Air Quality Assessment

Wickhurst Green, Broadbridge Heath

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QUALITY ASSURANCE

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Air Quality Assessment

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Executive Summary	
Site Address	**Wickhurst Green, Broadbridge Heath**

An Air Quality Assessment was undertaken to support a planning application for a residential development at Wickhurst Green, Broadbridge Heath.

The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road traffic exhaust emissions associated with vehicles travelling to and from the site during operation. As such, an Air Quality Assessment was undertaken to determine baseline conditions and assess potential impacts as a result of the scheme.

Potential construction phase air quality impacts from fugitive dust emissions were assessed as a result of earthworks, construction and trackout activities. It is considered that the use of good practice control measures would provide suitable mitigation for a development of this size and nature and reduce potential impacts to an acceptable level.

During the operational phase of the development there is the potential for air quality impacts as a result of traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed against the relevant screening criteria. Due to the low number of vehicles trips anticipated to be produced by the scheme, road traffic exhaust impacts were predicted to be not significant.

Potential emissions from the proposals were assessed in accordance with the requirements of the Air Quality and Emissions Mitigation Guidance for Sussex. This included completion of a damage costs assessment in order to determine the appropriate level of mitigation required for the scheme.

Based on the assessment results, air quality factors are not considered a constraint to planning consent for the development.

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APPENDIX

1.0 INTRODUCTION

1.1 Background

This report has been prepared to support a planning application for a residential development on land at Wickhurst Green, Broadbridge Heath.

The Air Quality Assessment was undertaken by Omnia's partner Redmore Environmental Ltd.

The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road vehicle exhaust emissions during operation. As such, an Air Quality Assessment was undertaken to determine baseline conditions and assess potential impacts as a result of the scheme.

1.2 Proposed Development

The site is located on land at Wickhurst Green, Broadbridge Heath, at approximate National Grid Reference (NGR): 514886, 130980. The relevant Local Authority (LA) is Horsham District Council (HDC). Reference should be made to Figure 1 for a map of the site and surrounding area.

The proposals comprise construction of 92 residential dwellings with associated parking, infrastructure and landscaping.

1.3 Objectives

The proposals have the potential to cause air quality impacts at sensitive locations during the construction and operational phases. As such, an Air Quality Assessment was undertaken to determine baseline conditions and assess potential impacts associated with the scheme. This is detailed in the following report.

1.4 Acronyms

All acronyms used within this report are defined in the Abbreviations listings, set out in Section 7.

1.5 Confidentiality

This report has been prepared solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from Omnia; a charge may be levied against such approval.

2.0 LEGISLATION AND POLICY

2.1 Legislation

The Air Quality Standards Regulations (2010) and subsequent amendments include Air Quality Limit Values (AQLVs) for the following pollutants:

- Nitrogen dioxide (NO_2);
- Sulphur dioxide (SO_2);
- Lead;
- Particulate matter with an aerodynamic diameter of less than 10µm (PM_{10});
- Particulate matter with an aerodynamic diameter of less than 2.5µm ($PM_{2.5}$);
- Benzene; and,
- Carbon monoxide.

Air Quality Target Values were also provided for several other pollutants. It should be noted that the AQLV for $PM_{2.5}$ stated in the Air Quality Standards Regulations (2010) was amended in the Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020).

The Air Quality Strategy (AQS) was produced by the Department for Environment, Food and Rural Affairs (DEFRA) and published on 28th April 2023[1]. The document contains standards, objectives and measures for improving ambient air quality, including a number of Air Quality Objectives (AQOs). These are maximum ambient pollutant concentrations that are not to be exceeded either without exception or with a permitted number of exceedences over a specified timescale. These are generally in line with the AQLVs, although the requirements for the determination of compliance vary.

The Environmental Improvement Plan 2023[2] was published in January 2023, providing long term and Interim Targets in order to reduce population exposure to $PM_{2.5}$. The Concentration Target for 2040 was subsequently adopted in the Environmental Targets (Fine Particulate Matter) (England) Regulations (2023).

Table 1 presents the AQOs, Interim Target and Concentration Target for pollutants considered within this assessment.

Table 1 Air Quality Objectives/ Interim Target/Concentration Target

Pollutant	Air Quality Objective/ Interim Target/Concentration Target	
	Concentration	Averaging Period
NO_2	40	Annual mean
	200	1-hour mean, not to be exceeded on more than 18 occasions per annum
PM_{10}	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
$PM_{2.5}$	12[(a)]	Annual mean
	10[(b)]	Annual mean

[1] AQS: Framework for Local Authority Delivery, DEFRA, 2023.
[2] Environmental Improvement Plan 2023, DEFRA, 2023.

Note: (a) Interim Target to be achieved by end of January 2028.
(b) Concentration Target to be achieved by 2040.

Table 2 summarises the advice provided in DEFRA guidance[3] on where the AQOs for pollutants considered within this report apply.

Table 2 Examples of Where the Air Quality Objectives Apply

Averaging Period	Objective Should Apply At	Objective Should 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	All locations where the annual mean objective would apply, together with hotels 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
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

2.2 Local Air Quality Management

LAs are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air

[3] Local Air Quality Management Technical Guidance (TG22), DEFRA, 2022.

quality involves comparing present and likely future pollutant concentrations against the AQOs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 2, are likely to be exceeded, the LA is required to declare an Air Quality Management Area (AQMA). For each AQMA the LA is required to produce an Air Quality Action Plan (AQAP), the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.

2.3 Dust

The main requirements with respect to dust control from industrial or trade premises not regulated under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as construction sites, is that provided in Section 79 of Part III of the Environmental Protection Act (1990). The Act defines nuisance as:

> *"any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance."*

Enforcement of the Act, in regard to nuisance, is currently under the jurisdiction of the local Environmental Health Department, whose officers are deemed to provide an independent evaluation of nuisance. If the LA is satisfied that a statutory nuisance exists, or is likely to occur or happen again, it must serve an Abatement Notice under Part III of the Environmental Protection Act (1990). The only defence is to show that the process to which the nuisance has been attributed and its operation are being controlled according to best practicable means.

2.4 National Planning Policy

The revised National Planning Policy Framework[4] (NPPF) was published in December 2024 and amended in February 2025 and sets out the Government's planning policies for England and how these are expected to be applied.

The purpose of the planning system is to contribute to the achievement of sustainable development. In order to ensure this, the NPPF recognises three overarching objectives, including the following of relevance to air quality:

> *"c) an environmental objective - to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

Chapter 15 of the NPPF details objectives in relation to conserving and enhancing the natural environment. It states that:

> *"Planning policies and decisions should contribute to and enhance the natural and local environment by:*
>
> *[...]*

[4] NPPF, Ministry of Housing, Communities and Local Government, 2024.

> *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 [...]"*

The NPPF specifically recognises air quality as part of delivering sustainable development and states that:

> *"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at 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."*

The implications of the NPPF have been considered throughout this assessment.

