England) (Amendment) Regulations 2002⁵.
- The Air Quality Standards Regulations 2010⁶.
- The Air Quality Standards (Amendment) Regulations 2016⁷.
- The Environmental Improvement Plan⁸.
- Part III of the Environmental Protection Act (EPA) 1990 (as amended)⁹.
- The Clean Air Strategy (CAS)¹⁰.
- Part F of the Building Regulations (2021)¹¹.

2.2 Policy

The following policy has informed the Air Quality Assessment and is detailed further in the Appendix 2:

- The National Planning Policy Framework (NPPF) 2023¹².
- The Planning Practice Guidance (PPG)¹³.

2.3 Guidance

The following guidance has informed the Air Quality Assessment and is detailed further in the Appendix 2:

- Defra's Local Air Quality Management Technical Guidance¹⁴. This guidance will be referred to as 'LAQM.TG.22' throughout this report.
- The Environmental Protection UK (EPUK) and the Institute of Air Quality Management's (IAQM) Air Quality Guidance for Planning¹⁵. This guidance will be referred to as 'EPUK and IAQM planning guidance' throughout this report.
- The IAQM 'Guidance on the assessment of dust from demolition and construction'¹⁶. This will be referred to as IAQM construction guidance throughout this report.

2.4 Local policy and guidance

In addition to the documents outlined in the previous sections above, Table 1 contains a summary of the local Policy and Guidance which are relevant to this assessment.

Table 1: Local policy and guidance documents

Local policy and guidance document	Summary notes
Havant Borough Core Strategy ¹⁷	The Havant Borough Core Strategy (2011) sets out the council's long term vision and objectives for development within the area up to 2026. It contains detailed policies for development control purposes. The relevant policies for this assessment are: – DM8 Conservation, Protection and Enhancement of Existing Natural Features; – DM10 Pollution; – DM11 Planning for More Sustainable Travel; and – DM12 Mitigating the Impacts of Travel.
Building a Better Future Plan (Emerging Local Plan) ¹⁸	HBC is in the process of drafting and consulting for a new local plan, which started in 2022. Whilst this is not anticipated to be adopted prior to the Proposed Development being undertaken, the consultation documents have been considered within this assessment.

2.5 Air quality objectives

The AQOs for Nitrogen Dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) are set out in Table 2. The AQOs for NO₂, PM₁₀ and PM_{2.5} were to have been achieved by 2005, 2004 and 2020 respectively and continue to apply in all future years thereafter.

The AQOs apply at locations where members of the public are likely to be regularly present and exposed over the averaging period of the AQO. Examples of where the annual mean AQOs should apply are provided in the LAQM.TG.22, and include building façades of residential properties, schools, hospitals. The annual mean AQOs are not relevant for the building façades of offices or other places of work where members of the public do not have regular access, kerbsides or gardens.

The 24-hour mean AQO for PM₁₀ is considered to apply at the same locations as the annual mean AQO, as well as in gardens of residential properties and at hotels.

The 1-hour mean AQO for NO₂ also applies wherever members of the public might regularly spend 1-hour or more, including outdoor eating locations, pavements of busy shopping streets, car parks and bus stations which are not fully enclosed. The 1-hour mean AQO does not apply at kerbside sites where the public do not have regular access.

Table 2: Air Quality Objectives for NO₂, PM₁₀ and PM_{2.5}.

Pollutant	Time Period	Objective
Nitrogen Dioxide (NO ₂)	1-hour Mean	200 µg/m ³ Not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m ³
Fine Particles (PM ₁₀)	24-hour Mean	50 µg/m ³ Not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m ³
Fine Particles (PM _{2.5}) *	Annual Mean	20 µg/m ³
Notes: Measured gravimetrically *The time period in LAQM.TG(22) states "Work towards reducing emissions/concentrations of fine particulate matter (PM _{2.5})"		

3. Methodology of assessment.

3.1 Existing air quality in the study area.

A baseline air quality review was undertaken to determine the existing air quality in the vicinity of the Application Site.

This desk-top study was undertaken using the following sources:

- Air quality data for HBC, including a review of the HBC air quality reports and local monitoring data;
- The UK Pollutant Release and Transfer Register¹⁹;
- Background pollution maps from Defra's Local Air Quality Management (LAQM) website²⁰;
- Pollution Inventory from the Environment Agency²¹
- The UK Ambient Air Quality Interactive Map²²; and
- Ordnance Survey data and Aerial photography from Google Maps.

3.2 Construction phase impacts.

3.2.1 Construction dust assessment

The assessment of construction dust impacts has been undertaken in line with the methodology outlined in the IAQM construction guidance. Activities on the proposed construction site have been divided into four types to reflect their different potential impacts. These are:

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

The risk of dust emissions has been assessed for each activity with respect to:

- Potential loss of amenity due to dust soiling;
- The risk of health effects due to a significant increase in exposure to PM₁₀; and
- The risk of ecological impacts due to a significant increase in exposure to PM₁₀.

The first stage of the assessment involves screening to determine whether there are any sensitive receptors within the threshold distances defined by the IAQM construction guidance. A detailed assessment of the impact of dust from construction sites will be required where:

- A 'human receptor' is located within 250 m of the boundary of the Application Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance;
- An 'ecological receptor' is located within 50 m of the boundary of the Application Site or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance.

The magnitude of dust emission for each activity is determined on the basis of the guidance, indicative thresholds, information available relating to the project and expert judgement. The risk of dust effects arising is based upon the relationship between the dust emission magnitude and the sensitivity of the area. The risk of impact is then used to determine the mitigation requirements.

Descriptors for magnitude of impact and impact significance used in this assessment of construction phase dust are given in the guidance available online¹⁶.

3.2.2 Construction emissions assessment

3.2.2.1 Construction traffic emissions screening

The screening assessment has been undertaken with reference to the following EPUK and IAQM planning guidance indicative criteria:

- a change of Light Duty Vehicle (LDV) flows of more than 500 Annual Average Daily Traffic (AADT) (outside an AQMA); and/or

- a change of Heavy Duty Vehicle (HDV) flows of more than 100 AADT (outside an AQMA).

