

**Land West of London Road,
Handcross
Mid Sussex**

**Prepared for
Welbeck Strategic Land III Limited
by**

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ACRONYMS AND ABBREVIATIONS

ATC	Automated Traffic Count
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
CBC	Crawley Borough Council
DEV	Development generated traffic
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EFT	DEFRA Emissions Factor Toolkit
g/km/s	grams per kilometre per second
ha	Hectares - a unit of measure equal to 2.471 acres or 10,000 m ³
HGV	Heavy Goods Vehicle
IAQM	Institute of Air Quality Managements
MCC	Manual Classified Traffic Count
MSDC	Mid Sussex District Council
ms ⁻¹	wind speed in meters per second
NAQO	National Air Quality Objectives (2002)
NSCA	National Society for Clean Air
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NTM	National Transport Model
NWP	Numerical Weather Prediction
PM ₁₀	Particulate matter with an aerodynamic diameter less than 10 microns
PM _{2.5}	Particulate matter with an aerodynamic diameter less than 2.5 microns
SMA	Stuart Michael Associates Limited
TEMPRO	Trip End Model Presentation Program
Webtris	National Highways road traffic data
µgm ⁻³	Micrograms per cubic meter

1.0 INTRODUCTION

- 1.1 Stuart Michael Associates (SMA), Consulting Engineers, has been appointed by Welbeck Strategic Land III Limited (the Applicants) to undertake an Air Quality Assessment for the proposed development on Land West of London Road, Handcross, Mid Sussex (refer to **Figure 1.1** for the site location). The development site is situated within the area administered by Mid Sussex District Council (MSDC). Handcross is to south of Crawley which is within the administrative area of Crawley Borough Council (CBC).



Figure 1.1: Site Location Plan

- 1.2 This report has been produced in support of a full Planning Application for up to 55 residential dwellings on Land to the West of London Road, Handcross. Refer to **Appendix 1** for a copy of the Illustrative Site Layout (PL-03) - which this assessment has been based.

Site Description

- 1.3 The development site is located on the northern edge of Handcross.



- 1.4 The A23 is a short distance (40 metres) to the west of the Site and London Road bounds the site to the east. There are existing residential dwellings to the south and a single dwelling (Hyde Lodge) to the northeast.
- 1.5 The Site consists of a parcel of land with well-established hedgerows and trees on the western, southern and eastern boundaries. The site is currently laid to rough pasture.

Assessment Methodology

- 1.6 This report addresses the effects of air pollutant emissions from road traffic using the adjacent roads and the way they impact the site and surrounding area. A 'worst case' future scenario has been assessed which includes cumulative local development. Development generated traffic has the potential to impact on Crawley due to the Sites location, therefore monitoring data from CBC has been used in this assessment.
- 1.7 Also considered are the emissions associated with the construction of the proposed development.
- 1.8 The report has been split into two parts; the first part assesses the impact of the development on surrounding sensitive receptors and the second part assesses the constraints on the development (i.e. how the existing environment will impact on the development).
- 1.9 Road traffic flows on the local highway network have been obtained from surveys undertaken by the Transport Consultants (i-Transport), the Department for Transport (DfT) permanent traffic count network¹ and publicly available data. Where necessary, the surveyed traffic flows have been growthed to the assessment years using TEMPRO and adjusted using the NTM.
- 1.10 The dispersion modelling software ADMS² Roads has been used to determine the concentrations of pollutants at the development site and assess the likely changes in the concentrations of pollutants. Background concentrations of pollutants have been obtained from the Department for Environment Food and Rural Affairs (DEFRA)³ website.
- 1.11 Construction dust impacts on local receptors have been assessed using the method detailed in the Institute of Air Quality Management (IAQM) publication

¹ Department for Transport: <https://roadtraffic.dft.gov.uk/#6/55.254/-4.340/basemap-regions-countpoints>

² Atmospheric Dispersion Modelling Software (ADMS); Developed by Cambridge Environmental Research Consultants (CERC)

³ Department for Environment Food and Rural Affairs (DEFRA) website: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/background-maps/>



"Guidance on the assessment of dust from demolition and construction" (2024) v2.2⁴.

- 1.12 The principles in the IAQM document Land Use Planning & Development Control: Planning for Air Quality January 2017⁵ have also been considered and followed.

Report Outline

- 1.13 The report assesses the overall levels of oxides of nitrogen (NO_x), nitrogen dioxide (NO₂) and particulate matter with an aerodynamic diameter of less than 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}) within the development site and at sensitive receptor locations. The base year for the assessment is 2026 and the future year of assessment is 2029, which is three years after submission and the predicted year of completion. Verification has been undertaken for 2019.

⁴ Electronic version available here: <https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

⁵ Electronic copy available here: https://www.environmental-protection.org.uk/wp-content/uploads/2013/07/air-quality-planning-guidance_Jan17.pdf



2.0 LEGISLATION AND PLANNING POLICY CONTEXT

Introduction

- 2.1 Poor air quality is the largest environmental risk to public health. Over recent years, UK air quality has improved significantly because of concerted action. Total UK emissions of nitrogen oxides (NO_x) have fallen by 79% since 1970. There has not been much change since 2020 due to the Covid-19 restriction which continued to reduce traffic on many roads in early 2021. Between 1990 and 2023 there was an average reduction of 5% which demonstrates that there is a downward trend in NO_x emissions in the UK⁶.
- 2.2 In the UK, emissions from domestic transport account for a substantial proportion of national air pollutant emissions. Domestic transport accounted for 29% of national carbon dioxide (CO₂) emissions in 2023. *“Domestic transport emissions fell by 1% between 2022 and 2023, largely due to reductions in road vehicle diesel use, and despite a rise in emissions from road vehicle petrol use. This is the first-time domestic transport emissions have fallen since 2020 when travel was heavily restricted due to the COVID-19 pandemic. Emissions from domestic transport remain 10% lower than in 2019, the last pre-pandemic year”⁷*. Emissions from road transport of nitrogen dioxide (NO₂) and particulate matter smaller than 10µm in diameter (PM₁₀) have also continued to fall over the same period⁸.
- 2.3 Total pollutant emissions from cars peaked in 1990/91 and declined to 2009. “Average CO₂ emissions from cars registered for the first time were steadily falling since 2003, but began to rise from mid-2016 through to 2019.”⁹ Average CO₂ emissions for new car registrations has decreased overall between Q4 (October to December) 2018 and Q4 (October to December) 2022 as shown by figure 3. The DVLA attributes the decrease in emissions mainly to the increase in newly registered electric and plug-in hybrid vehicles¹⁰.
- 2.4 Private car ownership has grown from 24.4 million in 2000 to 38.7 million at the end of 2019. At the end of December 2023, there were 41.2 million licensed vehicles in the UK, which was a 1.0% increase compared to the end of December 2022.

⁶ DEFRA National Statistics Release: Emissions of air pollutants in the UK, 1970 to 2023 – Statistical Release: Updated 13th February 2025

⁷ 2023 UK Greenhouse Gas Emissions, Final Figures – Released 6th February 2025

⁸ Department for Transport (DfT), Transport and environment statistics: 2023 – Published 19th October 2023

⁹ Department for Transport (DfT), Vehicle licensing Statistics: Annual 2019 – Published 30th April 2020

¹⁰ Driver & Vehicle Licensing Agency Annual Report & Accounts 2022 23 – Printed on 18th July 2023



- 2.5 Of the licensed vehicles using the highway network, cars accounted for 81.6%, motorcycles 3.3%, light goods vehicles (<3.5t) 11.4%, HGV's (>3.5t) 1.3%, Bus's and Coaches 0.3%, and "other vehicles" 2.0% of all motor vehicle traffic at the end of 2023¹¹.
- 2.6 The percentage of different fuel type usage for road using private cars has significantly changed since the mid - 1990s. At the end of 2023 there were 8.9 million diesel cars, accounting for 32.1% of the total, up from 7.3% in 1997 but down from a peak of 37.5% in 2017 and 2018. Alternative fuel vehicles which include gas, electricity, or a combination such as gas bi-fuel and hybrid electric were up to 2.78 million by the end of 2023.¹²
- 2.7 At the end of December 2023, there were 1.07 million licensed Ultra-Low Emission Vehicles (ULEVs) in the UK. This was an increase of 38% compared to the end of 2022, when there were 0.776 million.
- 2.8 During 2023, 487,000 new ULEVs were registered for the first time, which is a 24% increase when compared with the previous year¹³.

National Air Quality Strategy

- 2.9 In 1997 the United Kingdom National Air Quality Strategy (NAQS) was published and for the first time. The document set out an analysis of the magnitude and potential health and environmental problems associated with, amongst other things, air pollutant emissions resulting from road traffic.
- 2.10 It proposed a schedule of air quality objectives which were to be met in the years up to 2005. In setting these objectives, health and socio-economic cost-benefit factors were considered, together with the practical and pragmatic aspects of whether targets would be achievable. Whilst it was identified in the NAQS that the objectives for benzene, 1,3-butadiene, lead (Pb) and carbon monoxide (CO) could be achieved as a result of improvement measures already put in place, complying with targets for NO₂ and PM₁₀ would be more difficult.
- 2.11 Considering the additional measures that would have to be introduced to counter these apparent shortfalls, the Government voiced the following thought:

¹¹ DfT Statistics - Vehicle Licensing Statistics: Annual 2023

¹² VEH1103: Licensed vehicles at the end of the quarter by body type and fuel type: Great Britain and United Kingdom – Last updated 24th September 2024

¹³ Ultra low emission vehicles (ULEVs) [note 1] registered for the first time by body type [note 2] and fuel type, Great Britain and United Kingdom from January 2010 - Last updated 24th September 2024



“Changes in planning and transport policies (are needed) which would reduce the need to travel and reliance on the car”. Regarding the necessity for encouraging a shift away from private car usage, the Strategy commented, in terms of the new package approach to transport funding:

“As a general rule, traffic demand management and restraint measures should be included and this, together with proposals to promote and enhance other modes of transport, should aim to achieve modal shifts away from the private car.”

- 2.12 The Environment Act 1995 sections 82-84 requires that Local Authorities carry out reviews of air quality within their administrative areas and, where it is assessed that the air quality objectives may not be complied with in the future, an Air Quality Management Area (AQMA) must be declared. The Local Authority must then formulate an Action Plan, setting out the measures that will be employed to achieve compliance with the objectives.
- 2.13 A review of the UK Air Quality Strategy was undertaken in 1998 and a consultation document was published in January 1999 which outlined proposals for amending the Strategy. In August 1999, in response to the consultation, the Government then published a draft Air Quality Strategy for England, Scotland, Wales and Northern Ireland. The Air Quality Regulations (England) 2000 were enacted in April 2000, and the Air Quality (England) (Amendment) Regulations 2002 gives legal force to the air quality standards set out in the Strategy. A new strategy was released in July 2007 with various amendments to the air quality objectives. The proposals, in brief, consisted of recommendations to adopt the provisions of the EU Air Quality Daughter Directives. The National Air Quality Objectives (NAQO's) included in the Regulations are set out in **Appendix 2**.
- 2.14 Given the significant influence that motor vehicle exhausts exert on air quality in the UK and the apparent links between elevated levels of certain air pollutants and premature mortality, current and emerging Government policy is geared towards several essential objectives, which are:
- continued action to reduce pollutant emissions from vehicles across the EU, which can be exemplified by the plethora of Directives concerning limitation of motor vehicle emissions since the 1970's and specific targeted initiatives such as the Auto-Oil Study programme;



- concerted action at a National level to reduce private car trips in urban and inter-urban uses and encourage use of alternative forms of transportation;
- action at a local level to manage transportation and air quality in order to reduce the number of car trips in urban areas specifically and to aim for compliance with the NAQS by the appointed dates; and
- to ensure that Local Authorities in the execution of their development control responsibilities take account of the consequent air quality impacts.

2.15 It is evident that continued growth in private car ownership and usage will result in further deterioration of air quality in urban areas and increasing emissions of greenhouse gases. Whilst current technological improvements will extend the reduction in emissions, additional measures will be required in order to prevent re-growth of emissions, both to meet ambient air quality targets in urban areas and to offer an alternative to the car for urban journeys. Consequently, where new development can be in close proximity to public transport and local services, a contribution to the UK's target of reducing emissions will have been made.

2.16 Levels of lead (Pb) and sulphur dioxide (SO₂) are also controlled by the NAQO. Lead levels have reduced significantly since its reduced use as a fuel additive, and the abolition of four-star petrol in January 2000 means that the amount of Pb in petrol is reduced to a negligible level. SO₂ is predominantly associated with emissions from industrial processes and when assessing the effects of traffic, neither SO₂ nor Pb need be assessed.

National Planning Policy Framework

2.17 Paragraphs 199 to 201 of the NPPF (NPPF – December 2024) are considered relevant to this assessment:

“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.

200. Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed.

201. The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.”.

Planning Practice Guidance (PPG)

- 2.18 The Planning Practice Guidance (PPG) provides guidance on the policy governing Environmental Impact Assessment of air quality and the process by which Environmental Impact Assessment is carried out. The PPG states:

“The 2008 Ambient Air Quality Directive sets legally binding limits for concentrations in outdoor air of major air pollutants that affect public health....”

Additional Guidance

- 2.19 The Local Air Quality Management Technical Guidance LAQM.TG(22) (May 2025) is designed to support local authorities in carrying out their duties under the Environment Act 1995. These duties require local authorities to periodically review and assess air quality in their area.
- 2.20 The Air Quality Strategy for England (AQS, 2023) sets out air quality objectives and policy options to further improve air quality in the UK. It provides options which are intended to provide important benefits to UK Air Quality.
- 2.21 The effects of dust generation from construction will be assessed at the detailed AQA in accordance with the methodology presented in the Institute of Air Quality



Management (IAQM) publication “*Guidance on the assessment of dust from demolition and construction*” (2024).

Local Council Policy: Mid Sussex District Council

- 2.22 Current local policy for Handcross is presented in the adopted District Plan (adopted March 2018) which covers the period up to 2031. At the time of undertaking the air quality assessment, the District Plan was under review and was submitted for Examination on 8th July 2024. Within the adopted District Plan Policy DP29 specifically relates to air quality. For ease of reference, the Policy is reproduced below.

DP29: Noise, Air and Light Pollution

“Strategic Objectives: 3) To protect valued landscapes for their visual, historical and biodiversity qualities; and 12) To support sustainable communities which are safe, healthy and inclusive.

Evidence Base: Data held by Environmental Health, Air Quality Action Plan – Stonepound Crossroads, Hassocks.