2.5 National Planning Practice Guidance

The National Planning Practice Guidance[5] (NPPG) web-based resource was launched by the Department for Communities and Local Government to support the NPPF and make it more accessible. The air quality pages are summarised under the following headings:

1. What air quality considerations does planning need to address?
2. What is the role of plan-making with regard to air quality?
3. Are air quality concerns relevant to neighbourhood planning?
4. What information is available about air quality?
5. When could air quality considerations be relevant to the development management process?
6. What specific issues may need to be considered when assessing air quality impacts?
7. How detailed does an air quality assessment need to be?
8. How can an impact on air quality be mitigated?

These were reviewed and the relevant guidance considered as necessary throughout the undertaking of this assessment.

2.6 Local Planning Policy

The Horsham District Planning Framework[6] was adopted by HDC in November 2015. Review of the document indicated the following policy of relevance to this assessment:

[5] https://www.gov.uk/guidance/air-quality--3.
[6] Horsham District Planning Framework, HDC, 2015.

"Policy 2

Strategic Policy: Strategic Development

To maintain the district's unique rural character whilst ensuring that the needs of the community are met through sustainable growth and suitable access to services and local employment, the spatial strategy to 2031 is to:

[...]

12. Retain and enhance natural environmental resources, including landscapes and landscape character, biodiversity, and retaining and enhancing environmental quality including air, minimises energy and resource use and provides floor management

[...]"

"Policy 24

Strategic Policy: Environmental Protection

The high quality of the district's environment will be protected through the planning process and the provision of local guidance documents. Taking into account any relevant Planning Guidance Documents, developments will be expected to minimise exposure to and the emission of pollutants including noise, odour, air and light pollution and ensure that they:

[...]

4. Minimise the air pollution and greenhouse gas emissions in order to protect human health and the environment;

5. Contribute to the implementation of local Air Quality Action Plans and do not conflict with its objectives;

6. Maintain or reduce the number of people exposed to poor air quality including odour. Consideration should be given to development that will results in new public exposure, particularly where vulnerable people (e.g. the elderly, care homes or school) would be exposed to the areas of poor air quality; and

[...]"

The Sussex Air Quality Partnership has produced the 'Air Quality and Emissions Mitigation Guidance for Sussex'[7] document in order to provide guidance on air quality considerations that should be made in relation to new developments. The guidance focusses on measures to reduce transport and construction related emissions from proposals in the district.

[7] Air Quality and Emissions Mitigation Guidance for Sussex, Sussex Air Quality Partnership, 2021.

The above policies and guidance were taken into consideration throughout the undertaking of the assessment.

3.0 METHODOLOGY

3.1 Introduction

The proposed development has the potential to cause air quality impacts during the construction and operational phases. These have been assessed in accordance with the following methodology.

3.2 Construction Phase Assessment

There is the potential for fugitive dust emissions to occur as a result of construction phase activities. These have been assessed in accordance with the methodology outlined within the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction V2.2'[8].

Activities on the proposed construction site have been divided into three types to reflect their different potential impacts. These are:

- Earthworks;
- Construction; and,
- Trackout.

The potential for dust emissions was assessed for each activity that is likely to take place and considered three separate dust effects:

- Annoyance due to dust soiling;
- Harm to ecological receptors; and,
- The risk of health effects due to a significant increase in exposure to PM_{10}.

The assessment steps are detailed below.

3.2.1 Step 1

Step 1 screens the requirement for a more detailed assessment. Should human receptors be identified within 250m from the boundary or 50m from the construction vehicle route up to 250m from the site entrance, then the assessment proceeds to Step 2. Additionally, should ecological receptors be identified within 50m of the site or the construction vehicle route up to 250m from the site entrance, then the assessment also proceeds to Step 2.

Should sensitive receptors not be present within the relevant distances then **negligible** impacts would be expected and further assessment is not necessary.

3.2.2 Step 2

Step 2 assesses the risk of potential dust impacts. A site is allocated a risk category based on two factors:

[8]Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

- The scale and nature of the works, which determines the magnitude of dust arising as: small, medium or large (Step 2A); and,
- The sensitivity of the area to dust impacts, which can be defined as low, medium or high sensitivity (Step 2B).

The two factors are combined in Step 2C to determine the risk of dust impacts without mitigation applied.

Step 2A defines the potential magnitude of dust emission through the construction phase. The relevant criteria are summarised in Table 3.

Table 3 Construction Dust - Magnitude of Emission

Magnitude	Activity	Criteria
Large	Earthworks	• Total site area greater than 110,000m^2 • Potentially dusty soil type (e.g. clay, which will be prone to suspension when dry due to small particle size) • More than 10 heavy earth moving vehicles active at any one time • Formation of bunds greater than 6m in height
	Construction	• Total building volume greater than 75,000m^3 • On site concrete batching • Sandblasting
	Trackout	• More than 50 Heavy Duty Vehicle (HDV) trips per day • Potentially dusty surface material (e.g. high clay content) • Unpaved road length greater than 100m
Medium	Earthworks	• Total site area 18,000m^2 to 110,000m^2 • Moderately dusty soil type (e.g. silt) • 5 to 10 heavy earth moving vehicles active at any one time • Formation of bunds 3m to 6m in height
	Construction	• Total building volume 12,000m^3 to 75,000m^3 • Potentially dusty construction material (e.g. concrete) • On site concrete batching
	Trackout	• 20 to 50 HDV trips per day • Moderately dusty surface material (e.g. high clay content) • Unpaved road length 50m to 100m
Small	Earthworks	• Total site area less than 18,000m^2 • Soil type with large grain size (e.g. sand) • Less than 5 heavy earth moving vehicles active at any one time • Formation of bunds less than 3m in height
	Construction	• Total building volume less than 12,000m^3 • Construction material with low potential for dust release (e.g. metal cladding or timber)

Magnitude	Activity	Criteria
	Trackout	• Less than 20 HDV trips per day • Surface material with low potential for dust release • Unpaved road length less than 50m

Step 2B defines the sensitivity of the area around the development to potential dust impacts. The sensitivities of specific receptors are summarised in Table 4.

Table 4 Construction Dust - Sensitivities of Human and Ecological Receptors

Receptor Sensitivity	Examples	
	Human Receptors	Ecological Receptors
High	• Users expect high levels of amenity • High aesthetic or value property • People expected to be present continuously for extended periods of time • Locations where members of the public are exposed over a time period relevant to the AQO for PM_{10}. e.g. residential properties, hospitals, schools and residential care homes	• Internationally or nationally designated site e.g. Special Area of Conservation
Medium	• Users would expect to enjoy a reasonable level of amenity • Aesthetics or value of their property could be diminished by soiling • People or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land e.g. parks and places of work	• Nationally designated site e.g. Sites of Special Scientific Interest
Low	• Enjoyment of amenity would not reasonably be expected • Property would not be expected to be diminished in appearance • Transient exposure, where people would only be expected to be present for limited periods. e.g. public footpaths, playing fields, shopping streets, farmland, short term car parks and roads	• Locally designated site e.g. Local Nature Reserve

The criteria for determining the sensitivity of the area to dust soiling effects on people and property is summarised in Table 5.