3.2.2.2 NRMM emissions screening

Non-Road Mobile Machinery (NRMM) refers to mobile machines, transportable industrial equipment or vehicles which are fitted with an internal combustion engine and not intended for transporting goods or passengers on roads. NRMM emissions have been screened following IAQM construction guidance.

3.3 Operational phase impacts.

3.3.1 Road traffic emissions assessment

The screening assessment has been undertaken following the EPUK and IAQM planning guidance indicative criteria:

- a change of LDV flows of more than 500 AADT (outside an AQMA); and/or
- a change of HDV flows of more than 100 AADT (outside an AQMA).

Where these criteria are exceeded, a detailed assessment is required, although the guidance advises that “*the criteria provided are precautionary and should be treated as indicative*”, and “*it may be appropriate to amend them on the basis of professional judgement*”.

Where impacts can be screened out there is no need to progress to a more detailed assessment.

3.3.2 Site suitability assessment

A qualitative Site Suitability Assessment has been undertaken to consider the exposure of future occupants of the Proposed Development to existing air quality.

The assessment of Site Suitability has been assessed qualitatively using monitoring data from HBC in combination with Defra predicted background concentrations. As the Proposed Development is for industrial use, the 1-hour mean NO₂ AQO applies. Additionally, though not required for planning, the Building Regulations Part F states that the annual mean NO₂ AQO also applies at non-dwelling sites and as such, the annual mean NO₂ will also be considered.

3.4 Assessment of significance.

3.4.1 Construction dust

The IAQM construction guidance states that the primary aim of the construction phase risk assessment is to identify site specific mitigation that, once implemented, should ensure that there will be no significant effect. Therefore, the assessment has been used to determine an appropriate level of mitigation for the construction phase.

The determination of which mitigation measures are recommended include elements of professional judgement and the professional experience of the consultants preparing this report is set out in Appendix 4.

3.4.2 Operational impacts

The EPUK and IAQM planning guidance has been used to assess the potential for significant impacts as a result of vehicle emissions from traffic associated with the Proposed Development. The focus of the guidance is to assess traffic emission impacts and advises on how to describe the air quality impacts and their significance.

3.4.3 Site suitability assessment

To determine the significance of predicted air quality impacts based upon a Site Suitability Assessment, the EPUK and IAQM planning guidance states: “*Where the air quality is such that an air quality objective at the building façade is not met, the effect on residents or occupants will be judged as significant, unless provision is made to reduce their exposure by some means.*”

4. Baseline environment.

This section sets out the available information on air quality in the vicinity of the Application Site.

4.1 Local air quality management review and assessment.

HBC's most recent air quality Annual Status Report (ASR) (2023)²³ states that air quality in Havant is generally considered good. There are no AQMAs within HBC, however pollutant concentrations may be locally elevated in areas close to congested road junctions or where topographic features adversely affect dispersion. The primary source of air pollution in the area is considered to be combustion vehicles.

It should be noted that the pollutant concentrations recorded in 2020 and 2021 from the most recent HBC ASR are lower than previous years as a direct result of reduced traffic levels during the COVID-19 pandemic. As such the pollutant concentrations recorded in 2020 and 2021 are not considered to be representative of 'normal' air quality conditions and have been provided as information below only for completeness.

However, 2022 monitoring data from HBC is available and is considered acceptable for use as the latest year of representative monitoring data.

4.2 Local air quality monitoring.

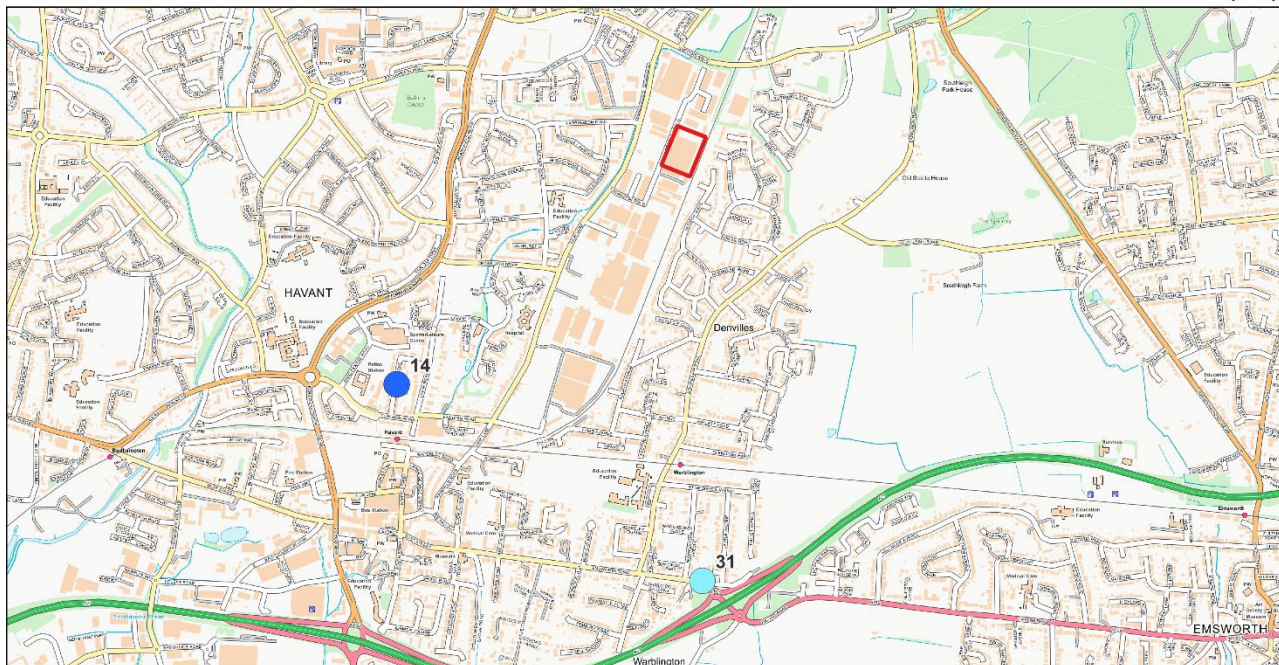
HBC do not operate any automatic monitoring stations. However, they did operate 23 passive diffusion tube monitoring locations in 2022.

