



Rochdale Sixth Form College

Air Quality Assessment

October 2022

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Comments

Comments

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Contents

1. Introduction	1
2. Air Quality Legislation and Planning Policy	3
3. Baseline Conditions	4
4. Construction Phase Qualitative Assessment	6
5. Operational Development	11
6. Summary and Conclusions	12

Tables

Table 1: Measured Concentrations at the Old Crompton Way Automatic Monitor	4
Table 2: Measured NO ₂ Concentrations at GMCA Diffusion Tubes within 2km of the Site	5
Table 3: Defra Background Maps in 2019 for the Grid Square of the Site	5
Table 4: Summary of the IAQM Guidance for Undertaking a Construction Dust Assessment	6
Table 5: Risk Category from Demolition Activities	7
Table 6: Risk Category from Earthworks Activities	7
Table 7: Risk Category from Construction Activities	8
Table 8: Risk Category from Trackout Activities	8
Table 9: Summary of Risk	9

Appendices

Appendix A. Summary of Relevant Legislation, Planning Policy and Guidance

Appendix B. Assessor Experience

Executive Summary

Planning permission is sought for the proposed expansion of the existing Rochdale Sixth Form college, within the Greater Manchester Combined Authority. As explained below, the assessment is that there would be no significant air quality impacts from the construction or operation of the building, nor would future users of the building be exposed to significant levels of air pollutants.

Impacts of Construction

The main likely effects on local air quality during construction relate to the generation of dust and particulates. A range of measures to minimise or prevent dust and particulates would be implemented throughout the construction works. Therefore, it is considered that likely residual effects due to dust emissions would not be significant.

It is anticipated the effect of construction plant emissions and the residual effect of construction vehicle emissions would not be significant.

Impacts of Operational Development on Local Air Quality

The Development would not result in a change in Annual Average Daily Traffic flows of more than 100 light duty vehicles or 25 heavy duty vehicle within or adjacent to an Air Quality Management Area; nor an increase in flows of more than 500 light duty vehicle flows nor 100 heavy duty vehicles elsewhere. The change in vehicle trips would therefore be below the Environmental Protection UK and Institute of Air Quality Management (EPUK/IAQM) guidance criteria for Developments within an AQMA. In addition, the Development would not include a combustion plant, and therefore would not give rise to any significant adverse air quality impacts.

Based on the low trip generation and absence of a centralised combustion plant, according to the EPUK/IAQM guidance, the Development is not expected to give rise to air quality impacts. As such the likely effect of the operational Development on local air quality would not be significant.

Impacts of Development on Future Users

A review of the local monitoring data and Defra's modelled background maps, indicates that future air pollutant concentrations for users of the Development would not be significant.