The environment, including nationally designated environmental sites, nationally protected landscapes, areas of nature conservation or geological interest, wildlife habitats, and the quality of people’s life will be protected from unacceptable levels of noise, light and air pollution by only permitting development where:

Noise pollution:

- It is designed, located and controlled to minimise the impact of noise on health and quality of life, neighbouring properties and the surrounding area;*
- If it is likely to generate significant levels of noise it incorporates appropriate noise attenuation measures;*

Noise sensitive development, such as residential, will not be permitted in close proximity to existing or proposed development generating high levels of noise unless adequate sound insulation measures, as supported by a noise assessment are incorporated within the development.

In appropriate circumstances, the applicant will be required to provide:

- an assessment of the impact of noise generated by a proposed development;*
or
- an assessment of the effect of noise by an existing noise source upon a proposed development;*



Light pollution:

- *The impact on local amenity, intrinsically dark landscapes and nature conservation areas of artificial lighting proposals (including floodlighting) is minimised, in terms of intensity and number of fittings;*
- *The applicant can demonstrate good design including fittings to restrict emissions from proposed lighting schemes;*

Air Pollution:

- *It does not cause unacceptable levels of air pollution;*
- *Development on land adjacent to an existing use which generates air pollution or odour would not cause any adverse effects on the proposed development or can be mitigated to reduce exposure to poor air quality to recognised and acceptable levels;*
- *Development proposals (where appropriate) are consistent with Air Quality Management Plans.*

The degree of the impact of noise and light pollution from new development or change of use is likely to be greater in rural locations, especially where it is in or close to specially designated areas and sites."



3.0 METHODOLOGY AND ASSESSMENT CRITERIA

Assessment of the Prevailing Air Quality

3.1 This section summarises the methodology used to consider whether there are “Significant” air pollution impacts on sensitive receptors or constraints on development. To determine the extent to which air quality issues will affect the sensitive receptors, the study has considered the following:

- Any air quality measurements carried out in BBC administrative area (which are in the public domain);
- The Review and Assessment of air quality carried out by BBC for the area, as submitted to the Department for the Environment, Food and Rural Affairs (DEFRA);
- Predictions of air pollutant concentrations adjacent to the site utilising the ADMS Roads dispersion modelling program.

Assessment Criteria

3.2 The NAQO levels are derived from air quality standards set to protect health. The objectives address social and economic factors as well as the health standards.

3.3 For the purposes of this development proposal, the NAQO will form the basis of the air quality assessment. The NAQO levels are based on an assessment of the effects of each pollutant on public health. Therefore, they are a good indicator in assessing whether the air quality in the vicinity of a road is likely to be detrimental to human health.

3.4 The effects of dust generation from construction have been undertaken following the methodology presented in the Institute of Air Quality Management (IAQM) publication “*Guidance on the assessment of dust from demolition and construction*” (2024).

3.5 In determining whether air pollutant levels may constrain development, the results of the study have been compared against the acceptability criteria.

Impact Magnitude and Impact Descriptors (Significance) – Air Quality Assessments

Construction Phase

3.6 During the construction phase, there will be several activities undertaken that have the potential to generate and / or re-suspend dust, PM₁₀ and PM_{2.5}. At the time of assessment, the exact activities to be undertaken during construction are unknown. However, to evaluate the magnitude and extent of potential adverse



impacts likely to result from the proposed development, the following construction activities have been assumed:

- storage of materials;
- laying of hard surfaces;
- construction of buildings; and
- vehicle movements to and from the Site.

3.7 The magnitude of the potential impacts of a construction site on air quality is mainly determined by its size, the range of activities undertaken across the site, proximity to sensitive receptors, complexity of terrain and any barriers between sources and receptors.

3.8 A qualitative assessment of the potential impacts during construction has been undertaken using information in guidance documents produced by IAQM.

3.9 According to this guidance, a human receptor refers to “any location where a person or property may experience the adverse effects of airborne dust or dust soiling, or exposure to PM over a time period relevant to the air quality objectives, as defined in the Government’s technical guidance for Local Air Quality Management”. In terms of annoyance effects, this will most commonly relate to residential dwellings and schools.

3.10 Activities on construction sites can be divided into four types to reflect their different potential impacts, with the potential for dust emissions to be assessed only for each activity taking place:

- Site Preparation;
- Earthworks;
- Construction; and
- Trackout.

3.11 The assessment methodology considers three separate effects:

- annoyance due to dust soiling;
- harm to ecological receptors due to very high levels of soiling; and
- the risk of health effects due to a significant increase in exposure to PM₁₀ (including PM_{2.5}).

3.12 Account is also to be taken of the distance of the receptors that may experience these effects. The assessment procedure assumes no mitigation measures are applied except those required by legislation.



3.13 The potential dust emission magnitude for the proposed Site is determined for the four construction activities using the criteria presented in IAQM guidelines. The magnitude is based on the scale of the anticipated works and classified as “Small”, “Medium” or “Large”. Example definitions are presented in **Table 3.1**.

Table 3.1: Example definitions for Potential Dust Emission Magnitude

Phase of Construction	Demolition	Earthworks	Construction	Trackout
Magnitude				
Large	Total building volume >75,000m ³ , potentially dusty construction material (e.g. concrete), on-site crushing and screening, demolition activities >12m above ground level;	Total site area >110,000 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 >6m in height	Total building volume >75,000 m ³ , on site concrete batching, sandblasting	>50 HDV (>3.5t) outward movements ^a in any one day, 10 potentially dusty surface material (e.g. high clay content), unpaved road length >100 m
Medium	Total building volume 12,000 m ³ – 75,000 m ³ , potentially dusty construction material, demolition activities 6-12m above ground level	Total site area 18,000 m ² – 110,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 3m - 6m in height	Total building volume 12,000 m ³ – 75,000 m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching	20-50 HDV (>3.5t) outward movements ^a in any one day, 10 moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m
Small	Total building volume <12,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <6m above ground, demolition during wetter months	Total site area <18,000 m ² , 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 building volume <12,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber)	<20 HDV (>3.5t) outward movements ^a in any one day, 10 surface material with low potential for dust release, unpaved road length <50 m

^a A vehicle movement is a one way journey. i.e. from A to B, and excludes the return journey.

3.14 The sensitivity of the area takes account of several factors: the specific sensitivities of receptors in the area; the proximity and number of those receptors; in the case of PM₁₀, the local background concentration; and site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust. The sensitivities of people to dust soiling effects are presented in **Table 3.2** and **Table 3.3** for the sensitivities of people to the health Effects of PM₁₀. Sensitivities of receptors to ecologic effects are presented in **Table 3.4**.



Table 3.2: Sensitivities of People to Dust Soiling Effects

Sensitivity	Criteria
High	• users can reasonably expect enjoyment of a high level of amenity; or • the appearance, aesthetics or value of their property would be diminished by soiling; and • the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land. • indicative examples include dwellings, museums and other culturally important collections, medium and long term car parks and car showrooms.
Medium	• users would expect¹ to enjoy a reasonable level of amenity, but would not reasonably expect¹ to enjoy the same level of amenity as in their home; or • the appearance, aesthetics or value of their property could be diminished by soiling; or • the people or property wouldn't reasonably be expected¹ to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land. • indicative examples include parks and places of work.
Low	• the enjoyment of amenity would not reasonably be Expected¹; or • property would not reasonably be expected¹ to be diminished in appearance, aesthetics or value by soiling; or • there is transient exposure, where the people or property would reasonably be expected¹ to be present only for limited periods of time as part of the normal pattern of use of the land. • indicative examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short term car parks² and roads.
¹ People's expectations will vary depending on the existing dust deposition in the area	
² Car parks can have a range of sensitivities depending on the duration and frequency that people would be expected to park their cars there, and the level of amenity they could reasonably expect whilst doing so. Car parks associated with work place or residential parking might have a high level of sensitivity compared to car parks used less frequently and for shorter durations, such as those associated with shopping. Cases should be examined on their own merits	



Table 3.3: Sensitivities of People to the Health Effects of PM₁₀

Sensitivity	Criteria
High	- locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).¹ - indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.
Medium	- locations where the people exposed are workers², and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day). - indicative examples include office and shop workers, but will generally not include workers occupationally exposed to PM₁₀, as protection is covered by Health and Safety at Work legislation.
Low	- locations where human exposure is transient³ - indicative examples include public footpaths, playing fields, parks and shopping streets.
¹ This follows Defra guidance as set out in LAQM.TG(22).	
² Notwithstanding the fact that the air quality objectives and limit values do not apply to people in the workplace, such people can be affected to exposure of PM ₁₀ . However, they are considered to be less sensitive than the general public as a whole because those most sensitive to the effects of air pollution, such as young children are not normally workers. For this reason workers have been included in the medium sensitivity category.	
³ There are no standards that apply to short-term exposure, e.g. one or two hours, but there is still a risk of health impacts, albeit less certain	

Table 3.4: Sensitivities of Receptors to Ecological Effects

Sensitivity	Criteria
High	- locations with an international or national designation and the designated features may be affected by dust soiling; or - locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain.¹ - Indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
Medium	- locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or - locations with a national designation where the features may be affected by dust deposition. - Indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.
Low	- locations with a local designation where the features may be affected by dust deposition. - Indicative example is a local Nature Reserve with dust sensitive features.
¹ Cheffing C. M. & Farrell L. (Editors) (2005), The Vascular Plant. Red Data List for Great Britain, Joint Nature Conservation Committee.	

3.15 The “Sensitivity of an Area” to dust soiling effects on people and property is determined by using the criteria presented in **Table 3.5**. The “Sensitivity of an



Area” to human health impacts is presented in **Table 3.6**. The “Sensitivity of an Area” and to ecological impacts is presented in **Table 3.7**.

- 3.16 It is also prudent to consider any history of dust generating activities in the area, the likelihood of concurrent dust generating activity on nearby sites, any pre-existing screening between the source and the receptors, any conclusions drawn from analysing local meteorological data which accurately represent the area, and if relevant the season during which the works will take place, any conclusions drawn from local topography, duration of the potential impact, as a receptor may become more sensitive over time; and any known specific receptor sensitivities which go beyond the classifications given in this document.

Table 3.5: Sensitivity of the area to dust soiling effects on people and property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
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 3.6: Sensitivity of the area to human health impacts

Receptor Sensitivity	Annual Mean PM ₁₀ conc.	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32 μgm^{-3} (>18 μgm^{-3} in Scotland)	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 μgm^{-3} (16-18 μgm^{-3} in Scotland)	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 μgm^{-3} (14-16 μgm^{-3} in Scotland)	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 μgm^{-3} (<14 μgm^{-3} in Scotland)	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32 μgm^{-3} (>18 μgm^{-3} in Scotland)	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32 μgm^{-3} (16-18 μgm^{-3} in Scotland)	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28 μgm^{-3} (14-16 μgm^{-3} in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24 μgm^{-3} (<14 μgm^{-3} in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	>=1	Low	Low	Low	Low	Low

Table 3.7: Sensitivity of the area to ecological impacts

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

3.17 Once the potential dust emissions magnitude and the sensitivity of the area have been determined the results can be combined to define the risks of impact using the criteria in **Table 3.8**, **Table 3.9** and **Table 3.10**.



Table 3.8: Risk of Dust Impacts – Demolition

Sensitivity of Area	Dust Emission Magnitude		
	<i>Large</i>	<i>Medium</i>	<i>Small</i>
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table 3.9: Risk of Dust Impacts – Earthworks and Construction

Sensitivity of Area	Dust Emission Magnitude		
	<i>Large</i>	<i>Medium</i>	<i>Small</i>
High	High Risk	Medium Risk	Medium Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table 3.10: Risk of Dust Impacts – Trackout

Sensitivity of Area	Dust Emission Magnitude		
	<i>Large</i>	<i>Medium</i>	<i>Small</i>
High	High Risk	Medium Risk	Medium Risk
Medium	Medium Risk	Low Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

- 3.18 The proposed development's site-specific results and significance of the above tables are discussed in Section 5 of this Report.

Operational Phase

- 3.19 The impact of local traffic growth, development generated traffic and other potential sources of air pollution have been assessed for the magnitude of change and for the extent to which change in air quality from existing to future levels would be significant.
- 3.20 Descriptors for the magnitude of change in annual mean concentrations of NO₂ and PM₁₀ and the number of days with PM₁₀ concentrations greater than 50 µgm⁻³ are presented in **Table 3.11**.



Table 3.11: Descriptors for the magnitude in changes in annual mean concentrations of NO₂ and PM₁₀ and the number of days with PM₁₀ concentrations greater than 50 µgm⁻³

Magnitude of Change	Annual Mean NO₂/PM₁₀	Days PM₁₀ >50 µgm⁻³
Large	Increase/decrease >4 µgm ⁻³	Increase/decrease >4 days
Medium	Increase/decrease 2 - 4 µgm ⁻³	Increase/decrease 2 - 4 days
Small	Increase/decrease 0.4 - 2 µgm ⁻³	Increase/decrease 1 - 2 days
Imperceptible	Increase/decrease <0.4 µgm ⁻³	Increase/decrease <1 day

3.21 Following on from the determination of the magnitudes of the impact of change of NO₂ and PM₁₀ levels, the assessment of the significance of the impact with reference to the NAQO Levels can be undertaken. Descriptors of the changes to annual mean concentrations of NO₂ and PM₁₀ and the number of days with PM₁₀ concentrations greater than 50 µgm⁻³ are presented in **Table 3.12**.

Table 3.12: Impact descriptors for changes to annual mean concentrations of NO₂ and PM₁₀ and the number of days with PM₁₀ concentrations greater than 50 µgm⁻³

<i>Absolute Concentration in Relation to Objective/Limit Value</i>	Change in Concentration /Number of Days		
	<i>Small</i>	<i>Medium</i>	<i>Large</i>
Increase with Scheme			
Above Objective/Limit Value with Scheme (>40 µgm ⁻³ />35 days)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value with Scheme (36-40 µgm ⁻³ />32-35 days)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value with Scheme (30-36 µgm ⁻³ />26-32 days)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value with Scheme (<30 µgm ⁻³ /<26 days)	Negligible	Negligible	Slight Adverse
Decrease with Scheme			
Above Objective/Limit Value Without Scheme (>40 µgm ⁻³ />35 days)	Slight Beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value Without Scheme (36-40 µgm ⁻³ />32-35 days)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value Without Scheme (30-36 µgm ⁻³ />26-32 days)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value Without Scheme (<30 µgm ⁻³ /<26 days)	Negligible	Negligible	Slight Beneficial
Note – an “Imperceptible” change would be described as “Negligible”			



- 3.22 Detailed in Table 3.11 and Table 3.12 are the magnitude and “Significance” of changes in NO₂ and PM₁₀ levels. The tables have been extracted from the Environmental Protection UK (formerly National Society for Clean Air (NSCA)) publication “*Development Control: Planning for Air Quality (2010 Update)* – Table 5 and Appendix 3”.
- 3.23 The updated IAQM guidance¹⁴ includes an abbreviated version of Table 3.11 and Table 3.12 and replaces numerical change / concentration with percentage change in concentrations which can be applied to NO₂, PM₁₀ and the number of days with PM₁₀ concentrations greater than 50 µgm⁻³ and PM_{2.5}. A copy of IAQM Table 6.3 is presented below.

