



The PES

Air Quality Assessment

17th April 2026

**154 Friar Street
Reading
RG1 1HE**

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1.0 Executive Summary

This air quality technical note has been prepared by The PES Ltd in regard to the property at 154 Friar Street, in support of a proposal for the change of use of the upper floors of the building to serviced accommodation units (Class C1); replacement windows; installation of heat pumps; and other internal and external alterations.

There is a requirements to submit an air quality assessment in order for the application to be validated, further clarified as a technical note to consider the impact on local air quality as a result of the proposed application for C1 use (Hotels, boarding and guest houses)

During the construction phase, the site has limited potential to generate dust nuisance beyond the application boundary. However, through the implementation of on site dust management practices, the impacts will be effectively removed.

Traffic generated by the proposed development is considered to be highly limited – as a car free development with 4 x C1 units – movements are expected to be limited to drop-offs and occasional deliveries only – no more than 2/3 movements per day.

This suggest that daily flows may result in an increase of vehicle movements and servicing vehicles to/from the proposed development at circa 6 two way trips – an increase in traffic flows of circa 0.1% based on the available annual average daily traffic flow for the Friars Street area; a negligible impact.

The project is located within Reading's air quality management area (AQMA).

The most recent monitoring data taken from Reading's Annual Status Report (2025) for the passive roadside monitoring location at RD046 – Friars Street – gives a recording at $37.7\mu\text{g}/\text{m}^3$. This figure is within the required long term air quality objective NO_2 , which indicates that the C1 use will readily be within the requirements for the short term air quality objectives.

It is also a conclusion of this technical note is that impact of the minimal increase in traffic generated by the proposed development will have a negligible impact on the air quality within the area.

It is concluded that there are no air quality related issues that would impact the application as presented.

2.0 Introduction

154 Friar Street is a three storey terraced building (ground to 2nd floors) located in Reading town centre on the south side of Friar Street, in close proximity to pedestrianised shopping areas, the railway station and other local amenities.

This report set out the strategic sustainability strategy in support of a proposal for the change of use of the upper floors of the building to serviced accommodation units (Class C1); replacement windows; installation of heat pumps; and other internal and external alterations.

The location of the proposed development site is presented in Figure 1.



Fig 1. Site Location

The project sits within the borough boundaries of Reading Borough Council

The adopted Development Plan for the site comprises:

- Reading Borough Local Plan - Adopted November 2019

Policy relevant to this report are set out below:-

Air Quality

EN15: AIR QUALITY

Development should have regard to the need to improve air quality and reduce the effects of poor air quality.

i. Development that would detrimentally affect air quality will not be permitted unless the effect is to be mitigated. The following criteria should be taken into account:

- Whether the proposal, including when combined with the cumulative effect of other developments already permitted, would worsen air quality;
- Whether the development is within, or accessed via, an Air Quality Management Area; and
- Whether it can be demonstrated that a local worsening in air quality that would not detrimentally affect human health or the environment would be offset by an overall improvement in air quality, for instance through reduction in the need to travel.

ii. Where a development would introduce sensitive uses (such as residential, schools and nurseries, hospitals, care facilities) into, or intensify such uses within, an Air Quality Management Area, detrimental effects on that use will be mitigated. Mitigation measures should be detailed in any planning application. If there are significant detrimental effects that cannot be mitigated, the application should be refused.

iii. Where required, planning obligations will be used to secure contributions to measures to tackle poor air quality or for air quality monitoring.

1.1 Initial Screening

The Environmental Protection UK (EPUK)/ IAQM planning guidance on screening for a formal air quality assessment.

Criteria 1 set out the Criteria to Proceed to Stage 2

A. If any of the following apply:

- 10 or more residential units or a site area of more than 0.5ha
- more than 1,000 m² of floor space for all other uses or a site area greater than 1ha

B. Coupled with any of the following:

- the development has more than 10 parking spaces
- the development will have a centralised energy facility or other centralised combustion process

Stage 1 - The project – a change of use to create 4 x new C1 units does not meet the above criteria

The Environmental Protection UK (EPUK)/ IAQM planning guidance goes on to confirm that for developments within or near an AQMA, a detailed assessment of traffic-related impacts is required where:

- There is a change in the annual average daily traffic (AADT) flow of light goods vehicles (LGV) of more than 100 vehicles; and/or
- There is a change in the AADT flow of heavy goods vehicles (HGV) of more than 25 vehicles; and/or There is a change in the road re-alignment by more than 5m; and/or
- A new junction is introduced, which will significantly alter vehicle speeds.

Stage 2 – Again the project does not meet with the above criteria.

However, the project is within an AQMA and an air quality assessment has been requested for validation purposes and as such this technical note is informed accordingly.

3.0 Policy Context

An overview of the relevant policy drivers for the assessment is provided in the following section.