1. Introduction

- 1.1. Waterman Infrastructure & Environment Ltd (hereafter referred to as 'Waterman') was instructed by Waterman Structures Limited to undertake an air quality assessment in support of the planning application for the proposed expansion of the existing Rochdale Sixth Form College, college Road, Rochdale, OL12 6HY, hereafter referred to as the 'Site'.
- 1.2. The proposal seeks to expand the northern end of the existing building, including social spaces, teaching spaces, ancillary space and a roof garden, hereafter referred to as the 'Development'.
- 1.3. The Site is located within the previous Rochdale Metropolitan Borough Council (RMBC), which now forms part of the Greater Manchester Combined Authority (GMCA). GMCA has declared an Air Quality Management Area (AQMA) for exceedances of the NO₂ annual mean objectives. The GMCA AQMA covers the 10 districts of Greater Manchester, including Arterial routes, district centres, and Manchester airport. The Site is located within 5m of this AQMA.
- 1.4. The most significant pollutant during construction relates to the creation of nuisance dust and emissions from construction vehicles and construction plant. A qualitative assessment has been undertaken based on relevant air quality guidance.
- 1.5. For the development's operational phase, the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) planning development guidance¹, summarised in Appendix A, sets out criteria for when an air quality assessment is required to accompany a planning application. The guidance states an air quality assessment is required if there is:
 - a change of more than 100 Light Duty Vehicles (LDV's) flows in Annual Average Daily Traffic (AADT) within or adjacent to an AQMA or more than 500 AADT elsewhere; or
 - a change of more than 25 Heavy Duty Vehicles (HDV) flows AADT within or adjacent to an AQMA or more than 100 AADT elsewhere.
- 1.6. The transport consultants, Waterman, have confirmed the trips generated by the Development would not result in a change of more than 100 LDVs or 25 HDVs and would therefore be below the EPUK and IAQM guidance criteria for when an air quality assessment is required. Additionally, the Development would not include any centralised combustion plant. The Development would therefore not give rise to any significant adverse air quality impacts.
- 1.7. Given the low trip generation and absence of central combustion plant EPUK/IAQM guidance states that the Development would not expected to give rise to air quality impacts. So the likely effect of the operational Development on the local air quality would not be significant.
- 1.8. Given the above, the purpose of the air quality assessment is to assess the potential effect of the Development on local air quality during construction and to qualitatively consider the potential air quality concentrations future users of the Development would be exposed to.
- 1.9. Section 2 of this report gives a summary of legislation, planning policy, and guidance relevant to air quality. Section 3 provides a summary of the baseline conditions. Section 4 provides details of the construction assessment methodology, the qualitative construction assessment and relevant mitigation measures. Section 5 discusses the measures to reduce impacts to air quality from the operational Development. A summary of the main findings and conclusions of the assessment is given in section 6. The air quality assessment is supported by:
 - Appendix A: Summary of Relevant Legislation, Planning Policy and Guidance;

¹ Environmental Protection UK & Institute of Air Quality Management (2017), 'Land-Use Planning & Development Control: Planning for Air Quality', EPUK & IAQM, London

- Appendix B: Assessor Experience

2. Air Quality Legislation and Planning Policy

- 2.1. The following legislation, planning policy and guidance are considered relevant to this air quality assessment. A summary of these documents is provided in **Appendix A**:

Legislation:

- EU Framework Directive 2008/50/EC, 2008²;
- Air Quality Standards Regulations, 2010³;
- The UK Air Quality Strategy, 2007⁴;
- The Environment Act 1995⁵;

Planning Policy

- National Planning Policy Framework, 2021⁶;
- Rochdale Adopted Core Strategy, October 2016⁷;
- Places for Everyone, Joint Development Plan Document- Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, Wigan, Publication Stage, August 2021⁸;

Guidance:

- Department for Environment, Food and Rural Affairs, Clean Air Strategy, 2019⁹;
- Improving Air Quality in the UK: Tackling Nitrogen Dioxide in our Towns and Cities. UK Air Quality Plan for Tackling Nitrogen Dioxide, 2017¹⁰;
- Environmental Protection UK & Institute of Air Quality Management Guidance; Land-Use Planning & Development Control: Planning for Air Quality, 2017¹¹;
- Planning Practice Guidance: Air Quality¹²;
- Institute of Air Quality Management: Guidance on the Assessment of Dust from Demolition and Construction, 2014¹³; and
- Greater Manchester Low-Emission Strategy and Air Quality Action Plan, 2016¹⁴.

2 Council Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe.

3 Defra, (2010) The Air Quality Standards (England) Regulations.

4 Department of the Environment, Food and Rural Affairs (Defra), (2007). 'The Air Quality Strategy for England, Scotland, Wales & Northern Ireland'

5 Office of the Deputy Prime Minister (ODPM), 1995, 'The Environment Act' 1995.

6 Department for Communities and Local Government, 2021, 'National Planning Policy Framework'. DCLG, London.

7 Bristol Development Framework Core Strategy, Bristol City Council, June 2011

8 Places For Everyone Joint Development Plan Document – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, Wigan, August 2021, policy JP-S 6

9 Defra (2019) Clean Air Strategy, 2019

10 Defra (2017) Improving Air Quality in the UK: Tackling nitrogen dioxide in our towns and cities. Draft UK Air Quality Plan for Tackling Nitrogen Dioxide (Consultation Document)

11 Environmental Protection UK & Institute of Air Quality Management (2017), 'Land-Use Planning & Development Control: Planning for Air Quality', EPUK & IAQM, London.

