

njd

Environmental Associates

Air Quality Assessment

220 & 222 Wellington Road South, SK2 6RS

November 2023

Views



Air Quality Assessment

220 & 222 Wellington Road South, SK2 6RS

Client: Views

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DRAFT

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1 INTRODUCTION

- 1.1.1 NJD Environmental Associates Ltd was instructed by Views to prepare an Air Quality Assessment, to inform a retrospective planning application for two proposed HMOs spread over two semi-detached houses (the 'Proposed Development'), located at 220 and 222 Wellington Road South in Stockport, SK2 6RS (the 'Site').
- 1.1.2 The Site is located in an area where air quality is mainly influenced by road traffic emissions along the A6 Wellington Road South and the local road network. A map of the Site and surrounding area is shown in Figure 1.
- 1.1.3 The Proposed Development itself will not have a significant impact on local road traffic. The development flows will be below an annual average daily traffic (AADT) of 100 once distributed on the local road network, indicating that an Air Quality Assessment of vehicle emissions is not required, in accordance with the Environmental Protection UK (EPUK) and Institute of Air Quality (IAQM) document '*Land-Use Planning and Development Control: Planning for Air Quality*' (2017).
- 1.1.4 This report therefore considers existing baseline conditions across and in the vicinity of the Site and determines its suitability for the proposed residential end use. Furthermore, the report provides an appraisal of the construction phase and considers the potential local air quality effects associated with traffic generated by the Proposed Development during the operational phase.

2 LEGISLATION, POLICY AND GUIDANCE

2.1 Air Quality Legislation

Air Quality Strategy (2023)

- 2.1.1 The Air Quality Strategy for England is a strategic framework that fulfils the statutory requirement of the Environment Act 1995, as amended by the Environment Act 2021. The Strategy is aimed at local authorities, giving them a heightened level of responsibility to improve air quality in their areas of jurisdiction. The Strategy requires them to actively consider potential air quality implications of any new proposed development, with a focus on pollution prevention and improvement of local air quality throughout the planning process.
- 2.1.2 The Air Quality Strategy contains standards, objectives and measures for improving ambient air quality, including the ambitious new targets for fine particulate matter (PM_{2.5}) set out in the Environment Act 2021.

Air Quality Standards Regulations (2010)

- 2.1.3 The Air Quality Standards (Amendment) Regulations 2016 amend the Air Quality Standards Regulations 2010 that transpose the European Union Ambient Air Quality Directive (2008/50/EC) into law in England. The regulations aim to protect human health and the environment by providing air quality limit values for seven pollutants and target values for an additional five pollutants.
- 2.1.4 Table 1 provides the air quality objectives (AQOs) for the pollutants considered within the Site suitability assessment.

Table 1 - Air Quality Objectives		
Pollutant	Concentration (µg/m³)	Averaging Period
NO ₂	40	Annual mean
	200	1-hour, not to be exceeded on more than 18 occasions per annum
PM ₁₀	40	Annual mean
	50	24-hour mean, not to be exceeded on more than 35 occasions per annum
PM _{2.5}	20	Annual mean

2.2 National Planning Policy

National Planning Policy Framework

2.2.1 The revised National Planning Policy Framework (NPPF), dated September 2023, sets out the Government's core policies and principles with respect to land use planning, including air quality.

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

c) An environmental objective - to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

2.2.3 The NPPF also includes the following considerations which are relevant to the Proposed Development:

"174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability."*

2.2.4 Pollution is defined as:

"Anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity. Pollution can arise from a range of emissions, including smoke, fumes, gases, dust, steam, odour, noise and light."

2.2.5 The following is also relevant to the Proposed Development:

"186. 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."

- 2.2.6 The National Planning Practice Guidance (NPPG) states that whether or not air quality is relevant to a planning decision will depend on the proposed development air quality impacts in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife).

2.3 Local Planning Policy

Core Strategy DPD (2011)

- 2.3.1 The 'Core Strategy DPD' was adopted by Stockport Metropolitan Borough Council (SMBC) in March 2011, and seeks to guide future development to improve the lives of the local community, up until 2026.

- 2.3.2 A review of the document has identified the following policies relevant to air quality:

"Development Management Policy SIE-3 - Protecting, Safeguarding and enhancing the Environment

[...]

B) Controlling Pollution

- 3.348 New development that seeks to reduce air, noise, light, water or ground pollution in areas or locations where acceptable standards are already exceeded will be given positive consideration. New housing or other environmentally sensitive development will not be permitted where existing pollution levels are unacceptable and where there is no reasonable prospect that they can be satisfactorily reduced through specific measures or action programmes. In particular:

AIR QUALITY: An Air Quality Management Area (AQMA) has been declared under the provisions of the National Local Air Quality Strategy and is subject to revision on a biennial basis. All development should be designed so as to ensure that adequate levels of air quality are achieved within buildings.

Development that assists in reducing the existing levels of poor air quality within the declared AQMA will be given positive consideration. Development that would exacerbate the existing poor air quality levels within the AQMA will be permitted only where it is demonstrated that that exacerbation will be mitigated.