A review of the most recent monitoring data available indicated that there are two passive diffusion tube monitoring locations within a 1.5 km vicinity of the Application Site. Table 3 details the monitoring results for all passive diffusion tube monitoring locations for the most recent years available and the passive diffusion tube monitoring locations are illustrated in Figure 2.

Table 3: Passive Diffusion Tube Monitoring Results

Site ID	Site Type	Distance (km) from site (approx.)	Annual Mean NO ₂ Concentration (µg/m ³)						
			2016	2017	2018	2019	2020	2021	2022
14	Suburban	1.2	20.9	20.1	20.3	17.9	14.9	15.9	14.6
31	Roadside	1.4	-	-	29.1	29.6	23.4	25.5	21.6
Notes: "- " = no data									

0 250 500 750 1,000 m



Legend

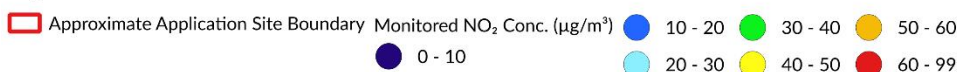


Figure 2: Monitoring Locations within the vicinity of the Application Site. Contains OS Data © Crown Copyright and Database rights 2023.

As shown in Table 3, neither of the passive diffusion tube monitoring locations in the vicinity of the Application Site recorded an exceedance of the annual mean NO₂ in the last five years of available representative monitoring data.

An annual mean concentration of 60 µg/m³ or above is often used to indicate a possible exceedance of the 1-hour mean NO₂ AQO. In the last five years of representative monitoring data, no passive diffusion tube monitoring location operated by HBC recorded an annual mean NO₂ concentration in exceedance of 60 µg/m³ and therefore no exceedances of the 1-hour mean NO₂ are likely.

4.3 Industrial pollution.

A desk-based review of potential industrial sources using the UK Pollutant Release and Transfer Register and the Pollution Inventory from the Environment Agency did not identify any significant industrial or waste management sources of air pollution within 2 km of the Application Site that are likely to affect the Application Site with regard to air quality.

4.4 Defra predicted concentrations.

The background concentrations have been obtained from the national maps published by Defra²⁰. These estimated concentrations are produced on a 1 km by 1 km grid basis for the whole of the UK. The Application Site falls into grid square X 472500 Y 107500 and the predicted concentrations for this grid square for NO₂, PM₁₀ and PM_{2.5} are provided in Table 4 for 2022, the most recent year with available monitoring data; 2024, the current year; and for 2025, the earliest anticipated opening year for the Proposed Development.

Table 4: Predicted Background Concentrations for grid square X 472500 Y 107500.

Year	Predicted Background Concentration (µg/m³)		
	NO ₂	PM ₁₀	PM _{2.5}
2022	15.5	15.3	11.1
2024	14.7	14.9	10.8
2025	14.3	14.8	10.7

As shown in Table 4, background concentrations are below the relevant AQOs for all pollutants.

4.5 Summary of background data.

Overall, air quality monitoring data from HBC shows that there are no recorded exceedances of the annual or 1-hour mean NO₂ AQOs in the vicinity of the Application Site in the last five years of representative monitoring data available. This is supported by the Defra predicted background concentrations which show that concentrations are below the relevant AQOs for all pollutants in 2022, 2024 and 2025.

The Application Site is not located within an AQMA. There are no significant industrial or waste management sources of air pollution within 2 km of the Application Site that are likely to affect the Application Site with regard to air quality.

5. Construction phase assessment.

The potential for air quality impacts during the construction of the Proposed Development are assessed in this section.

5.1 Construction phase dust assessment.

The risk of dust impacts is based on the potential dust emissions magnitude and the sensitivity of the area. These two factors are then combined to determine the risk of dust impacts with no mitigation applied. In the absence of any site-specific information, a higher risk category has been applied to represent a worst-case scenario.

5.1.1 Assessment screening

There are 'human receptors' within 250 m of the Application Site but no designated habitat sites within 50 m of the Application Site boundary or within 50 m of the route(s) used by construction vehicles on the public highway, up to 250 m from the Application Site entrance.

The closest ecological receptor to the Application Site is an ancient woodland, located approximately 490 m to the north.

Therefore, an assessment of construction dust at human receptors is required, but an assessment of construction at ecological receptors can be screened out from this assessment.

5.1.2 Potential dust emission magnitude

The potential magnitude of dust emissions from demolition, earthworks, construction and trackout have been assessed, as identified in Table 5.

Table 5: Predicted magnitude of dust emissions.

Activity	Magnitude	Justification
Demolition	Medium	The total volume of the existing building on-site is estimated to be between 12,000 m ³ and 75,000 m ³ . Demolition works will take place at a maximum height between 6 – 12 m above ground. This may involve potentially dust materials such as brickwork and concrete. As such, in line with the IAQM guidance, the magnitude of dust emissions from demolition is anticipated to be medium.
Earthworks	Small	The total area of the Application Site less than 18,000 m ² . The soil type is loamy ²⁴ with a moderate potential for dust emissions. As such, in line with the IAQM guidance, the magnitude of dust emissions from earthworks is anticipated to be small.
Construction	Large	The total volume of the Proposed Development is estimated to be greater than 75,000 m ³ . This is expected to involve potentially dust materials such as concrete. As such, in line with the IAQM guidance, the magnitude of dust emissions from construction is anticipated to be large.
Trackout	Medium	Exact outward HDV movements during the construction of the Proposed Development are not available at the time of writing. However, based on the scale of the Proposed Development, it is anticipated to be 20-50 HDV trips in any one day. There is expected to be between 50-100 m of unpaved road length on-site. As such, in line with the IAQM guidance, the magnitude of dust emissions from trackout is anticipated to be medium.