12 DCLG (2014), 'Planning Practice Guidance: Air Quality (01 November 2019)

13 Institute of Air Quality Management, 2014, 'Guidance on the Assessment of dust from demolition and construction.

14 Greater Manchester Low-Emission Strategy and Air Quality Action Plan, 2016-2021

3. Baseline Conditions

Greater Manchester Combined Authority Review and Assessment Process

- 3.1. In 2005, RMBC declared an AQMA for exceedances of the annual mean NO₂ AQS objective. This AQMA was revoked in 2016 and replaced with GMCA wide AQMA.
- 3.2. The Site is located within 5m of this AQMA.

Greater Manchester Combined Authority Local Monitoring

- 3.3. Due to Covid-19, 2020 and 2021 monitoring data was not considered representative of air quality concentrations in the area. Monitoring data for 2020 and 2021 has therefore not been considered within this report.
- 3.4. In 2019 GMCA monitored NO₂ and particulate matter (PM₁₀¹⁵ and PM_{2.5}¹⁶) at 21 automatic monitors. Only one monitor is within 10km of the Site. The Oldham Crompton Way (CW) roadside monitor is located approximately 6.1km south-east of the Site measures NO₂ and PM₁₀.
- 3.5. It is shown in Section 5 that this monitoring site is unlikely to be representative, but the following information is included as per the guidance. Monitored concentrations from the Old Crompton Way (CW) automatic monitor are presented in **Table 1** below.

Table 1: Measured Concentrations at the Old Crompton Way Automatic Monitor

ID	Pollutant	Averaging Period	AQS Objective	2016	2017	2018	2019
CW	NO ₂	Annual Mean (µg/m ³)	40µg/m ³	34.0	32.0	28.0	30.0
		1-Hour Mean (No. of Hours)	200µg/m ³ not to be exceeded more than 18 times a year	0	0	0	0
	PM ₁₀	Annual Mean (µg/m ³)	40µg/m ³	17.0	17.0	19.0	19.0
		24-Hour Mean (No. of Days)	50µg/m ³ not to be exceeded more than 35 times a year	1	2	0	9

Source: Data obtained from the GMCA Air Quality Annual Status Report, June 2021

- 3.6. The monitoring results in **Table 1** show that none of the AQS objectives were exceeded in any years at the CW monitor. Annual mean NO₂ decreased between 2016 and 2019 and 1-hour mean NO₂ remained 0 in all years. Annual Mean and 24-hour mean PM₁₀ increased at the CW automatic monitor between 2016 and 2019.
- 3.7. In 2019 GMCA also measured NO₂ concentrations at 334 locations using diffusion tubes. The latest available results for the 11 NO₂ diffusion tubes within 2km of the Site are presented in **Table 2**.

¹⁵ Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm)

¹⁶ Particulate matter with a mean aerodynamic diameter less than 2.5 microns

Table 2: Measured NO₂ Concentrations at GMCA Diffusion Tubes within 2km of the Site

ID	Site Name	Classification	Distance to Site (km)	Annual Mean NO ₂ Concentration (µg/m ³)			
				2016	2017	2018	2019
RO10ANO	10	Urban Background	0.6	20.5	18.3	18.7	17.7
RO18ANO	18	Urban Background	0.7	-	-	31.1	26.8
RO19ANO	19	Roadside	0.8	-	-	27.2	35.8
RO9ANO	9	Kerbside	1.0	45.2	41.6	40.5	39.6
RO26ANO	26	Roadside	1.1	-	-	-	41.6
RO8ANO	8	Roadside	1.2	51.2	41.5	45	44.7
RO7ANO	7	Urban Background	1.5	36.7	34.5	32.3	32.1
RO23ANO	23	Roadside	1.6	-	-	-	37.8
RO22ANO	22	Roadside	1.7	-	-	28.6	43.4
RO27ANO	27	Roadside	1.9	-	-	-	46.1
RO17ANO	17	Urban Background	2.0	25.6	25.7	36.1	23.5

