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**1-3 BARCLAY COURT, MARKET PLACE
HAYWARDS HEATH**

AIR QUALITY ASSESSMENT

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1-3 BARCLAY COURT, MARKET PLACE, HAYWARDS HEATH AIR QUALITY ASSESSMENT

CONTENTS

1	INTRODUCTION	4
1.1	Proposed Development	4
1.2	Site Location.....	4
2	LEGISLATION, POLICY AND GUIDANCE	5
2.1	Legislation	5
2.2	Planning Policy	5
2.3	Guidance	7
3	ASSESSMENT METHOD	10
3.1	Baseline method	10
3.2	Assessing Impacts of the Construction Phase.....	11
3.3	Assessing Impacts of the Operational Phase	11
3.4	Emissions Mitigation Assessment.....	12
4	BASELINE CONDITIONS.....	13
4.1	Air Quality Management Areas.....	13
4.2	Local Air Quality Monitoring	13
4.3	Background Concentrations.....	14
4.4	Summary	14
5	CONSTRUCTION PHASE IMPACT ASSESSMENT	16
5.1	Dust and Emissions Screening.....	16
5.2	Dust Emission Magnitude	16
5.3	Sensitivity of the Area	17
5.4	Dust Risk.....	17
5.5	Mitigation.....	18
5.6	Residual Effects	18
6	OPERATIONAL PHASE IMPACT ASSESSMENT.....	19
6.1	Traffic	19
6.2	Energy Plant	19
7	EMISSIONS MITIGATION ASSESSMENT	20
8	CONCLUSIONS	22
	Appendix A: Figures	23
	Appendix B: Site-specific Mitigation	32



1 INTRODUCTION

RF Environmental Ltd (RFE) has been commissioned to undertake an air quality assessment in support of a planning application for the proposed residential development at 1-3 Barclay Court within the administrative area of Mid Sussex District Council (MSDC).

The operational phase of the proposed development has the potential to cause air quality impacts on existing receptors from additional emissions.

The construction phase of the proposed development has the potential to cause temporary air quality impacts from dust-generating activities and construction vehicle exhaust emissions.

Emissions from road vehicles are a key source of air pollution. The main pollutants of health concern from road traffic are nitrogen dioxide (NO₂) and fine particles (PM₁₀ and PM_{2.5}). These pollutants have been considered in this assessment.

1.1 Proposed Development

The proposed development will involve the extension and conversion of the existing building which has been operating as an education centre, to residential use comprising ten flats. The current building is three storeys plus a lower ground floor. The plans propose to add an additional 3rd floor. Residential flats will be located on the ground to the third floor.

The proposed development will comprise six car parking spaces on the ground floor, each equipped with an electric vehicle (EV) charging point. There will be associated bicycle storage for 18 no. bikes on the ground floor.

The site location plan is presented in Figure A1 and the proposed floor plans are presented in Figures' A2 to A6 of Appendix A.

The first proposed year of construction will be 2025 and the first operational year is anticipated to commence in 2026.

1.2 Site Location

The site is located in an urban area, surrounded primarily by commercial buildings in the immediate vicinity, with residential buildings in the broader surroundings. Market Place borders the front of the building to the east. To the south, across the car park access, is a vehicle repair shop. The site is bordered to the west by an office block and to the north by Hayworth House, which is let out for commercial use. Haywards Heath train station is approximately 25 meters east of the proposed development site.



2 LEGISLATION, POLICY AND GUIDANCE

2.1 Legislation

Environment Act

The Environment Act 1995¹, most recently amended in 2021², makes provisions about targets, plans and policies about air quality and requires the Secretary of State to produce and review a national Air Quality Strategy.

The UK government and the devolved administrations published the latest Air Quality Strategy (AQS) for England in July 2023³. The Strategy provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. The AQS sets out the actions the government expects local authorities in England to take in support of achieving the long-term air quality goals. The strategy provides a framework to enable local authorities to make the best use of their powers and deliver for their communities.

Part 4 of the Environment Act requires every local authority to carry out a review of the likely future air quality within the authority's area. Where, as a result of an air quality review, it appears that any air quality standards or objectives are not being achieved or are not likely within the relevant period to be achieved, the local authority must designate an air quality management area (AQMA). If a local authority has designated an AQMA, the local authority must prepare an action plan in relation to that area.

Local authorities in England undertake review and assessment against the Strategy's national objectives prescribed in the Air Quality Regulations (2000)⁴, as amended⁵.

Environmental Protection Act (1990)

Section 79 of the Environmental Protection Act 1990⁶ allows local authorities to take enforcement action if dust emissions become a statutory nuisance.

2.2 Planning Policy

2.2.1 National Policies

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) (2024)⁷ sets out the government's planning policies for England and how these are expected to be applied. This revised framework replaces the previous National Planning Policy Framework published in March 2012, and most recently revised in December 2024.

¹ 1995 c.25. Environment Act 1995. HMSO.

² 2021 c.30. Environment Act 2021. HMSO.

³ Defra, The Air Quality Strategy for England. April 2023.

⁴ SI 2000 No. 928. Environmental Protection, England. The Air Quality (England) Regulations 2000. HMSO.

⁵ SI 2002 No. 3043. Environmental Protection, England. The Air Quality (England) (Amendment) Regulations 2002. HMSO.

⁶ 1990 c.43. Environmental Protection Act. HMSO.

⁷ Ministry of Housing, Communities and Local Government. National Planning Policy Framework. December 2024.



Paragraph 110 refers to the promotion of sustainable transport and how this can contribute to improving air quality. It states that:

“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.”

Paragraph 199 focuses on how air quality should be considered during planning decisions. It states that:

“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan”.

2.2.2 Local Policy

MSDC Local Air Quality Management

Mid Sussex District Council adopted the Mid Sussex District Plan 2014-2031 as a Development Plan Document at its meeting on 28th March 2018. Although this plan is currently under review, it is still considered when determining planning applications. The District Plan⁸ is the main planning document used by the Council when considering planning applications. It includes the strategy, proposed level of development and a number of planning policies.

Policy DP29: Noise, Air and Light Pollution, states the following, in relation to air quality:

“...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:...

...Air Pollution:

- *It does not cause unacceptable levels of air pollution;*

⁸ MSDC, 2018. Mid Sussex District Plan 2014-2031. March 2018.



- *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.”*

2.3 Guidance

National Planning Practice Guidance

The government has revised and updated the national planning practice guidance⁹ to support the NPPF to make it more accessible. The guidance includes advice on: planning and air quality; the role of local plans regarding air quality; when air quality is likely to be relevant to a planning decision; what should be included within an air quality assessment; and how impacts on air quality can be mitigated. The guidance encourages early communication with local planning authorities, which has been included in the proposed development assessment work undertaken to date.