5.1.3 Sensitivity of the study area

The sensitivity of the area takes into account the following factors:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM₁₀, the local background concentration; and

- Site-specific factors, such as whether there are natural shelters, such as trees or other vegetation, to reduce the risk of wind-blown dust.

The IAQM distance bands for sensitivity are illustrated relative to the Application Site in Figure 3.

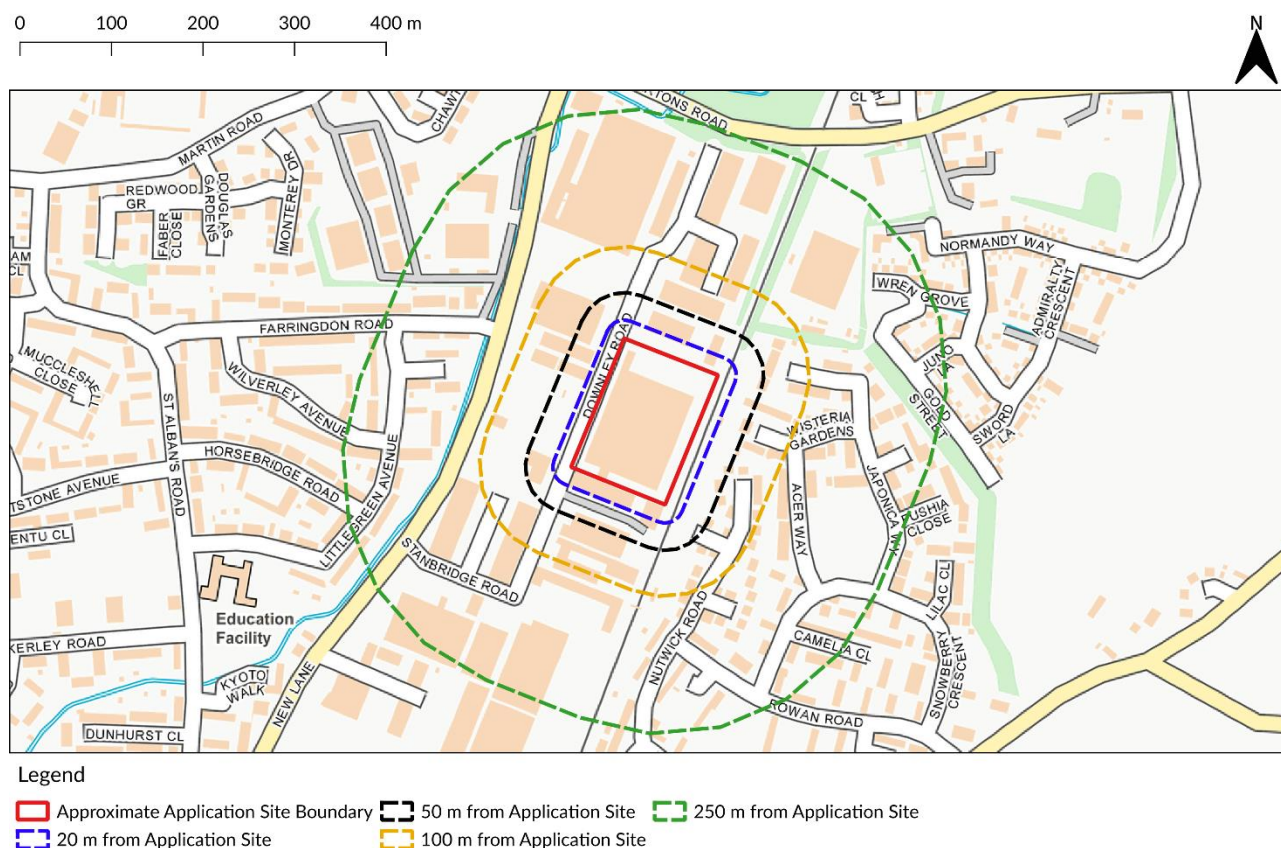


Figure 3: IAQM Demolition and Construction Dust Distance band criteria from the Application Site boundary. Contains Ordnance Survey Data © Crown Copyright 2023.

The sensitivity of the area and the factors considered are detailed in Table 6.

Table 6: Sensitivity of the Area.

Sensitivity Type	Factors	Sensitivity of Area	
		On – Site Activity	Trackout
Dust Soiling	Within 20 m of the Application Site, there are 10-100 car parking spaces associated with nearby industrial properties. These would be classified as medium sensitivity receptors. Within 50 m of the Application Site, there are approximately 1-10 more industrial receptors, along with 10-100 residential receptors to the east of the Proposed Development which would be considered high sensitivity receptors. Within 100 m and 250 m of the Application Site there is an additional 100+ residential receptors. Overall, in line with the IAQM guidance, the sensitivity of the area to dust soiling from on-site activity is medium.	Medium	Medium

Sensitivity Type	Factors	Sensitivity of Area	
		On – Site Activity	Trackout
	Trackout considers receptors within 50 m of the roads used by construction vehicles up to 250 m from the site entrance. Within this distance, there are approximately 1-10 industrial properties and 10-100 associated car parking spaces. Overall, in line with the IAQM guidance, the sensitivity of the area to trackout from on-site activity is medium.		
Human Health	The Defra predicted PM₁₀ concentration for the Application Site is below 24 µg/m³ in 2022, 2024 and 2025. Within 50 m of the Application Site, there are approximately 1-10 industrial receptors. Additionally, there are 10-100 residential receptors to the east of the Proposed Development which would be considered high sensitivity receptors. Within 100 m and 250 m of the Application Site there is an additional 100+ residential receptors. Overall, in line with the IAQM guidance, the sensitivity of the area to the human health impacts of construction dust from on-site activity is low. Trackout considers receptors within 50 m of the roads used by construction vehicles up to 250 m from the site entrance. Within this distance, there are approximately 1-10 industrial properties. Overall, in line with the IAQM guidance, the sensitivity of the area to the human health impacts of construction dust from trackout is low.	Low	Low

5.1.4 Risk of dust impacts

The outcomes of the assessments of potential magnitude of dust emissions and the sensitivity of the area are combined to determine the risk of impact. This risk is then used to inform the selection of appropriate mitigation. Table 7 details the risk of dust impacts for demolition, earthworks, construction and trackout activities.