[...]"

"Core Policy CS8 - Safeguarding and Improving the Environment

[...]

Environmental Protection, Improvement and Safeguarding

3.298 Development proposals which seek to make environmental improvements and enhancements will be given positive consideration, especially where they bring derelict, vacant or contaminated previously developed land back into safe, active use. Development should be located and designed in such a way as take account of natural and man-made environmental constraints and hazards including:

[...]

Air, water, noise and vibration, light or other pollution (including air-quality management areas)

[...]"

"Core Policy CS10 - An Effective and Sustainable Transport Network

[...]

Air Quality and Noise

3.466 The Council will continue to work alongside other Greater Manchester Boroughs on implementing Air Quality Management Plans to facilitate improvements in air quality along the Borough's major road corridors, where national and European targets on nitrogen dioxide emissions are currently not being met.

[...]

3.469 Modal shift from car to public transport, walking and cycling will also assist in an improvement in air quality."

2.3.3 The above policies related to air quality have been considered within this assessment.

2.4 Guidance

Local Air Quality Management

- 2.4.1 Under Section 82 of the Environment Act (1995) (Part IV) Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves comparing present and likely future pollutant concentrations against the AQOs. If it is predicted that levels at locations of relevant exposure, as summarised in Table 1, are likely to be exceeded, the LA is required to declare an AQMA. For each AQMA the LA is required to produce an Air Quality Action Plan, the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.
- 2.4.2 The Department for Environment, Food and Rural Affairs (Defra) has published technical guidance for use by LAs in their review and assessment work. This guidance, referred to in this document as LAQM.TG22, has been used where appropriate in the assessment.

Greater Manchester Air Quality Action Plan 2016-2021

- 2.4.3 A joint Greater Manchester Air Quality Action Plan (AQAP) has been prepared, which identifies the sources of air pollution within the area and sets out the actions to be introduced in order to improve air quality. The measures fall into a number of categories, specifically: reducing emissions from road traffic; protection of air quality through enforcement of air pollution legislation; awareness raising; action through building design and land use planning; and increased energy efficiency.

3 ASSESSMENT METHODOLOGY

3.1 Construction Phase

3.1.1 The IAQM 'Guidance on the assessment of dust from demolition and construction' (August 2023), provides a methodology to determine the potential air quality impacts associated with demolition and construction activity. The emphasis of the guidance document is to classify the risk of dust impacts from a site from which then to identify appropriate mitigation measures commensurate with the risk.

3.1.2 The underlying concept of Source-Pathway-Receptor is the basis of the guidance, with four main types of construction activity required to be considered as follows:

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

3.1.3 The potential for dust emissions is considered for each of these activities, taking into consideration three separate dust impacts:

- Annoyance due to dust soiling;
- The risk of health effects due to an increase in exposure to PM₁₀; and
- Harm to ecological receptors.

Assessment Procedure

3.1.4 The assessment steps provided within the IAQM guidance are summarised below.

Step 1

3.1.5 This step screens the requirement for a more detailed assessment. If there are no receptors within a certain distance, or the scale of development is small, then no further assessment is required.

3.1.6 For human receptors, these distances are specified as 250m from the site boundary or 50m from the construction vehicle route within 250m of the site entrance. Should any ecological receptors also be present within 50m of the site boundary or 50m of the construction vehicle route within 250m of the site entrance, these will require consideration. The assessment proceeds to Step 2 if any receptors are identified within these specified distances.

Step 2

- 3.1.7 This step assesses the risk of the dust impact for each of the four types of activity provided at paragraph 3.1.2, taking account of the scale and nature of the works to determine the dust magnitude (Step 2A) and the sensitivity of the area (Step 2B). Step 2C is then undertaken, considering these factors to provide the risk of dust impacts.
- 3.1.8 The criteria used during Step 2 of the assessment, as contained within the IAQM guidance, is summarised and provided at Appendix 1 of this report.

Step 3

- 3.1.9 Step 3 defines the site-specific mitigation measures to be adopted, based on the dust risk categories for each of the four activities undertaken at Step 2C.
- 3.1.10 Where the risk during Step 2C is defined as negligible, no mitigation measures beyond those required by legislation are required. However, control measures may be adopted as part of best practice.

Step 4

- 3.1.11 This step determines the significance of the effect after considering the construction activity with mitigation.
- 3.1.12 As recognised within the IAQM guidance, for almost all construction activity, the aim should be to prevent significant effects through the use of effective mitigation. Hence the residual effect will normally be 'not significant'.

3.2 Operational Phase

- 3.2.1 In accordance with the EPUK and IAQM document '*Land-Use Planning and Development Control: Planning for Air Quality*' (2017), a significant change would be described as a change in Light Duty Vehicle (LDV) flows of 500 Annual Average Daily Traffic (AADT) and/or Heavy-Duty Vehicle (HDV) flows of 100 AADT or more. Alternatively, a change in LDV flows of 100 AADT and/or HDV flows of 25 AADT or more on routes through an AQMA would also be considered a significant change in accordance with the guidance. Where these thresholds are not exceeded, a detailed assessment of air quality is not normally required.
- 3.2.2 Traffic generated by the Proposed Development is therefore, assessed against the above criteria in order to identify potential significant effects associated with the operational phase of the Site.