Construction Guidance

The Institute of Air Quality Management (IAQM)¹⁰ has published guidance on the assessment of dust from construction and demolition. Based on this guidance, the main air quality impacts that may arise during construction activities are:

- dust deposition, resulting in the soiling of surfaces;
- visible dust plumes, which are evidence of dust emissions;
- elevated PM₁₀ concentrations, as a result of dust generating activities on site; and
- an increase in concentrations of airborne particles and nitrogen dioxide due to exhaust emissions from diesel powered vehicles and equipment on site.

Activities on construction sites are assessed to reflect their different potential impacts and the construction activities are sub-divided between demolition, earthworks, construction and trackout. The sensitivity of the area is considered and the assessment is used to define appropriate mitigation measures.

Operational Guidance

For operational impacts, the Environmental Protection UK (EPUK) and the IAQM produced guidance to ensure that air quality is adequately considered in the land-use planning and development control processes¹¹.

⁹ Ministry of Housing, Communities and Local Government. 2019. Planning Practice Guidance: Air Quality. Available from: <https://www.gov.uk/guidance/air-quality--3>

¹⁰ Holman et al (2024). IAQM Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London.

¹¹ Land-Use Planning & Development Control: Planning for Air Quality. Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes. EPUK & IAQM. January 2017



The guidance document is particularly applicable to assessing the effect of changes in exposure of members of the public resulting from residential and mixed-use developments, especially those within urban areas where air quality is poorer. It is also relevant to other forms of development where a proposal could affect local air quality and for which no other guidance exists.

Emissions Mitigation Guidance

The Air Quality and Emissions Mitigation guidance for Sussex¹² was published in 2021 and details the steps required to assess and mitigate the impact that new developments may have on local air quality. The purpose of the emissions mitigation assessment is to:

- *“calculate the additional transport emissions associated with a development;*
- *determine the appropriate level of mitigation required to help avoid, minimise and/or off-set the impact on air quality;*
- *enable an evidence-based and proportionate approach.”*

The guidance provides a method for determining the estimated monetary value of damage from a development caused by the pollutants PM and NO_x. This is the minimum sum of money that must be spent on practical mitigation measures.

The emissions mitigation statement must include:

- i. *“the development traffic input data used in the mitigation calculation and quote the source of the data;*
- ii. *emissions calculation and total calculated value of emissions’ health damage cost;*
- iii. *itemised costing for each proposed mitigation option and total value of all proposed emissions’ mitigation. This should be equal to the value from ii. above. (appropriate to the type and size of development and local policy requirements); and*
- iv. *statement of proposals to minimise dust emissions in accordance with the IAQM Guidance on the Assessment of Dust from Demolition and Construction.”*

Air Quality Criteria

A summary of the air quality objectives relevant to the proposed development, as set out in the UK Air Quality Strategy, is presented in Table 2.1 below. These objectives apply to human receptors.

¹² Sussex Air (2021). Air Quality and Emissions Mitigation guidance for Sussex. Version 1. April 2021.

Pollutant	Time Period	Objective
Nitrogen Dioxide (NO ₂)	1-hour Mean	200 µg/m ³ not to be exceeded more than 18 times a year
	Annual Mean	40 µg/m ³
PM ₁₀	1-hour Mean	50 µg/m ³ not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m ³
PM _{2.5}	Annual Mean	20 µg/m ³ (12 µg/m ³ by 2028)*

TABLE 2.1: UK AIR QUALITY OBJECTIVES FOR NITROGEN DIOXIDE AND PARTICULATES

* The presented PM_{2.5} objective in brackets is an interim target prescribed in The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 and is the responsibility of national government and is not covered in Regulations aimed at the LAQM framework. Although local authorities have a role to play in delivering reductions in PM_{2.5}. The PM_{2.5} target of 20 µg/m³ is covered by the Air Quality Standards Regulations 2010 aimed at Local Authorities.



3 ASSESSMENT METHOD

3.1 Baseline method

A review of baseline conditions was undertaken to understand existing air quality in the area.

3.1.1 Data sources

3.1.1.1 Local Air Quality Management

The latest publicly-available air quality monitoring data managed by MSDC are for 2023.

Monitoring data collected by MSDC as part of their local air quality management (LAQM) duties was obtained to inform the baseline.

3.1.1.2 Defra Background Maps

Background pollutant concentrations across the study area have been defined using modelled national pollution maps published by Defra¹³. These cover the whole of the UK on a 1x1 km grid and cover each year until 2030.

Defra modelled data were used to predict future concentrations of NO₂, PM₁₀ and PM_{2.5} at the proposed development site, which provides an indication of the concentrations for the opening year of the proposed development and the predicted trend in background pollutants over time.

Predictions of total pollutant concentrations include contributions from local emissions sources (such as roads, chimney stacks, etc.) and local background concentrations.

3.1.2 Receptors

Human Receptors

The AQS objectives only apply where members of the public are likely to be regularly present for the averaging time of the objective. Defra technical guidance note TG22¹⁴ provides the following examples of where annual mean AQS objectives should apply:

- residential properties;
- schools;
- hospitals; and
- care homes.

The 24-hour mean objective applies to all locations where the annual mean objective would apply, together with hotels and gardens of residential properties.

Annual mean NO₂ concentrations over 60 µg/m³ are used as an indication of potential exceedances of the 1-hour mean NO₂ objective.

¹³ Department for Environment, Food and Rural Affairs. (Defra). 2018. Background mapping for local authorities. <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018> (Accessed 29/01/2025)

¹⁴ Defra. 2022. Local Air Quality Management. Technical Guidance TG22



Online mapping and aerial photograph resources were used to identify existing receptors.

The proposed development is introducing residential receptors to the area; and introducing traffic related emissions to the area which may affect existing receptors, both of which are relevant to the assessment.

Ecological Receptors

There are no ecological receptors within 50m of the site; and therefore, impacts on ecology have not been considered further.

3.2 Assessing Impacts of the Construction Phase

There is the potential for fugitive dust emissions to occur during the construction-phase activities. The dust emissions from construction have been assessed in accordance with the IAQM document 'Guidance on the Assessment of Dust from Demolition and Construction'.

The IAQM guidance requires that construction dust impacts are assessed up to 250m from the boundary of the site. The construction phase study area also covers 50m from the edge of the road(s) used by construction vehicles on the public highway up to 500m from the site exit. For small sites this is 50m from the site exit.

Construction traffic impacts were assessed in line with EPUK/ IAQM guidance.