3.1 European Legislation

Within the European Union, ambient air quality is currently regulated through the Ambient Air Quality Directive 2008/50/EC and the Fourth Daughter Directive 2004/107/EC. These directives set limit values and target values for ambient pollutant concentrations. The limit values are legally binding and must not be exceeded, whereas the target values are to be attained where it is cost effective to do so.

The Ambient Air Quality Directive provides limit values for sulphur dioxide (SO₂), nitrogen dioxide (NO₂), benzene (C₆H₆), carbon monoxide (CO), lead (Pb) and particulate matter (PM₁₀ and PM_{2.5}). The Fourth Daughter Directive provides target values for arsenic (As), cadmium (Cd), nickel (Ni), benzo(a)pyrene (B(a)P), mercury (Hg) and polycyclic aromatic hydrocarbons (PAH).

The EU limit values have been adopted into UK law via the Air Quality Standards Regulations 2010.

In the context of the proposed development, the primary pollutants of concern are NO₂, PM₁₀ and PM_{2.5} from traffic on roads close to the site. A summary of the European limit values for the protection of human health for these pollutants is presented in Table 1.

Table 1: European Limit Values for the Protection of Human Health

Pollutant	Averaging Period	Limit Value (µg/m ³)	Comments
NO ₂	1 Hour	200	Not to be exceeded more than 18 times per calendar year (equivalent to the 99.8th percentile of 1-hour means)
	Calendar Year	40	
PM ₁₀	24 Hour	50	Not to be exceeded more than 35 times per year (equivalent to the 90.4th percentile of 24-hour means)
	Calendar Year	40	
PM _{2.5}	Calendar Year	25	Stage 1 LV (to be met by 01/01/15)
	Calendar Year	20	Stage 2 LV (to be met by 01/01/20)

It should be noted that the proposed C1 are not required to comply with the annual mean air quality objectives (see extract from the LAQM.TG below.

This report will draw its conclusions against the short term objectives.

Box 1.4: Examples of where the air quality objectives should/should not apply		
Averaging Period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties ⁷ .	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets) Those parts of car parks, bus stations and railway stations etc which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-min mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer.	

Fig 2 – LAQM Box 1.4

3.2 National Legislation

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

The Air Quality Strategy for England, Wales and Northern Ireland was published in 2007 and sets out policy targets (objectives) for SO₂, NO₂, C₆H₆, CO, Pb, PM₁₀, PM_{2.5}, 1,3-butadiene (C₄H₆) and PAH. These objectives are generally in line with those set by the European Directives, although more stringent particulate and benzene objectives apply in Scotland (and in Northern Ireland for benzene).

The Air Quality Objectives (AQO) for NO₂, PM₁₀ and PM_{2.5} in England do not differ from those presented in Table 1.

Local Air Quality Management

The framework for Local Air Quality Management (LAQM) in the UK was introduced by the Environment Act 1995. Local Authorities are required to regularly review and assess air quality to establish whether there are any locations where pollutant concentrations exceed the relevant air quality objectives or EU limit values.

Where an exceedance is identified the local authority is obliged to declare an Air Quality Management Area (AQMA) and prepare an Action Plan setting out measures to improve air quality and achieve compliance with the objective(s).

Reading Borough Council published its Air Quality Action Plan 2024 – 2029 (adopted March 2024)

It sets out the longer terms strategy to improve air quality within the area against 3 main headings:-

- Cleaner Transport
- Policy and Guidance Development
- Public Health and Awareness

<https://www.reading.gov.uk/climate-and-pollution/air-quality-action-plan/>

The National Planning Policy Framework

The National Planning Policy Framework (NPPF 2024) sets out the Government's policies for planning and how these should be applied. With regard to air quality, the NPPF states that:-
para. 199.

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.

4.0 Transport Impacts

This section outlines the assessment methodology, taking into account all relevant national and local policies and technical guidance relating to air quality.

This technical note will consider the impact of the change in traffic volumes associated with the proposed new C1 uses at 154 Friars Street, assess this impact of this on the nearby residential accommodation

4.1 Operational Traffic

As noted above, the Environmental Protection UK (EPUK)/ IAQM planning guidance states that for developments within or near an AQMA, a detailed assessment of traffic-related impacts is required where:

- There is a change in the annual average daily traffic (AADT) flow of light goods vehicles (LGV) of more than 100 vehicles; and/or
- There is a change in the AADT flow of heavy goods vehicles (HGV) of more than 25 vehicles; and/or There is a change in the road re-alignment by more than 5m; and/or
- A new junction is introduced, which will significantly alter vehicle speeds.

The project at 154 Friars Street does not trigger any of the above requirements.

4.2 Existing Traffic Data

The DFT Road traffic statistics website provides a summary and street-level traffic data for road-links on the motorway, 'A' road and minor road network in Great Britain.