Site Suitability

- 3.2.3 An appraisal of Site suitability has been undertaken to determine the risk of potential exposure of proposed new residential receptors to poor air quality.
- 3.2.4 A review was undertaken of the closest diffusion tube monitoring locations to the Site, with the most representative tubes analysed in relation to whether there were any recorded exceedances of the relevant AQO.
- 3.2.5 Pollutant concentrations were also quantified across the Site using background pollutant data taken from the national 2018 based default concentration maps provided by Department for Environment, Food & Rural Affairs (Defra) to identify any potential exceedances. The results were subsequently compared with the relevant AQOs to determine the potential for any exceedance.

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4 BASELINE

4.1 Introduction

4.1.1 A desk-top baseline review of existing air quality conditions in the vicinity of the Site has been undertaken. This is detailed in the following sections.

4.2 Local Emission Sources

4.2.1 The Site is located in an area where air quality is mainly influenced by road traffic emissions along the A6 Wellington Road South and the local road network. There are no combustion sources identified within the vicinity of the Site that would influence local air quality.

4.3 Local Air Quality Management

4.3.1 The Site is located within SMBC, which forms part of the Greater Manchester Combined Authority (GMCA). According to the latest available Air Quality Annual Status Report (ASR) from GMCA, dated June 2023, and the Greater Manchester Air Quality Action Plan 2016-2021, the Greater Manchester AQMA covers the ten districts of Greater Manchester, including arterial routes, district centres and the airport, and was declared based on the modelled $35\mu\text{g}/\text{m}^3$ isopleths for annual mean NO_2 concentrations. The majority of the Site boundary is located within the Greater Manchester AQMA and as such, potential effects associated with the development have been considered at the proposed sensitive receptors within this area.

4.4 Air Quality Monitoring

4.4.1 GMCA currently monitor at 22 automatic (continuous) monitoring stations and 434 non-automatic (passive) diffusion tube sites. The closest monitoring location, diffusion tube 'ST15NO', is located approximately 350m south-east of the Site on 'Bramhall Lane'. Recent diffusion tube monitoring data recorded in the vicinity of the Site are shown in Table 2.

Monitoring Site		Site Type	Monitored NO_2 Concentration ($\mu\text{g}/\text{m}^3$)*				
ID	Location		2018	2019	2020	2021	2022
ST11NO	Norwood Road	Roadside	38.1	36.2	21.9	24.4	23.9
ST15NO	Bramhall Lane	Roadside	25.2	22.3	21.0	23.7	22.0
ST21NO	Carmichael Street	Urban Background	22.1	21.6	15.2	18.4	16.7
ST22NO	A6 Hazel Grove	Roadside	27.2	24.7	17.2	18.5	17.7
ST23NO	A6 Hazel Grove	Roadside	27.9	24.2	16.5	18.5	17.7

Monitoring Site			Monitored NO ₂ Concentration (µg/m ³)*				
ID	Location	Site Type	2018	2019	2020	2021	2022
ST24NO	A6 Hazel Grove	Roadside	26.5	24.6	16.4	18.5	17.7
ST29NO	Russell Street	Urban Background	18.5	18.2	13.1	14.3	13.3
ST36NO	A6 Post Office Site	Roadside	-	-	-	34.7	35.8
ST7NO	Civiccentre Hazel Grove	Kerbside	48.1	39.5	26.3	25.9	26.4
ST8NO	Marshall's Yard Hazel Grove	Urban Background	23.8	21.8	14.0	17.2	16.1
CAP_STOC_010	A6 (London Road)	Roadside	-	-	-	-	19.0
CAP_STOC_024	A6 London Rd	Roadside	-	-	-	-	32.6
CAP_STOC_025	A6 London Rd	Roadside	-	-	-	-	33.5
CAP_STOC_026	A6 London Rd	Roadside	-	-	-	-	31.4
CAP_STOC_035	Petersgate	Roadside	-	-	-	-	31.1
CAP_STOC_036	Petersgate	Roadside	-	-	-	-	24.6
CAP_STOC_037	Petersgate	Roadside	-	-	-	-	29.2

* Exceedances of the relevant AQO are marked in **bold**.

- 4.4.2 As shown in Table 2, annual mean NO₂ concentrations did not exceed the relevant AQO at any diffusion tube monitoring location during the five most recent monitoring years, where data were available, apart from at location 'ST7NO' during 2018. It should be noted, however, that this is a kerbside location and therefore, is not representative of the Site location which is at a greater distance from the road.
- 4.4.3 There are several diffusion tubes located along the A6 within the AQMA, and are therefore considered to be representative of the Site location. As there were no exceedances of the relevant AQO at any of these locations, it is anticipated that concentrations would be similar at the Site and therefore, there is no predicted risk of the Proposed Development exposing future occupants of the Site to elevated pollutant concentrations.
- 4.4.4 Automatic monitoring is also undertaken at one roadside location in the vicinity of the Site. Recent monitoring data are shown in Table 3.