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

Traffic Data

Road Traffic

- 3.24 The future concentrations of NO_x, NO₂ and PM₁₀ at the locations of the CBC and MSDC diffusion tubes and a selection of local sensitive receptors have been predicted using the ADMS Roads dispersion model based on forecast traffic flows for the local road network.
- 3.25 Two “Base” (Do Nothing) and one “Future” (Do Something) scenarios have been assessed along with a 2019 scenario for the verification of the model. The base scenarios are 2026 and 2029, and the future scenario is 2029 + Development. The future scenario includes cumulative local development generated traffic.

¹⁴ Land-Use Planning & Development Control: Planning for Air Quality January 2017 (v1.2)
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- 3.26 Road traffic data and development generated traffic has been provided by the Transport Consultants via ATC and MCC, the Webtris and DfT websites.
- 3.27 Where 24hr AADT flows were not available, existing traffic proportions on the highway network have been used to growth the available traffic data.
- 3.28 The “Base” scenario vehicle flows on the local highway network used in the assessment are detailed in **Table 3.13**. The traffic flows on the broader highway network are presented in **Appendix 3**.

Table 3.13: AADT Traffic flow data (no development generated traffic) 2026

Link Ref.	Description	LGV + Cars	HGV + Buses
1	A23 Off-slip	963	25
2	B2114 Brighton Road (N)	3052	50
3	B2114 Brighton Road (S)	3921	67
4	B2114 London Road (S)	871	0
5	Hoadlands (No Entry from London Road)	1765	19
6	B2114 London Road (N)	1591	19
7	B2114 London Road (S)	4155	33
8	Hoadlands	5106	78
9	B2114 London Road (N)	4160	59
10	B2114 London Road (N)	5260	93
11	High Beeches Lane	2421	53
12	B2110 High Street	3768	74
13	B2110 High Street	5251	108
14	B2114 Cuckfield Road	2482	37
15	Horsham Road (E)	3692	71
16	B2110 (A23 On/Off-Slip)	2345	78

- 3.29 The local highway network has been modelled as distinctive links where vehicle speeds change, road width change, and at junctions. Also included are changes in vehicle speed due to pedestrian crossings and traffic lights.

Background Concentrations of Air Pollutants

- 3.30 Background concentrations of air pollutants for the dispersion modelling were obtained from the UK National Air Quality Information Archive (DEFRA website), in accordance with Local Air Quality Management Technical Guidance TG(22). Data sets for 2021 (background maps for years 2021 – 2040) have been published by DEFRA. Identified in **Table 3.14** are the background concentrations of NO_x, NO₂, PM₁₀ and PM_{2.5} for the years 2026 and 2029 adjacent to the



Development Site. Presented in **Appendix 4** are the background concentrations for the wider assessment area.

Table 3.14: Background pollutant concentrations for 2026 and 2029

Grid Reference		2026				2029			
<i>Easting</i>	<i>Northing</i>	<i>NO_x</i>	<i>NO₂</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>	<i>NO_x</i>	<i>NO₂</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>
526500	131500	9.9	7.7	9.7	5.9	8.8	6.9	9.5	5.7
526500	130500	10.5	8.2	10.3	6.0	9.3	7.3	10.1	5.8
527500	130500	9.7	7.6	9.6	5.9	8.6	6.8	9.4	5.7
525500	129500	9.5	7.4	10.0	5.9	8.6	6.7	9.7	5.7
526500	129500	11.2	8.7	10.8	6.1	9.7	7.6	10.6	5.9
526500	131500	9.9	7.7	9.7	5.9	8.8	6.9	9.5	5.7



4.0 BASELINE CONDITIONS

Air Quality Review and Assessment

- 4.1 As previously indicated, Local Authorities have been required to review local air quality within their boundaries to assess areas that may fail to comply with the NAQO. In areas where these objectives are unlikely to be achieved, local authorities must designate these areas as Air Quality Management Areas (AQMA's) and prepare a written Action Plan to achieve the
- 4.2 The review of air quality takes on several prescribed stages, of which each stage is reported. The review and assessment of air quality in Handcross is the responsibility of Mid Sussex District Council (MSDC) and at the time of writing this report, the latest Annual Status Report (ASR) is 2025 (published in June 2025). Also included is information from Crawley Borough Council (CBC) latest ASR, published in June 2025.
- 4.3 MSDC has one Air Quality Management Area (AQMA) which was declared in 2012 due to exceedances of the annual average NO₂. The AQMA is located at Stonepound Crossroads in Hassocks which is 15.6km south of the Site. CBC also has one AQMA declared in 2015 (amended in 2021) due to exceedances of the annual average NO₂. The closest area of the CBC AQMA is approximately 6.8km north of the Site. Refer to **Figure 4.1** for the locations of the CBC AQMA.

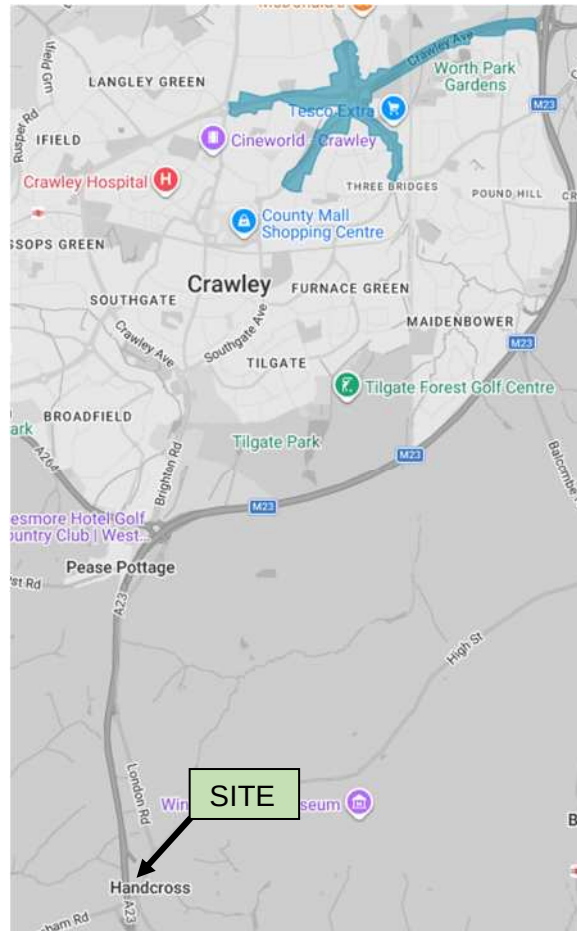


Figure 4.1: Crawley AQMA (CBC ASR 2025)

- 4.4 The Development Site is not located in an AQMA, however, development generated traffic does have the potential to have an Imperceptible impact on the Crawley AQMA. Hassocks AQMA is at a significant distance from the Development Site; it is highly unlikely that development generated traffic will impact the AQMA.

Air Quality Monitoring - MSDC

- 4.5 In 2024, MSDC undertook continuous monitoring at one site and passive monitoring via diffusion tubes of NO₂ at 35 sites within its administrative boundary. Detailed below are the results of the automatic and passive monitoring of NO₂ up to the end of 2024.

Continuous Monitoring

- 4.6 The continuous monitoring site is located on London Road in East Grinstead and is approximately 15km northeast of the development Site. The monitor type is chemiluminescent and TEOM and the results from the monitor are presented in **Table 4.1**.

Table 4.1: Measured Annual Mean NO₂ Concentrations (µgm⁻³) – Automatic

Site ID	Location	Site Type	Within AQMA?	Annual mean concentrations (µgm ⁻³)					
				2019	2020	2021	2022	2023	2024
MSAQ43	London Road East Grinstead	Roadside	No	-	-	-	24.3	21.1	18.7

4.7 Although the continuous monitor is at a significant distance from the development site, concentrations of NO₂ were well below the NAQO level of 40 µgm⁻³ up to the end of 2024.

Passive Monitoring - Diffusion Tubes

4.8 MSDC operates a network of non-automatic (passive) monitoring sites within its administrative boundary and at the end of 2024 there were 35 active sites monitoring NO₂ via DT. There is one DT in Handcross and the location is presented on **Figure 4.2**.

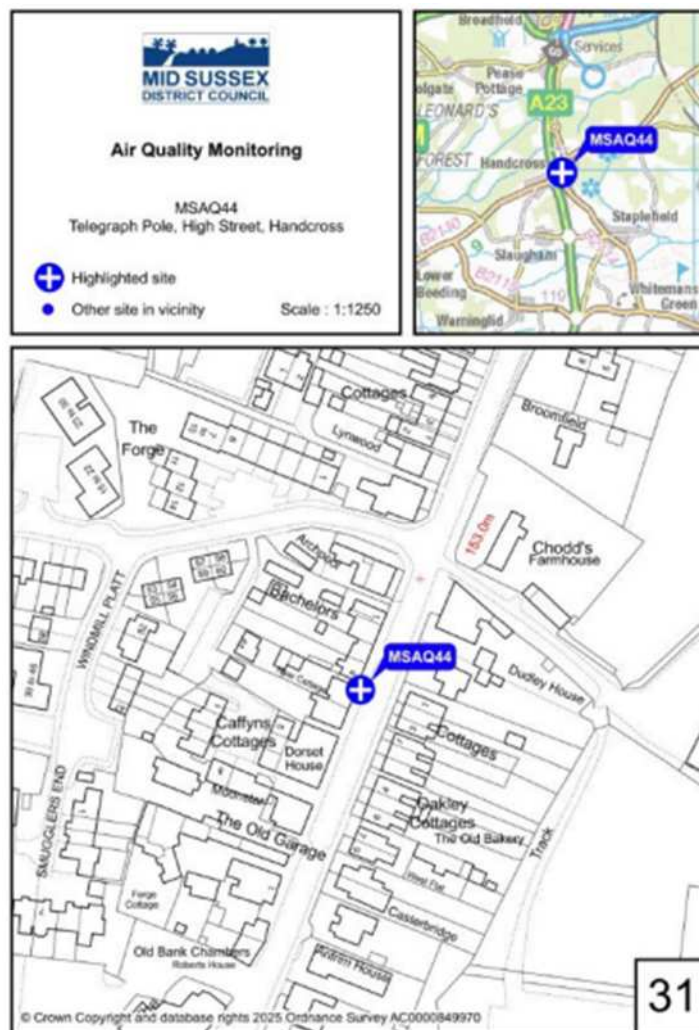


Figure 4.2: Non-Automatic (DT) Monitoring Site close to the Development Site (Ref. MSDC ASR 2025)



- 4.9 The DT location is Roadside” and is not located within an AQMA. Presented in **Table 4.2** are recorded concentrations of NO₂ available for 2019 to 2024 for the DT presented in Figure 4.2.

Table 4.2: Measured Annual Mean NO₂ Concentrations (µgm⁻³) – DT

Site ID	Location	Site Type	Within AQMA?	Annual mean concentrations (µgm ⁻³)					
				2019	2020	2021	2022	2023	2024
MSAQ44	Telegraph Pole High Street Handcross	Roadside	No	-	-	-	-	20.3	19.1

- 4.10 With reference to Table 4.2, Roadside annual mean concentrations of NO₂ were below the NAQO level of 40 µgm⁻³ in 2023 and 2024.

- 4.11 MSDC’s 2025 ASR concluded that:

“No exceedances for NO₂ were identified during this reporting year and the underlying trend in the district remains downward. As there were no exceedances within the AQMA for 5 consecutive years the revocation process was agreed with Defra and completed in December 2024.

The large Brookleigh development in Burgess Hill (formerly known as the Northern Arc) has been assessed through the planning process and is not expected to have a significant impact upon air quality in the district. The locations of monitoring points in the district will continue to be reviewed on an annual basis.”

Air Quality Monitoring – CBC

- 4.12 In 2024, CBC undertook continuous monitoring at one site and passive monitoring via diffusion tubes of NO₂ at 52 sites within its administrative boundary. Detailed below are the results of the automatic and passive monitoring of NO₂ up to the end of 2024.

Continuous Monitoring

- 4.13 The continuous monitoring site is located at Gatwick East and is approximately 11km north northeast of the development Site. The monitor type is chemiluminescent and FIDAS and the results from the monitor are presented in **Table 4.1**.

Table 4.3: Measured Annual Mean NO₂ Concentrations (µgm⁻³) – Automatic

Site ID	Location	Site Type	Within AQMA?	Annual mean concentrations (µgm ⁻³)					
				2019	2020	2021	2022	2023	2024
CA2	Gatwick East	Industrial	No	25	17	18	21	19	16.9

4.14 Although the continuous monitor is at a significant distance from the development site, concentrations of NO₂ were well below the NAQO level of 40 µgm⁻³ up to the end of 2024.

Passive Monitoring - Diffusion Tubes

4.15 CBC operates a network of non-automatic (passive) monitoring sites within its administrative boundary and at the end of 2024 there were 52 active sites monitoring NO₂ via DT. The locations of the DT in Crawley are presented in **Figure 4.3**.