3.3 Assessing Impacts of the Operational Phase

The IAQM and EPUK guidance provides criteria for establishing whether a development will require an air quality assessment and, if so, what level of assessment. The criteria are set out in a two-stage approach:

To meet the criteria in Stage 1, the development must have:

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

This must be combined with any of the following:

- more than 10 parking spaces within the development; or
- the development has a centralised energy facility or combustion process.

The indicative Stage 2 criteria for requiring a detailed modelling assessment are:

- A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.
- A change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.
- Where the change is 5m or more and the road is within an AQMA.
- Where a junction is added or removed close to existing receptors



- Where one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.

The proposed development will not introduce more than 500 AADT flows or more than 100 AADT HDV flows. It does not meet indicative Stage 2 criteria, so detailed assessment of road traffic has been scoped out. A qualitative assessment has been undertaken.

3.4 Emissions Mitigation Assessment

The purpose of this assessment is to quantify the health damage value associated with transport emissions from the proposed development. Transport emissions from the proposed development were estimated using Defra's Emissions Factor Toolkit¹⁵, which were then used to estimate the associated health damage cost using Defra's damage cost toolkit¹⁶.

The Sussex guidance provides a method for generating a development specific damage cost;

1. identify the trips/annum generated by the proposed development (this information will be available in the transport assessment, transport statement or TRICS database);
2. assume an average distance travelled of 10km/trip;
3. calculate the emissions of NO_x and PM_{2.5} (tonnes/annum) using the Emissions Factor Toolkit, and an assumption of an average speed of 50Km/H;
4. look-up the latest HM Treasury and Defra IGCB damage costs and multiply the outputs from 3. above to provide a value of the emissions health damage, for each pollutant;
5. quantify emissions over a five-year period; and
6. sum the NO_x and PM_{2.5} costs to provide a total health damage value.

¹⁵ Defra, 2024. EFT v12.1. Available at: <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/>. Accessed 29/01/2025.

¹⁶ Defra, 2023. Air quality appraisal: Damage costs toolkit. March 2023. Available at <https://www.gov.uk/government/publications/assess-the-impact-of-air-quality>. Accessed 30/01/2025.



4 BASELINE CONDITIONS

The site is located in an urban area, surrounded primarily by commercial buildings in the immediate vicinity, with residential buildings in the broader surroundings. Market Place borders the site to the east, and the closest façade of the proposed development is c. 2.4m from the kerbside.

4.1 Air Quality Management Areas

There are no AQMAs in Haywards Heath.

4.2 Local Air Quality Monitoring

Data were taken from MSDC's 2024 air quality annual status report¹⁷.

MSDC operates a single automatic monitoring station that measures NO₂ and PM₁₀ but does not monitor PM_{2.5}. The automatic monitoring station is located in East Grinstead, over 15km northeast of the proposed development site, and has therefore not been considered further.

In 2023, MSDC conducted nitrogen dioxide monitoring at 36 diffusion tube sites. The only roadside diffusion tube site (MSAQ1) located in Haywards Heath is approximately 984m southeast of the site on South Road, located around 2.5m from the kerbside.

The other monitoring location Haywards Heath is in a suburban location (MSAQ28). It is approximately 1.9km southeast of the development site and 1.5m from the kerbside of Rocky Lane, and in proximity of Foxhill Roundabout.

The results are summarised in Table 4.1. The monitoring locations are shown in Figure A7 of Appendix A.

Site ID	Easting, Northing	Site Type	Annual Mean Concentration (µg/m ³)				
			2019	2020	2021	2022	2023
MSAQ1	533342, 123587	Roadside	19.3	12.7	14.8	14.4	12.9
MSAQ28	533342, 122625	Suburban	25.3	22.2	22.4	24.5	21.4

TABLE 4.1: SUMMARY OF ANNUAL MEAN NO₂ MONITORING

Notes:

Exceedances of the NO₂ annual mean AQS objective of 40 µg/m³ are shown in bold.

Monitoring data between 2019 and 2023 at the available long-term roadside diffusion tube sites in Haywards Heath, presented in Table 4.1, remained well below the AQS objective of 40 µg/m³ for annual mean NO₂ in all reported years. The closest roadside diffusion tube site (MSAQ1) is situated on a commercialised shopping street and is therefore likely to experience similar or higher levels of traffic as the proposed development site. It is also a similar distance

¹⁷ LBS, 2024. LBS Air Quality Annual Status Report for 2023. June 2024.



from the roadside as the development. Therefore, pollution concentrations are likely to be similar.

Data capture at the roadside diffusion tube sites and suburban diffusion tube site show an overall decreasing trend in annual mean NO₂ concentrations. Reductions in NO₂ levels in 2020 are likely to have been caused by a combination of lower traffic levels during the Covid-19 pandemic.

The measured diffusion tube monitoring concentrations show that the NO₂ concentrations at the proposed development and nearby existing receptors are likely to be within the annual mean AQS objective of 40 µg/m³.

TG22 states that when the annual mean NO₂ concentration at diffusion tube locations is less than 60 µg/m³, the short term (one-hour) objective for NO₂ is unlikely to be exceeded. The data in Table 4.1 demonstrate that the one-hour objective is not likely to have been breached between 2019 and 2023.

Over the next few years, Euro 6/VI vehicles will dominate the fleet and will lead to lower NO_x emissions. This will lead to lower future baseline NO₂ levels.

4.3 Background Concentrations

Estimated background concentrations at the proposed development have been determined for the baseline year of 2019, the proposed construction year of 2025 and the anticipated operational year of 2026 using Defra's background maps¹⁸. Concentrations of NO₂, PM₁₀ and PM_{2.5} have been used for the grid square centred on 532500, 124500, which overlays the site. The background concentrations are set out in Table 4.2. The background concentrations are all within the AQS objectives in 2019 and predict a downward trend for NO₂ through to 2026. PM₁₀ and PM_{2.5} concentrations predict a downward trend to 2026 and slight increase in 2026.

Site ID	2019	2025	2026
NO ₂ (µg/m ³)	10.1	8.2	8.1
PM ₁₀ (µg/m ³)	14.1	12.9	13.0
PM _{2.5} (µg/m ³)	9.7	8.8	8.8

TABLE 4.2: PREDICTED ANNUAL MEAN BACKGROUND POLLUTANT CONCENTRATIONS

4.4 Summary

The site is in an urban area surrounded by a mix of commercial and residential properties. The site is bound by Market Place to the east. The proposed development will introduce residential use on the ground floor to the third floor. There are no AQMA's in Haywards Heath.