Table 3 - Automatic Monitoring Results

ID	Monitoring Site			Monitored Pollutant Concentration ($\mu\text{g}/\text{m}^3$)				
	Location	Site Type	Pollutant	2018	2019	2020	2021	2022
STK5	Stockport Hazel Grove	Roadside	NO ₂	25	23	16	19	18
			PM ₁₀	19	15	18	18	20

4.4.5 As shown in Table 3, annual mean NO₂ and PM₁₀ concentrations did not exceed the relevant AQOs at the automatic monitoring location during the five most recent monitoring years. This automatic monitor is located adjacent to the A6 within the AQMA, and is therefore considered to be representative of the Site location. With no exceedances of the relevant AQOs, it is therefore anticipated that there is no predicted risk of the Proposed Development exposing future occupants of the Site to elevated pollutant concentrations.

4.4.6 No monitoring of PM_{2.5} is undertaken in the vicinity of the Site.

4.5 Background Concentrations

4.5.1 In addition to the review of NO₂, PM₁₀ and PM_{2.5} monitoring undertaken in the vicinity of the Site, background concentrations for the current assessment year of 2023 have been obtained from the 2018 based default concentration maps provided by Defra for the relevant grid square where the Site is located. These data are provided below in Table 4.

Table 4 - Predicted Background Pollutant Concentrations (2023)

OS Grid Square (X, Y; m)	NO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)
389500, 389500	17.5	24.7	12.3	8.4

4.5.2 As shown in Table 4, predicted background concentrations are well below the national AQOs of 40 $\mu\text{g}/\text{m}^3$ for NO₂ and PM₁₀ and 20 $\mu\text{g}/\text{m}^3$ for PM_{2.5}. For PM_{2.5}, the predicted background concentration is also below the target exposure level of 10 $\mu\text{g}/\text{m}^3$, implemented at the end of January 2023 under the Environment Act 2021. Therefore, there is no predicted risk of the Proposed Development exposing future occupants of the Site to elevated pollutant concentrations.

4.6 Construction Phase

4.6.1 Human receptors within 250m of the site boundary or within 50m of the construction vehicle route up to 250m from the site entrance, need to be considered during the construction phase assessment.

- 4.6.2 A review of the Site location has indicated that with the closest existing dwellings to the west and south, there are 1-10 receptors located <20m from the Site boundary, at worst. When considering the sensitivity of the area to dust soiling effects based on the criteria contained within Table A1.4 of Appendix 1, due to the number and distance to existing **high sensitivity** receptors, the sensitivity of the area is deemed to be **medium**, at worst.
- 4.6.3 When considering the sensitivity of the area to human health effects based on the criteria contained within Table A1.5 of Appendix 1, due to the number and distance to existing **high sensitivity** receptors, and considering the annual mean background PM₁₀ concentrations at the Site presented in Table 4, the sensitivity is deemed to be **low**.
- 4.6.4 There are no ecological receptors located within 50m of the Site boundary or within 50m of the assumed route that construction vehicles would take upon departure, up to 250m from the site entrance.

4.7 Meteorological Data

- 4.7.1 The potential for dust and particulate matter to impact sensitive locations depends significantly on meteorology, particularly wind direction and wind speed, during emissions. To consider the prevailing conditions at the Site, a review of historical weather data has been undertaken. The closest observation station with a suitable dataset is Manchester Airport, located approximately 9.4km to the south-west of the Site. It is anticipated that meteorological conditions would be reasonably similar over a distance of this magnitude.
- 4.7.2 Meteorological data were obtained for the period 1st January 2013 to 31st December 2022 (inclusive), and reference should be made to Appendix 2 for a wind rose of these data.
- 4.7.3 A review of the wind rose has shown that any receptors located to the north through to the east of the Site have the greatest potential to be affected by dust and particulate matter emitted and re-suspended during the construction phase, as a result of the prevailing wind direction. There are no sensitive receptors located in these directional sectors, however, under low wind speed conditions, it is likely that the majority of dust would be deposited in the area immediately surrounding the source.

5 IMPACT ASSESSMENT

5.1 Construction Phase

Step 1

- 5.1.1 A baseline review of the Site and surrounding area has identified human receptors within 250m of the Site boundary.
- 5.1.2 There are no ecological receptors within the relevant screening distances of the Site or the local road network and as such, these effects are not considered further within the assessment. It is therefore concluded that, the level of risk for ecological receptors is **negligible**.