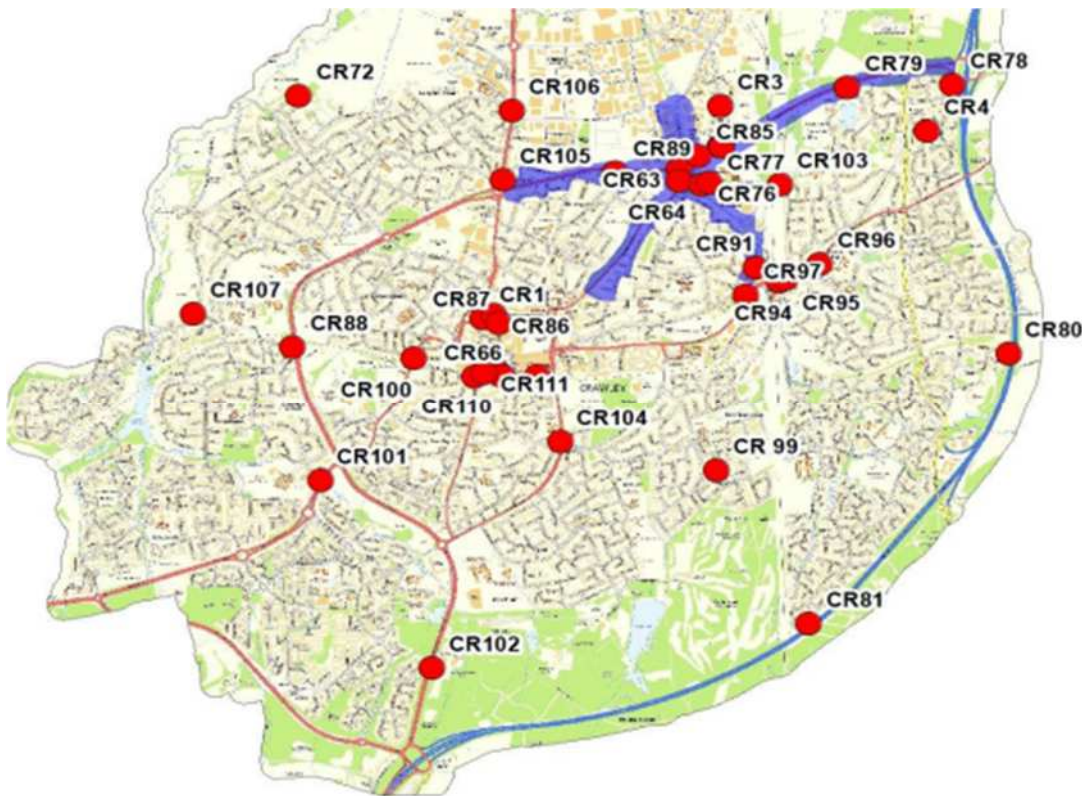


Figure 4.3: Non-Automatic (DT) Monitoring Sites in Crawley

4.16 The DT locations within CBC administrative area are a mixture of Roadside”, “Urban Background” and “Other/Industrial” concentrations.

4.17 Presented in **Table 4.4** are recorded concentrations of NO₂ available for 2019 to 2024 for the DT presented in Figure 4.3.



Table 4.4: Measured Annual Mean NO₂ Concentrations (µg^m⁻³) – DT

Site ID	Location	Site Type	Within AQMA?	Annual mean concentrations (µg ^m ⁻³)					
				2019	2020	2021	2022	2023	2024
CR1	CR1 High Street	Roadside	No	25	17	18	21	19	19.4
CR100	Horsham Road Level Crossing	Roadside	No	35	26	28	27.8	22	17.7
CR101	Horsham Road A2220	Roadside	No	27	23	26	26	20	32.2
CR102	Pease Pottage Hill A23	Roadside	No	50	44	41	42	35	22.2
CR103	171 St Marys Drive	Urban Background	No	34	26	29	28	23	10.6
CR104	Southgate Ave	Urban Background	No	21	13	17	15	13	15.6
CR105	102 London Road	Roadside	No	27	19	23	21	17	29.2
CR106	147 London Road	Roadside	No	44	36	36	38	32	27.2
CR107	Rusper Road	Urban Background	No	46	33	37	37	30	11.8
CR110	Station car park	Roadside	No		14	16	15	12	14.4
CR111	Taj Car park	Roadside	No		17	19	19	14	16.9
CR113	Haworth Road	Roadside	No		22	23	23	18	12.7
CR114	CR 114 Billington Drive	Roadside	No					13	15.5
CR3	Birch Lea Urban	Urban Background	No						11.8
CR4	Headley Close	Urban Background	No	21	16	17	16.9	13	12.1
CR48	Lynhurst Cottage	Urban Background	No	23	18	18	17	13	15
CR49	Charlwood Nursery	Urban Background	No	25	19	19	19.1	15	10.7
CR50	Rowley Cottage	Urban Background	No	17	10	12	13.9	12	13.2
CR51	Balcombe Road	Urban Background	No	21	17	18	17.4	14	13.9
CR52 T1	Gatwick East, (Trilocation)	Other/Industrial	No	22	16	15	17.1	16	16.4
CR55	Tinsley Close Fence (11)	Roadside	No	26	18	18	20.8	19	27
CR60	Peglar Way	Roadside	Yes	42	36	35	37	30	17.4
CR62	Tinsley Close (10)	Urban Background	No	32	25	26	27	20	27.8
CR63	Woodfield Lodge	Roadside	Yes	40	34	34	36	29	32.8
CR64	Woodfield Lodge	Roadside	Yes	49	42	42	45	35	24.2
CR66	Brighton Rd (Rail crossing)	Roadside	Yes	38	20	31	31	26	20.5
CR69	Tinsley Close Facade(11)	Urban Background	No	30	27	26	26	22	29.7
CR72	Burlands Urban	Urban Background	Yes	44	36	36	37	32	8.3
CR74	Tinsley Green Radford Road	Roadside	No	13	11	11	12	9	18.5
CR75	Steers Lane	Roadside	No	33	25	26	25	21	13.7



Site ID	Location	Site Type	Within AQMA?	Annual mean concentrations ($\mu\text{g m}^{-3}$)					
				2019	2020	2021	2022	2023	2024
CR76	Hazlewick Court	Roadside	No	23	17	19	20	14	21.5
CR77	Hazlewick Ave (Bays)	Roadside	Yes	35	28	31	29	24	22
CR78	Ferndown	Urban Background	Yes	35	28	31	31	25	12.5
CR79	St Hildas Close	Urban Background	No	22	17	19	19	14	14.4
CR80	Saxon Road	Urban Background	Yes	25	20	21	21	17	15.5
CR81	Bolton Road	Urban Background	No	27	20	22	22	18	11.9
CR85	Tinsley Lane Flats	Urban Background	No	22	16	17	17	13	21.2
CR86	Crown Buildings	Roadside	Yes	30	31	28	30	24	16.4
CR87	Broadway bus shelter	Roadside	No	27	24	21	22	19	23.8
CR88	Filbert Crescent	Urban Background	No	39	29	31	31	26	15.5
CR89	Dalewood Garden	Urban Background	No	25	21	22	22	18	12.5
CR91	Ocean House, Hazlewick Ave	Roadside	Yes	22	17	19	18	14	22.4
CR93	St Marys Drive	Roadside	Yes	32	28	30	29	24	33.1
CR94	Station Hill	Roadside	Yes	53	39	42	42	37	17
CR95	Daniels House, Worth Park Ave	Roadside	Yes	27	18	25	25	20	19.3
CR96	Pound Hill Junior School	Roadside	Yes	32	24	26	26	20	16.8
CR97	Daisy Chain Nursery Haslett Ave	Roadside	No	27	22	21.7	21	19	27.4
CR98	Gatwick School Gatwick Road	Roadside	Yes	37	28	29	36	29	23
CR99	Furnace Farm Road	Urban Background	No	34	28	29	29	24	9.1

4.18 With reference to Table 4.4, Roadside annual mean concentrations of NO_2 were below the NAQO level of $40 \mu\text{g m}^{-3}$ up to the end of 2024 except at CR60, CR63, CR64, CR94, CR102, CR106 and CR107 which were above $40 \mu\text{g m}^{-3}$ in 2019.

4.19 CBC's 2025 ASR concluded that:

"Key findings and conclusions from this year's Annual Status Report:

- There were no exceedances of the $40 \mu\text{g m}^{-3}$ annual mean and hourly air quality objective for nitrogen dioxide in 2024, and NO_2 concentrations remained below preCOVID levels four years post pandemic.*
- There were no exceedances of the $40 \mu\text{g m}^{-3}$ annual mean and 24-hour objectives for PM_{10} in 2024 and annual mean $\text{PM}_{2.5}$ was below the target value of $10 \mu\text{g m}^{-3}$. A new AURN site is to be installed at a background site in*



Crawley. It is expected that monitoring results for this site will be available for reporting in next year's ASR.

- The long-term trends for nitrogen dioxide and particulate pollution in Crawley continue to be downwards in line with similar patterns seen regionally and nationally.*
- Traffic volumes in Crawley were lower in 2024 compared to indicative levels last year, however the national and regional trend is still showing a gradual rise. Given the primary source of pollution in Crawley is from vehicle emissions, understanding future traffic trends in our area is important. Although volumes still remain below the prepandemic levels of 2019, the council will continue to monitor trends and how they may impact future air quality in Crawley. The 2025 review and assessment of air quality in Crawley concludes that there have been widespread improvements in air quality over the last 5 years at all locations, across the borough, including background, roadside, airport and within the AQMA. It is likely that the combined effects of national policy controls, cleaner engine technologies, lower traffic volumes and targeted local measures (set out in the AQAP) have all contributed to these measurable improvements.*
- As air quality has improved the WHO and the European states have followed the science on the medical effects of air pollutants on human health and responded by tightening their air quality standards or targets. It is uncertain whether the UK government will follow by lowering the national air quality standards in the future.*
- There are other uncertainties which may affect local air quality management in future years in Crawley. These include the proposed expansion of Gatwick Airport and the West of Bewbush neighbourhood development. Whilst improving trends in air quality have been recorded across the borough over the last few years it is still not clear how these new developments may impact air quality at a local level. The council is not therefore considering revoking the AQMA until further evidence of sustained improvement in NO₂ concentrations exists to support the decision."*



Dispersion Modelling – ADMS Roads

- 4.20 The existing and future concentrations of pollutants within the assessment area for all scenarios have been modelled using ADMS Roads (Version 5.1.0.2). The software is PC based and models the release of pollutants from road sources into the atmosphere.
- 4.21 The closest observation station for the development site is at Gatwick Airport, and the MET data for 2019 was obtained from ADM Ltd and has been used for the verification of the model, base modelling, and future years. A wind rose for 2019 is presented in **Appendix 5**.
- 4.22 Background pollutant concentrations for the kilometre squares covering the development site and assessment area were obtained from the Defra website.

Model Verification

- 4.23 Model verification has been undertaken using the guidance provided in LAQM.TG (22). The process requires the comparison of the monitored roadside contribution of NO₂ with the modelled roadside contribution of NO₂. The site type definitions have been taken from CBC's 2025 ASR.
- 4.24 Within the assessment area, 41 DT and 1 CM (refer to Table 4.4) have been used to verify the dispersion modelling. ADMS Roads has been used to calculate NO_x and NO₂ concentrations for 2019 which have been verified against the recorded NO₂ and NO_x levels at the 41 DT and 1 CM for 2019. The results from the monitoring and the ADMS Roads modelling are presented in **Table 4.5**.



Table 4.5: Comparison of the monitored (DT) and unadjusted modelled (ADMS) concentrations of NO₂

Site ID	Monitor Type	Site Type	Site Description	Background NO ₂	2019 Monitored NO ₂	2019 Modelled NO ₂	Difference [(monitored - modelled)/monitored] x100 (%)
CA2	CM	Other/Industrial	Gatwick East	21.9	25.0	21.3	-14.8
CR1	DT	Roadside	CR1 High Street	14.2	35.0	16.6	-52.6
CR100	DT	Roadside	Horsham Road Level Crossing	15.4	27.0	17.5	-35.3
CR101	DT	Roadside	Horsham Road A2220	13.6	50.0	15.7	-68.7
CR102	DT	Roadside	Pease Pottage Hill A23	15.0	34.0	18.6	-45.3
CR104	DT	Urban Background	171 St Marys Drive	13.8	27.0	15.7	-41.8
CR105	DT	Urban Background	Southgate Ave	15.9	44.0	21.5	-51.1
CR106	DT	Roadside	102 London Road	22.2	46.0	26.6	-42.3
CR3	DT	Urban Background	Birch Lea Urban	18.6	21.0	18.8	-10.5
CR4	DT	Urban Background	Headley Close	17.5	23.0	17.8	-22.6
CR48	DT	Urban Background	Lynhurst Cottage	17.8	25.0	21.9	-12.6
CR49	DT	Urban Background	Charlwood Nursery	15.5	17.0	16.0	-5.9
CR50	DT	Urban Background	Rowley Cottage	17.8	21.0	18.1	-13.9
CR51	DT	Urban Background	Balcombe Road	21.9	22.0	21.9	-0.6
CR52 T1	DT	Other/Industrial	Gatwick East, (Trilocation)	21.9	26.0	21.2	-18.3
CR55	DT	Roadside	Tinsley Close Fence (11)	18.6	42.0	29.1	-30.6
CR60	DT	Roadside	Peglar Way	15.4	32.0	17.1	-46.6
CR62	DT	Urban Background	Tinsley Close (10)	18.6	40.0	23.4	-41.4
CR63	DT	Roadside	Woodfield Lodge	24.0	49.0	30.5	-37.8
CR64	DT	Roadside	Woodfield Lodge	24.0	38.0	26.2	-31.1
CR66	DT	Roadside	Brighton Rd (Rail crossing)	15.4	30.0	15.8	-47.3
CR69	DT	Urban Background	Tinsley Close Facade(11)	18.6	44.0	25.1	-42.9
CR72	DT	Urban Background	Burlands Urban	12.3	13.0	12.9	-0.8
CR74	DT	Roadside	Tinsley Green Radford Road	17.9	33.0	23.8	-27.8
CR75	DT	Roadside	Steers Lane	15.5	23.0	17.5	-23.8
CR76	DT	Roadside	Hazelwick Court	24.0	35.0	33.9	-3.2
CR77	DT	Roadside	Hazelwick Ave (Bays)	24.0	35.0	25.7	-26.5
CR78	DT	Urban Background	Ferndown	19.8	22.0	17.0	-22.9
CR79	DT	Urban Background	St Hildas Close	17.5	25.0	22.4	-10.5
CR80	DT	Urban Background	Bolton Road	16.2	27.0	19.1	-29.4



Site ID	Monitor Type	Site Type	Site Description	Background NO ₂	2019 Monitored NO ₂	2019 Modelled NO ₂	Difference [(monitored - modelled)/monitored] x100 (%)
CR81	DT	Urban Background	Bolton Road	14.5	22.0	20.0	-8.9
CR85	DT	Urban Background	Tinsley Lane Flats	18.6	30.0	25.2	-16.0
CR86	DT	Roadside	Crown Buildings	15.4	27.0	15.2	-43.8
CR89	DT	Urban Background	Dalewood Garden	16.9	22.0	19.0	-13.8
CR91	DT	Roadside	Ocean Hse, Hazelwick Ave	24.0	32.0	27.5	-14.1
CR93	DT	Roadside	St Marys Drive	24.0	53.0	28.0	-47.2
CR94	DT	Roadside	Station Hill	24.0	27.0	25.6	-5.4
CR95	DT	Roadside	Daniels Hse, Worth Park Ave	24.0	32.0	25.9	-18.9
CR96	DT	Roadside	Pound Hill Junior School	17.0	27.0	22.3	-17.4
CR97	DT	Roadside	Daisy Chain Nursery Haslett Ave	16.7	37.0	19.4	-47.7
CR98	DT	Roadside	Gatwick School Gatwick Road	17.9	34.0	21.1	-37.9
CR99	DT	Urban Background	Furnace Farm Road	12.9	15.0	13.6	-9.4
Notes: DT = Diffusion Tube, CM = Continuous Monitor							

- 4.25 With reference to Table 4.5, the model is under predicting concentrations by between 0.6 and 68.7%.
- 4.26 Within TG(22), there is guidance on how to apply an adjustment factor to the road contribution NO_x to reduce the inaccuracy of the results from the modelling. Using the TG(22) 'Boxes 7-17 to 7-19' method, the modelled road contribution NO_x is not predicting an accurate contribution of NO_x to the overall contribution. Therefore, a correction factor will need to be applied to the modelled road contribution NO_x to bring it to within comparable levels with the monitored data.
- 4.27 A Road-NO_x adjustment factor of 1.364 was determined as the slope of the best fit between the 'measured' road contribution and 'modelled' road contribution NO_x, forced through zero. The comparison is presented in **Figure 4.4**.