Table 5 Construction Dust - Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 250
High	More than	High	High	Medium	Low

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		Less than 20	Less than 50	Less than 100	Less than 250
	100				
	10 - 100	High	Medium	Low	Low
	1 - 10	Medium	Low	Low	Low
Medium	More than 1	Medium	Low	Low	Low
Low	More than 1	Low	Low	Low	Low

Table 6 outlines the criteria for determining the sensitivity of the area to human health impacts.

Table 6 Construction Dust - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Background Annual Mean PM_{10} Concentration	Number of Receptors	Distance from the Source (m)			
			Less than 20	Less than 50	Less than 100	Less than 250
High	Greater than 32µg/m^3	More than 100	High	High	High	Medium
		10 - 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m^3	More than 100	High	High	Medium	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m^3	More than 100	High	Medium	Low	Low
		10 - 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	Less than 24µg/m^3	More than 100	Medium	Low	Low	Low
		10 - 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium	Greater than 32µg/m^3	More than 10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m^3	More than 10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m^3	More than 10	Low	Low	Low	Low
		1 -10	Low	Low	Low	Low
	Less than 24µg/m^3	More than 10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Low	-	1 or more	Low	Low	Low	Low

Table 7 outlines the criteria for determining the sensitivity of the area to ecological impacts.

Table 7 Construction Dust - Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	Less than 20	Less than 50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Step 2C combines the dust emission magnitude with the sensitivity of the area to determine the risk of unmitigated impacts.

Table 8 outlines the risk category from earthworks, construction and trackout activities.

Table 8 Construction Dust - Dust Risk Category from Earthworks, Construction and Trackout Activities

Receptor Sensitivity	Dust Emission Magnitude		
	Large	Medium	Small
High	High	Medium	Low
Medium	Medium	Medium	Low
Low	Low	Low	Negligible

3.2.3 Step 3

Step 3 requires the identification of site-specific mitigation measures within the IAQM guidance[9] to reduce potential dust impacts based upon the relevant risk categories identified in Step 2. For sites with **negligible** risk, mitigation measures beyond those required by legislation are not required. However, additional controls may be applied as part of good practice.

3.2.4 Step 4

Once the risk of dust impacts has been determined and the appropriate mitigation measures identified, the final step is to determine the significance of any residual impacts. For almost all construction activity, the aim should be to control effects through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be **not significant**.

3.3 Operational Phase Assessment

The proposal has the potential to increase concentrations of NO_2, PM_{10} and $PM_{2.5}$ as a result of road traffic exhaust emissions associated with vehicles travelling to and from the site during the operational phase. A screening assessment was therefore undertaken using the criteria contained within the IAQM 'Land-Use Planning & Development Control: Planning for Air Quality'[10] guidance to determine the potential for trips generated by the scheme to affect local air quality.

The following criteria are provided to help establish when an assessment of potential impacts on the local area is likely to be considered necessary:

[9] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.
[10] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

- A change of Light Duty Vehicles (LDV) flows or more than 100 Annual Average Daily Traffic (AADT) within or adjacent to an AQMA or more than 500 AADT elsewhere;
- A change of HDV flows or more than 25 AADT within or adjacent to an AQMA or more than 100 AADT elsewhere;
- Realignment of roads where the change is 5m or more and the road is within an AQMA; or,
- Introduction of a new junction or removal of an existing junction near to relevant receptors.

Should these criteria not be met, the IAQM guidance[11] considers air quality impacts associated with a scheme to be **not significant** and no further assessment is required.

[11] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

4.0 BASELINE

4.1 Introduction

Existing air quality conditions in the vicinity of the proposed development site were identified in order to provide a baseline for assessment. These are detailed in the following Sections.

4.2 Local Air Quality Management

As required by the Environment Act (1995), as amended by the Environment Act (2021), HDC has undertaken Review and Assessment of air quality within their area of jurisdiction. This process has indicated that annual mean concentrations of NO_2 are above the relevant AQO within the district. As such, two AQMAs have been declared. The closest of these to the site is described as follows:

> *"Horsham Cowfold AQMA - Cowford town centre incorporating The Street, part of Station Road and Bolney Road."*

The development is located approximately 10.3km south-east of the AQMA. It is considered unlikely the proposals would cause air quality impacts over a distance of this magnitude. As such, the AQMA has not been considered further in the context of this assessment.

HDC has concluded that concentrations of all other pollutant considered in the AQS are below the relevant AQOs. As such, no further AQMAs have been declared.

4.3 Air Quality Monitoring

Monitoring of pollutant concentrations is undertaken by HDC throughout their area of jurisdiction. Recent annual mean NO_2 results recorded in the vicinity of the site, as provided in HDC's 'Annual Progress Report 2024'[12], are shown in Table 9.

Table 9 Monitoring Results

Monitoring Site		Monitored NO_2 Concentration (µg/m^3)			
		2020	2021	2022	2023
4	Broadbridge Heath 1[(a)]	-	-	-	10.2

Note: (a) Monitor installed in 2023

As shown in Table 9, annual mean NO_2 concentrations were below the AQO of 40µg/m^3 at the Broadbridge Heath 1 monitoring location in 2023. Reference should be made to Figure 2 for a map of the survey position.

Pollutant concentrations during 2020 and 2021 were affected by changes to travel patterns associated with the COVID-19 pandemic. The results should therefore be viewed with caution. However, data for 2022 and beyond is now considered representative of post-pandemic conditions. This is supported by the IAQM[13], who have adopted the following position:

[12] Annual Progress Report 2024, HDC, 2024.
[13] Use of 2020 and 2021 Monitoring Datasets - IAQM Position Statement V1.1, IAQM, 2023.

"ambient air quality monitoring data for the year 2022 and beyond is generally considered to represent the current post-pandemic baseline."

Monitoring of PM_{10} or $PM_{2.5}$ concentrations is not undertaken in the vicinity of the site.

4.4 Background Pollutant Concentration Predictions

Predictions of NO_2, PM_{10} and $PM_{2.5}$ concentrations on a 1km by 1km grid basis have been produced by DEFRA. These maps cover the entire of the UK to assist LAs in their Review and Assessment of air quality. The proposed development site is located in grid square NGR: 514500, 130500. Data for this location was downloaded from the DEFRA website[14] for the purpose of the assessment and is summarised in Table 10.

Table 10 Background Pollutant Concentration Predictions

Pollutant	Predicted 2025 Background Pollutant Concentration (µg/m^3)
NO_2	7.91
PM_{10}	10.80
$PM_{2.5}$	6.34

As shown in Table 10, predicted background NO_2, PM_{10} and $PM_{2.5}$ concentrations are below the relevant AQOs and Concentration Target at the development site.

4.5 Sensitive Receptors

A sensitive receptor is defined as any location which may be affected by changes in air quality as a result of a development. Receptors sensitive to potential dust impacts during earthworks and construction were identified from a desk-top study of the area up to 250m from the development boundary. These are summarised in Table 11.