Step 2

- 5.1.3 The IAQM assessment methodology has been reviewed to determine the potential dust emission magnitude for the following four dust and PM₁₀ sources: demolition, earthworks, construction and trackout.
- 5.1.4 Due to the scale and nature of the Proposed Development, being an internal re-development of an existing building, the IAQM guidance is not considered relevant to this scheme.
- 5.1.5 With no external demolition, earthworks, construction or trackout associated with the scheme, the potential dust emission magnitude for these dust and PM₁₀ sources is considered to be **negligible**, with an effect that is **not significant**, in accordance with the IAQM guidance. As such, no further assessment is required.

Step 3

- 5.1.6 Appropriate, site-specific mitigation is to be adopted based on the dust risk calculated in Step 2. In accordance with the IAQM guidance, where the risk is assigned as **negligible**, no mitigation measures beyond those required by legislation are required.

Step 4

- 5.1.7 Due to the scale and nature of the Proposed Development, the residual effect is considered to be **not significant** in accordance with the IAQM guidance.

5.2 Operational Phase

- 5.2.1 Based on the scale of the Proposed Development, the Proposed Development will result in traffic flows below the EPUK/IAQM criteria of 100 AADT, being located within an AQMA.
- 5.2.2 Furthermore, the background pollutant concentrations at the Site, as provided in Table 4, are below the relevant annual mean AQOs and target value. When taking this into consideration alongside the anticipated development flows, the Proposed Development will result in a **negligible** impact associated with the operational phase traffic on nearby sensitive receptors.
- 5.2.3 Based on professional judgement, the AQOs will not be approached or exceeded at existing receptor locations, as a result of the Proposed Development. As such, in accordance with the IAQM guidance, the effect can therefore be described as **not significant**.
- 5.2.4 Increases in pollutant concentrations as a result of exhaust emissions arising from traffic generated by the Proposed Development, once operational, are therefore, not considered further within this report.

Site Suitability

- 5.2.5 The review of SMBC's diffusion tube and automatic monitoring results concluded that annual mean NO₂ concentrations recorded at representative locations within the vicinity of the Site were all below the annual mean AQO for NO₂, during the most recent monitoring years, without the risk of exceedance.
- 5.2.6 Furthermore, Defra-predicted background concentrations of all pollutants considered, are well below the relevant AQOs and target value at proposed receptor locations within the Site boundary.
- 5.2.7 The potential effect of air quality on future occupants of the Proposed Development is likely to be **not significant**. As such, the implementation of additional mitigation measures is not required and the Site is considered to be suitable for the Proposed Development.

6 MITIGATION AND RESIDUAL EFFECTS

6.1 Construction Phase

6.1.1 In accordance with the IAQM guidance, where the risk is assigned as **negligible**, no mitigation measures beyond those required by legislation are required.

Residual Effects

6.1.2 Following the application of the mitigation measures as required by legislation, and good site practice, the residual effects of dust and PM₁₀ generated by construction activities are considered to be **not significant**.

6.1.3 Due to the scale and nature of the Proposed Development, there will be minimal construction vehicles and plant associated with the scheme and as such, the residual effects of emissions to air from these sources on local air quality are considered to be **not significant**.

6.2 Operational Phase

6.2.1 The Proposed Development will result in AADT flows below the EPUK/IAQM Air Quality criteria and would result in a **negligible** impact associated with the operational phase traffic on nearby receptors. As such, no significant effects on air quality are anticipated at existing receptors and mitigation is not required.

Residual Effects

6.2.2 The residual effects of the Proposed Development on air quality are considered to be **not significant** for NO₂, PM₁₀ and PM_{2.5}, according to the EPUK/IAQM assessment criteria.

6.2.3 The residual effect of air quality on future occupants of the Proposed Development is also judged to be **not significant**.