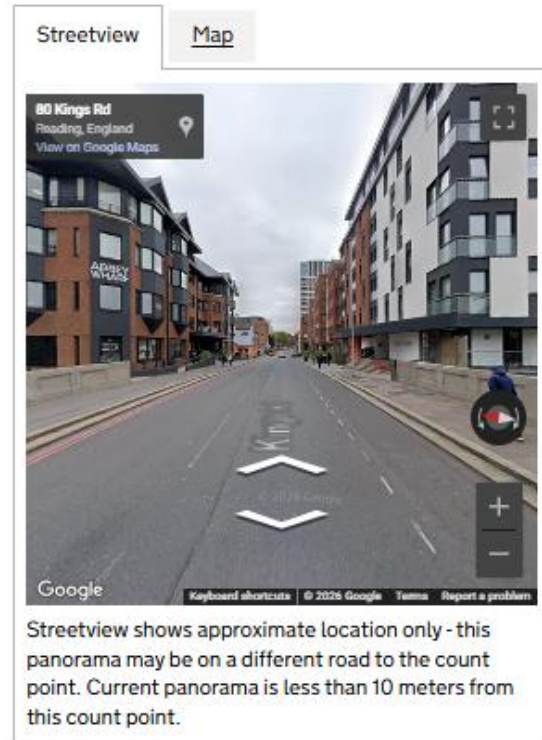
There is no formal traffic count on Friars Street

Site number 946007 is located on Kings Street, which is a similar road entering the town centre from the ring road and would give a highly reasonable estimate on traffic levels that could occur on Friars Street.

It can clearly be assumed that Friars Street would handle all of the traffic associated with the proposed new C1 development and the use of Kings Street data is a clear indication of the traffic levels around the proposed development site; as per the screen shot below at Figure 3.

946007**Details**

AADF latest year	2019
Region	South East
Local authority	Reading
Road name	C
Road type	Minor
Start junction road	-
End junction road	-
Link length	-
Easting & Northing	472005,173375
Latitude & longitude	51.45479,-0.96507

Location**Average Annual Daily Flow**

Year▼	Count method†	All motor vehicles	Cars & taxis	LGVs†	HGVs†	Pedal cycles	Motorcycles†	Buses & coaches
2019	Manual count	4,143	2,551	728	37	783	141	686

Fig 3 – Annual Average Daily Traffic Flow in 154 Friars Street area

It can be seen that in 2019 – the latest available data demonstrates an AADF at **4,143** vehicles daily, which includes all vehicles; heavy good vehicles and buses.

this figure can be assumed to be some 10% higher in 2026 – a figure proximate to **4,600**.

4.3 Predicted Traffic Generation

This report takes the reasonable assumption that the C1 proposals will generate circa 6 two way trips per day.

To develop a conservative model, this report will assume that the site under existing use does not generate any traffic movements.

The above scenario identifies a potential worst case increase in vehicle movements on Friar Street, at 6 movements; an increase in the AADF at 0.1% based on currently available data.

5.0 Local Air Quality

Through an analysis of local monitoring data, a description of existing air quality in the vicinity of the proposed development is provided.

5.1 Local Air Quality Monitoring

5.1.1 Automatic Data

Reading operate four automated monitoring stations in the Borough. They measure pollutants in real time which means that the pollution levels are constantly being measured and the results recorded; this report has identified the most relevant in terms of roadside monitoring and background - details of the nearest sites are provided in Table 2.

Table 2: Automatic Monitoring Sites

Site Name	Type	Easting	Northing	Pollutants Monitored
Reading AURN	Background	473441	173198	NO ₂ , PM ₁₀ , PM _{2.5}
RD1 Caversham Road	Roadside	471153	174429	NO ₂ , PM ₁₀ ,

Annual mean pollutant concentrations measured at the above locations between 2020 and 2024 have been obtained from the Readings Air Quality Annual Status Report 2025 and are summarised in Tables 3a and 3b, together with the number of measured exceedances of the short-term AQO's.

Table 3a: Background NO₂, PM₁₀, PM_{2.5} concentrations measured at the Reading AURN Monitoring site

Criteria	2020	2021	2022	2023	2024
Annual Mean NO ₂ (µg/m ³)	15	20	22	13	11
Number of Predicted Exceedances of the 1-Hour Mean AQO of 200 µg/m ³	0	0	0	0	0
Annual Mean PM ₁₀ (µg/m ³)	15	15	16	12	10
Number of Predicted PM ₁₀ Exceedances of the 24-Hour Mean AQO of 50 µg/m ³	0	1	0	0	0
Annual Mean PM _{2.5} (µg/m ³)	8	8	8	7	7

Table 3b: Roadside NO₂, PM₁₀ concentrations measured at the Caversham Road Monitoring site

Criteria	2020	2021	2022	2023	2024
Annual Mean NO ₂ (µg/m ³)	25	26	27	24	23
Number of Predicted Exceedances of the 1-Hour Mean AQO of 200 µg/m ³	0	0	1	0	0
Annual Mean PM ₁₀ (µg/m ³)	20	20	25	21	21
Number of Predicted PM ₁₀ Exceedances of the 24-Hour Mean AQO of 50 µg/m ³	5	2	6	0	2

The data indicates that the long term and short term pollutant concentrations in the area of the proposed development at Frair Street have very limited potential to exceed the relevant air quality standards, in what is clearly a rapidly improving scenario.