¹⁸ Department for Environment, Food and Rural Affairs. (Defra). 2018. Background mapping for local authorities. [online] <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>. Accessed 21/01/2025



Pollutant concentrations measured at the nearest and most representative roadside diffusion tube monitoring locations show that annual mean NO₂ concentrations remained well within the AQS objectives for annual mean NO₂ in all reported years.

Monitored NO₂ concentrations showed a decreasing trend between 2019 and 2023, driven by tighter vehicle emissions standards, although reductions in 2020 are likely to have been made greater by lower traffic levels during the Covid-19 pandemic. PM₁₀ and PM_{2.5} concentrations are within the AQS objectives in all reported years.

Annual mean NO₂ concentrations recorded at the passive roadside diffusion tube monitoring locations are well below 60 µg/m³, which indicates the hourly mean NO₂ objective is unlikely to be breached. Mean hourly NO₂ concentrations recorded at the continuous roadside and urban background monitors did not exceed the 200 µg/m³ objective in all reported years.

Modelled Defra background annual mean pollutant concentrations at the 1km x 1km grid square overlaying the site predict that NO₂, PM₁₀ and PM_{2.5} pollutants currently meet the AQS objectives. NO₂ concentrations show a downwards trend throughout future years and PM₁₀ and PM_{2.5} concentrations show a slight increase in 2027.

Overall, the baseline data indicates that annual NO₂, PM₁₀ and PM_{2.5} objectives are currently being met at the proposed development site and will continue to do so.



5 CONSTRUCTION PHASE IMPACT ASSESSMENT

5.1 Dust and Emissions Screening

As there are human and ecological receptors within 50 m of potential construction dust sources, human health impacts, dust soiling impacts and ecological impacts are considered in this assessment.

Two-way construction traffic movements are expected to be much less than 50 daily movements at peak. Annual average daily movements will be lower. The change in flow in heavy-duty vehicles (HDVs) during construction is not expected to meet indicative criteria for detailed assessment. Therefore, impacts from construction traffic are expected to be negligible.

5.2 Dust Emission Magnitude

Quantities and magnitude classifications used below correspond to those in IAQM guidance and are based on the information currently available.

Demolition

The existing building will remain and therefore any demolition activities will be minor. Demolition activities will involve the removal of the extension structures to the rear of the building, which comprise concrete and block. There will be no on-site crushing. This will last approximately eight weeks. Demolition activities are considered to have a 'small' dust emission magnitude.

Earthworks

As above, the existing building will remain and therefore earthworks activities will be minor or non-existent. The total site area is 727m². Earthworks activities are considered to have a 'Small' dust emission magnitude.

Construction

Construction activities will involve the conversion of the existing building into ten flats, which includes the construction of a third floor and two new lift shafts. The total building volume will be 3,850m³. Remediation works to the existing building will involve block and brick. There will be cladding to the second and third floors as well as the lift shafts. A timber frame structure will be used for the new build third floor, and concrete block construction will be employed for the lift shafts. There will be no on-site concrete batching or sandblasting. Construction activities are proposed to commence in 2025 and will have a duration of 14 months. The site is considered to have a 'Small' dust emission magnitude for construction.

Trackout

The peak number of HDV outward movements is expected to be approximately 10 to 30. Waste material and spoil will be removed from site using tipper trucks. Site access will be via

Market Place and then the access road between the garage and the site. Vehicles will remain on a paved road. The site is considered to have a ‘Small’ dust emission magnitude for trackout.

Activity	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Small
Trackout	Small

TABLE 5.1: DUST EMISSION MAGNITUDE

5.3 Sensitivity of the Area

There are between 1 and 10 receptors with a high sensitivity to dust soiling and health effects within 50m of the site boundary. The closest residential properties include those on Boltro Road, south of the site. Residential receptors will have a high sensitivity to dust soiling and health effects. The dust risk buffers are shown in Figure A4.

Table 5.1 shows that the dust emission magnitude for trackout is small and therefore there is a risk of material being tracked 50m from the site exit. It is assumed there are between 10 and 100 receptors within 50m of the roads, with a high sensitivity to dust soiling and health effects.

The sensitivity of the area to dust soiling effects is defined as ‘Low’ for demolition, earthworks and construction activities and ‘Medium’ for trackout, due to the number and proximity of sensitive receptors. This is summarised in Table 5.2.

The sensitivity of the area to human health impacts is defined as ‘Low’ for all activities, due to the number and proximity of sensitive receptors and a predicted background annual mean PM₁₀ concentration of less than 24 µg/m³ in the vicinity of the site.

Sensitivity of the Area	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Low	Low	Low	Medium
Human Health	Low	Low	Low	Low

TABLE 5.2: SENSITIVITY OF THE AREA

5.4 Dust Risk

The likely risk of dust effects, based on the contents of Table 5.1 and Table 5.2, at nearby sensitive receptors without mitigation in place is summarised in Table 5.3. There is a



‘Negligible’ risk from all activities causing health effects. There is a ‘Low’ risk from all activities causing dust soiling.

Summary	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Negligible	Negligible	Negligible	Low Risk
Human Health	Negligible	Negligible	Negligible	Negligible

TABLE 5.3: SUMMARY DUST RISK CATEGORY

5.5 Mitigation

The dust risk assessment has found that the site is, at worst, a ‘Low Risk’ Site. The IAQM guidance provides a 51-point list of potential mitigation measures and suggests where these measures are highly recommended, desirable or not required based upon the risk of the site. The measures relevant to this site, based on the dust risk category, are presented in Appendix B.

The IAQM guidance details that the dust risk assessment should inform an air quality and dust management plan, to confirm the dust and air quality emission control measures to be implemented, that non-road mobile machinery standards will be met and monitoring methods and complaint response procedures. The air quality and dust management plan may form part of a construction environmental management plan.

5.6 Residual Effects

The IAQM guidance does not provide a method for assessing the significance of effects before mitigation and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be ‘not significant’.



6 OPERATIONAL PHASE IMPACT ASSESSMENT

The proposed development will involve the extension and conversion of 1-3 Barclay Court to ten flats. There will be six associated car parking spaces.

6.1 Traffic

Traffic associated with the proposed development is not likely to meet indicative criteria in IAQM guidance for detailed assessment. The site does not sit within an AQMA. Traffic is expected to have a negligible impact on local air quality when considered in accordance with IAQM guidance.

6.2 Energy Plant

The proposed energy plant will be air source heat pumps (ASHPs), therefore, no further assessment of energy plant is required and impacts from energy plant will be negligible in line with IAQM guidance.