Notes: Data obtained from the GMCA Air Quality Annual Status Report, June 2021
Exceedances of the AQS objectives shown in **bold**

- 3.8. The results in **Table 2** show the annual mean NO₂ AQS objective of 40µg/m³ was exceeded in 2019 at four of the nearest diffusion tubes to the Site. The AQS objectives were met at all other diffusion tubes closest to the Site in 2019.
- 3.9. Annual mean NO₂ concentrations are seen to be decreasing at all diffusion tubes between 2016 and 2019 except at the RO19ANO and RO22ANO diffusion tube sites which measured an increase in annual mean NO₂.
- 3.10. In addition to the monitoring undertaken by GMCA, background concentrations of NO_x, NO₂, PM₁₀ and PM_{2.5} are available from the Defra Air Quality Archive for 1x1km grid squares for assessment years between 2018 and 2030. **Table 3** presents the Defra background concentrations for the grid square the Site is located within (389500, 413500).

Table 3: Defra Background Maps in 2019 for the Grid Square of the Site

Pollutant	AQS Objective	2019 Annual Mean Concentration (µg/m ³)
NO _x	-	29.7
NO ₂	40µg/m ³	20.5
PM ₁₀	40µg/m ³	11.8
PM _{2.5}	25µg/m ³	8.0

Data Source: <http://uk-air.defra.gov.uk>

- 3.11. The data in **Table 3** shows that all pollutants are below the respective AQS objectives.

4. Construction Phase Qualitative Assessment

Assessment Methodology

Dust Emissions

- 4.1. The assessment of the effects from the construction activities in relation to dust has been based on the IAQM's Guidance on the Assessment of Dust from Demolition and Construction, 2014 and the following:
- Consideration of planned construction activities and their phasing; and
 - A review of the location (and distance) of sensitive uses surrounding the Site.
- 4.2. Following the IAQM's construction dust guidance, construction works were divided into the following four distinct activities
- Demolition – any activity involved in the removal of an existing building;
 - Earthworks – the excavation, haulage, tipping and stockpiling of material, but may also involve levelling the site and landscaping;
 - Construction – any activity involved with the provision of a new structure; and
 - Trackout – the movement of vehicles from unpaved ground on a site, where they can accumulate mud and dirt, onto the public road network where the dust might be deposited.

IAQM's construction dust guidance considers the effects of dust, as follows:

- Annoyance due to dust soiling;
- Potential effects on human health due to significant increase in exposure to PM₁₀; and
- Harm to ecological receptors.

A summary of the four-step process, which was undertaken for the dust of construction activities as set out in the IAQM's construction dust guidance, is presented in **Table 4**.

Table 4: Summary of the IAQM Guidance for Undertaking a Construction Dust Assessment

Step	Description
1 Screen the Need for a Detailed Assessment	Simple distance-based criteria are used to determine the requirement for a detailed dust assessment. An assessment will normally be required where there are 'human receptors' within 350m of the boundary of the site and / or within 50m of the route(s) used by construction vehicles on public highway, up to 500m from the site entrance or 'ecological receptors' within 50m of the boundary of the site and/or within 50m of the route(s) used by construction vehicles on public highway, up to 500m from the site entrance.
2 Assess the Risk of Dust Effects	The risk of dust arising in sufficient quantities to cause annoyance and/or health or ecological effects should be determined using three risk categories: low, medium and high based on the following factors: • the scale and nature of the works, which determines the risk of dust arising (i.e. the magnitude of potential dust emissions) classed as small, medium or large; and • the sensitivity of the area to dust effects, considered separately for ecological and human receptors (i.e. the potential for effects) defined as low, medium or high.
3 Site Specific Mitigation	Determine the site-specific measures to be adopted at the site based on the risk categories determined in Step 2 for the four activities. For the cases where the risk is 'negligible' no mitigation measures beyond those required by legislation are required. Where a local authority has issued guidance on measures to be adopted these should be taken into account.