Table 11 Earthworks and Construction Dust Sensitive Receptors

Distance from Site Boundary (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	More than 100	0
Up to 50	More than 100	0
Up to 100	More than 100	-
Up to 250	More than 100	-

Receptors sensitive to potential dust impacts from trackout were identified from a desk-top study of the area up to 50m from the road network within 250m of the site access. These are summarised in Table 12.

[14] https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021.

Table 12 Trackout Dust Sensitive Receptors

Distance from Site Access Route (m)	Approximate Number of Human Receptors	Approximate Number of Ecological Receptors
Up to 20	More than 100	0
Up to 50	More than 100	0

There are no ecological receptors within 50m of the development boundary or access route within 250m of the site entrance. As such, ecological impacts have not been assessed further within this report.

Based on the criteria shown in Table 4, the sensitivity of the receiving environment to potential dust impacts was determined as **high**. This was because the identified receptors included residential properties.

The sensitivity of the receiving environment to specific potential dust impacts, based on the criteria shown in Section 3.2, is shown in Table 13.

Table 13 Sensitivity of the Surrounding Area to Potential Dust Impacts

Potential Impact	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust Soiling	High	High	High
Human Health	Low	Low	Medium

5.0 ASSESSMENT

5.1 Introduction

There is the potential for air quality impacts as a result of the construction and operation of the proposed development. These are assessed in the following Sections.

5.2 Construction Phase Assessment

5.2.1 Step 1

The undertaking of activities such as excavation, ground works, cutting, construction, concrete batching and storage of materials has the potential to result in fugitive dust emissions throughout the construction phase. Vehicle movements both on-site and on the local road network also have the potential to result in the re-suspension of dust from haul roads and highway surfaces.

The potential for impacts at sensitive locations depends significantly on local meteorology during the undertaking of dust generating activities, with the most significant effects likely to occur during dry and windy conditions.

The desk-study undertaken to inform the baseline identified a number of sensitive receptors within 250m of the site boundary. As such, a detailed assessment of potential dust impacts was required.

5.2.2 Step 2

5.2.2.1 Earthworks

Earthworks will primarily involve excavating material, haulage, tipping and stockpiling, as well as site levelling and landscaping. The area of the development site is between 18,000m^2 and 110,000m^2. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from earthworks activities is therefore **medium**.

Table 13 indicates the sensitivity of the area to dust soiling effects on people and property is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **medium** risk site for dust soiling as a result of earthworks.

Table 13 indicates the sensitivity of the area to human health impacts is **low**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for human health impacts as a result of earthworks.

5.2.2.2 Construction

The total building volume to be constructed is estimated to be between 12,000m^3 and 75,000m^3. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from construction is therefore **medium**.

Table 13 indicates the sensitivity of the area to dust soiling effects on people and property is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **medium** risk site for dust soiling as a result of construction activities.

Table 13 indicates the sensitivity of the area to human health impacts is **low**. In accordance with the criteria outlined in Table 8, the development is considered to be a **low** risk site for human health impacts as a result of construction activities.

5.2.2.3 Trackout

Based on the site area, it is anticipated that the unpaved road length will be between 50m and 100m. In accordance with the criteria outlined in Table 3, the magnitude of potential dust emissions from trackout is therefore **medium**.

Table 13 indicates the sensitivity of the area to dust soiling effects to people and property is **high**. In accordance with the criteria outlined in Table 8, the development is considered to be a **medium** risk site for dust soiling as a result of trackout activities.

Table 13 indicates the sensitivity of the area to human health impacts is **medium**. In accordance with the criteria outlined in Table 8, the development is considered to be a **medium** risk site for human health impacts as a result of trackout activities.

Summary of the Risk of Dust Effects

A summary of the risk from each dust generating activity is provided in Table 14.

Table 14 Summary of Potential Unmitigated Dust Risks

Potential Impact	Risk		
	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium
Human Health	Low	Low	Medium

As indicated in Table 14, the potential risk of dust soiling is **medium** from all activities. The potential risk of human health impacts is **medium** from trackout and **low** from earthworks and construction.

It should be noted that the potential for impacts depends significantly on the distance between the dust generating activity and receptor location. Risk was predicted based on a worst-case scenario of works being undertaken at the site boundary closest to each sensitive area. Therefore, actual risk is likely to be lower than that predicted during the majority of the construction phase.

5.2.3 Step 3

The IAQM guidance[15] provides potential mitigation measures to reduce impacts as a result of fugitive dust emissions during the construction phase. These have been adapted for the development site as summarised in Table 15. These may be reviewed prior to the

[15] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

commencement of construction works and incorporated into a Construction Environmental Management Plan (CEMP) or similar if required by the LA.

Table 15 Fugitive Dust Emission Mitigation Measures

Issue	Comment
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 • A Dust Management Plan (DMP) will be implemented as part of the proposals which includes measures to control other emissions
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 LA upon request • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book
Monitoring	• Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the LA upon request • Increase the frequency of site inspections when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
Site preparation	• 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 • Fully enclose site or specific operations where there is a high potential for dust production and they are 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 • Cover, seed or fence stockpiles to prevent wind whipping
Operating vehicle/machinery and sustainable travel	• Ensure all vehicles switch off engines when stationary - no idling vehicles • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable

Issue	Comment
Operations	• Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques • Ensure an adequate water supply on the site for effective dust suppression, using non-potable water where possible and appropriate • Use enclosed chutes and conveyors and covered skips • Minimise drop heights and use fine water sprays wherever appropriate • Ensure equipment is available to clean any dry spillages, and clean up spillages as soon as reasonably practicable using wet cleaning methods
Waste management	• Avoid bonfires or burning of waste materials
Construction	• Avoid scabbling (roughening of concrete surfaces) if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out
Trackout	• Use water-assisted dust sweeper on access and local roads, if required • Avoid dry sweeping of large areas • Ensure vehicles entering and leaving site are covered to prevent escape of materials • Implement a wheel washing system, if required • 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 10m from receptors where possible

5.2.4 Step 4

Assuming the relevant mitigation measures outlined in Table 15 are implemented, the residual impacts from all dust generating activities is predicted to be **not significant**, in accordance with the IAQM guidance[16].

5.3 Operational Phase Assessment

Any traffic movements associated with the proposals will generate exhaust emissions on the local and regional road networks. Information provided by Markides Associates Limited, the Transport Consultants for the project, indicated that the scheme is anticipated to produce 404 trips per day.

Based on the above information, the proposal is not predicted to result in an increase of LDV flows of more than 500 AADT. Additionally, the proposals do not include significant highway realignment or the introduction of a junction and there will not be a requirement for more than 100 HDV deliveries per day. As such, potential air quality impacts associated with operational phase road vehicle exhaust emissions are predicted to be **not significant**, in accordance with the IAQM screening criteria.

[16] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.