Table 7: Summary of Potential Unmitigated Dust Risks.

Potential Impact	Sensitivity	Demolition	Earthworks	Construction	Trackout
Magnitude		Medium	Small	Large	Medium
Dust Soiling Impacts	Medium	Medium Risk	Low Risk	Medium Risk	Medium Risk
Human Health Impacts	Low	Low Risk	Negligible	Low Risk	Low Risk

5.2 Construction phase – vehicular pollutants.

The Application Site is not located within or adjacent to an AQMA and therefore the less stringent screening criteria (i.e. 500 LDV and 100 HDV) would apply.

Information on traffic movements anticipated during construction works was unavailable for the completion of the Air Quality Assessment. However, the development quantum is not anticipated to result in a significant increase in movements above the criteria outlined in the EPUK and IAQM planning guidance. The duration of movements will be short-term in nature and are not considered further within the context of this assessment. Therefore, in accordance with the criteria presented within EPUK and IAQM planning guidance, additional road

vehicle trips during the construction phase of the Proposed Development “*can be considered to have insignificant effects*” on air quality.

5.3 Construction phase – non-road mobile machinery.

Pollutants emitted by NRMM that may have the most significant potential effects on local air quality are particulate matter (PM₁₀ and PM_{2.5}), and NO_x/NO₂. Typically, NRMM is associated with construction sites and, therefore there is a potential for NRMM emissions to adversely affect local air quality as a result of the Proposed Development.

Furthermore, the IAQM construction guidance states that “*Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed.*”

6. Operational phase assessment.

The potential for air quality impacts during the operation of the Proposed Development are assessed in this section.

6.1 Road traffic emissions screening assessment.

Road traffic data associated with the Proposed Development has been provided by SLR Consulting, the appointed Transport Consultants for the project. The trip generation for the existing use at the Application Site, as well as the predicted trip generation for two scenarios, solely B2 or B8 uses, have been provided. The most likely scenario is that the Proposed Development will consist of a mix of these two scenarios. Therefore, trip generation is likely to be between these two predicted flows.

Table 8 details the net change in trips for B2 and B8 uses when compared to trips associated with the existing use.

Table 8: Net changes in vehicles for each proposed use compared to trips associated with the existing use.

Type	Existing Site AADT	Proposed AADT (100% B2)	Net Change (100% B2 Existing)	Proposed AADT (100% B8)	Net Change (100% B8 Existing)
LDV (< 3.5 Tonnes)	698	662	-36	390	-308
HDV (> 3.5 Tones)	47	45	-2	193	145
Total	745	707	-38	583	-163
Note; Bold denotes exceedance of the EPUK and IAQM indicative criteria.					

As shown in Table 8, when compared against current use trip generation, there is expected to be a net reduction in both LDV and HDV AADT if the Proposed Development is considered as solely B2 use. However, there is a net increase of 145 HDV AADT when the Proposed Development is considered as solely B8 use. This is offset by a 308 net reduction in LDV AADT, resulting in an overall reduction in vehicle trips from both potential uses of the Proposed Development.

The actual use of the Proposed Development is anticipated to include a mix of B2 and B8 uses, which is anticipated to result in an average net HDV AADT of less than 100, which is below the IAQM and EPUK criteria triggering a detailed assessment.

Overall, in accordance with the EPUK and IAQM planning guidance, the impacts on air quality from operational phase traffic generation are considered to be not significant, and no further assessment of road traffic impacts is required.

6.2 Site suitability assessment.

This section presents a review of HBC monitoring data and mapped concentrations by Defra in the vicinity of the Application Site, for the purpose of identifying the suitability of the Application Site for industrial use and to identify any requirements for potential mitigation to be embedded into the Proposed Developments design.

As presented in Section 3, and in line with LAQM.TG(22), 1-hour mean NO₂ AQO applies to the Proposed Development due to its proposed industrial use. Additionally, Part F of the Building Regulations (2021) states that the annual mean NO₂ AQO should also be considered, although it is not a requirement for planning.

As such, this section considers the annual mean, and the 1-hour mean NO₂ concentrations at the Application Site.

6.2.1 Predicted NO₂ concentrations

A review of the annual mean NO₂ concentrations monitored within 1.5 km of the Application Site has been completed as part of the baseline review with recent monitoring results, presented in Table 3.

The monitoring results show that there have been no exceedances of the annual mean NO₂ AQO in the vicinity of the Application Site in the last five years of representative monitoring data available. Furthermore, the latest HBC Air quality ASR (2023)²³ shows that there were no exceedances of the annual mean NO₂ AQO at any monitoring location in the borough in 2022, the latest year of representative monitoring data available.

This is supported by the Defra predicted background concentrations which show that the NO₂ concentration at the Application Site is below the annual mean NO₂ AQO in 2022, 2024 and 2025.

An annual mean concentration of 60 µg/m³ or above is often used to indicate a possible exceedance of the 1-hour mean NO₂ AQO. In the last five years of representative monitoring data, no passive diffusion tube monitoring location operated by HBC recorded an annual mean NO₂ concentration in exceedance of 60 µg/m³ and therefore no exceedances of the 1-hour mean NO₂ are likely.

Therefore, NO₂ concentrations in the locale of the Proposed Development are considered to be compliant with the annual mean and 1-hour mean AQO and the Application Site is considered suitable for industrial use without additional mitigation measures.