7 EMISSIONS MITIGATION ASSESSMENT

In line with the Air Quality and Emissions Mitigation guidance for Sussex, a damage cost assessment was carried out using Defra's Damage Cost Appraisal tool. The assessment covers the five-year period from the opening of the proposed development. Since there is no calculated percentage available for heavy duty vehicles (HDVs) associated with the proposed development in the transport assessment, a conservative figure of 4% has been adopted. Annual emissions of NO_x and PM_{2.5} were calculated, from which damage costs were quantified.

The development traffic input data used in Defra's Emissions Factors Toolkit (v12.1)¹⁹ is presented in Table 7.1 and the results are presented below in Table 7.2.

Road Type	AADT Flow	%HDV	Speed (kph)	No. of Hours	Link Length (km)	Flow Direction
Urban (not London)	30*	4**	50	24	10	Two-way traffic

TABLE 7.1: TRAFFIC INPUT DATA

*Calculated from peak AM and peak PM counts

** In the absence of a HDV percentage in the transport assessment, 4% has been assumed.

Year	2026	2027	2028	2029	2030	Total Cost (Central Present Value)
Central Value NO _x (£)	230	198	170	144	122	865
Central Value PM _{2.5} (£)	192	186	182	178	174	913
Total (£)						1,778

TABLE 7.2: DAMAGE COST APPRAISAL

The damage cost appraisal shows that the indicative cost associated with five years of operation and the associated increase in emissions would result in a cost of £1,778. This number provides a basis for defining the minimum financial commitment required for offsetting emissions by implementing measures to reduce transport emissions.

The Sussex guidance states that *'the provision of EV charging points recommended by existing parking standards are in addition to the mitigation options identified and costed in an air quality mitigation statement'*. Approved Document S²⁰ of the Building Regulations includes a

¹⁹ Defra, 2024. Emissions Factors Toolkit (EFT) v12.1, August 2024. Available at <https://laqm.defra.gov.uk/air-quality/air-quality-assessment/emissions-factors-toolkit/>. Accessed 29/01/2025.

²⁰ HM Government, The Building Regulations 2010. Approved Document S. Infrastructure for the charging of electric vehicles, 2021.



requirement for residential buildings to have EV charging points. A total of 6 no. EV charging units are proposed. This is in line with Approved Document S, therefore, this has not been considered towards offsetting the mitigation target.

The proposal includes 16 no. safe, covered and conveniently located cycle parking spaces in bike stores. Cycle parking provision is split into two storage areas to provide convenient access from both stair cores of the building.

This has been estimated at £1750 per storage unit²¹, which appears to be one of the cheapest on the market, and therefore, providing a worst case for offsetting.

Mitigation	Mitigation Target = £1,778		
	£/unit	No.	Value (£)
Covered Cycle stores with Sheffield stands	1,750.00	2	3,500
	Total Value		3,500

TABLE 7.3: EMISSIONS MITIGATION ASSESSMENT

Mitigation	Mitigation Target = £1,778		
	£/unit	No.	Value (£)
Covered Cycle stores with Sheffield stands	1,750.00	2	3,500
	Total Value		3,500

Table 7.3 shows that the value of mitigation measures included in the design proposals exceeds the mitigation target of £1,778.

Furthermore, the proposed development's convenient location near Haywards Heath train station, other public transport options, and local amenities further supports the use of sustainable travel methods, reducing dependency on private vehicles.

²¹ Sheltersforless, 2025. Available at: https://www.shelters4less.co.uk/Shelters-Walkways-Canopies/Cycle-Shelters/Build-Your-Perfect-Canterbury-Cycle-Shelter?pl=STD&ccv=Y&sku=SR1636&msclkid=4f625ff7a5f91edfc50c386c78bb68ee&utm_source=bing&utm_medium=cpc&utm_campaign=S4L%20-%20Shopping%20-%20Shelters&utm_term=4576442302250346&utm_content=Cycle%20Shelters. Accessed 30/01/2025.



8 CONCLUSIONS

The proposed development will involve the conversion and extension of 1-3 Barclay Court to introduce ten residential flats. Baseline conditions indicate that NO₂, PM₁₀ and PM_{2.5} objectives are currently being met at the proposed site and will continue to be met.

The construction works have the potential to create dust. During the construction phase it will therefore be necessary to adopt mitigation measures to minimise dust emissions. With the implementation of mitigation measures, the dust impacts from the construction phase will not be significant. Impacts from construction traffic will be negligible.

The traffic associated with the operation of the proposed development is predicted to have a negligible impact on local air quality. The energy plant associated with the proposed development will have a negligible impact on local air quality.

The value of designed-in mitigation measures meets and exceeds requirements in the Air Quality and Emissions Mitigation guidance for Sussex.

The proposed development aligns with national and local policies and does not pose any risk to air quality for existing or future residential receptors.