5.1.2 Non-automatic Data

Annual mean NO₂ concentrations are measured in Reading via an extensive network of passive diffusion tubes.

The nearest and most relevant tubes to the proposed development for the assessment of roadside concentrations are set out in Table 4.

Table 4: Roadside Diffusion Tube Monitoring

Site Name	Type	Easting	Northing	Pollutants Monitored
RD046 Friar Street	Background	471437	1733589	NO ₂

The above site is just 130m along Friar Road from the proposed development site.

Annual mean concentrations measured at the above stations between 2020 and 2024 are summarised in Table 5.

Table 5: Annual Mean NO₂ Concentrations Measured by Diffusion Tube

Site ID	2019	2020	2021	2022	2023
RD046 Friar Street	28.5	35.9	38.0	36.7	37.7

The data gives a very clear indication that annual mean NO₂ concentrations in the 154 Friars Street area do not exceed the air quality standard of 40 µg/m³.

Measurements across the UK have shown that the 1-hour mean AQO for NO₂ may also be exceeded where the annual mean concentration is greater than 60µg/m³.

The above noted data therefore indicates that an exceedance of the short-term objective will also not occur.

5.1.3 DEFRA Mapped Background Concentrations

Background data for NO₂ concentrations have been obtained from the Defra UK Background Air Pollution maps.

These 1km grid resolution maps are derived from a complex modelling exercise that takes into account emissions inventories and measurements of ambient air pollution from both automated and non-automated sites.

The screenshot from the website is presented below as Figure 4.

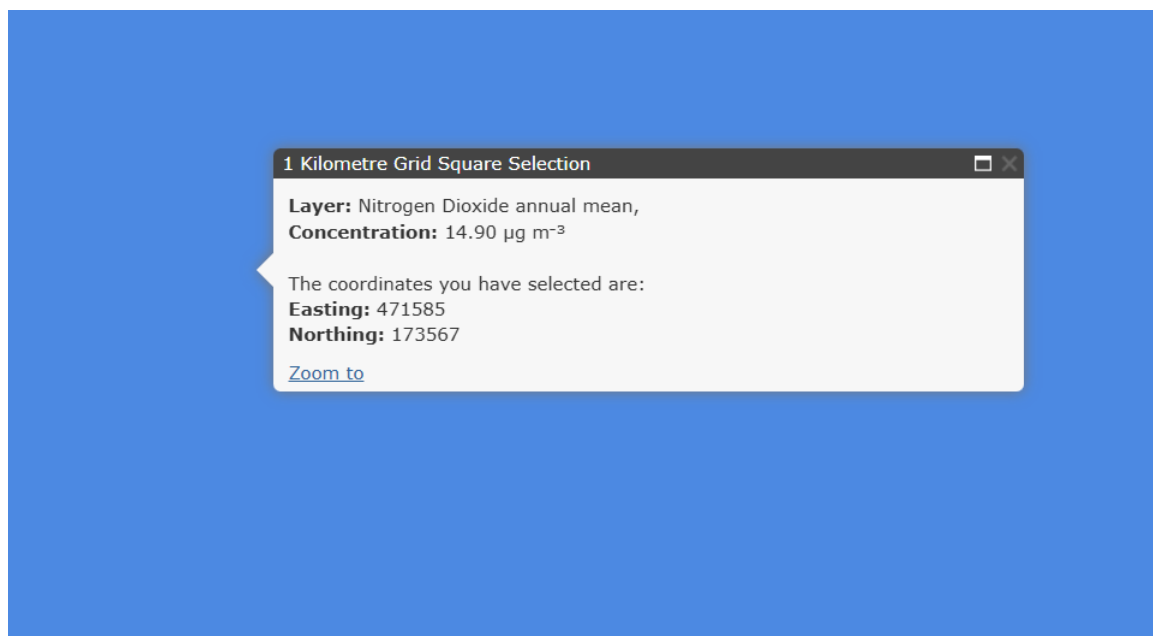


Fig 4 – Background NO₂ levels

With a local measured worse case annual mean NO₂ level, netting off the background emission levels indicates that the impact of traffic at a roadside location in the 154 Friars Street area amounts to an annual average of 22.8µg/m³.

6.0 Potential Impacts

The potential impacts and significance of the impacts on air quality of the proposed development at 154 Friars Street are considered below

6.1 Traffic Generation Impacts

It has been identified that the traffic generated by the proposed development could increase AADF on Friars Street traffic by circa 0.1%.