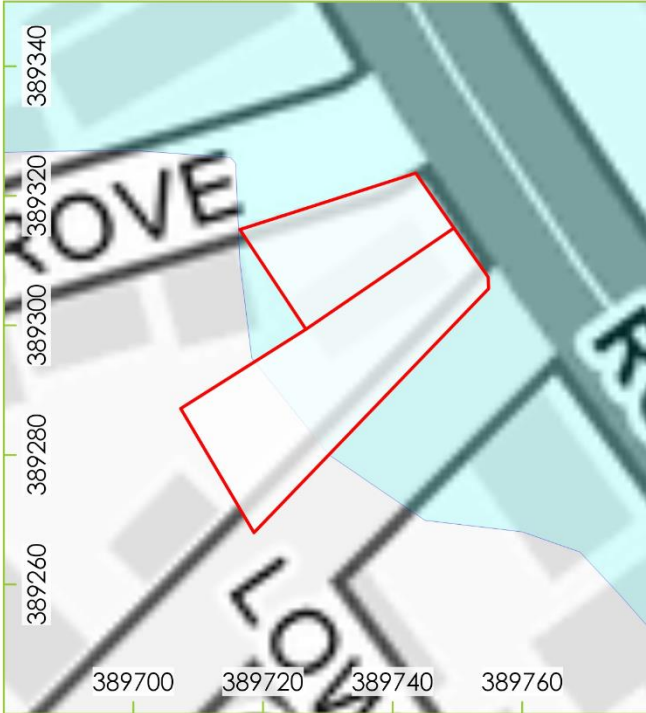
7 CONCLUSION

- 7.1.1 NJD Environmental Associates was instructed by Views to prepare an Air Quality Assessment, to inform a retrospective planning application for two proposed HMOs spread over two semi-detached houses, located at 220 and 222 Wellington Road South in Stockport, SK2 6RS.
- 7.1.2 The IAQM assessment methodology has been reviewed to determine the potential dust emission magnitude for the following four dust and PM₁₀ sources: demolition, earthworks, construction and trackout. Due to the scale and nature of the Proposed Development, being an internal re-development of an existing building, the IAQM guidance is not considered relevant to this scheme.
- 7.1.3 With no external demolition, earthworks, construction or trackout associated with the scheme, the potential dust emission magnitude for these dust and PM₁₀ sources is considered to be **negligible**, with an effect that is **not significant**, in accordance with the IAQM guidance. As such, no further assessment is required.
- 7.1.4 Following the application of the mitigation measures as required by legislation, and good site practice, the residual effects of dust and PM₁₀ generated by construction activities are considered to be **not significant**.
- 7.1.5 The development traffic flows will be less than 100 AADT and with the low background concentrations, the Proposed Development itself will have a **not significant** impact on local air quality.
- 7.1.6 The review of monitored pollutant concentrations within the vicinity of the Site, and mapped background pollutant concentrations, at representative locations within the vicinity of the Site, indicated that all pollutants considered are below the relevant AQOs and target value, without the risk of exceedance.
- 7.1.7 The residual effect of air quality on future occupants of the Proposed Development is therefore, judged to be **not significant**. As such, the implementation of additional mitigation measures is not required.
- 7.1.8 The Site is considered to be suitable for the intended end-use and there is no requirement for further assessment of potential air quality effects associated with the Proposed Development.
- 7.1.9 Based on the results of this assessment, it is concluded that air quality should not be a prohibitive factor in the determination of this planning application.

FIGURES

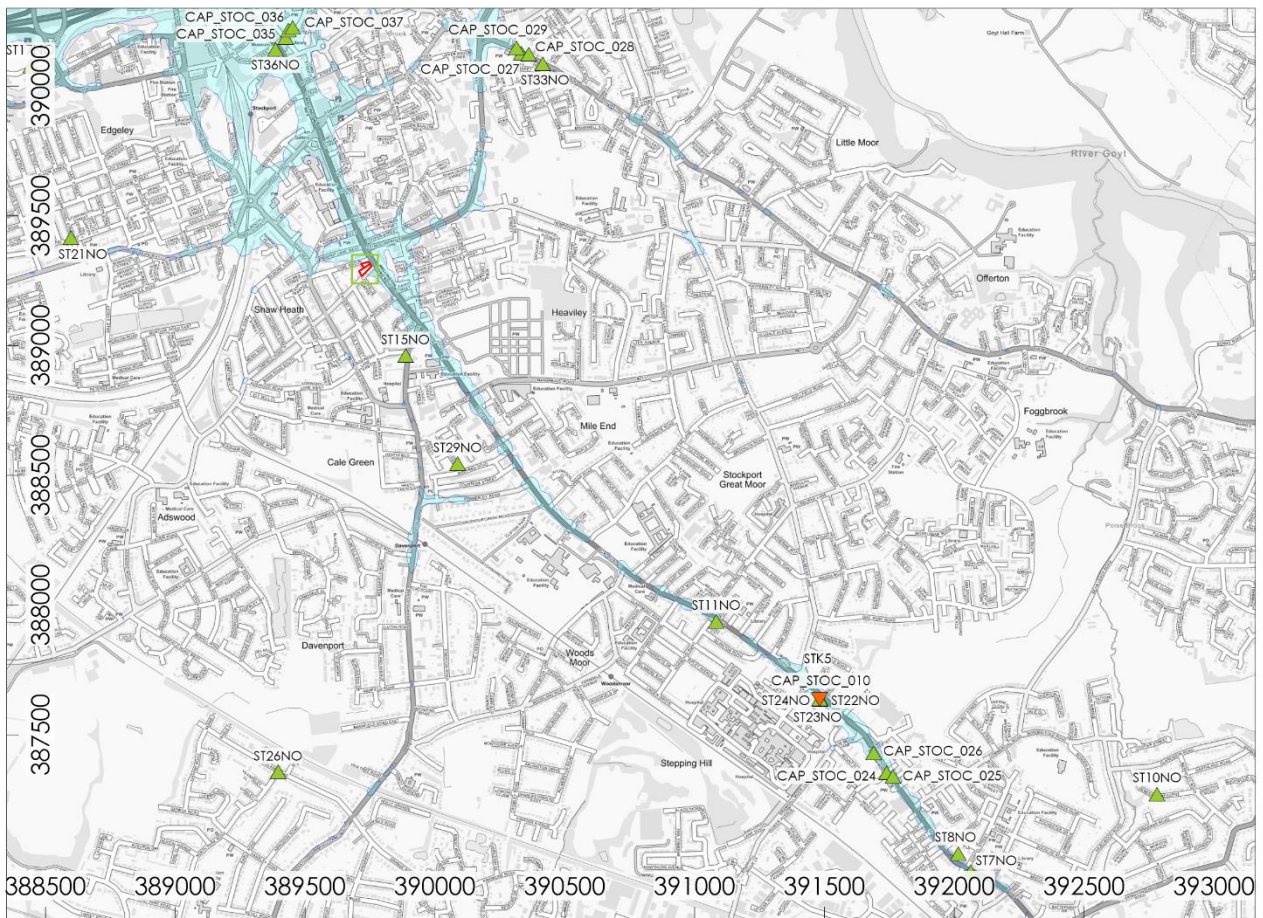
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LEGEND