Appendix A: Figures

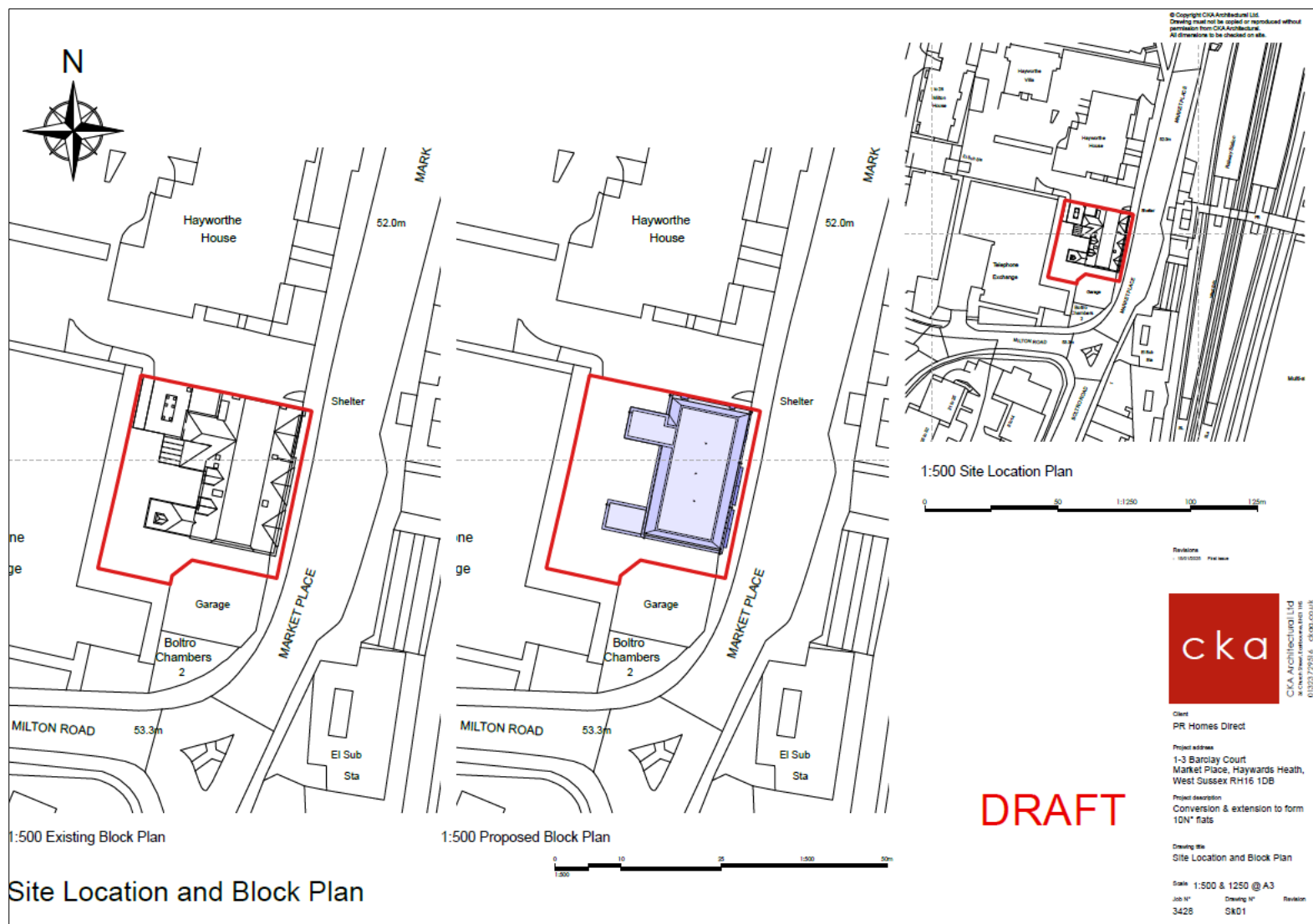


FIGURE A1: EXISTING AND PROPOSED SITE LOCATION

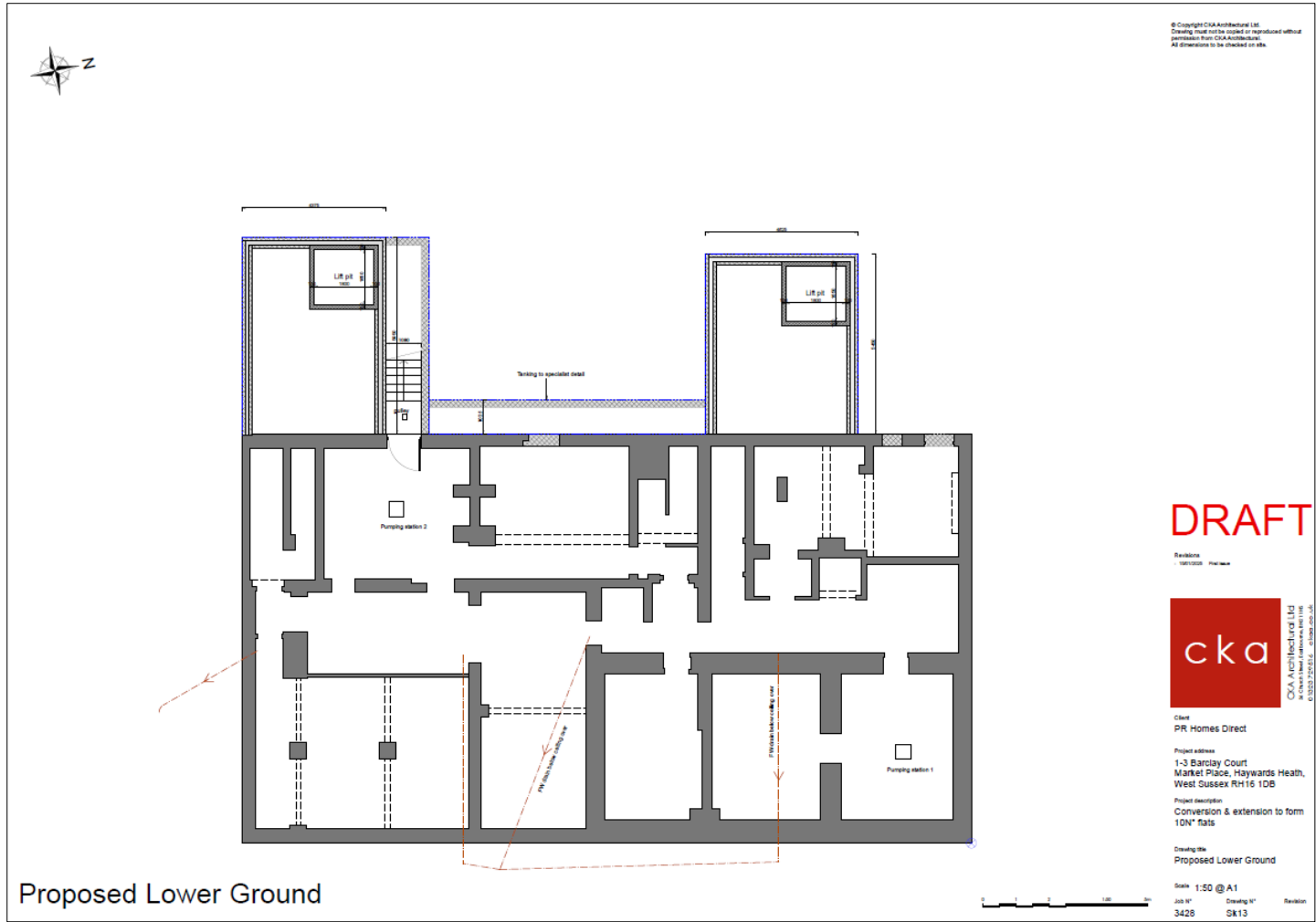


FIGURE A2: PROPOSED LOWER GROUND FLOOR

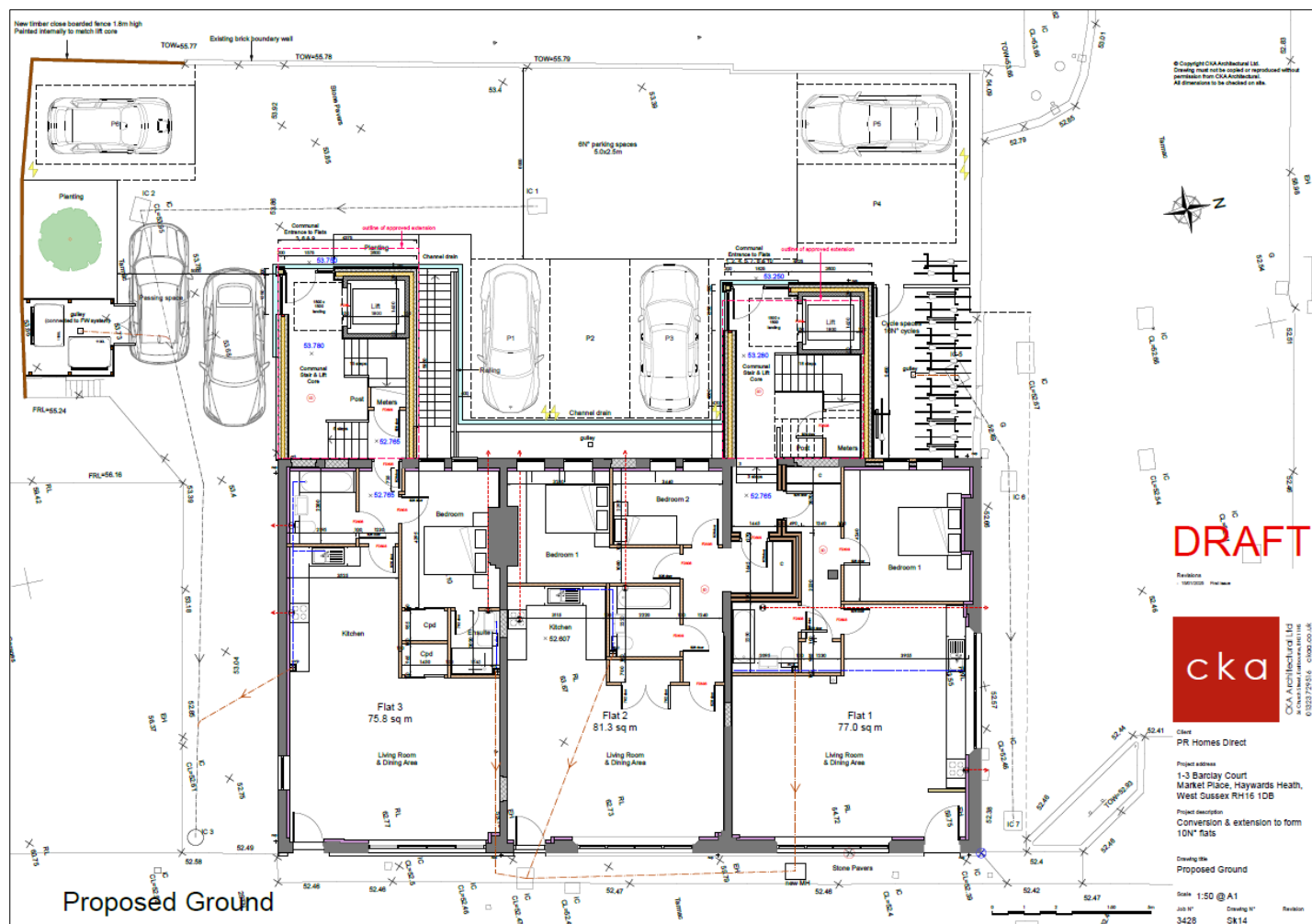




FIGURE A4: PROPOSED FIRST FLOOR



FIGURE A5: PROPOSED SECOND FLOOR PLAN

Revision

FIGURE A6: PROPOSED THIRD FLOOR PLAN

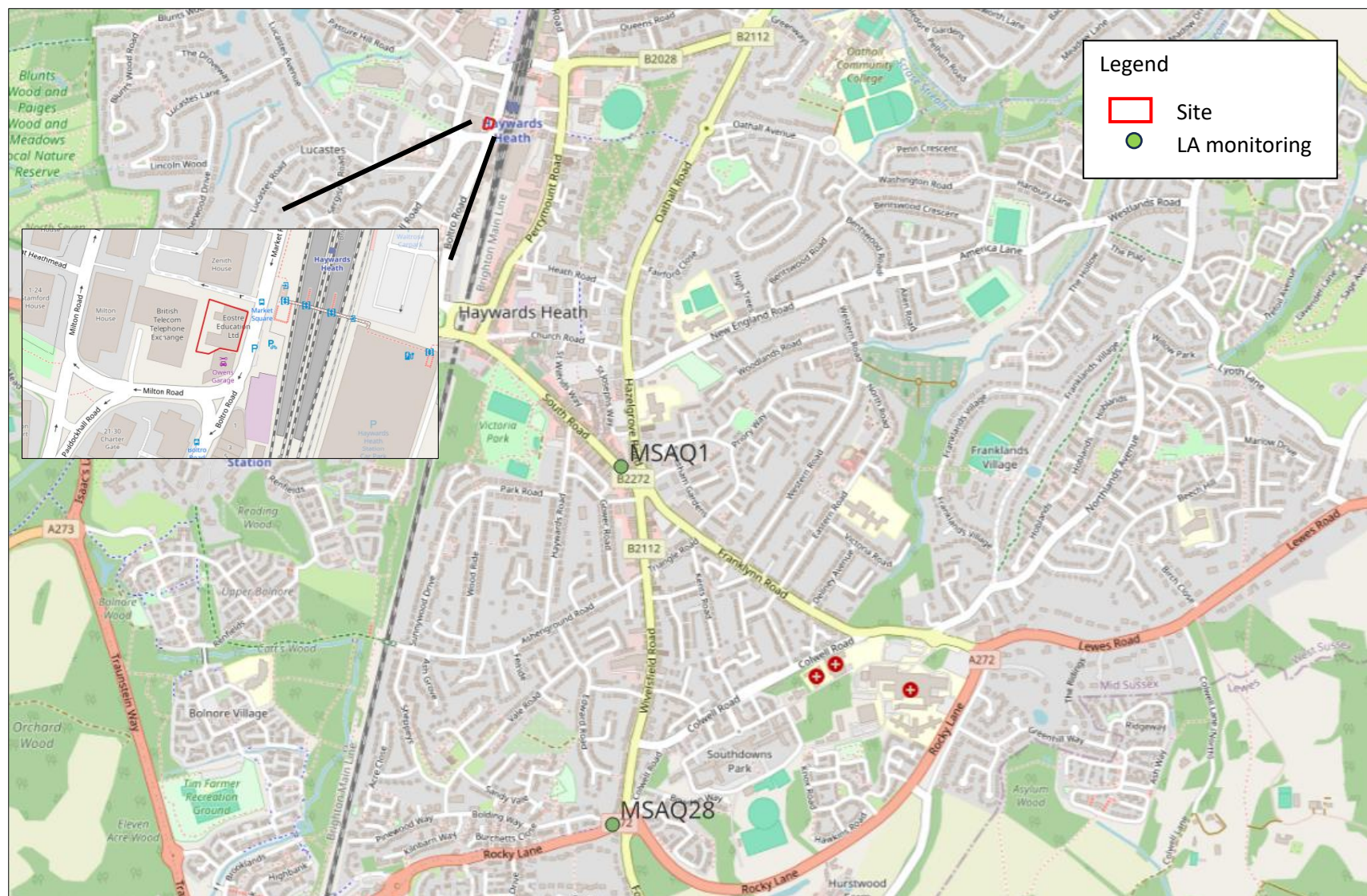


FIGURE A7: LAQM MONITORING LOCATIONS

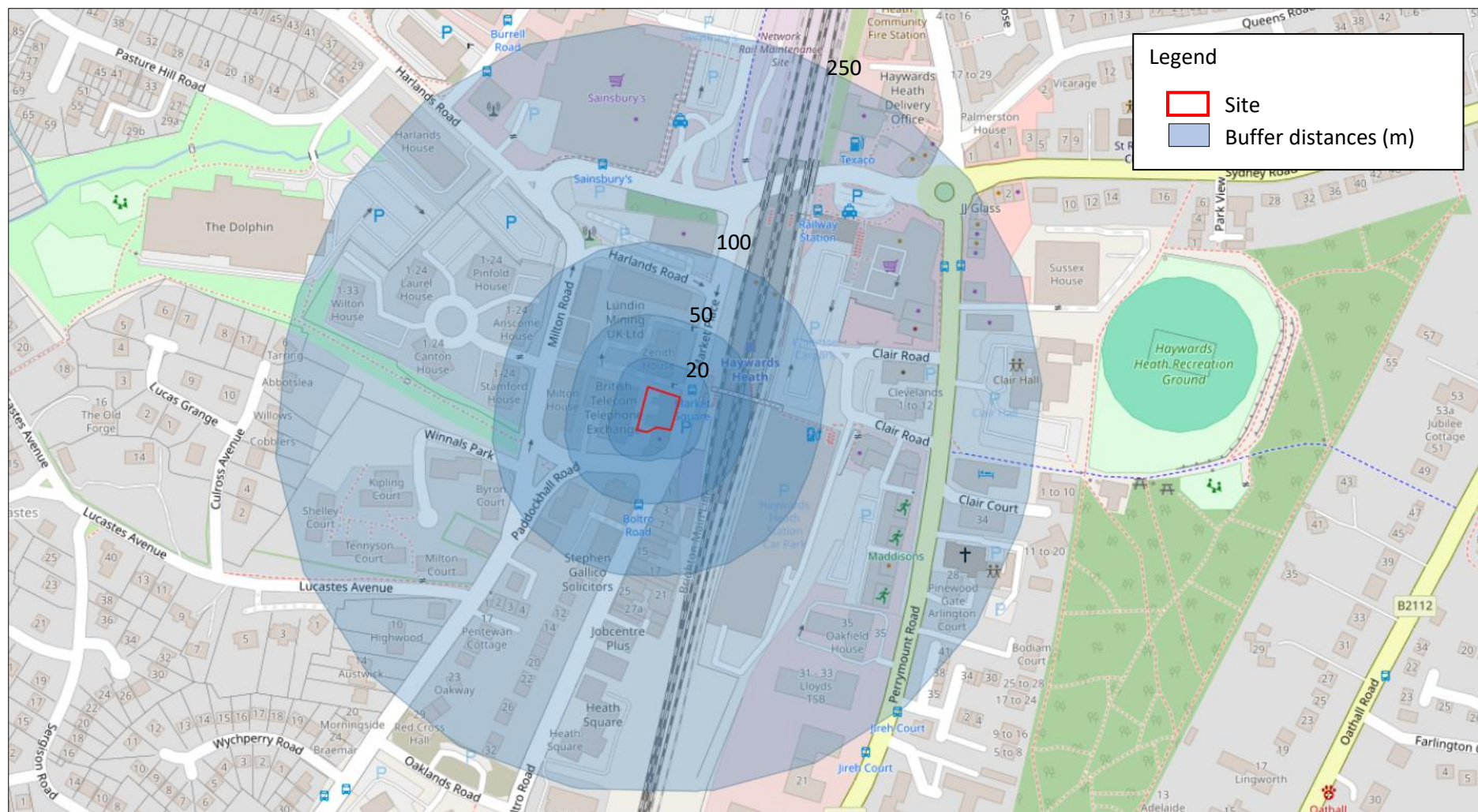


FIGURE A8: DUST MONITORING BUFFER

Appendix B: Site-specific Mitigation

Mitigation Measures	Low Risk	Medium Risk	High Risk
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	H	H	H
Display the head or regional office contact information	H	H	H
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. In London additional measures may be required to ensure compliance with the Mayor of London's guidance. The DMP may include monitoring of dust deposition, dust flux, realtime PM10 continuous monitoring and/or visual inspections.	D	H	H
Site Management			
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	H	H	H