6.2.2 Significance of air quality impacts

To determine the significance of predicted air quality impacts based upon a Site Suitability assessment, such as that undertaken as part of this assessment, the EPUK and IAQM planning guidance states:

“Where the air quality is such that an air quality objective at the building façade is not met, the effect on residents or occupants will be judged as significant, unless provision is made to reduce their exposure by some means.”

With regards to the Proposed Development, the unmitigated impact significance associated with the Proposed Development has been predicted in accordance with the stated assessment methodology. The following factors have been considered when providing justification:

- The Proposed Development will not introduce any new receptor into an area of exceedance of the annual or 1-hour mean NO₂ AQOs based upon a review of NO₂ monitoring data and Defra predicted background concentrations within the development locale;

As no exceedances of the considered AQOs are predicted, mitigation measures are not required for the operational phase of the Proposed Development. As such, the overall effect is considered to be 'not significant'.

7. Mitigation.

7.1 Construction phase.

To mitigate the potential impacts during the construction phase it is recommended that mitigation measures as detailed in the IAQM construction guidance are implemented.

It is recommended that HBC approve a Dust Management Plan (DMP) prior to works commencing on site, and that this is implemented using an appropriately worded planning condition. Table 11, in Appendix 3, details the measures that should be incorporated in the DMP.

These mitigation measures have been carefully selected for the Proposed Development and are based upon the dust risk categories outlined in Table 7 of this report. For general mitigation measures, which excludes those specifically targeted towards demolition, earthworks, construction and trackout (which are given towards the end of the table), medium risk measures have been applied as these represent the highest risk category determined in Table 7. This approach is consistent with the IAQM construction guidance.

It should be noted that potential dust effects during the construction phase are considered to be temporary in nature as they will only occur throughout the construction phase. The impacts will also be short-term as they will only arise at particular times when certain activities and meteorological conditions for creating the level of magnitude predicted combine.

However, with the application of the dust control and mitigation measures outlined in Appendix 3, it is considered that impacts at all receptors will be 'not significant' in accordance with the IAQM construction guidance.

7.1.1 Construction phase road traffic emissions

Potential air quality impacts associated with construction phase road traffic emissions, principally HDV movements, have been screened out for further assessment with associated impacts on air quality predicted to result in an 'insignificant' effect. Therefore, mitigation measures are not considered to be required.

7.1.2 Construction phase NRMM emissions

In accordance with Part 4 of the IAQM construction guidance, all NRMM would need to adhere to the emissions standards for NO₂ and PM₁₀ set out for NRMM. It is therefore considered the likely effects of construction plant on local air quality would be insignificant.

7.2 Operational phase.

7.2.1 Road traffic emissions

Potential air quality impacts associated with operational phase development trips have been screened out from further assessment as *'the impacts [on air quality from operational phase movements] can be considered to have insignificant effects'* in accordance with the EPUK and IAQM planning guidance. Therefore, mitigation measures such as a sustainable travel plan are not considered to be required.

7.2.2 Site suitability assessment

A review of HBC monitoring data in consideration of the Application Site, and mapped concentrations by Defra in the locale of the Application Site, indicates no likely exceedance of the annual and 1-hour mean NO₂ AQOs.

As no exceedances of any considered AQOs are predicted, this follows the 1st hierarchy principle of the EPUK and IAQM planning guidance to *'prevent and avoid'* exposure'. Therefore, no embedded mitigation into the Proposed Development design (in the form of mechanical ventilation, for example) is required and natural ventilation is possible from an air quality perspective.

8. Summary and conclusions.

This report details the potential air quality impacts associated with the construction and operation of a proposed industrial development at Downley Road, Havant, PO9 2JD.

The findings of the assessment are as follows:

- The baseline assessment has shown that the Application Site is not located within an AQMA. The air quality monitoring data and Defra predicted background concentrations in the vicinity of the Application Site show there are no predicted exceedances of the AQOs for all pollutants. There are no sources of industrial or waste emissions expected to influence the Proposed Development;
- A qualitative assessment of the potential dust impacts during the construction of the Proposed Development has been undertaken. Through good practice and implementation of appropriate mitigation measures, it is expected that the release of dust would be effectively controlled and mitigated, with resulting impacts considered to be 'not significant'. All dust impacts are considered to be temporary and short-term in nature;
- The results of the operational phase traffic screening assessment indicate that traffic generated by the Proposed Development is likely to be below the screening criteria set out in the IAQM and EPUK planning guidance and the effects are not predicted to be significant, therefore further assessment is not required;
- The Proposed Development energy strategy is all electric. As no combustion sources are proposed for the primary energy supply, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment; and
- A qualitative Site Suitability Assessment has been undertaken to assess the suitability of the Application Site for the proposed industrial use. Based on the assessment results, there are no predicted exceedances of the annual mean or 1-hour mean NO₂ AQOs at the Application Site, and it is considered suitable for industrial use without additional air quality mitigation measures.

Based on the information above, it is considered that air quality should not be viewed as a constraint to planning and the Proposed Development conforms to the principles of National Planning Policy Framework and the Havant Borough Core Strategy.

9. Glossary of terms.

AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQDMP	Air Quality Dust Management Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Annual Status Report
AURN	Automatic Urban and Rural Network
DMP	Dust Management Plan
Defra	Department for Environment, Food and Rural Affairs
EPA	Environment Protection Act
EPUK	Environmental Protection UK
HBC	Havant Borough Council
HDV	Heavy Duty Vehicles (> 3.5 tonnes gross vehicle weight)
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDV	Light Duty Vehicles ($\leq$ 3.5 tonnes gross vehicle weight)
$\mu\text{g}/\text{m}^3$	Micrograms per cubic metre
NGR	National Grid Reference
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides (taken to be $\text{NO}_2 + \text{NO}$)
NPPF	National Planning Policy Framework
NRMM	Non-Road Mobile Machinery
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
PM_{10}	Particulate matter with an aerodynamic diameter less than 10 micrometres
$\text{PM}_{2.5}$	Particulate matter with an aerodynamic diameter less than 2.5 micrometres
PPG	Planning Practice Guidance
SPG	Supplementary Planning Guidance
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
Trackout	The transport of dust and dirt from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site
VRF	Variable Refrigerant Flow
WHO	World Health Organisation

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- ⁵ The Stationery Office (2002) Statutory Instrument 2002, No 3043, The Air Quality (England) (Amendment) Regulations 2002, London
- ⁶ The Stationery Office (2010) Statutory Instrument 2010, No 1001, The Air Quality Standards Regulations 2010, London
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- ¹⁶ Institute of Air Quality Management (2024) Guidance on the assessment of dust from demolition and construction v2.2 – [online], (Last accessed: 02/05/2024), Available at: iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf
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Appendix 1 - EHO consultation.