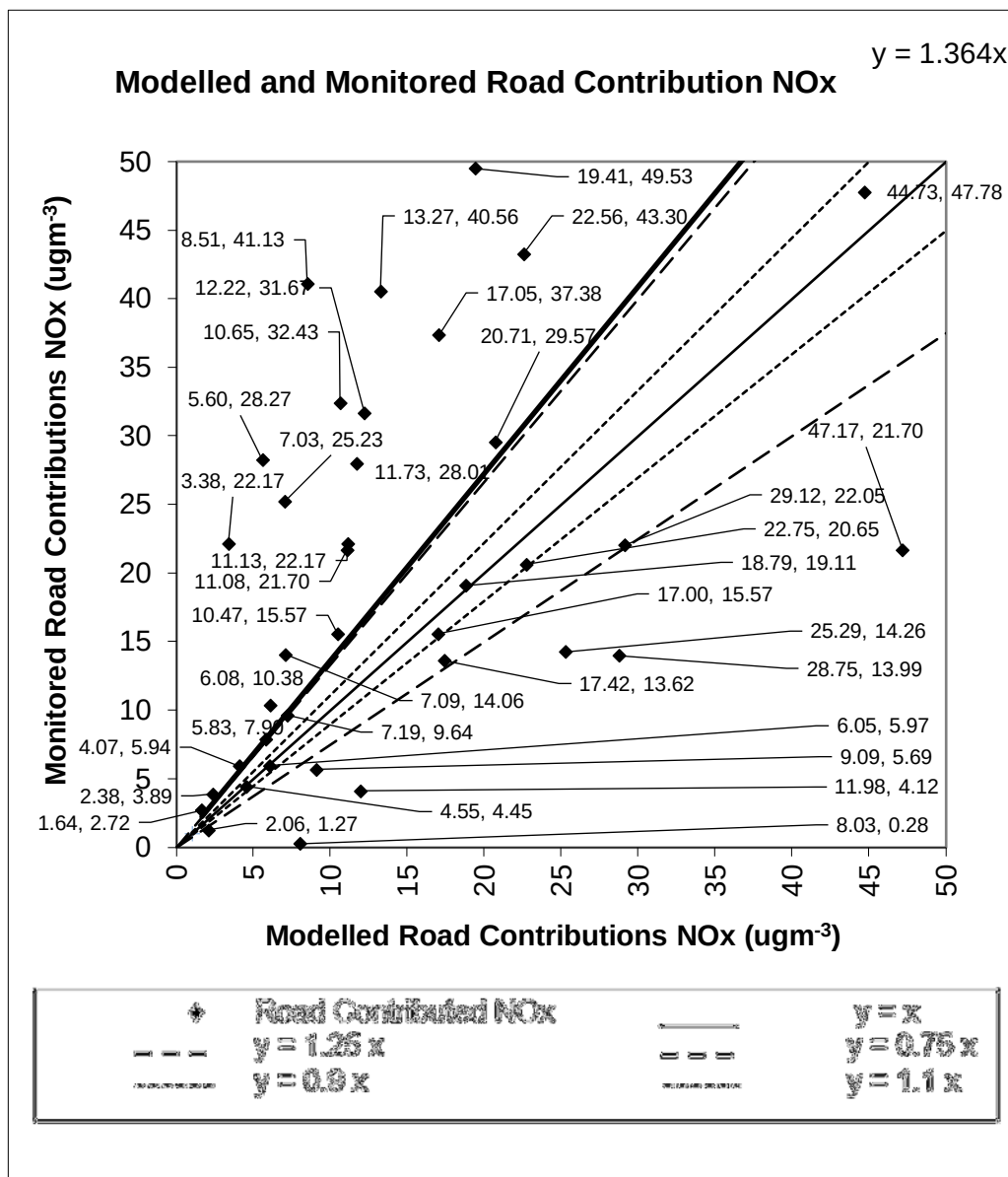


Figure 4.4: Comparison of Measured Road NO_x and Unadjusted Modelled Road NO_x

4.28 Presented in **Table 4.6** is the comparison of the monitored NO₂ concentrations and the adjusted ADMS Roads modelled NO₂ concentrations.



Table 4.6: Comparison of the monitored (DT) and the adjusted modelled (ADMS Roads) concentrations of NO₂

Site ID	Monitor Type	Site Type	Site Description	Background NO ₂	2019 Monitored NO ₂	2019 Adjusted Modelled NO ₂	Difference [(monitored - modelled)/monitored] x100 (%)
CA2	CM	Other/Industrial	Gatwick East	21.9	25.0	26.2	4.8
CR1	DT	Roadside	CR1 High Street	14.2	35.0	20.5	-41.5
CR100	DT	Roadside	Horsham Road Level Crossing	15.4	27.0	23.5	-13.1
CR101	DT	Roadside	Horsham Road A2220	13.6	50.0	22.6	-54.8
CR102	DT	Roadside	Pease Pottage Hill A23	15.0	34.0	27.2	-20.0
CR104	DT	Urban Background	171 St Marys Drive	13.8	27.0	19.0	-29.7
CR105	DT	Urban Background	Southgate Ave	15.9	44.0	33.8	-23.1
CR106	DT	Roadside	102 London Road	22.2	46.0	35.5	-22.7
CR3	DT	Urban Background	Birch Lea Urban	18.6	21.0	21.9	4.4
CR4	DT	Urban Background	Headley Close	17.5	23.0	21.9	-4.7
CR48	DT	Urban Background	Lynhurst Cottage	17.8	25.0	30.1	20.3
CR49	DT	Urban Background	Charlwood Nursery	15.5	17.0	16.7	-1.6
CR50	DT	Urban Background	Rowley Cottage	17.8	21.0	20.8	-1.0
CR51	DT	Urban Background	Balcombe Road	21.9	22.0	27.6	25.3
CR52 T1	DT	Other/Industrial	Gatwick East, (Trilocation)	21.9	26.0	26.0	0.1
CR55	DT	Roadside	Tinsley Close Fence (11)	18.6	42.0	47.7	13.5
CR60	DT	Roadside	Peglar Way	15.4	32.0	23.1	-27.7
CR62	DT	Urban Background	Tinsley Close (10)	18.6	40.0	34.2	-14.5
CR63	DT	Roadside	Woodfield Lodge	24.0	49.0	42.9	-12.5
CR64	DT	Roadside	Woodfield Lodge	24.0	38.0	32.2	-15.2
CR66	DT	Roadside	Brighton Rd (Rail crossing)	15.4	30.0	19.5	-34.9
CR69	DT	Urban Background	Tinsley Close Facade(11)	18.6	44.0	38.4	-12.8
CR72	DT	Urban Background	Burlands Urban	12.3	13.0	13.9	6.5
CR74	DT	Roadside	Tinsley Green Radford Road	17.9	33.0	32.4	-1.9
CR75	DT	Roadside	Steers Lane	15.5	23.0	20.7	-9.9
CR76	DT	Roadside	Hazelwick Court	24.0	35.0	53.9	53.9
CR77	DT	Roadside	Hazelwick Ave (Bays)	24.0	35.0	31.8	-9.2
CR78	DT	Urban Background	Ferndown	19.8	22.0	28.3	28.6
CR79	DT	Urban Background	St Hildas Close	17.5	25.0	34.9	39.6
CR80	DT	Urban Background	Bolton Road	16.2	27.0	32.1	18.8



Site ID	Monitor Type	Site Type	Site Description	Background NO ₂	2019 Monitored NO ₂	2019 Adjusted Modelled NO ₂	Difference [(monitored - modelled)/monitored] x100 (%)
CR81	DT	Urban Background	Bolton Road	14.5	22.0	34.4	56.3
CR85	DT	Urban Background	Tinsley Lane Flats	18.6	30.0	38.4	27.9
CR86	DT	Roadside	Crown Buildings	15.4	27.0	17.9	-33.7
CR89	DT	Urban Background	Dalewood Garden	16.9	22.0	22.1	0.4
CR91	DT	Roadside	Ocean Hse, Hazelwick Ave	24.0	32.0	35.7	11.6
CR93	DT	Roadside	St Marys Drive	24.0	53.0	36.2	-31.6
CR94	DT	Roadside	Station Hill	24.0	27.0	30.4	12.7
CR95	DT	Roadside	Daniels Hse, Worth Park Ave	24.0	32.0	31.4	-2.0
CR96	DT	Roadside	Pound Hill Junior School	17.0	27.0	30.2	12.0
CR97	DT	Roadside	Daisy Chain Nursery Haslett Ave	16.7	37.0	26.2	-29.2
CR98	DT	Roadside	Gatwick School Gatwick Road	17.9	34.0	26.7	-21.6
CR99	DT	Urban Background	Furnace Farm Road	12.9	15.0	14.7	-2.3
Notes: DT = Diffusion Tube, CM = Continuous Monitor							

4.29 The comparison of the monitored NO₂ and the adjusted modelled NO₂ concentrations are illustrated on **Figure 4.5**.

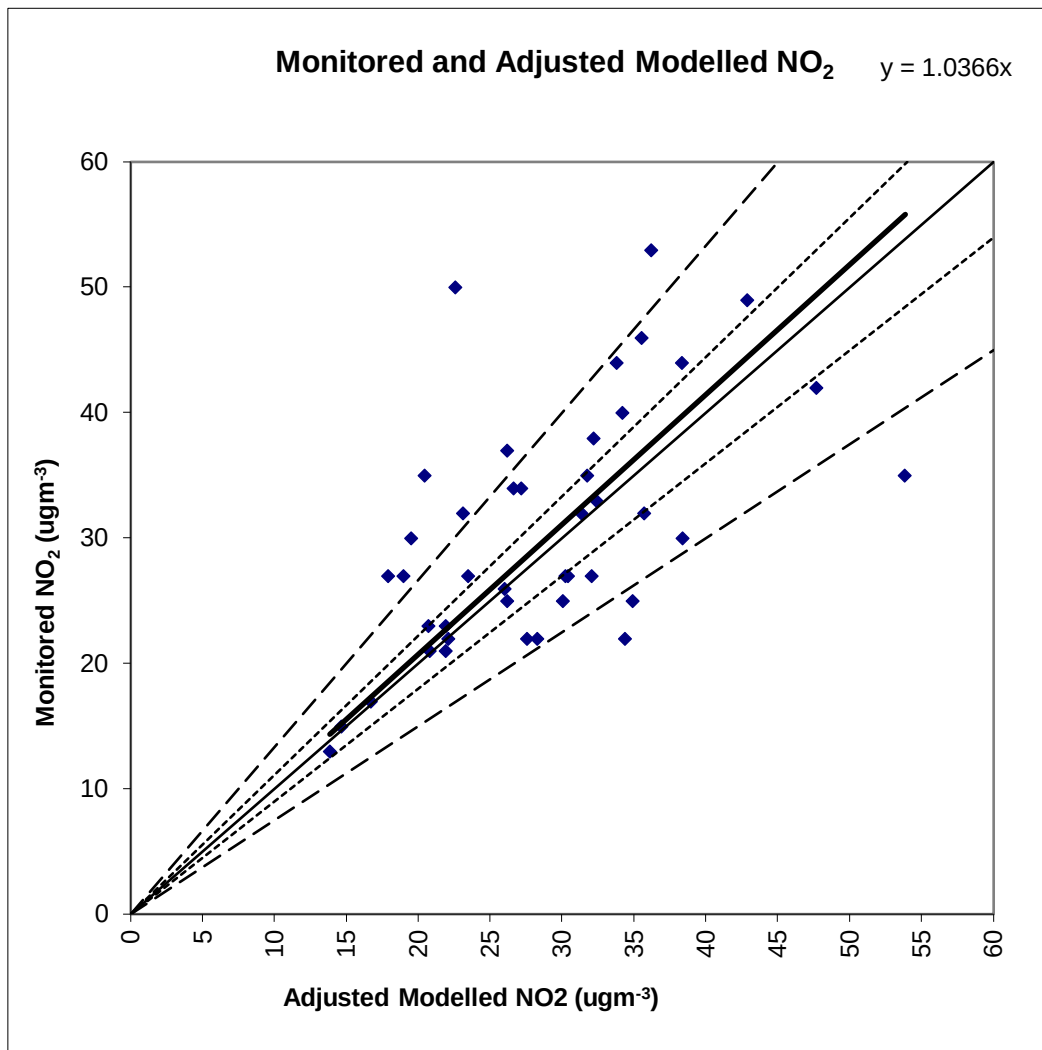


Figure 4.5: Comparison of Measured NO₂ and Adjusted Modelled NO₂

- 4.30 With reference to Table 4.6 and Figure 4.5, there is no systematic over or under-prediction of concentrations of NO₂ following adjustment of the road concentration NO_x.