5.4 Interim Planning Guidance for $PM_{2.5}$

Interim Planning Guidance[17] on the consideration of the $PM_{2.5}$ targets identified in the Environment Act (2021) in planning decisions has been produced by DEFRA. This required evidence that the key sources of air pollution within a development have been identified and appropriate action to minimise emissions of $PM_{2.5}$ and its precursors as far as is reasonably practicable be provided in support of planning applications. To assist the process, two questions and associated considerations are provided. These are summarised in Table 16, along with the development response.

Table 16 Interim Planning Guidance Questions

Issue	Control Measure
How has exposure to $PM_{2.5}$ been considered when selecting the development site? • Site proximity to people (particularly large populations and/or vulnerable groups, e.g. schools, hospitals, care home, area of deprivation) and the impact of the development on these • Site proximity to pollution sources and the impact of these on users of the development • Exposure and emissions during both construction and in-use	The site is located in a predominantly residential setting. However, as outlined previously, the development will not represent a significant emission source The site is distanced from any major pollutant sources and is not located within an AQMA. As such, users of the development are unlikely to be exposed to any existing air quality issues As outlined in Table 15, a number of mitigation measures will be used throughout the construction phase in order to reduce fugitive dust emissions as far as practicable. This will control potential exposure at off-site locations
What actions and/or mitigations have been considered to reduce $PM_{2.5}$ exposure for development users and nearby receptors (houses, hospitals, schools etc.) and to reduce emissions of $PM_{2.5}$ and its precursors? • Site layout • The development's design • Technology used in the construction or installed for use in the development • Construction and future use of the development	The site is set back from Broadbridge Way. This will promote dispersion and dilution of vehicle related emissions prior to reaching the development A number of measures have been incorporated into the scheme to reduce emissions of $PM_{2.5}$ as follows: • Provision of 100% active Electric Vehicle (EV) provision • Air Source Heat Pumps (ASHPs) will be installed to minimise emissions from heating and hot water • Secure cycle storage will be provided In order to reduce emissions during the construction phase, a number of mitigation measures will be used to minimise dust generation from associated activities

[17] https://uk-air.defra.gov.uk/pm25targets/planning.

Based on the responses provided in Table 16 and the results of the assessment, as outlined in Sections 5.2 and 5.3, it is considered that the development has identified key sources of air pollution and taken appropriate action to minimise emissions of $PM_{2.5}$.

5.5 Air Quality and Emissions Mitigation Guidance for Sussex

5.5.1 Development Classification

The Sussex Air Quality Partnership has developed 'Air Quality and Emissions Mitigation Guidance for Sussex'[18] to improve air quality across Sussex and encourage emissions reductions to improve the environment and health of the population.

The guidance provides a methodology for determining the scale of a development and outlines the required air quality mitigation for the relevant banding. Review of the criteria indicated the proposals were classified as **major** as the number of dwellings to be provided is 10 or more.

Based on the development classification, an Air Quality Emissions Mitigation Assessment is required. This is summarised in the following Section.

5.5.2 Air Quality Emissions Mitigation Assessment

The guidance[19] sets out an Air Quality Emissions Mitigation Assessment methodology in order to assess the local emissions from a development and determine the appropriate level of mitigation required to help reduce the potential effect on health and/or the local environment.

The calculation uses the latest Emissions Factor Toolkit (EFT) v13.1 to calculate the amount of transport related pollutant emissions the development is likely to produce. The output is then multiplied by the Interdepartmental Group on Costs and Benefits damage costs for the key pollutants NO_x and $PM_{2.5}$, and finally multiplied by 5 to provide a five-year exposure cost value. This is the value of mitigation that is expected to be spent on measures to reduce the impact of the proposed development. This has been summarised in the following equation:

5 Year Exposure Cost Value = EFT Output × Damage Costs × 5

It should be noted that the calculation has been undertaken using the most recent damage costs released by DEFRA in March 2023[20].

The input data values used in the assessment are shown in Table 17.

Table 17 Emissions Assessment - Inputs

Data	Value
Daily Vehicle Movements Produced by Development	404
HDV Proportion (%)	1

[18] Air Quality and Emissions Mitigation Guidance for Sussex, Sussex Air Quality Partnership, 2021.
[19] Air Quality and Emissions Mitigation Guidance for Sussex, Sussex Air Quality Partnership, 2021.
[20] Air Quality Appraisal: Damage Cost Guidance, DEFRA, 2023.

Data	Value
Average Speed (km/h)	50
Average Trip Length (km)	10
Start Year	2027
End Year	2031
Price Base Year	2025
NO_x Damage Costs (£/tonne)[(a)]	9,603
$PM_{2.5}$ Damage Costs (£/tonne)[(a)]	67,627

Note: (a) Price Base Year 2025 Adjusted Urban Transport Medium costs.

The inputs from Table 17 along with emissions generated by the development for the first five years of operation were entered into DEFRA's 'Air Quality Appraisal - Damage Cost Toolkit'. Reference should be made to Appendix II for screenshots of the toolkit inputs and output. The following damage costs were calculated:

- NO_x Emissions Cost - £7,902;
- $PM_{2.5}$ Emissions Cost - £8,392; and
- Total Cost - £16,294.

5.5.3 Mitigation

As detailed above, the calculation determined the development should include mitigation measures to reduce air quality impacts associated with road traffic emissions equal to £31,926. A detailed breakdown of the proposed measures to be implemented are provided in the sections below. Where the measures detailed below are in excess of what is required by planning policy, associated mitigation costs have been detailed to offset the calculated damage cost.

5.5.3.1 Electric Vehicle Charging

The development must meet the standard mitigation set out within the Sussex Mitigation Guidance for EV standards as provided within West Sussex County Council's (WSCC) 'Guidance on Parking at New Developments'. For a development with an opening year of 2027, 58% of all parking spaces are required to be 'active' EV spaces, with the remaining 42% provided with 'passive' ducting.

The proposed development will provide 100% 'active' EV charging facilities for each of the 147 allocated parking spaces associated with the residential dwellings and apartment blocks. This will be provided through a combination of single and dual chargers attached to the dwellings and individual pillar chargers for spaces associated with the apartment blocks. Reference should be made to Figure 3 for the proposed parking layout plan.

The level of 'active' EV provision goes above and beyond what is required by policy. As such, associated costs have been calculated. The exact make and model of the chargers will be confirmed later, as such, an anticipated average cost of £700 per charger has been utilised. Full details can be confirmed through a suitably worded planning condition if required by the LA upon completion of the detailed design.

92 chargers will be provided to facilitate 'active' EV provision to the 147 allocated parking spaces at a cost of £62,300. The revised total, accounting for 58% of the provision being required by planning policy, is £25,900.

5.5.3.2 Hot Water & Heating Provision

The development must meet the standard mitigation set out within the Sussex Mitigation Guidance for hot water and heating provision such that all gas-fired boilers to meet a minimum standard of <40mgNOx/kWh. Consideration should be given to renewable sources of energy, such as ASHPs, as an alternative.