The most appropriate monitoring site recorded a an annual long term concentrations of $37.7\mu\text{g}/\text{m}^3$ for NO_2 ; within required air quality objective standards.

It should be noted that due to a significant change in the vehicle mix on the UK roads, with a very significant reduction in diesel cars (some 30% reduction since 2018) and an increase in electric and hybrid vehicles – the above monitored NO_2 levels can be expected to reduce significantly in coming years.

This technical note would suggest that the worse case impact on air quality within the area would be a 0.1% increase in the impact of traffic related NO_2 levels to $22.82\mu\text{g}/\text{m}^3$, an overall figure $37.72\mu\text{g}/\text{m}^3$, an increase at 0.05% and still within long term air quality objectives

In practical terms, this can be expected to be considerably lower due to:-

- Vehicles dispersing in either direction along Friars Street

The results are tabulated below.

Table 6 – Uncertainty Analysis – Sensitive Receptors

Friars Street	NO_2
2024 – No development	37.70
2024 – With development	37.72

The data in Table 6 identifies that the predicted increase in NO_2 levels are at circa $0.02\mu\text{g}/\text{m}^3$, an increase at 0.05%

The Institute of Air Quality Management (IAQM) offers a framework for describing the impacts (the change in concentration of an air pollutant) at individual receptors.

The term Air Quality Assessment Level (AQAL) is used to include air quality objectives or limit values, where these exist – see Figure 5

Long term average concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76 - 94% of AQAL	Negligible	Slight	Moderate	Moderate
95 - 102% of AQAL	Slight	Moderate	Moderate	Substantial
103 - 109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

Fig 5 - Impact descriptors for individual receptors

The assessment location related to Friar Street is within the band of 76-94% of AQAL for 2024 without the proposed development; the above noted 0.05% increase in air pollutants would be considered “**Negligible**” following the IAQM guidance.

It must be re-iterated that the proposed C1 uses are not required to comply with the long term air quality objectives. Measurements across the UK have shown that the 1-hour mean AQO for NO₂ may also be exceeded where the annual mean concentration is greater than 60µg/m³.

This is further supported by the automated monitoring data reported above within Table 3b.

6.2 Building-related Emissions

The heating and DHW systems at the 154 Friars Street project are proposed to be 100% electrically driven, and as such, will emit zero local emissions; having no impact on occupants of the subject building or neighbouring sensitive receptors.

6.3 Construction Phase Impacts

6.3.1 Construction Dust

The potential impact of dust generated during site enabling, earthworks and construction works at the proposed development has been undertaken in accordance with the Institute of Air Quality Management (IAQM) construction dust guidance . A full description of the construction dust methodology is provided in **Appendix A** – IAQM Construction Dust Methodology.

A detailed assessment of dust impacts is required where there are human or ecological receptors (such as a SSSI) within:

- 50m of the site boundary; or
- 50m of the route(s) used by construction vehicles on public roads, up to 500m from the site entrance(s).

The IAQM/ SPG methodology allows the potential risk of dust soiling and human health effects to be determined, based primarily on the sensitivity of nearby receptors (human and ecological) and the anticipated magnitude of the dust emissions due to:

- Demolition;
- Earthworks;
- Construction; and
- Track-out (re-suspended dust from vehicle movements).

The assessment of dust risk is also based on professional judgement taking into account factors such as the prevailing wind direction, the proposed construction phasing, the likely duration of dust raising activities, local topography and existing air quality.

A range of best practice mitigation measures are provided within the guidance, which are dependent on the level of dust risk attributed to the site. It is recommended that these measures are incorporated into a Dust Management Plan (DMP) for the proposed development prior to commencement of works on site.

The significance of the residual impacts following appropriate mitigation is determined by professional judgement.

Best Practice Guidance for dust control will be implemented, as appropriate, during the construction phase through the Dust Management Plan (DMP) for the proposed development.

The risk of dust soiling and human health impacts from the site has been assessed as medium:-

- Development of between 1,000 and 15,000 square metres of land and;
- Development of between ten to 150 properties and;

- Potential for emissions and dust to have an intermittent or likely impact on sensitive receptors

Prior to mitigation, therefore in accordance with the IAQM guidance it is recommended that the measures detailed in the table below are incorporated into the DMP.

The significance of dust impacts on nearby receptors following the implementation of appropriate and best practice mitigation is considered to be negligible.

6.3.2 Sensitivity of the Area to Dust Impacts

The assessment of dust impacts is dependent on the proximity of the most sensitive receptors to the site boundary. The area has residential uses at upper floors, these occupants would be considered as **HIGH** sensitivity receptors.

Accordingly, it can clearly be assumed that, with 10-100 High Sensitivity Receptors that are within 100m of the site boundary the sensitivity of the area to dust soiling effects on people and property could be considered **LOW**.