Step	Description
4	Determine Significant Effects
	Following Steps 2 and 3, the significance of the potential dust effects should be determined, using professional judgement, taking into account the factors that define the sensitivity of the surrounding area and the overall pattern of potential risks.

Construction Vehicle and Construction Plant Exhaust Emissions

- 4.3. The IAQM *Guidance on the Assessment of dust from demolition and construction* states:

“Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant effect on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed. For site plant and on-site traffic, consideration should be given to the number of plant/vehicles and their operating hours and locations to assess whether a significant effect is likely to occur. For site traffic on the public highway, if it cannot be scoped out, then it should be assessed using the same methodology and significance criteria as operational traffic impacts”.

- 4.4. In accordance with the IAQM Guidance, it is considered that a quantitative assessment of the exhaust emissions from construction traffic and construction plant is not required. Accordingly, a qualitative assessment is deemed appropriate and is provided in this report.

Determining Significance of Effects

Dust Emissions

- 4.5. The potential impacts of construction activities on local air quality were based on professional judgement and with reference to the criteria set out in IAQM’s construction dust guidance. Appropriate mitigation that would be implemented to minimise any adverse impacts on air quality have also been considered. Details of the assessors’ experience and competence to undertake the dust assessment is provided in **Appendix B**.
- 4.6. The assessment of the risk of dust impacts arising from the likely construction activities, as identified by the IAQM’s construction dust guidance, is based on the magnitude of potential dust emissions and the sensitivity of the area. The risk category matrix for construction activity types, taken from the IAQM guidance, are presented in **Table 5** to **Table 8**.

Table 5: Risk Category from Demolition Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table 6: Risk Category from Earthworks Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 7: Risk Category from Construction Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 8: Risk Category from Trackout Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

- 4.7. The risk category determined for each construction activity type is used to define the appropriate mitigation measures that should be applied.

Nuisance Dust

- 4.8. Construction activities of the Development have the potential to affect local air quality through Demolition, Earthworks, Construction and Trackout activities, as described above.
- 4.9. The Site has already been cleared, therefore demolition has not been considered further.
- 4.10. The Site is in a predominantly commercial area - the nearest sensitive receptors being The Rochdale Sixth Form College, within the Site boundary. Additionally, Hopwood Hall College is located approximately 70m north of the Site, the Broadfield Community Primary School is located approximately 200m south-east of the Site, Gabriel Court and other residential properties are located approximately 200m south and the Beech House School is located approximately 340m south-east of the Site.
- 4.11. There are no designated ecological sites surrounding the Site. Ecology has therefore not been considered further.

Earthworks

- 4.12. The Site area is approximately 3,000m². Based on this and considering the criteria in step 2A of the IAQM guidance, the potential dust emissions during earthworks activities could be of **medium** magnitude.

Construction

- 4.13. The total volume of buildings to be constructed would be between 25,000-100,000m³. Based on the criteria in step 2A of the IAQM guidance, the potential dust emissions during construction activities would be of **medium** magnitude.

Trackout

- 4.14. It is estimated the number of HDV trips leaving the Site would be less than 10 HDV outward movements in any one day. Based on this and considering the criteria in step 2A of the IAQM guidance, the potential for dust emissions due to trackout activities would be of **small** magnitude.

Sensitivity of the area

- 4.15. The sensitivity of the area to each main activity has been assessed based on the number and distance of the nearest sensitive receptors to the activity, and the sensitivity of these receptors to dust soiling and human health.

Sensitivities of People to Dust Soiling Effects

- 4.16. There are estimated to be over 100 high sensitive receptors within the Site boundary. On this basis (as set out in Table 2 of the IAQM guidance) the sensitivity of the area to dust soiling is **high**.