The heating and hot water strategy for the proposed development will utilise one ASHP per residential unit. As no combustion sources will be used within the scheme, the provision is considered to go above and beyond policy requirement by utilising zero emission technology. As such, associated costs have been calculated. The exact make and model of the ASHPs will be confirmed later, as such, an anticipated average cost of £4,700 per unit has been utilised. Full details can be confirmed through a suitably worded planning condition if required by the LA upon completion of the detailed design.

The total cost of the ASHPs for 92 residential units is £432,400.

5.5.3.3 Control of Dust Emissions

The development must meet the standard mitigation set out within the Sussex Mitigation Guidance for the control of dust emissions during construction by applying mitigation in accordance with the IAQM's 'Guidance on the Assessment of Dust from Demolition and Construction v2.2'.

A construction dust risk assessment has been undertaken within Section 5.2 of this report and suitable mitigation measures outlined in Table 15. Measures can be secured through a CEMP if required by the LA.

5.5.3.4 Cycle Storage Provision

There is no standard mitigation requirement for cycle provision as part of the Sussex Mitigation Guidance, however, it is a suggested additional measure to reduce reliance on private vehicle trips and increase the use of active transport.

The proposed development will provide 149 secure cycle parking spaces across the development in line with the WSCC standards. As the provision does not go above and beyond the required policy standards, no offsetting costs have been attributed.

5.5.3.5 Improved Access and Cycle Pathways

There is no standard mitigation requirement for improved cycle as part of the Sussex Mitigation Guidance, however, it is a suggested additional measure to reduce reliance on private vehicle trips and increase the use of active transport and connectivity to public transport.

The proposed development will include a pathway connecting to Old Wickhurst Lane to the main site access off of Sargent Way. Two additional access points will be provided, one on the northern site boundary with a crossing to the cycle pathway north of Broadbridge Way, Village Centre and Play Area / Green Space, and the second located to the northwestern corner of the scheme providing access to the Wickhurst Green Bus stops. It is also noted that the access via Old Wickhurst Lane connects the site to local retail and recreational facilities.

The improved access and additional footpaths are not required by planning policy, however, there is a clear benefit to improved cycle and pedestrian access to the local facilities, reducing reliance on private vehicle trips. As such, the anticipated cost of £15,000 has been attributed to the offsetting of the damage costs.

5.5.3.6 Summary

The proposed mitigation measures and associated costs identified for inclusion as part of the proposals in order to minimise air quality impacts associated with the development are presented within Table 18. The measures detailed below are in excess of what is required by planning policy.

Table 18 Mitigation Measures and Associated Costs

Mitigation Measure	Description	Units	Value (£)
Electric Vehicle (EV) Charging Points	One EV Charging Point will be provided per dwelling at a cost of £700 each. 42% provision above policy requirement	37	25,900
Improved and New Pedestrian Access	Improved pedestrian access off Sargent Way and a new pedestrian access to Broadbridge Way and Old Wickhurst Lane to encourage active transport and links to public transport. Associated cost of £15,000	1	15,000
Air Source Heat Pumps (ASHP)	Heating and hot water provision using zero emission ASHPs at £4,700 per unit	92	432,400
Total			£473,300

Table 18 demonstrates that the costs associated with the proposed mitigation, £473,300, largely exceeds the required damage costs, £16,294. It is noted that without the cost of the ASHPs, the combined offsetting costs attributed to the other measures exceeds the damage costs. Therefore, the proposed initiatives are considered to be sufficient to minimise air quality impacts at a development of this scale.

6.0 SUMMARY

This report has been prepared to support a planning application for a residential development on land at Wickhurst Green, Broadbridge Heath.

The proposals have the potential to cause air quality impacts as a result of fugitive dust emissions during construction and road vehicle exhaust emissions during operation. As such, an Air Quality Assessment was undertaken to determine baseline conditions and assess potential impacts as a result of the scheme.

During the construction phase of the development there is the potential for air quality impacts as a result of fugitive dust emissions from the site. These were assessed in accordance with the IAQM[21] methodology. Assuming good practice dust control measures are implemented, the residual significance of potential air quality impacts from dust generated by earthworks, construction and trackout activities was predicted to be **not significant**.

Potential impacts during the operational phase of the proposals may occur due to road traffic exhaust emissions associated with vehicles travelling to and from the site. These were assessed using the IAQM[22] methodology. Due to the low number of vehicle movements generated by the proposals, road traffic exhaust impacts were predicted to be **not significant**.

Potential emissions from the proposals were assessed in line with the requirements of the Air Quality and Emissions Mitigation Guidance for Sussex. This included completion of a damage costs assessment in order to determine the appropriate level of mitigation required for the scheme. A number of measures were subsequently identified for inclusion within the scheme in order to minimise air quality impacts.

Based on the assessment results, air quality factors are not considered a constraint to planning consent for the development.

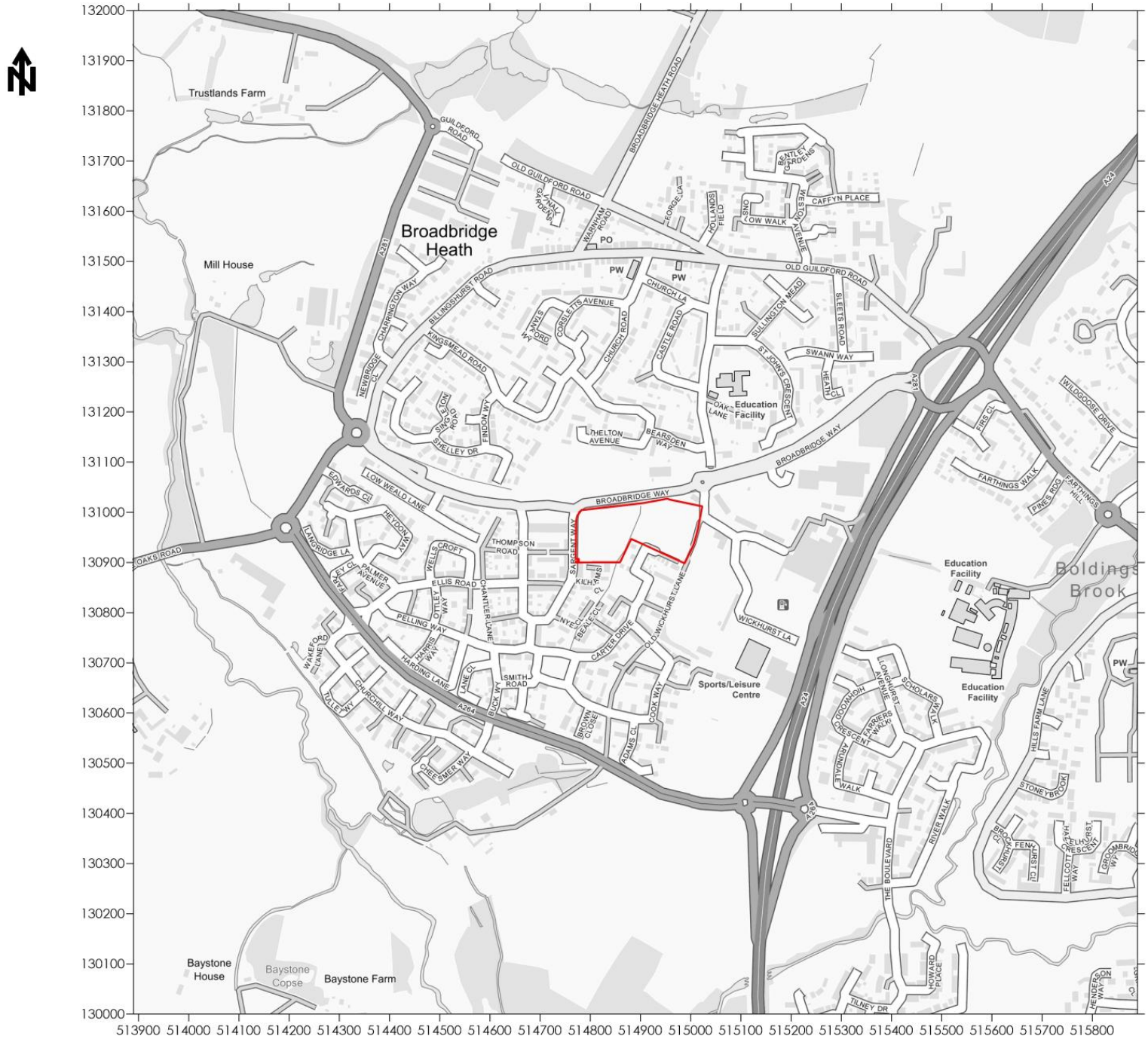
[21] Guidance on the Assessment of Dust from Demolition and Construction V2.2, IAQM, 2024.
[22] Land-Use Planning & Development Control: Planning for Air Quality, IAQM, 2017.