Subject: Air Quality Assessment Consultation - Downley Road, Havant

Good Afternoon,

Hoare Lea have been instructed to undertake an Air Quality Assessment to support the planning application for the proposed construction and operation of an industrial development on Downley Road, Havant, PO9 2JD.

I have set out our proposed assessment approach below and would invite any comments or local air quality considerations you may have. The site is located at the below location (red outline):



The Proposed Development comprises the demolition of the existing building and the re-development of the Application Site to create a single industrial building split into three units, having E(g)(iii), B2 and B8 uses with ancillary offices, car parking, service areas and soft landscaping.

Hoare Lea propose to undertake the assessment using the following methodology:

- A baseline assessment of air quality will be undertaken using Havant Borough Council's data, taken from the most recently available Annual Status Report/s.
- Monitoring data for 2020 and 2021 will not be included as part of our assessment, owing to the effects of the COVID-19 pandemic. Monitoring data from 2022 will be used to establish the baseline.
- A review of the Havant Borough Core Strategy be carried out.
- DEFRA's background pollution maps will be used to establish background concentrations in the area.
- An assessment of the construction impacts on air quality and dust using the IAQM methodology, in compliance with 'The Control of Dust and Emissions During Construction and Demolition'.

- Any construction or operational phase mitigation will be recommended as necessary in line with IAQM guidance.
- The energy strategy for the Proposed Development is to be all electric, utilising zero emission technologies. There will also be solar panels providing 10% of the building's energy supply. As no combustion sources are proposed, no local air quality impacts are anticipated and a detailed assessment of impacts of combustion emissions from the energy plant has been screened out of this assessment.
- Road traffic data associated with the Proposed Development has been provided by SLR Consulting, the appointed Transport Consultants for the project. The traffic data they have provided states that if the Proposed Development is 100% B2 use then there is expected to be a net decrease in total annual average daily traffic (AADT) associated with the Proposed Development. Additionally, they provided data for if the Proposed Development is 100% B8 usage, which is expected to lead to a net increase in Heavy Duty Vehicle (HDVs) AADT above the screening criteria, but a net reduction in Light Duty Vehicle (LDVs) AADT. Both B2 and B8 use are expected to lead to a net reduction in total AADT as a result of the proposed development.
- Overall, it is anticipated that the Proposed Development will comprise a mix of B2 and B8 uses, with an overall net reduction in AADT, below the EPUK and IAQM criteria. As such, a detailed assessment is not considered to be required and a screening assessment will be undertaken.
- An assessment of Site Suitability will be undertaken qualitatively with a desk-based review of the existing baseline air quality undertaken to inform the exposure of future users of the development. Local air quality monitoring and DEFRA's background pollution maps will be used to understand concentrations at the Application Site.

I would also be grateful if you could please confirm your acceptance of the proposed methodology and provide me with any comments you may have. However, if you would like to discuss further, please do not hesitate to contact me on the number below.

Please let me know if there are any additional guidance documents that aren't publicly available that you would like us to consider.

In the meantime, if you have any questions, do not hesitate to contact me.

Many thanks,

[Redacted]
Air Quality Consultant

Email [Redacted]



Appendix 2 – Legislation, policy and guidance

Table 9: Legislation and National Policy Summary Table

Legislation and national policy	Summary notes
The Environment Act 1995 (Part IV)	The Environment Act requires the Secretary of State to publish an air quality strategy and local authorities to review and assess the quality of air within their boundaries (the latter is known as Local Air Quality Management)
The Air Quality Strategy	The Air Quality Strategy provides the policy framework for local air quality management and assessment in the UK. It sets out air quality standards and objectives for key air pollutants. These standards and objectives are designed to protect human health and the environment. The Strategy also sets out how the different sectors of industry, transport, and local government, can contribute to achieving these AQOs
The Environment Act 2021	The Environment Act 2021 acts as the UK's new framework of environmental protection and came into force on 1st April 2022. Regarding air quality, the Environment Act establishes a legally binding duty on government to bring forward at least two new air quality targets in secondary legislation. This was implemented through the Environmental Improvement Plan which outlines new PM _{2.5} targets for future years. These are a long-term target of 10 µg/m ³ by 2040 and an interim target of 12 µg/m ³ by 31st January 2028. These targets are expected to focus on reducing concentrations of, and exposure to, PM _{2.5} .
EU Limit Values.	The European Union has also set limit values for NO ₂ , PM ₁₀ and PM _{2.5} ; these are legally binding and have been implemented into English legislation by The Air Quality Standards Regulations 2010 and The Air Quality Standards (Amendment) Regulations 2016. The limit values for NO ₂ , PM ₁₀ and PM _{2.5} are the same as the English objectives (given in Table 2), but applied from 2010 for NO ₂ , 2005 for PM ₁₀ and 2015 for PM _{2.5} . The limit values apply at all locations (apart from where the public does not have access, where health and safety at work provisions apply and on the road carriageway).
Statutory Nuisance Legislation	Part III of the Environmental Protection Act (EPA) 1990 (as amended) and Section 79 of the EPA. Fractions of dust greater than 10 µm (i.e., greater than PM ₁₀) in diameter typically relate to nuisance effects as opposed to potential health effects and therefore are not covered within the UK Air Quality Strategy. In legislation there are currently no numerical limits in terms of what level of dust deposition constitutes a nuisance.
Clean Air Strategy	The Clean Air Strategy (CAS), published in 2019 sets out the Government's proposals aimed at delivering cleaner air in England, and indicates how devolved administrations intend to make emissions reductions. It sets out the comprehensive action that is required from across all parts of government and society to deliver clean air.
Building Regulations	Part F of the Building Regulations (2021) provides guidance for indoor air quality and the pollutant concentrations that must not be exceeded in both buildings for dwellings and non-dwellings.
National Planning Policy Framework	The National Planning Policy Framework (NPPF) 2023 sets out planning policy for England. It includes advice on when air quality should be a material consideration in development control decisions. The most relevant Paragraphs for air quality are included below: Paragraph 180: <i>"Planning policies and decisions should contribute to and enhance the natural and local environment by: [...]"</i>