Sensitivities of People to the Health Effects of PM₁₀

- 4.17. The 2019 monitored annual mean PM₁₀ concentration was 19.0µg/m³ at the Old Crompton Way (CW) automatic monitor - below the annual mean AQS objective for PM₁₀ of 40µg/m³. There are more than 100 high sensitivity receptors within the Site boundary. On this basis (as set out in Table 3 of the IAQM guidance) The sensitivity of the area to human health is **medium**.

Dust Risk Summary

- 4.18. The dust risk categories, based on the potential magnitude of dust emissions and the sensitivity of the area to dust, are presented in **Table 9**.

Table 9: Summary of Risk

Receptor Sensitivity	Sensitivity of the Surrounding Area		
	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	Medium Risk	Medium Risk
Human Health	Medium Risk	Medium Risk	Low Risk

- 4.19. The Site is considered **medium risk** to dust soiling impacts consequently, mitigation would be required to ensure that adverse impacts be minimised, reduced and, where possible, eliminated.

Construction Vehicle and Construction Plant Exhaust Emissions

- 4.20. Given the Development proposals it is estimated that the number of HDVs would be less than 10 HDV outward movements in any one day. On the A58, adjacent to the south of the Site, there were 27,419 daily vehicles including 2.1% HDVs counted in 2019¹⁷.
- 4.21. Considering the existing vehicle movements on the A58, and that the construction phase would be temporary – it is considered construction traffic emissions would **not be significant**.
- 4.22. Any emissions from plant operating on the Site would be very small in comparison to the emissions from traffic movements on the roads adjacent to the Site. It is therefore considered that even in the absence of mitigation, their likely effect on local air quality would **not be significant**.

Construction Mitigation Measures and Residual Effects

Dust Emissions

- 4.23. The Site is a **medium-risk** site in relation to nuisance dust emissions (referred to earlier in this report). Consequently, a range of environmental management controls would be developed with reference to the IAQM guidance for high-risk sites. The mitigation measures would be included

¹⁷ Road traffic statistics - Manual count point: 56600 (dft.gov.uk)

within a Construction Environmental Management Plan and implemented to prevent the release of dust entering the atmosphere and / or being deposited on nearby receptors.

- 4.24. Mitigation measures are routinely and successfully applied to construction projects throughout the UK and are proven to significantly reduce the potential for adverse nuisance dust effects associated with the various stages of the construction work.
- 4.25. The IAQM's construction dust guidance recommends that significance is only assigned to the effect after considering mitigation and assumes that all actions to avoid or reduce the effects are inherent within the design of the Development. In the case of construction mitigation, this would be secured through planning conditions, legal requirements or required by regulations.
- 4.26. It therefore follows that, in accordance with the IAQM evidence-based theory, the residual effects due to fugitive emissions would be classified as **not significant**.

Construction Vehicle and Construction Plant Exhaust Emissions

- 4.27. All construction traffic logistics would be agreed with GMCA. Consideration would also be given to the avoidance, or limited use, of traffic routes in proximity to sensitive uses (i.e. residential roads etc.) and the avoidance, or limited use, of roads during peak hours, where practicable. The likely residual effect of construction vehicles entering and egressing the Site to air quality would be **not significant**.
- 4.28. Even in the absence of mitigation, the likely effect of any emissions from plant operation on the Site is considered to be **not significant**. This would therefore remain the likely residual effect.

5. Operational Development

Predicted Future Exposure

Effects of the Development's operations on ambient air quality

- 5.1. The Development would not result in a change in Annual Average Daily Traffic of more than 100 light duty vehicle flows or 25 heavy duty vehicle flows within or adjacent to an Air Quality Management Area; or a change of more than 500 light duty vehicle flows or 100 heavy duty vehicle flows elsewhere. This change in vehicle trips would be below the EPUK and IAQM guidance criteria for developments within an AQMA, and the impact on the ambient air quality would **not be significant**.
- 5.2. The Development would not include combustion plant, so it would create no emitting source of NO₂/NO_x or PM. Considering the low trip generation rate and the absence of combustion plant, according to the EPUK/ IAQM guidance the Development would not be expected to give rise to significant air pollution impacts.
- 5.3. Given the above, the remaining task of this air quality assessment is to qualitatively consider the exposure of future users of the Development to future ambient air quality.