7.0 ABBREVIATIONS

AADT	Annual Average Daily Traffic
AQLV	Air Quality Limit Value
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQS	Air Quality Strategy
ASHP	Air Source Heat Pumps
DEFRA	Department for Environment, Food and Rural Affairs
DMP	Dust Management Plan
EFT	Emission Factor Toolkit
EV	Electric Vehicle
HDC	Horsham District Council
HDV	Heavy Duty Vehicle
IAQM	Institute of Air Quality Management
LA	Local Authority
LAQM	Local Air Quality Management
LDV	Light Duty Vehicle
NGR	National Grid Reference
NO_2	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10µm
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of less than 2.5µm

APPENDIX I

Drawings



Legend

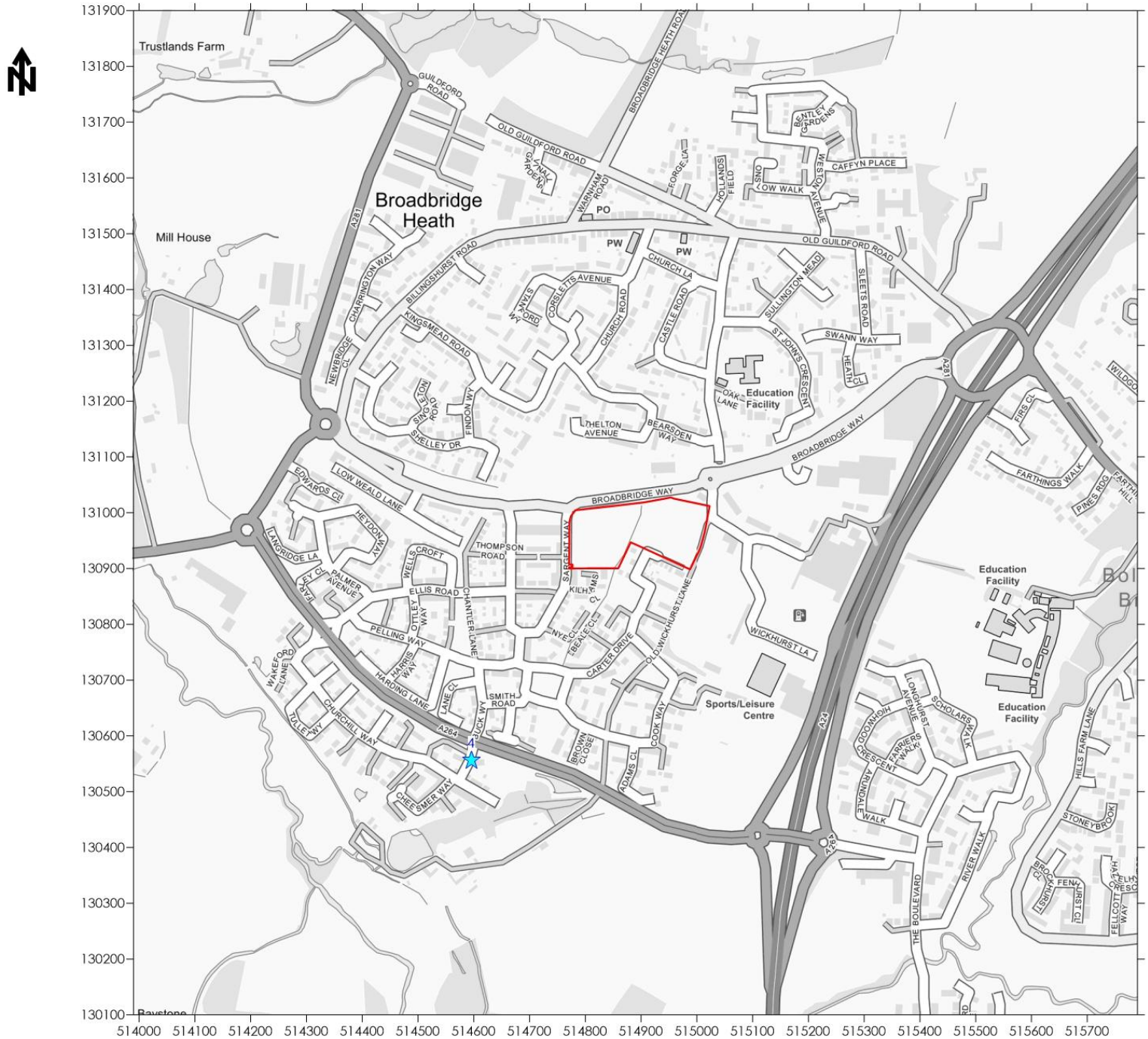
Site Boundary

Title

Figure 1 - Site Location

Project

Air Quality Assessment
Wickhurst Green, Broadbridge Heath



Legend

Site Boundary

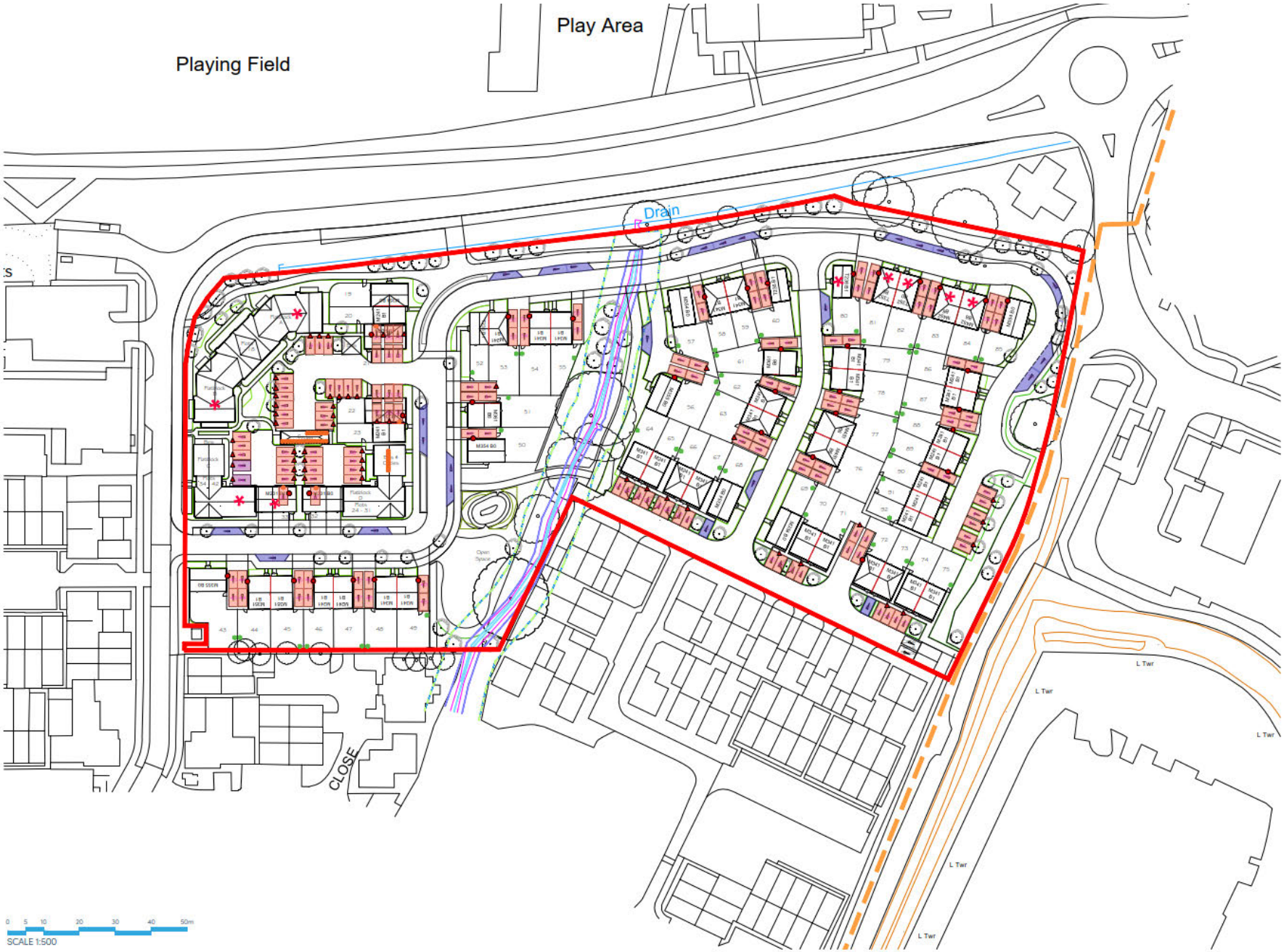
Monitor

Title

Figure 2 - Monitoring Locations

Project

Air Quality Assessment
Wickhurst Green, Broadbridge Heath



Site Boundary

Parking Allocation

Garage Spaces	0
Allocated Spaces	145
Allocated M4(3) Spaces	2
Visitor Spaces	24
Unallocated Spaces	0
Service Spaces	0
TOTAL	165

Electric Vechicle Charging

- "EVC" Point
- ON Plot - Active external socket
- OFF Plot - Active pedestal

Cycle Spaces

- Cycle Shed/Garages (2 spaces per symbol)
- Cycle Rack in Store

NOTE: Each single garage has capacity for 2 cycle spaces. Each double garage has capacity for 4 cycle spaces.

Rev	Date	Amendment	Initials
C	27-10-25	Updated to suit Site Layout Rev AD	CLP
B	08-09-25	Updated to suit Site Layout Rev AB	DSC
A	08-05-25	Updated to suit Site Layout Rev U	CH

Project:
WICKHURST GREEN
BROADBRIDGE HEATH

Client:
VISTRY MAJOR PROJECTS

Drawing:
PARKING LAYOUT PLAN

PLANNING ISSUE

Drawing no: 24.1945.2000 Rev: C

Scale@A1: 1:500 Date: MAR 25 Drawn: JC Checked: CH

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APPENDIX II

Damage Cost Assessment

Introduction