Finally, for the potential range of sensitive receptors in the range of 10 - 100 within 100m of the development site, and with the background PM levels at $<24\mu\text{g}/\text{m}^3$, sensitivity of the area to human health impacts would be considered **LOW**.

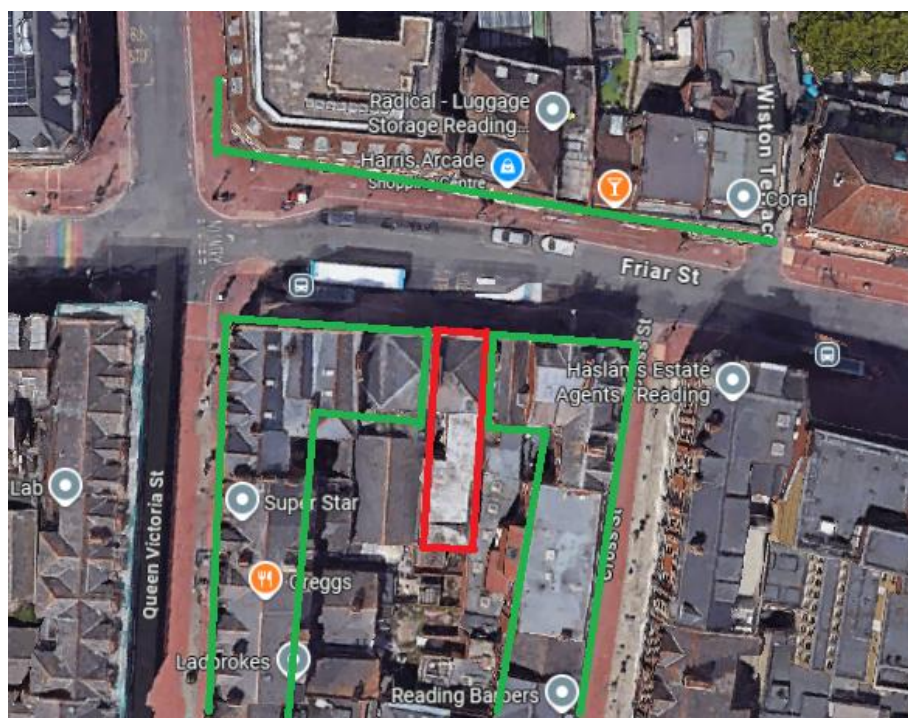


Figure 6 – Local sensitive receptors - Proposed development site – Sensitive Receptors

The precise behaviour of the dust, its residence time in the atmosphere and the distance it may travel before being deposited, will depend upon a number of factors. These include wind direction and strength, local topography and the presence of intervening structures (buildings, etc.) that may intercept dust before it reaches sensitive locations. Furthermore, dust would be naturally suppressed by rainfall.

6.1.2 Dust Emission Magnitude

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 development 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 (see Table 7);

and

- the sensitivity of the area to dust impacts, which is defined as low, medium or high sensitivity.

Table 7 – Dust emission risk categories

Activity	Dust Emission Class		
	Large	Medium	Small
Demolition	Total building volume >50,000 m ³ , potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >20 m above ground level	Total building volume 20,000 – 50 000m ³ , potentially dusty construction material, demolition activities 10-20 m above ground level	Total building volume <20,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months
Earthworks	Total site area >10,000 m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes	Total site area 2,500 – 10,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m - 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes	Total site area <2,500 m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <10,000 tonnes, earthworks during wetter months
Construction	Total building volume >100,000 m ³ , piling, on site concrete batching; sandblasting	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (e.g. concrete), piling, on site concrete batching	Total building volume <25,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber)
Track out	>50 HDV (>3.5t) trips in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m	10 – 50 HDV (>3.5t) trips in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50m – 100 m;	<10 HDV (>3.5t) trips in any one day, surface material with low potential for dust release, unpaved road length <50 m.

These factors are combined to determine the risk of dust impacts with no mitigation applied (see Table 8 below). The risk category assigned to the development can be different for each of the four potential activities (demolition, earthworks, construction and trackout).

Demolition – there are no demolition works associated with the proposed development, just a small amount of internal strip out works.

Accordingly, the magnitude of the dust emission is considered to be 'small'.

Earthworks - the project does not involve any earthworks. Dust emission are categorised as 'small'.

Construction - Dust emissions during construction will depend on the scale of the works, method of construction, construction materials and duration of build.

The proposed development is to be internal portioning works and decoration, and fit out of kitchen and bathroom areas. All internal and all low dust creation processes

The magnitude of the emission during construction is considered to be 'small'.

Trackout – the site is to back of pavement edge with no unmade roads. Dust emissions would be considered "small".

Table 8: Magnitude of Dust Emissions

Dust Source	Emissions Magnitude
Demolition	Small
Earthworks	Small
Construction	Small
Track Out	Small

6.3.3 Assessment of Dust Risk Prior to Mitigation

Referring to Chapter 7 of the IAQM "Assess the Risk of Dust Impacts" – tables 3 – 9; a summary of the potential risk of dust impacts prior to mitigation, based on the low sensitivity of the area to dust soiling and human health impacts is presented in Table 9.