Exposure of future users of the Development to future ambient air quality

- 5.4. The RO10ANO (10) urban background diffusion tube is the nearest monitor to the Site. According to the LAQM Technical Guidance (TG16)¹⁸, an urban background site is distanced from sources of pollution and representative of background conditions. The Site is located approximately 100m from the A58, according to the LAQM TG(16) guidance, it could be considered an urban background location. However, after considering the volume of vehicles along the A58 and comparing the locations of the RO10ANO and the RON18ANO urban background diffusion tubes to the location of the Site, they were not considered representative of concentrations the Site would be exposed to.
- 5.5. The RO19ANO (19) roadside diffusion tube is located approximately 150m from the A58. The RO9ANO, RO8ANO and RO27ANO roadside and kerbside diffusion tubes are located along the A58. Considering the 2019 NO₂ concentrations (seen in **Table 2**) for all four of these diffusion tubes, the proximity of the Site to the A58 and the fact that the Site would be shielded from the A58 by other tall buildings, our professional judgment is that users of the building would not be exposed to NO₂ levels above the annual objectives.
- 5.6. Defra background maps were considered representative of PM₁₀ and PM_{2.5} concentrations at the Site. The 2019 concentrations were below the respective AQS objectives for PM₁₀ and PM_{2.5}.
- 5.7. Based on the pollutant concentrations shown in **Tables 1, 2 and 3**, it is considered the AQS objectives are likely to be met for future users of the Site. The effect of the Development on air quality would therefore be **not significant**.

¹⁸ Defra, Local Air Quality Management Technical Guidance (TG16), February 2018

6. Summary and Conclusions

- 6.1. A qualitative assessment of dust effects during the construction phase has been carried out using the IAQM guidance. The implementation of a range of appropriate site management practices to control dust emissions would significantly reduce the potential for adverse nuisance dust effects associated with the various stages of the works. It is considered that likely residual effects due to fugitive emissions would be **not significant**.
- 6.2. It is anticipated that after management measures have been implemented, the effect of construction vehicles entering and egressing the Site during the construction phase would be **not significant**.
- 6.3. Any emissions from plant operating on the Site would be very small in comparison to the emissions from traffic movements on the roads adjacent to the Site. It is therefore considered the effect on local air quality would be **not significant**.
- 6.4. The transport consultants, Waterman, have confirmed the trips generated by the Development would not result in a change of more than 100 LDVs or 25 HDVs and would therefore be below the EPUK and IAQM guidance for when an air quality assessment is required. Additionally, the Development would not include a centralised combustion plant. The Development would therefore not give rise to any significant adverse air quality impacts.
- 6.5. Based on the low trip generation and the absence of a centralised combustion plant, according to the EPUK/ IAQM guidance, the Development is not expected to give rise to significant air quality impacts. As such the likely effect of the operational Development on local air quality would be **not significant**.
- 6.6. A review of the GMCA monitoring data and Defra background maps, indicates the future air quality concentrations for users of the Development would be **not significant**.

APPENDICES

Appendix A	Summary of Relevant Legislation, Planning Policy and Guidance
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Appendix A: Summary of Relevant Legislation, Planning Policy and Guidance

Legislation

EU Framework Directive 2008/50/EC, 2008

Air pollutants at high concentrations can have adverse effects on the health of humans and ecosystems. European Union (EU) legislation on air quality forms the basis for UK legislation and policy on air quality.

The EU Framework Directive 2008/50/EC on ambient air quality assessment and management came into force in May 2008 and was implemented by Member States, including the UK, by June 2010. The Directive aims to protect human health and the environment by avoiding, reducing or preventing harmful concentrations of air pollutants.