- Site Boundary
- ▲ SMBC Diffusion Tube Location
- ▼ SMBC Automatic Monitoring Location
- Stockport AQMA



APPENDICES

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Appendix 1 - IAQM Construction Phase Assessment Criteria

Table A1.1 - Potential Dust Emission Magnitude

Magnitude	Activity	IAQM Criteria
Large	Demolition	<ul style="list-style-type: none"> >75,000m³ building demolished Potentially dusty material (e.g., concrete) On-site crushing/screening Demolition >12m above ground level
	Earthworks	<ul style="list-style-type: none"> Total site area >110,000m² Potentially dusty soil type, e.g., clay >10 heavy earth moving vehicles active at any one time Formation of bunds >6m in height
	Construction	<ul style="list-style-type: none"> Total building volume >75,000m³ On site concrete batching Sandblasting
	Trackout	<ul style="list-style-type: none"> >50 HDV (>3.5t) outward movements in any one day Potentially dusty surface material, e.g., high clay content Unpaved road length >100m
Medium	Demolition	<ul style="list-style-type: none"> 12,000 - 75,000m³ building demolished Potentially dusty material (e.g., concrete) Demolition 6-12m above ground level
	Earthworks	<ul style="list-style-type: none"> Total site area 18,000m² - 110,000m² 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	<ul style="list-style-type: none"> Total building volume 12,000m³ - 75,000m³ Potentially dusty construction material, e.g., concrete On site concrete batching
	Trackout	<ul style="list-style-type: none"> 20-50 HDV (>3.5t) outward movements in any one day Moderately dusty surface material, e.g., high clay content Unpaved road length 50m - 100m
Small	Demolition	<ul style="list-style-type: none"> <12,000m³ building demolished Non-dusty material (e.g metal cladding) Demolition <6m above ground level Work during wetter months
	Earthworks	<ul style="list-style-type: none"> Total site area <18,000m² 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
	Construction	<ul style="list-style-type: none"> Total building volume <12,000 m³ Construction material with low potential for dust release, e.g., metal cladding or timber
	Trackout	<ul style="list-style-type: none"> <20 HDV (>3.5t) outward movements in any one day Surface material with low potential for dust release Unpaved road length <50m

Table A1.2 - Factors to Consider - Sensitivity of the Area to Dust Soiling Effects

Receptor Sensitivity	Human Receptors	Ecological Receptors
High	<ul style="list-style-type: none"> • Users can expect enjoyment of a high level of amenity • The appearance, aesthetics or value of their property would be diminished by soiling • People or property reasonably expected to be present continuously, or at least regularly for extended periods, as part of the normal use of the land • Indicative examples include dwellings, museums, medium and long-term car parks and car showrooms 	<ul style="list-style-type: none"> • Locations with an international or national designation and the designated features may be affected by dust soiling • Locations where there is a community of particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain • 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	<ul style="list-style-type: none"> • Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home • The appearance, aesthetics or value of their property could be diminished by soiling • The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal use of the land • Indicative examples include parks and places of work 	<ul style="list-style-type: none"> • Location where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown • Locations with a national designation where the features may be affected by dust deposition • Indicative examples are a Site of Special Scientific Interest (SSSI) with dust sensitive features
Low	<ul style="list-style-type: none"> • The enjoyment of amenity would not reasonably be expected • Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling • There is a transient exposure, where the people or property would reasonably be expected 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 parks and roads 	<ul style="list-style-type: none"> • 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

Table A1.3 - Factors to Consider - Sensitivity of People to Health Effects of PM₁₀

Receptor Sensitivity	Human Receptors
High	<ul style="list-style-type: none"> 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 8 hours or more in a day). Indicative examples include residential properties. Hospitals and schools should also be considered as have equal sensitivity to residential areas for the purposes of this assessment.
Medium	<ul style="list-style-type: none"> Locations where the people exposed are workers 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 8 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	<ul style="list-style-type: none"> Locations where human exposure is transient. Indicative examples include public footpaths, playing fields, parks and shopping streets.