Table 9: Risk of Dust Impacts Prior to Mitigation

Dust Source	Emissions Magnitude	Human Health Risk	Dust Soiling Risk
Demolition	Small	Negligible	Negligible
Earthworks	Small	Negligible	Negligible
Construction	Small	Negligible	Negligible
Track Out	Small	Negligible	Negligible

6.3.4 Construction Traffic

Construction traffic will contribute to existing traffic levels on the surrounding road network. However, the temporary increase in traffic is considered unlikely to be significant in terms of total flow or construction duration.

All non-road mobile machinery (NRMM) should use fuel equivalent to ultra-low sulphur diesel (ULSD), especially where a bunkered fuel supply is available.

The impact of vehicular emissions of NO₂ and PM₁₀ from construction traffic and on-site machinery on local air quality is considered to be highly negligible, as a very low volume temporary source of local pollution.

Potential dust emission associated with construction traffic have been considered in line with the IAQM guidance in section 6.3.2 above.

7.0 Mitigation

The following mitigation measures will be required during the construction and operational phases in order to minimise the air quality impacts arising from the development.

7.1 Construction Phase

Best practice guidance for dust control will be implemented, as appropriate, but as the risk of dust soiling and human health impacts from the 154 Friars Street site has been assessed as "Negligible".

It is therefore considered that there is no requirement for a formal Dust Management Plan (DMP).

7.1.1 Method Statement

A method statement should cover all phases of the development and take account of all contractors or sub-contractors. It should be submitted to the local planning authority (LPA) prior to any works being carried out and include a timetable of dust generating activities accompanied with proposed dust control measures.

The content of a Method Statement will be determined by a site specific evaluation but typical features to include are outlined below:-

- summary of work to be carried out
- description of site layout and access – including proposed haul routes, location of site equipment including supply of water for damping down, source of water (wherever possible from dewatering or extraction), drainage and enclosed areas
- inventory and timetable of all dust generating activities
- list of all dust and emission control methods to be used
- details of any fuel stored on site
- Identification of an authorised responsible person on-site for air quality. Ideally this person needs to have knowledge of pollution control and vehicle emissions;
- summary of monitoring protocols and agreed procedure of notification to the local authority nominated person(s)
- a site log book to record details and actions taken in response to exceptional incidents or dust-causing episodes. It should also be used to record the results of routine site inspections.

7.2 Emission Mitigation

The proposed development is centrally located and offers good access to Reading town centre as well as the local railway station. There are bus service directly outside of the site on Friar Street.

Consideration of local air quality monitoring confirms that long term NO₂ levels are clearly within the relevant short term air quality standards for the proposed new change of use to C1 accommodation.

These will further improve in the coming years, accordingly it is considered that site is appropriate for the commercial (C1) accommodation use as proposed.

Standard mitigation measures include the development of fossil fuel free heating systems.

8.0 Summary and Conclusions

The following summarise the outcomes of the assessment and provide details of any air quality constraints to the proposed change of use development at Friar Street.

Based on the results of the assessment, it is considered that redevelopment of the site would not cause a significant impact on local air quality.

An assessment has been undertaken to assess the potential impacts on local air quality associated with the operation of the proposed development.

The technical notes that there is a worse case impact on the local area of a 0.02% increase NO₂ emissions based upon the last year of available data – 2024.

The figure at 37.72µg/m³ is a worse-case scenario and is within required long term air quality standards, which confirms that the compliance with short term air quality standards (as required for non-domestic C1 uses) will readily be met.

The increase in NO₂ levels would be considered “negligible”, following the appropriate industry guidance.

An assessment of the potential impacts during the construction phase has also been undertaken in accordance with the latest Institute of Air Quality Management guidance; this has shown that highly limited releases of dust and PM₁₀ are may occur during site activities. The risk of dust soiling impacts at neighbouring properties and risk to human health has been assessed as **Negligible**.

Through good site practice and the implementation of suitable mitigation measures, any limited impact of dust and PM₁₀ releases may be effectively mitigated.

In addition, the proposed new uses will utilise all electrical systems for heating and hot water, emitting zero emission within the local environment.

Appendix A

IAQM CONSTRUCTION DUST METHODOLOGY

Factors defining the sensitivity of a receptor to dust impacts are presented in Table A1.