Make the complaints log available to the local authority when asked.	H	H	H
Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.	H	H	H
Monitoring			
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.	D	D	H
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	H	H	H

Mitigation Measures	Low Risk	Medium Risk	High Risk
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	H	H	H
Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.	H	H	H
Preparing and maintaining the site			
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	H	H	H
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	H	H	H
Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period	D	H	H
Avoid site runoff of water or mud.	H	H	H
Keep site fencing, barriers and scaffolding clean using wet methods.	D	H	H
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.	D	H	H
Cover, seed or fence stockpiles to prevent wind whipping.	D	H	H
Operations			
Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards, where applicable	H	H	H
Ensure all vehicles switch off engines when stationary - no idling vehicles.	H	H	H
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	H	H	H

Mitigation Measures	Low Risk	Medium Risk	High Risk
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate)	D	D	H
Operations			
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	H	H	H
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	H	H	H
Use enclosed chutes and conveyors and covered skips.	H	H	H
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.	H	H	H
Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	D	H	H
Waste Management			
Avoid bonfires and burning of waste materials.	H	H	H
Measures specific to construction			
Avoid scabbling (roughening of concrete surfaces) if possible	D	D	H
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place	D	H	H
Measures specific to trackout			

Mitigation Measures	Low Risk	Medium Risk	High Risk
Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.	D	H	H
Avoid dry sweeping of large areas.	D	H	H
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	D	H	H
Record all inspections of haul routes and any subsequent action in a site log book.	D	H	H
Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	D	H	H

TABLE B1: SITE SPECIFIC MITIGATION MEASURES