Pollutant Concentrations

- 4.31 To characterise the air pollutant concentrations adjacent to the roads that would be affected by the proposed development traffic, predictions have been made at seven local sensitive receptors and the 42 DT and 1 CM. The receptors are presented in **Table 4.7**.



Table 4.7: Sensitive Receptors

Receptor Number	Description	Northing	Easting
R1	1 Coopers Wood	526111	131080
R2	Hyde Lodge	526198	130775
R3	Handcross Primary School	526254	130567
R4	West Lodge	526295	130491
R5	East Lodge, Springwood Farm	527002	130679
R6	North Lodge, Cuckfield Road	526362	129452
R7	Green Banks, Horsham Road	525894	129581
CA2	Gatwick East	529417	141496
CR1	CR1 High Street	529799	136785
CR100	Horsham Road Level Crossing	526326	136487
CR101	Horsham Road A2220	525679	135556
CR102	Pease Pottage Hill A23	526449	134139
CR104	171 St Marys Drive	528848	137802
CR105	Southgate Ave	527333	135846
CR106	102 London Road	526940	137831
CR3	Birch Lea Urban	528438	138292
CR4	Headley Close	529864	138204
CR48	Lynhurst Cottage	527110	139530
CR49	Charlwood Nursery	526320	139860
CR50	Rowley Cottage	527810	139929
CR51	Balcombe Road	529940	141460
CR52 T1	Gatwick East, (Trilocation)	529417	141496
CR55	Tinsley Close Fence (11)	528446	138085
CR60	Peglar Way	526759	136948
CR62	Tinsley Close (10)	528438	138088
CR63	Woodfield Lodge	528153	137912
CR64	Woodfield Lodge	528150	137825
CR66	Brighton Rd (Rail crossing)	526743	136346
CR69	Tinsley Close Facade(11)	528443	138082
CR72	Burlands Urban	525534	138472
CR74	Tinsley Green Radford Road	528978	139599
CR75	Steers Lane	529335	139589
CR76	Hazelwick Court	528292	137810
CR77	Hazelwick Ave (Bays)	528362	137812
CR78	Ferndown	530037	138552
CR79	St Hildas Close	529312	138534
CR80	Bolton Road	529047	134474
CR81	Bolton Road	529047	134474
CR85	Tinsley Lane Flats	528295	138009



Receptor Number	Description	Northing	Easting
CR86	Crown Buildings	526878	136821
CR89	Dalewood Garden	527715	137893
CR91	Ocean Hse, Hazelwick Ave	528681	137177
CR93	St Marys Drive	528895	137115
CR94	Station Hill	528841	137069
CR95	Daniels Hse, Worth Park Ave	528882	137086
CR96	Pound Hill Junior School	529125	137196
CR97	Daisy Chain Nursery Haslett Ave	528603	136950
CR98	Gatwick School Gatwick Road	528515	139275
CR99	Furnace Farm Road	528410	135628

- 4.32 For the locations of the DT, refer to Figure 4.1 and **Figure 4.6** for the sensitive receptors adjacent to the site access and the roads which will be impacted by development generated traffic.

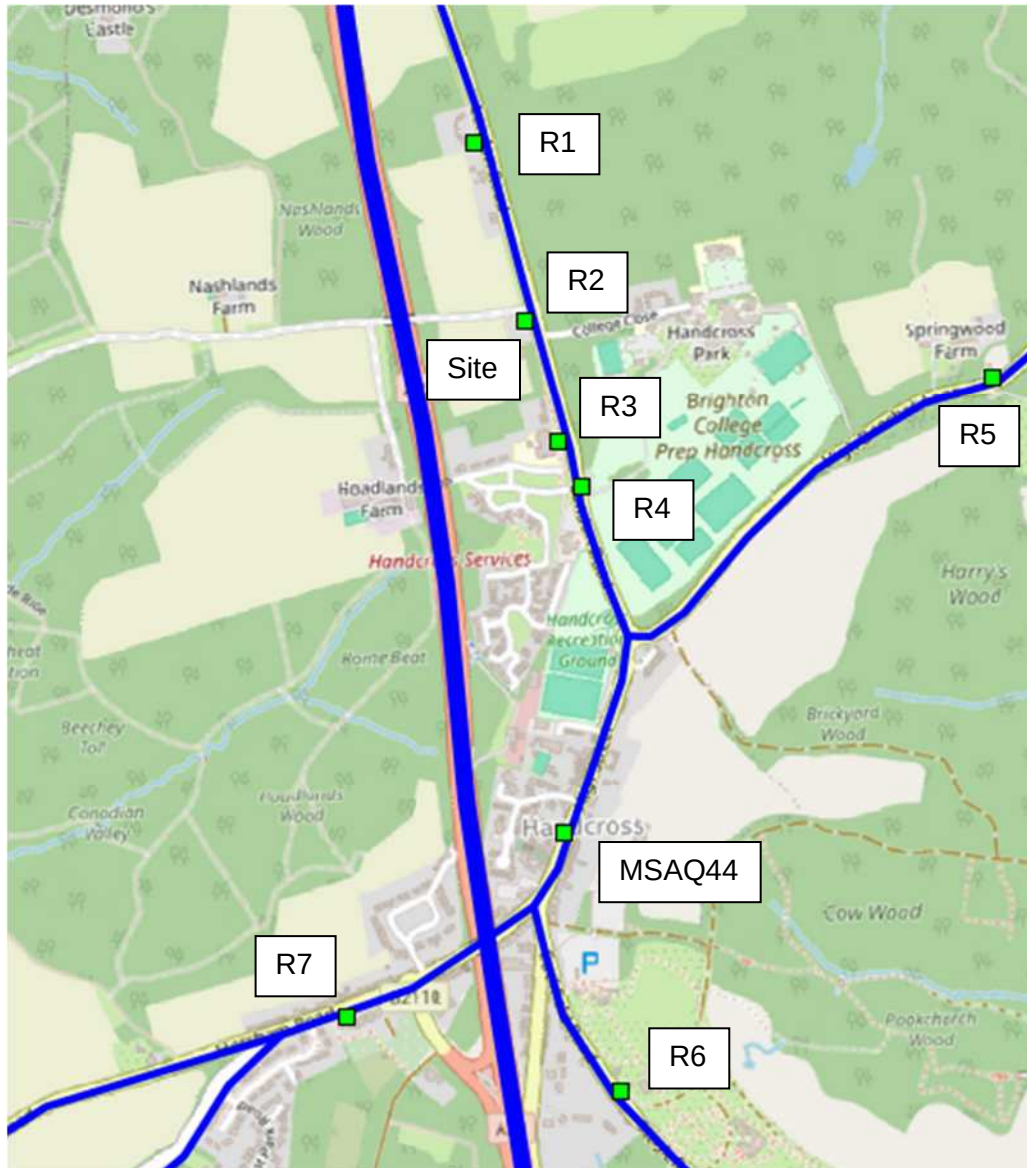


Figure 4.6: Receptor Location Plan

- 4.33 The predictions have been undertaken for the 'Base Year' 2026 and the future 'Base Year' 2029. All scenarios have been assessed using ADMS Roads dispersion modelling.
- 4.34 Background concentrations for future assessment years have been kept the same as the Verification year 2019. The reason for using the base year background concentrations is due to recorded local concentrations of NO₂ not decreasing significantly as predicted over the past five years, and a worst-case scenario has therefore been modelled.
- 4.35 The results of the predictions for R1 to R7 and MSAQ44 are presented in **Table 4.8**.



Table 4.8: Predicted Air Quality Concentrations at Sensitive Receptors 2026

Receptor Number and Name		NO _x	NO ₂	PM ₁₀		PM _{2.5}
		Annual mean µgm ⁻³	Annual mean µgm ⁻³	Annual mean µgm ⁻³	Days >50 µgm ⁻³	Annual mean µgm ⁻³
R1	1 Coopers Wood	19.3	13.0	13.8	0.2	9.3
R2	Hyde Lodge	17.7	12.1	14.4	0.1	9.6
R3	Handcross Primary School	17.5	12.0	14.4	0.1	9.6
R4	West Lodge	17.1	11.8	14.4	0.1	9.6
R5	East Lodge, Springwood Farm	18.2	12.4	13.7	0.3	9.2
R6	North Lodge, Cuckfield Road	14.7	10.6	14.9	0.1	9.9
R7	Green Banks, Horsham Road	17.4	11.9	14.1	0.2	9.3
MSAQ4 4	Telegraph Pole High Street Handcross	14.0	10.2	14.9	0.1	9.8
NAQO			40	40	35	25

4.36 When the pollutant concentrations in Table 4.8 are compared to the NAQO, concentrations of NO₂ and PM₁₀ are predicted to be well below the level of 40 µgm⁻³ and the number of days when the concentration of PM₁₀ is greater than 50 µgm⁻³ is well below 35 days. It can also be seen that the concentrations of PM_{2.5} are well below 25 µgm⁻³.



5.0 AIR QUALITY ASSESSMENT

- 5.1 The assessment has been split into two parts, the potential “Impacts” of development generated traffic and construction activities and the “Constraints” on the development.
- 5.2 The “Impact” section assesses whether development generated traffic flows on the highway network are likely to result in a significant change in annual mean concentration of NO₂, PM₁₀ and PM_{2.5} at sensitive off-site receptors when added to cumulative local development generated traffic. Also assessed are the potential construction dust impacts and PM₁₀ and PM_{2.5} changes on sensitive receptors.
- 5.3 The “Constraints” part of the assessment compares the predicted concentration of NO₂, PM₁₀ and PM_{2.5} within the development site against NAQO levels and assesses whether predicted levels within the site are above the objective levels.

Impacts

Dust Assessment: Predicted Construction Impacts

- 5.4 The main sources of dust and PM₁₀ during construction activities are:
- Haulage routes, vehicles and construction traffic;
 - Materials handling, storage, stockpiling, potential spillage and disposal;
 - Exhaust emissions from site plant;
 - Site preparation;
 - Construction and fabrication processes; and
 - Internal and external finishing and refurbishment.
- 5.5 Most of the releases are likely to occur during the typical “working-week”. The construction impact assessment has been split into two sections. The first deals with the potential impacts from dust soiling and changes in PM₁₀ concentrations due to on-site works and the second deals with the effect of emissions from construction traffic.

Dust soiling and changes in PM₁₀ concentrations

- 5.6 The site will require earthworks, construction and trackout of vehicles associated with all phases of the Site. The resulting dust emission magnitudes are:
- Earthworks – **Medium** - Total site area 18,000 m² – 110,000 m², moderately dusty soil type (e.g. silt), 5-10 heavy earth moving



vehicles active at any one time, formation of bunds 3m - 6m in height;

- Construction – **Medium** - Total building volume 12,000 m³ – 75,000 m³, potentially dusty construction material (e.g. concrete), on site concrete batching;
- Trackout – **Medium** 20-50 HDV (>3.5t) outward movements in any one day, 10 moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m.

5.7 Using the information presented in Section 3 and the criteria presented in Table 3.5, Table 3.6 and Table 3.7, the sensitivity of the construction for the proposed development can be defined. The results of defining the sensitivity of the area are presented in **Table 5.1**.

Table 5.1: Outcome of Defining the Sensitivity of an Area

Potential Impact	Sensitivity of the Surrounding Area		
	<i>Earthworks</i>	<i>Construction</i>	<i>Trackout</i>
<i>Dust Soiling</i>	Medium	Low	Low
<i>Human Health</i>	Low	Low	Low
<i>Ecological</i>	Negligible	Negligible	Negligible

5.8 With reference to Table 5.1, the predicted sensitivity of the surrounding area to dust soiling is “Medium” during the construction phase and “Low” during earthworks and trackout phases. The sensitivity of the surrounding area to changes in PM₁₀ affecting human health is “Low” during the construction, earthworks and trackout phases. As there are no ecological receptors within 50m of the development, the predicted sensitivity impact is “Negligible”.

5.9 The dust emission magnitude determined in paragraph 5.6 is combined with the sensitivity of the area summarised in Table 5.1 to determine the risk of impacts with no mitigation applied. The risk of impacts is summarised in **Table 5.2**.



Table 5.2: Summary Dust Risk Table to Define Site-Specific Mitigation

Potential Impact	Risk		
	<i>Earthworks</i>	<i>Construction</i>	<i>Trackout</i>
<i>Dust Soiling</i>	Medium	Low	Low
<i>Human Health</i>	Low	Low	Low
<i>Ecological</i>	Negligible	Negligible	Negligible

5.10 During the Earthworks phase of development, there is predicted to be a “Medium Risk” of annoyance caused by dust soiling and a “Low Risk” of health effects due to increase exposure in PM₁₀. There is predicted to be a “Low Risk” of annoyance caused by dust soiling and a “Low Risk” of health effects due to increase exposure in PM₁₀ during the Construction Phase and due to Trackout.

5.11 For those cases where the risk category is Negligible (i.e. ecological), no specific mitigation measures is required beyond specific legislation.

Predicted Operational Impacts

5.12 The air quality impact of the proposed development on the surrounding area has been assessed by considering the changes in traffic flows which will occur on the existing highway network with the Proposed Development in place.

5.13 Potential impacts from the proposed development would occur following the completion of the proposed development in 2029. Therefore, the year of assessment is 2029 “Do Nothing” and “Do Something”. The future year 2029 includes cumulative local development traffic.

Traffic Generation – 2029 with development

5.14 Development generated road traffic data for 2029 on the local highway network has been provided by the Transport Consultants (i Transport). Development generated traffic has then been added to the 2029 traffic flows and a summary is presented in **Table 5.3**.



Table 5.3: Changes in traffic flow “with” and “without” the development in 2029

Link Ref.	Description	2029 AADT			
		“do nothing”	“do something”	Change	% Change
1	A23 Off-slip	1053	1101	48	4.6%
2	B2114 Brighton Road (N)	3276	3334	58	1.8%
3	B2114 Brighton Road (S)	4215	4321	106	2.5%
4	B2114 London Road (S)	905	1054	149	16.5%
5	Hoadlands (No Entry from London Road)	1873	1873	0	0.0%
6	B2114 London Road (N)	1692	1841	149	8.8%
7	B2114 London Road (S)	4388	4537	149	3.4%
8	Hoadlands	5470	5470	0	0.0%
9	B2114 London Road (N)	4448	4597	149	3.3%
10	B2114 London Road (N)	5661	5810	149	2.6%
11	High Beeches Lane	2627	2661	34	1.3%
12	B2110 High Street	4071	4186	115	2.8%
13	B2110 High Street	5682	5745	63	1.1%
14	B2114 Cuckfield Road	2657	2693	36	1.4%
15	Horsham Road (E)	3984	4011	27	0.7%
16	B2110 (A23 On/Off-Slip)	2600	2613	14	0.5%

- 5.15 With reference to Table 5.3, road traffic flows are predicted to change by 16.5% or less due to development generated traffic (greatest change is predicted to be on London Road which is adjacent to the Site).