Table A1: Receptor Sensitivity

Receptor Sensitivity	Human Health	Dust Soiling	Ecological
High	- Locations where members of the public are exposed over a time period relevant to the air quality objectives for PM₁₀ (a) - Examples include residential dwellings, hospitals, schools and residential care homes.	- Regular exposure - High level of amenity expected. - Appearance, aesthetics or value of the property would be affected by dust soiling. - Examples include residential dwellings, museums, medium and long-term car parks and car showrooms.	- Nationally or Internationally designated site with dust sensitive features (b) - Locations with vascular species (c)
Medium	- Locations where workers are exposed over a time period relevant to the air quality objectives for PM₁₀ (a) - Examples include office and shop workers (d)	- Short-term exposure - Moderate level of amenity expected - Possible diminished appearance or aesthetics of property due to dust soiling - Examples include parks and places of work	- Nationally designated site with dust sensitive features (b) - Nationally designated site with a particularly important plant species where dust sensitivity is unknown
Low	- Transient human exposure - Examples include public footpaths, playing fields, parks and shopping streets	- Transient exposure - Enjoyment of amenity not expected. - Appearance and aesthetics of property unaffected - Examples include playing fields, farmland (e), footpaths, short-term car parks and roads	Locally designated site with dust sensitive features (b)
a) In the case of the 24-hour objective, a relevant location would be one where individuals may be exposed for eight hours or more in a day. b) Ecosystems that are particularly sensitive to dust deposition include lichens and acid heathland (for alkaline dust, such as concrete). c) Cheffing C. M. & Farrell L. (Editors) (2005), The Vascular Plant. Red Data List for Great Britain, Joint Nature Conservation Committee. d) Does not include workers' exposure to PM₁₀ as protection is covered by Health and Safety at Work legislation. e) Except commercially sensitive horticulture.			

The sensitivity of the area as a whole is dependent on the number of receptors within each sensitivity class and their distance from the source. Human health impacts are also dependent on the existing PM₁₀ concentrations in the area.

Table A2 and Table A3 summarise the criteria for determining the overall sensitivity of the area to dust soiling and health impacts respectively. The sensitivity of the area to ecological impacts is presented in Table A4.

Table A2: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source			
		<20m	<50m	<100m	<350m
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table A3: Sensitivity of the Area to Health Impacts from Dust

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration (µg/m ³)	Number of Receptors	Distance from the Source				
			<20m	<50m	<100m	<200m	<350m
High	>32	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	≥1	Low	Low	Low	Low	Low

Table A4: Sensitivity of the Area to Ecological Impacts from Dust

Receptor Sensitivity	Distance from the Source	
	<20m	<50m
High	High	Medium
Medium	Medium	Low
Low	Low	Low

The magnitude of the dust impacts for demolition, earthworks, construction and trackout is classified as small, medium or large depending on the scale of the proposed works as detailed in Table A5.

Table A5: Dust Emission Magnitude

Receptor Sensitivity	Large	Medium	Small
Demolition	- Total building volume >50,000m³ - Potentially dusty material (e.g. concrete) - Onsite crushing and screening - Demolition activities >20m above ground level.	- Total building volume 20,000 - 50,000m³ - Potentially dusty material - Demolition activities 10 - 20m above ground level.	- Total building volume <20,000m³ - Construction material with low potential for dust release - Demolition activities <10m above ground level - Demolition during wetter months
Earthworks	- Total site area >10,000m² - Potentially dusty soil type (e.g. clay) - >10 heavy earth moving vehicles active at any one time - Formation of bunds >8m in height - Total material moved >100,000 tonnes	- Total site area 2,500 - 10,000m² - Moderately dusty soil type (e.g. silt) - 10 heavy earth moving vehicles active at any one time - Formation of bunds 4 - 8m in height - Total material moved 20,000 - 100,000 tonnes	- Total site area <2,500m² - Soil type with large grain size (e.g. sand) - <5 heavy earth moving vehicles active at any one time - Formation of bunds <4m in height - Total material moved <20,000 tonnes - Earthworks during wetter months
Construction	- Total building volume >100,000m³ - On site concrete batching - Sandblasting	- Total building volume 25,000 - 100,000m³ - Potentially dusty construction material (e.g. concrete) - On site concrete batching	- Total building volume <25,000m³ - Material with low potential for dust release (e.g. metal cladding or timber)
Trackout	- >50 HGV movements in any one day (a) - Potentially dusty surface material (e.g. high clay content) - Unpaved road length >100m	- 10 - 50 HGV movements in any one day (a) - Moderately dusty surface material (e.g. silt) - Unpaved road length 50 - 100m	- <10 HGV movements in any one day (a) - Surface material with low potential for dust release - Unpaved road length <50m

a) HGV movements refer to outward trips (leaving the site) by vehicles of over 3.5 tonnes

For each dust emission source, the worst-case area sensitivity is used in combination with the dust emission magnitude to determine the risk of dust impacts prior to mitigation as illustrated in Tables A6 and A7.

Table A6: Risk of Dust Impacts from Demolition, Earthworks and Construction

Area Sensitivity	Distance from the Source		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible Risk

Table A7: Risk of Dust Impacts from Trackout

Area Sensitivity	Distance from the Source		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible Risk
Low	Low Risk	Low Risk	Negligible Risk