TABLE A1.4 - 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	Low	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 A1.5 - Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<250
High	>32µg/m ³ (>18 µg/m ³ in Scotland)	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low

Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<250
High	28-32µg/m ³ (16-18 µg/m ³ in Scotland)	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28µg/m ³ (14-16 µg/m ³ in Scotland)	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24µg/m ³ (<14 µg/m ³ in Scotland)	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32µg/m ³ (>18 µg/m ³ in Scotland)	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32µg/m ³ (16-18µg/m ³ in Scotland)	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28µg/m ³ (14-16µg/m ³ in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24µg/m ³ (<14µg/m ³ in Scotland)	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	Low	-	≥1	Low	Low	Low	Low

Table A1.6 - Factors to Consider - Sensitivity of the Area to Ecological Impacts

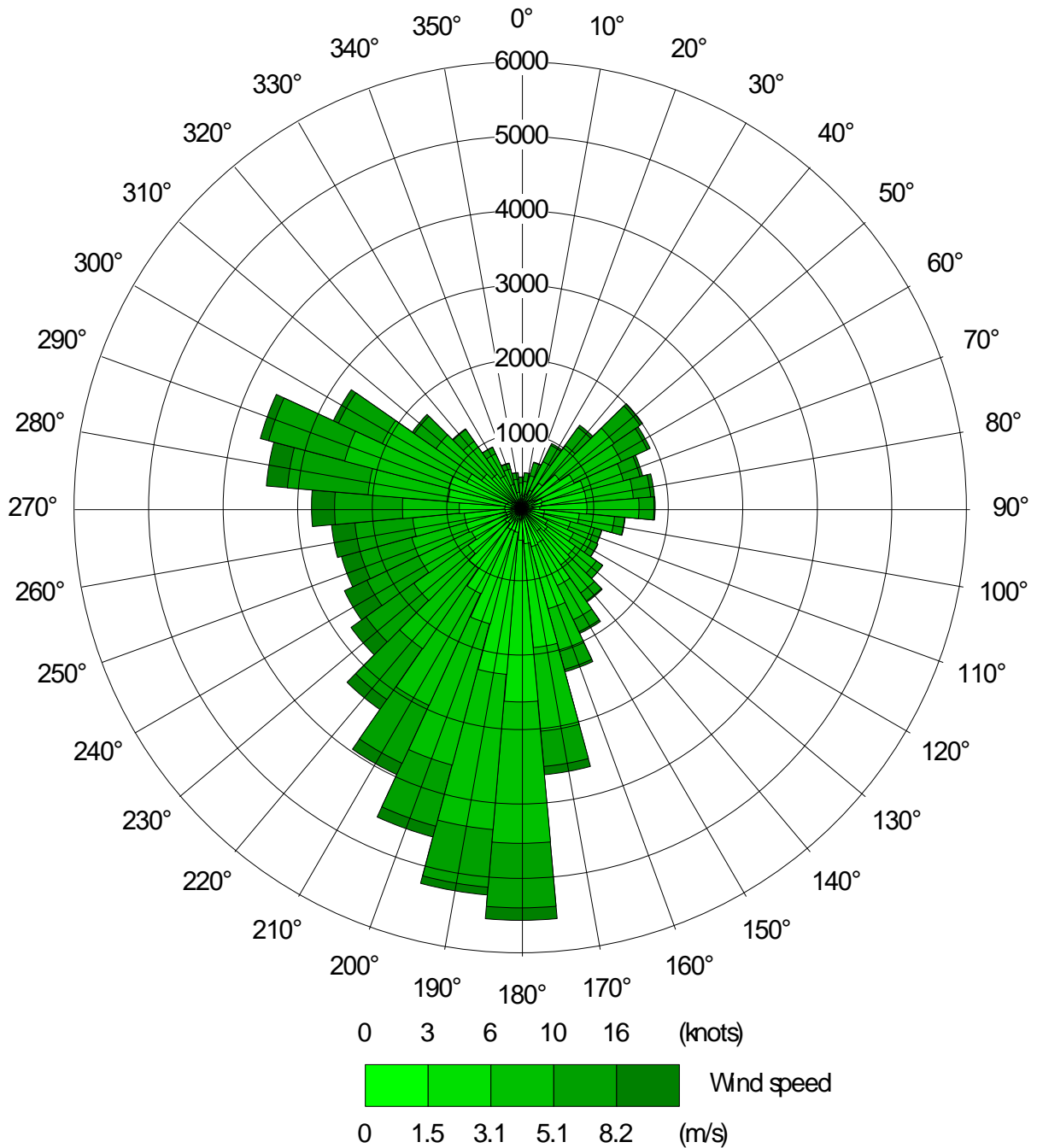
Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	Medium	Medium
Medium	Medium	Low
Low	Low	Low

Table A1.7 - Risk of Dust Impacts

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
<u>Demolition</u>			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
<u>Earthworks and Construction</u>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
<u>Trackout</u>			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Negligible
Low	Low Risk	Low Risk	Negligible

DRAFT

Appendix 2 - Wind Rose for Manchester Airport (2013-2022)



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