ADMS Roads Assessment – 2029 with development

- 5.16 Sensitive receptors adjacent to the development site and where there is predicted to be an impact from the development have been assessed for the three scenarios, “do nothing” and “do something”. The results from the assessment are presented in **Table 5.4** and **Table 5.5**.



**Table 5.4: Predicted air quality concentrations at sensitive receptors in 2029
“Do Nothing”**

Receptor Number and Name		NO _x	NO ₂	PM ₁₀		PM _{2.5}
		Annual mean µgm ⁻³	Annual mean µgm ⁻³	Annual mean µgm ⁻³	Days >50 µgm ⁻³	Annual mean µgm ⁻³
R1	1 Coopers Wood	16.7	11.7	13.7	0.3	9.2
R2	Hyde Lodge	16.0	11.3	14.4	0.1	9.6
R3	Handcross Primary School	15.8	11.2	14.4	0.1	9.6
R4	West Lodge	16.6	11.6	14.5	0.1	9.6
R5	East Lodge, Springwood Farm	14.4	10.5	13.5	0.3	9.1
R6	North Lodge, Cuckfield Road	15.9	11.2	15.1	0.1	10.0
R7	Green Banks, Horsham Road	14.8	10.6	14.0	0.2	9.3
MSAQ44	Telegraph Pole High Street Handcross	16.6	11.5	15.2	0.1	10.0
NAQO			40	40	35	25



**Table 5.5: Predicted air quality concentrations at sensitive receptors in 2029
“Do Something”**

Receptor Number and Name		NO _x	NO ₂	PM ₁₀		PM _{2.5}
		Annual mean µgm ⁻³	Annual mean µgm ⁻³	Annual mean µgm ⁻³	Days >50 µgm ⁻³	Annual mean µgm ⁻³
R1	1 Coopers Wood	16.7	11.8	13.7	0.3	9.2
R2	Hyde Lodge	16.1	11.3	14.4	0.1	9.6
R3	Handcross Primary School	15.8	11.2	14.4	0.1	9.6
R4	West Lodge	16.6	11.6	14.5	0.1	9.6
R5	East Lodge, Springwood Farm	14.4	10.5	13.5	0.3	9.1
R6	North Lodge, Cuckfield Road	15.9	11.2	15.1	0.1	10.0
R7	Green Banks, Horsham Road	14.8	10.6	14.0	0.2	9.3
MSAQ44	Telegraph Pole High Street Handcross	16.6	11.5	15.2	0.1	10.0
NAQO			40	40	35	25



5.17 Presented in **Table 5.6** are the predicted change in concentrations of NO₂, PM₁₀ and PM_{2.5} and the change in the number of days where concentrations of PM₁₀ are greater than 50 µgm⁻³ due to cumulative traffic.

Table 5.6: Predicted change in air quality concentrations at sensitive receptors in 2029 “Do Something”

Receptor Number and Name		NO ₂		PM ₁₀				PM _{2.5}	
		Change in annual mean µgm ⁻³ (%)		Change in annual mean µgm ⁻³ (%)		Change in days >50 µgm ⁻³ (%)		Change in annual mean µgm ⁻³ (%)	
R1	1 Coopers Wood	0.01	(0.09)	0.00	(0.00)	0.00	(0.00)	0.01	(0.11)
R2	Hyde Lodge	0.01	(0.09)	0.00	(0.00)	0.00	(0.00)	0.01	(0.10)
R3	Handcross Primary School	0.01	(0.09)	0.00	(0.00)	0.00	(0.00)	0.01	(0.10)
R4	West Lodge	0.03	(0.26)	0.01	(0.07)	0.00	(0.00)	0.01	(0.10)
R5	East Lodge, Springwood Farm	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.01	(0.11)
R6	North Lodge, Cuckfield Road	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.01	(0.10)
R7	Green Banks, Horsham Road	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.01	(0.11)
MSAQ 44	Telegraph Pole High Street Handcross	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.01	(0.10)

5.18 With reference to Table 5.6, predicted changes in NO₂ concentration are 0.03 µgm⁻³ or less, 0.1 µgm⁻³ or less in concentration of PM₁₀ and 0.1 µgm⁻³ or less in concentration of PM_{2.5}. It can also be seen that there is predicted to be “No Change” in the number of days where the concentration of PM₁₀ is more than 50 µgm⁻³.

Magnitude of Change

2029 with development

5.19 Comparing the results in Table 5.6 with the magnitude of change in Table 3.11 it can be seen that all the receptors are predicted to experience a change in annual mean NO₂ concentrations which is “Imperceptible” (<0.4 µgm⁻³) or “No Change”.

5.20 It can also be seen that all the receptors are predicted to experience a change in annual mean PM₁₀ and PM_{2.5} concentrations and the number of days where PM₁₀ levels are greater than 50 µgm⁻³ which is “Imperceptible” (<0.4 µgm⁻³) or “No Change”.



“Significance” of Change

2029 with development

- 5.21 The “Significance” of the predicted changes in NO₂, PM₁₀ and PM_{2.5} annual mean concentrations are presented in **Table 5.7**, **Table 5.8** and **Table 5.9**.



Table 5.7: NO₂ – Significance of change in annual mean concentrations following the completion of the proposed development in 2029

Receptor Number and Name		NO ₂		
		Change in annual mean (µgm ⁻³)	Magnitude of change	“Significance” of change
R1	1 Coopers Wood	0.01	Imperceptible	Negligible
R2	Hyde Lodge	0.01	Imperceptible	Negligible
R3	Handcross Primary School	0.01	Imperceptible	Negligible
R4	West Lodge	0.03	Imperceptible	Negligible
R5	East Lodge, Springwood Farm	0.00	No Change	No Change
R6	North Lodge, Cuckfield Road	0.00	No Change	No Change
R7	Green Banks, Horsham Road	0.00	No Change	No Change
MSAQ44	Telegraph Pole High Street Handcross	0.00	No Change	No Change

5.22 With reference to the overall concentration of NO₂ presented in Table 5.5 being below the NAQO level of 40 µgm⁻³ and the magnitude of change presented in Table 5.7 being “Imperceptible” or “No Change”, the “Significance” of change in NO₂ concentrations is considered “Negligible” or “No Change”.



Table 5.8: PM₁₀ – Significance of change in annual mean concentrations following the completion of the proposed development in 2029

Receptor Number and Name		PM ₁₀		
		Change in annual mean (µgm ⁻³)	Magnitude of change	“Significance” of change
R1	1 Coopers Wood	0.00	No Change	No Change
R2	Hyde Lodge	0.00	No Change	No Change
R3	Handcross Primary School	0.00	No Change	No Change
R4	West Lodge	0.01	Imperceptible	Negligible
R5	East Lodge, Springwood Farm	0.00	No Change	No Change
R6	North Lodge, Cuckfield Road	0.00	No Change	No Change
R7	Green Banks, Horsham Road	0.00	No Change	No Change
MSAQ44	Telegraph Pole High Street Handcross	0.00	No Change	No Change

5.23 With reference to the overall concentrations of PM₁₀ presented in Table 5.5 being below the objective level of 40 µgm⁻³ and the magnitude of change presented in Table 5.8 being “Imperceptible” or “No Change”, the “Significance” of change in PM₁₀ concentration is considered to be “Negligible” or “No Change”.



Table 5.9: PM_{2.5} – Significance of change in annual mean concentrations following the completion of the proposed development in 2029

Receptor Number and Name		PM _{2.5}		
		Change in annual mean (µgm ⁻³)	Magnitude of change	“Significance” of change
R1	1 Coopers Wood	0.01	Imperceptible	Negligible
R2	Hyde Lodge	0.01	Imperceptible	Negligible
R3	Handcross Primary School	0.01	Imperceptible	Negligible
R4	West Lodge	0.01	Imperceptible	Negligible
R5	East Lodge, Springwood Farm	0.01	Imperceptible	Negligible
R6	North Lodge, Cuckfield Road	0.01	Imperceptible	Negligible
R7	Green Banks, Horsham Road	0.01	Imperceptible	Negligible
MSAQ44	Telegraph Pole High Street Handcross	0.01	Imperceptible	Negligible

5.24 With reference to the overall concentrations of PM_{2.5} presented in Table 5.5 being below the objective level of 25 µgm⁻³ and the magnitude of change presented in Table 5.9 being “Imperceptible”, the “Significance” of change in PM_{2.5} concentration is considered to be “Negligible”.

Constraints

- 5.25 Constraints on development has been determined by considering the background concentrations of pollutants within the site and comparing these to the NAQO levels for NO₂, PM₁₀ and PM_{2.5}.
- 5.26 Within the Site, there are two receptors (Site W and Site E) and concentrations of NO₂, PM₁₀ and PM_{2.5} for 2026 are presented in **Table 5.10**.

Table 5.10: Predicted Air Quality Concentrations at Sensitive Receptors 2026

Receptor Number and Name	NO _x	NO ₂	PM ₁₀		PM _{2.5}
	Annual mean µgm ⁻³	Annual mean µgm ⁻³	Annual mean µgm ⁻³	Days >50 µgm ⁻³	Annual mean µgm ⁻³
Site W – close to the A23	16.3	11.4	14.4	0.1	9.6
Site E – close to London Road	26.0	15.9	14.8	0.1	9.9
NAQO	-	40	40	35	25

5.27 With reference to Table 5.10, the concentrations of NO₂, PM₁₀ and PM_{2.5} within the Site are well below the NAQO levels and subsequently there will not be any



significant levels of pollutants, based on the background pollutants concentrations and the proximity of main roads.



6.0 MITIGATION

Construction Phase

- 6.1 There is an expectation that a Construction Environmental Management Plan (CEMP) will be prepared for the construction phase of the development. Monitoring during the construction phase should be considered in the management of operations to ensure that the nuisance thresholds are not exceeded at nearby sensitive locations. However, it is important to note that such limits are subjective (as “nuisance” caused by dust does not currently have a statutory limit applied to it).
- 6.2 Monitoring of dust could be achieved using a variety of sampling techniques, for example deposit (“Frisbee”) gauges, glass slides or high-volume air samplers located around the site perimeter and at the sensitive locations up to 250 metres from the site boundary.
- 6.3 In addition, there are several Best Practice mitigation measures that can be used by contractors to ensure that the impacts experienced near the construction site are minimal. Sample mitigation:
- 6.4 Specific to demolition (for information only):
- Ensure effective water suppression is used during demolition operations;
 - Avoid explosive blasting, using appropriate manual or mechanical alternatives;
 - Bag and remove any biological debris or damp down such material before demolition; and
- 6.5 Effective site planning:
- Erect solid barriers to site boundary (where possible);
 - Dust generating activities to be located away from sensitive receptors;
 - All site personnel will be fully trained;
 - There will be a trained and responsible manager on site during working times to maintain a logbook and carry out site inspections;
 - There will be no run off of mud or water from the site;
 - Relevant legislation and guidance will be adhered to; and
- 6.6 Construction Traffic
- All vehicles to switch off engines (no idling);



- On road vehicles will comply to set emission standards;
- Effective vehicle cleaning and specific wheel-washing on leaving site;
- All loads entering site must be covered;
- All non-road mobile machinery (NRMM) should use ultra-low sulphur diesel where available; and

6.7 Site Activities

- Minimise dust generating activities where possible;
- Use water as a dust suppressant where applicable;
- Stockpiles will be covered, enclosed, seeded or kept sheeted; and
- If applicable, any concrete crushers/batchers will have the required permits.

6.8 It is recommended that liaison with the Local Authority be maintained throughout the construction process. In addition, the main contractor should nominate a representative (possibly the site manager) to act as a point of contact with the BBC, the construction team and the local community to ensure that any air quality related issues that occur during the construction period can be dealt with efficiently, effectively and promptly.

6.9 All other site sub-contractors should also nominate or appoint a suitable team member responsible for liaison with the lead contractor's representative and to ensure that sub-contractor construction activities are managed effectively.

6.10 Details of the proposed methodology for achieving this and procedures to follow should be set out in a the CEMP. This would be held on-site and would include relevant contact names, details, lines of communication and mitigation action plans. The document should be available to all site personnel who should be made aware of its existence and provide an undertaking that they will adhere to the guidance provided therein.

6.11 The mitigation of PM₁₀ releases due to material disturbance will be achieved in the same manner as the control of dust releases. By achieving effective control of sources of dust release, PM₁₀ releases can be minimised.

6.12 The most effective control of particulate releases from site plant will be achieved by ensuring that it is maintained in good working order and is of the appropriate capacity and specification for the job being carried out. It should also be located away from the site perimeter, thereby maximizing the distance between source and receptor.



- 6.13 There may be occasions where breakdown of site plant could cause short-term releases of excess particulate matter (smoke) and odour. Short-term releases may also occur during start up (of diesel engines, etc.). Regular visual checks and routine maintenance should be applied in accordance with the plant specification, to ensure that these releases are minimised. Faulty site plant should be decommissioned until repairs have been carried out and have been tested and found to be operating satisfactorily.
- 6.14 Detailed mitigation measures to control construction traffic should be discussed with officers from MSDC, to establish the most suitable access routes for the site traffic and service vehicles. The most effective mitigation will be achieved by ensuring that construction traffic vehicles are kept clean and sheeted when on public highways (using wheel washers) and avoid using sensitive roads. Timing of large-scale vehicle movements to avoid peak hours on the local road network would also be beneficial. Clear signposting to the site access for construction traffic should also be provided and direct traffic along routes agreed with the Council.
- 6.15 Early morning delivery vehicles, which may arrive prior to the site opening, should be prevented from waiting on the approach roads to the site. If site deliveries arrive prior to the site opening, they should wait at a suitable location, and if possible, turn the engine off.
- 6.16 With the implementation of the appropriate mitigation measures detailed above, but not restricted to the information detailed above, the residual effects will normally be Negligible and “Not Significant”.