Legislation and national policy	Summary notes
	<i>e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans. [...] "</i> Paragraph 191: <i>"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."</i> Paragraph 192: <i>"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."</i>
Planning Practice Guidance	The NPPF is supported by Planning Practice Guidance (PPG) which sets out relevant information for this assessment in: • Paragraph 001 (Reference ID: 32-001-20191101) • Paragraph 002 (Reference ID: 32-002-20191101) • Paragraph 005 (Reference ID: 32-005-20191101) The PPG also sets out the information that may be required in an air quality assessment in: • Paragraph 007 (Reference ID: 32-007-20191101) It also provides guidance on options for mitigating air quality impacts in: • Paragraph 008 (Reference ID: 32-008-20191101):

Table 10: Primary guidance documents summary table

Primary guidance documents	Summary notes
Defra Local Air Quality Management Technical Guidance	Defra's LAQM.TG(22) was published for use by local authorities in their LAQM review and assessment work. The document provides key guidance in aspects of air quality assessment, including screening, use of monitoring data and use of background data that are applicable to all air quality assessments.
EPUK and IAQM 'Air Quality Guidance for Planning'	Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) have together published guidance (EPUK and IAQM planning guidance) to help ensure that air quality is properly accounted for in the development control process.

Primary guidance documents	Summary notes
IAQM 'Construction and Demolition Dust Guidance'	Guidance on the assessment of dust from demolition and construction has been published by the IAQM (IAQM construction guidance). The guidance provides a methodology to determine the dust emission magnitude and provides a series of matrices to determine the risk magnitude of potential dust sources associated with construction activities.

Appendix 3 - Mitigation measures for construction phase.

Table 11: Mitigation measures for construction phase

Issue	Mitigation measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
	Display the head or regional office contact information.
Dust Management Plan	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and/or visual inspections.
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the Local Authority when asked.
	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.
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 check of surfaces such as street furniture, cars, window sills within 100 m of the site boundary, with cleaning to be provided if necessary.
	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.
	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.
	Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority. Where possible, commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences.
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.
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
	Avoid site runoff of water or mud.
	Keep site fencing, barriers and scaffolding clean using wet methods.
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used cover as described below.
	Cover, seed or fence stockpiles to prevent wind whipping.

Issue	Mitigation measure
Operating vehicles/machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling vehicles.
	Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
	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 applicable).
	Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car-sharing)
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.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, 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 or 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 after the event using wet cleaning methods.
Waste management	Avoid bonfires and burning of waste materials.
Demolition	Soft strip inside building before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
	Ensure effective water suppression is used during demolition activities. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
	Avoid explosive blasting, using appropriate manual or mechanical alternatives.
	Bag and remove any biological debris or damp down such material before demolition.
Earthworks	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	Avoid scrabbling (roughening of concrete surfaces) if possible.
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Issue	Mitigation measure
	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	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being in continuous use.
	Avoid dry sweeping of large areas.
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
	Record all inspections of haul routes and any subsequent action in a site log book.
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
	Access gates to be located at least 10 m from receptors where possible.

Appendix 4 - Professional experience.

Christelle Escoffier (Hoare Lea) MsEng. Msc. PhD MIES MIAQM

Christelle Escoffier is a Senior Associate and Technical Lead for air quality group with Hoare Lea. She is a Full Member of the Institution of Environmental Sciences and the Institute of Air Quality Management. She graduated with a Master in Science Diploma from Paris VI University, France and holds a Doctor of Philosophy degree in Physical Oceanography, Meteorology and Environment, from the same University.

In her twenty-two years of professional experience, she has managed and delivered air quality services for a wide range of industries in the United Kingdom (UK), the United States of America (USA) and the Middle East. Her portfolio of experience comprehends projects for diverse sectors from road transport, planning and development, wastewater and waste, oil and gas to power (energy centres, landfill gas plant, power reserve facilities, gas-fired and oil-fired combustion turbine stations). Christelle has in-depth knowledge of atmospheric dispersion models. She has delivered dispersion modelling training courses to government agencies, academic, industrial and commercial professionals worldwide since 2005.

Oliver Parsons (Hoare Lea), BSc (Hons), MSc, AMIEnvSc, AMIAQM

Oliver is a Senior Air Quality Consultant with Hoare Lea. He is an Associate Member of the Institution of Environmental Sciences and an Associate Member of the Institute of Air Quality Management. He has worked on projects across multiple sectors including residential, commercial and industrial sectors.

He has completed two EIA within the past year at Hoare Lea, SSEN (film studio) and SBQ (mixed use residential). He has experience across different aspects of the air quality assessment processes including monitoring, detailed dispersion modelling of roads, standalone air quality assessments and environmental impact assessments.

Alex Johnson (Hoare Lea), MSc, BSc (Hons), AMIAQM

Alex is an Air Quality Consultant with Hoare Lea. He is an Associate Member of the Institution of Environmental Sciences and an Associate Member of the Institute of Air Quality Management. He has worked on a number of air quality projects across various sectors since graduating from the University of Southampton with a master's degree in Environmental Pollution Control.

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