The below inserts provide screenshots of DEFRA's Damage Cost Appraisal Toolkit utilised to calculate the appropriate Damage Cost for the proposed development. Emissions presented in Insert II and Insert III were calculated using the latest Emission Factor Toolkit (v13.1) and the inputs provided within Table 17.

Insert I - Damage Cost Appraisal Inputs

Control Panel

Start Year	2027	Please type the year at which the policy will start from, the start year is also the discount year
End Year	2031	Please type the year at which the appraisal will end
Appraisal Period	5	Autofills the number of years for which the policy is reviewed for
Price Base Year	2025	Please type the price base year for your appraisal
Number of pollutants	2	Please type the number of pollutants to be assessed

Note: if you are assessing PM10 impacts, please convert these to PM2.5 using conversion factors found in the Assumptions sheet

Key assumptions:	Health discount rate	1.50% from appraisal year 0 to 30 1.29% from appraisal year 31 to 75 1.07% from appraisal year 76 to 125

Insert II - Damage Cost Appraisal NO_x Emissions Inputs and Calculated Costs

NOx Road Transport Urban Medium

Year	2027	2028	2029	2030	2031
Reduction in emissions (tonnes)	0.222357162	0.19325	0.16619	0.14169	0.120295
Central Damage Costs (£)	9603	9603	9603	9603	9603
Central Benefit (£)	2135	1856	1596	1361	1155
Discounted Central Benefit (£)	2135	1828	1549	1301	1088
Central Present Value	**£7,902**				

Insert III - Damage Cost Appraisal $PM_{2.5}$ Emissions Inputs and Calculated Costs

PM2.5 Road Transport Urban Medium

Year	2027	2028	2029	2030	2031
Reduction in emissions (tonnes)	0.02633	0.02589	0.02550	0.02516	0.02489
Central Damage Costs (£)	67627	67627	67627	67627	67627
Central Benefit (£)	1781	1751	1724	1701	1683
Discounted Central Benefit (£)	1781	1725	1674	1627	1586
Central Present Value	**£8,392**				

Insert IV - Damage Cost Appraisal Output

Outputs

Pollutant	Central Present Value
NOx Road Transport Urban Medium	£7,902
PM2.5 Road Transport Urban Medium	£8,392
	£16,294