Operational Phase

- 6.17 Taking into the account predicted “Negligible” increases in NO_2 , PM_{10} and $\text{PM}_{2.5}$ concentrations at sensitive receptors or “No Change” due to the development generated traffic following the completion of the development, and that concentrations of NO_2 , PM_{10} and $\text{PM}_{2.5}$ are predicted to be well below the NAQO level of $40 \mu\text{g m}^{-3}$ (NO_2 and PM_{10}) and $25 \mu\text{g m}^{-3}$ ($\text{PM}_{2.5}$) no additional mitigation is proposed.
- 6.18 Within the development site, concentrations of NO_2 , PM_{10} and $\text{PM}_{2.5}$ are predicted to be well below the NAQO level of $40 \mu\text{g m}^{-3}$ (NO_2 and PM_{10}) and $25 \mu\text{g m}^{-3}$ ($\text{PM}_{2.5}$). Therefore, there are no proposals to mitigate air quality within the site.



7.0 SUMMARY AND CONCLUSIONS

- 7.1 Stuart Michael Associates has been engaged by Welbeck Strategic III Land (the Applicants) to undertake an air quality assessment for the proposed development on land west of London Road, Handcross, Mid Sussex.
- 7.2 The assessment has been undertaken to demonstrate the impact on concentrations of NO₂, PM₁₀ and PM_{2.5} at sensitive receptors due to development generated traffic. Annual average concentrations have been compared to the National Air Quality Objective Levels and the magnitude and significance of change has also been assessed against national guidelines.
- 7.3 Constraints on development have been assessed using background concentrations, existing and future emissions from road traffic at the proposed development site.
- 7.4 Also assessed are the likely impacts from the construction of the development. The impact assessment has been undertaken using the method detailed in the Institute of Air Quality Management (IAQM) publication *"Guidance on the assessment of dust from demolition and construction"* (2024).
- 7.5 Concentrations of NO₂, PM₁₀ and PM_{2.5} at 42 diffusion tubes (DT), one continuous monitor (CM) in MSDC and CBC and seven sensitive receptors have been assessed using ADMS Roads. The 2019 NO₂ concentrations from 41 DT's in CBC have been used to verify the results from the modelling.
- 7.6 Two "Base" (Do Nothing) and one "Future" (Do Something) scenarios have been assessed along with a 2019 scenario for the verification of the model. The base scenarios are 2026, 2029 and the future scenario is 2029 + Development and the future scenario includes cumulative local development generated traffic. The scenarios have been assessed to gauge the magnitude of change in concentrations NO₂, PM₁₀ and PM_{2.5} and the significance of those changes.
- 7.7 Road traffic flows on the local highway network have been obtained from surveys undertaken by the Transport Consultants (i-Transport), WebTRIS, DfT permanent traffic counters and publicly available data. Where necessary, the surveyed traffic flows have been growthed to the assessment years using TEMPRO and adjusted using NTM.
- 7.8 Following the completion of the development, there is predicted to be an increase of 16.5% or less in 24-hour traffic flows along the links within the assessment area.



- 7.9 The concentrations of NO_2 in 2029 are predicted to be well below the objective level of $40 \mu\text{g m}^{-3}$. The magnitude of change in annual mean concentrations at all the receptors due to development generated traffic is predicted to be “Imperceptible” or “No Change”. Therefore the “Significance” of change is considered to be “Negligible” or “No Change”.
- 7.10 Concentrations of PM_{10} in 2029 are predicted to be well below the objective level of $40 \mu\text{g m}^{-3}$ at the receptor locations and experience “Imperceptible” or “No Change” due to development generated traffic. Therefore the “Significance” of change is considered to be “Negligible” or “No Change”.
- 7.11 Concentrations of $\text{PM}_{2.5}$ in 2029 are predicted to be well below the objective level of $25 \mu\text{g m}^{-3}$ at the receptor locations and experience “Imperceptible” due to development generated traffic. Therefore the “Significance” of change is considered to be “Negligible”.
- 7.12 During the Earthworks phase of development, there is predicted to be a “Medium Risk” of annoyance caused by dust soiling and a “Low Risk” of health effects due to increase exposure in PM_{10} . There is predicted to be a “Low Risk” of annoyance caused by dust soiling and a “Low Risk” of health effects due to increase exposure in PM_{10} during the Construction Phase and due to Trackout.
- 7.13 For those cases where the risk category is Negligible (i.e. ecological), no specific mitigation measures is required beyond specific legislation.
- 7.14 Within the development site concentrations of NO_2 , PM_{10} and $\text{PM}_{2.5}$ are predicted to be well below the NAQO levels $40 \mu\text{g m}^{-3}$ (NO_2 and PM_{10}) and $25 \mu\text{g m}^{-3}$.
- 7.15 Based on the results of the AQA, it has been concluded that with appropriate mitigation during construction, air quality concentrations are acceptable for future residents of the proposed development. Therefore, in terms of the planning application, the proposed development is not contrary to Policy DP29 and is acceptable from an air quality perspective.



8.0 APPENDICES

Appendix 1 – Illustrative Masterplan





Appendix 2 National Air Quality Objectives (NAQO)

National air quality objectives and European Directive limit and target values for the protection of human health						
Pollutant	Applies	Objective	Concentration measured as ¹⁰	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved (by and maintained thereafter)
Particulates (PM ₁₀)	UK	50 µg/m ³ not to be exceeded more than 35 times a year	24 hour mean	31 December 2004	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	UK	40 µg/m ³	annual mean	31 December 2004	40 µg/m ³	1 January 2005
	Indicative 2010 objectives for PM ₁₀ (from the 2000 strategy and Addendum) have been replaced by an exposure reduction approach for PM _{2.5} (except in Scotland – see below)					
	Scotland	50 µg/m ³ not to be exceeded more than 7 times a year	24 hour mean	31 December 2010	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	Scotland	18 µg/m ³	annual mean	31 December 2010	40 µg/m ³	1 January 2005
Particulates (PM _{2.5}) Exposure Reduction	UK (except Scotland)	25 µg/m ³	annual mean	2020	Target value - 25 µg/m ³	2010
	Scotland	10 µg/m ³		31 December 2020	Limit value - 25 µg/m ³	1 January 2015
	UK urban areas	Target of 15% reduction in concentrations at urban background		Between 2010 and 2020	Target of 20% reduction in concentrations at urban background.	Between 2010 and 2020

National air quality objectives and European Directive limit and target values for the protection of human health						
Pollutant	Applies	Objective	Concentration measured as ¹	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Nitrogen dioxide	UK	200 µg/m ³ not to be exceeded more than 18 times a year	1 hour mean	31 December 2005	200 µg/m ³ not to be exceeded more than 18 times a year	1 January 2010
	UK	40 µg/m ³	annual mean	31 December 2005	40 µg/m ³	1 January 2010
Ozone	UK	100 µg/m ³ not to be exceeded more than 10 times a year	8 hour mean	31 December 2005	Target of 120 µg/m ³ not to be exceeded by more than 25 times a year averaged over 3 years	31 December 2010
Sulphur dioxide	UK	266 µg/m ³ not to be exceeded more than 35 times a year	15 minute mean	31 December 2005	-	-
	UK	350 µg/m ³ not to be exceeded more than 24 times a year	1 hour mean	31 December 2004	350 µg/m ³ not to be exceeded more than 24 times a year	1 January 2005
	UK	125 µg/m ³ not to be exceeded more than 3 times a year	24 hour mean	31 December 2004	125 µg/m ³ not to be exceeded more than 3 times a year	1 January 2005
Polycyclic Aromatic Hydrocarbons	UK	0.25 ng/m ³ B[a]P	as annual average	31 December 2012	1.0 ng/m ³	31 December 2012



National air quality objectives and European Directive limit and target values for the protection of human health						
Pollutant	Applies	Objective	Concentration measured as ¹	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Benzene	UK	16.25 µg/m ³	running annual mean	31 December 2003	-	-
	England and Wales	5 µg/m ³	annual average	31 December 2010	5 µg/m ³	1 January 2010
	Scotland, Northern Ireland	3.25 µg/m ³	running annual mean	31 December 2010	-	-
1,3-butadiene	UK	2.25 µg/m ³	running annual mean	31 December 2003	-	-
Carbon monoxide	UK	10 mg/m ³	maximum daily running 8 hour mean/in Scotland as running 8 hour mean	31 December 2003	10 mg/m ³	1 January 2005
Lead	UK	0.5 µg/m ³	annual mean	31 December 2004	0.5 µg/m ³	1 January 2005
		0.25 µg/m ³	annual mean	31 December 2008	-	-

National air quality objectives and European Directive limit and target values for the protection of vegetation and ecosystems						
Pollutant	Applies	Objective	Concentration measured as ¹	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Nitrogen oxides	UK	30 µg/m ³	annual mean	31 December 2000	30 µg/m ³	19 July 2001
Sulphur dioxide	UK	20 µg/m ³	annual mean	31 December 2000	20 µg/m ³	19 July 2001
	UK	20 µg/m ³	winter average	31 December 2000	20 µg/m ³	19 July 2001
Ozone: protection of vegetation and ecosystems	UK	Target value of 18,000 µg/m ³ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	Average over 5 years	1 January 2010	Target value of 18,000 µg/m ³ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	1 January 2010



Appendix 3 Broader Highway Network Road Traffic Flows – 2026

Link Ref.	Description		LGV + Cars	HGV + Buses
1	A23	Adjacent to Site	73425	4924
2	London Road	Adjacent to Site	3634	56
3	A2011	Crawley Avenue	39330	1653
4	M23	Northeast of Crawley	98659	5870
5		Radford Rd-W	14432	485
6		Radford Rd-E	10167	374
7		Balcombe Rd-N	8546	197
8		Balcombe Rd-S	12535	230
9		Steers Ln-W	4761	175
10		Hazlewick Flyover	10097	369
11	B2037	B2037	8833	369
12	A23	London Rd-W	21562	491
13	A23	London Rd-E	40879	1056
14		Balcombe Rd-CM	12535	230
15	M23	M23 spur	74337	1686
16		Airport Way	30847	765
17		Northgate Av	11410	157
18		Gatwick Ring Road	6030	100
19		Crawley Avenue	40958	2409
20	A2011	A2011 Crawley Avenue	18142	383
21	A2220	Copthorne Road	9135	221
22	A264	Copthorne Way	28395	1111
23	M23	Southeast of Crawley	86295	4759
24	M23	SSE of Crawley	77158	5037
25	A23	Adjacent to Site	70611	3309
26	A23	South of Site	65749	3492
27		Coos Lane	260	10
28	M23	NB off slip	14122	662
29	A23	Brighton Road	20907	315
30	A264		20824	1243
31		Horsham Rd	21743	577
32	A23	Crawley Avenue	18696	336
33		Southgate Avenue	23825	594
34		Southgate Avenue_2	13531	474
35		Brighton Road	5079	64
36	A2220	A2220 Station Way	6959	102
37	A2004	A2004 College Road	16122	430
38	A2220	A2220 Haslette Avenue	24728	533



Link Ref.	Description		LGV + Cars	HGV + Buses
39	A2220	A2220 Worth Park Av	24,728	533
40	B2036	Balcombe Road	11043	199
41	M23	M23 J10A NB on slip	5648	248
42		Balcombe Road	11595	182
43	A264	Copthorne Common Rd	22376	957
44	A23	Crawley Avenue_2	31838	628
45	A2219	London Road	10546	271
46		Tushmore Gyratory	25,351	584
47		High Street OW	5,273	135
48		Pegler Way OW	5,273	135
49		Pegler Way	10,546	271
50		Pegler Way_2	10152	80
51		Pegler Way_2 OW	5076	40
52	A2220	Horsham Road	9218	80
53	A264	A264 Crawley Road	41597	2080
54		Ifield Green	3583	50
55		Rusper Road	2780	21
56		Ifield Drive	7872	225
57		Ifield Avenue	9543	340
58		Bonnetts Lane	5620	53
59	M23	M23 J11 NB on slip	10633	776
60	M23	M23 J11 RDBT	16,621	749



Appendix 4 Background Concentrations of NO_x, NO₂, PM₁₀ and PM_{2.5} for the Wider Assessment Area

Grid Reference		2026				2029			
<i>Easting</i>	<i>Northing</i>	<i>NO_x</i>	<i>NO₂</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>	<i>NO_x</i>	<i>NO₂</i>	<i>PM₁₀</i>	<i>PM_{2.5}</i>
529500	141500	20.5	15.0	11.4	6.7	19.0	14.0	11.2	6.5
526500	139500	17.1	12.7	10.6	6.3	16.2	12.1	10.3	6.1
527500	139500	19.5	14.3	11.0	6.5	18.4	13.6	10.8	6.3
528500	139500	20.4	14.9	10.6	6.6	19.2	14.1	10.4	6.3
529500	139500	16.4	12.3	10.5	6.5	15.1	11.4	10.2	6.3
525500	138500	13.3	10.2	10.2	6.3	12.3	9.4	10.0	6.1
527500	138500	21.8	15.7	11.4	7.0	20.4	14.9	11.1	6.8
528500	138500	20.6	15.0	11.2	6.8	19.1	14.0	11.0	6.6
529500	138500	16.9	12.6	11.3	6.8	15.3	11.5	11.0	6.6
530500	138500	16.2	12.2	12.2	6.8	14.1	10.7	12.0	6.5
526500	137500	15.7	11.8	11.0	6.8	14.2	10.7	10.7	6.6
527500	137500	17.5	13.0	11.1	6.9	16.1	12.1	10.8	6.7
528500	137500	24.0	17.1	11.9	7.4	22.5	16.2	11.6	7.2
529500	137500	16.4	12.3	11.2	7.1	14.8	11.2	11.0	6.9
524500	136500	11.9	9.2	10.6	6.6	10.8	8.4	10.3	6.4
525500	136500	13.3	10.2	10.7	6.7	12.0	9.2	10.5	6.5
526500	136500	15.4	11.6	11.0	6.9	13.9	10.6	10.7	6.7
528500	136500	18.1	13.4	11.3	7.1	16.6	12.4	11.1	6.9
529500	136500	14.3	10.8	11.0	7.0	12.8	9.8	10.8	6.8
530500	136500	14.3	10.8	11.6	6.7	12.4	9.6	11.4	6.5
525500	135500	13.2	10.1	11.0	6.8	11.8	9.1	10.8	6.6
527500	135500	14.0	10.7	11.0	6.9	12.6	9.6	10.8	6.7
528500	135500	13.3	10.2	10.8	6.8	12.0	9.3	10.6	6.5
526500	134500	13.4	10.2	10.8	6.7	12.1	9.3	10.6	6.5
529500	134500	12.0	9.2	10.7	6.3	10.4	8.1	10.5	6.1



Appendix 5 Gatwick Wind Rose – 2019