Air Quality Standards Regulations, 2010

The Air Quality Standards Regulations implement Limit Values prescribed by the EU Framework Directive 2008/50/EC. The Limit Values are legally binding and the Secretary of State, on behalf of the UK Government, is responsible for their implementation.

The UK Air Quality Strategy, 2007

The current UK Air Quality Strategy (UK AQS) was published in July 2007 sets out the objectives for Local Planning Authorities (LPA) in undertaking their Local Air Quality Management (LAQM) duties. The 2007 UK AQS introduced a national level policy framework for exposure reduction for fine particulate matter. Objectives in the UK AQS are in some cases more onerous than the Limit Values set out within the relevant EU Directives and the Air Quality Standards Regulations 2010. In addition, objectives have been established for a wider range of pollutants.

The UK AQS objectives of air pollutants relevant to this assessment are summarised in Table A1.

Table A1: Summary of Relevant UK AQS Objectives

Pollutant	Objective		Date by which Objective to be Met
	Concentration	Measured as	
Nitrogen Dioxide (NO ₂)	200µg/m ³	1 hour mean not to be exceeded more than 18 times per year	31/12/2005
	40µg/m ³	Annual Mean	31/12/2005
Particulate Matter (PM ₁₀) ^(a)	50µg/m ³	24 hour mean not to be exceeded more than 35 times per year	31/12/2004
	40µg/m ³	Annual Mean	31/12/2004
Particulate Matter (PM _{2.5}) ^(b)	Target of 15% reduction in concentrations at urban background locations	Annual Mean	Between 2010 and 2020
	25µg/m ³	Annual Mean	01/01/2020

Note: (a) Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm)
(b) Particulate matter with a mean aerodynamic diameter less than 2.5 microns

The Environment Act, 1995

In a parallel process, the Environment Act 1995 required the preparation of a national air quality strategy setting health-based air quality objectives for specified pollutants and outlining measures to be taken by LPAs in relation to meeting these objectives (the LAQM system).

Part IV of the Environment Act 1995 provides a system of LAQM under which LPAs are required to review and assess the future quality of the air in their area by way of a staged process. Should this process suggest that any of the AQS objectives will not be met by the target dates, the LPA must consider the declaration of an Air Quality Management Area (AQMA) and the subsequent preparation of an Air Quality Action Plan (AQAP) to improve the air quality in that area in pursuit of the AQS objectives.

Planning Policy

National Planning Policy

National Planning Policy Framework, 2021

The National Planning Policy Framework (NPPF), published in July 2021 sets out the Government's planning policies for England and how these should be applied.

Paragraph 105 states *"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 174 states *"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. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans"*

Paragraph 185 states *"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."*

Paragraph 186 states *"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."*

Local Planning Policy

Rochdale Adopted Core Strategy

The Rochdale Core Strategy sets out the long-term special strategy for future development of Rochdale Borough.

Policy G9- Reducing the impact of pollution, contamination and land instability states:

“We will reduce all forms of pollution, contamination and land instability in the borough, by:

a. Focusing on measures that reduce air pollution in Air Quality Management Areas, and other areas where pollution levels are unacceptable, particularly around motorways and main roads”

Places for Everyone, Joint Development Plan Document- Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, Wigan, Publication Stage

The Places for Everyone Joint Development Plan Document – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, Wigan Publication Plan, was approved by each of the nine districts. The plan provides an opportunity to create the conditions for inclusive economic growth, provide opportunities for provision of much needed homes and protect and enhance the natural environment.

Policy JP-S6 Clean Air States:

“A comprehensive range of measures will be taken to support improvements in air quality, focusing particularly on locations where people live, where children learn and play, where there are impacts on the green infrastructure network and where air quality targets are not being met, including:

- 1. Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution;*
- 2. Determining planning applications in accordance with the most recent development and planning control guidance published jointly by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), and the most recent IAQM Guidance on the Assessment of Dust from Demolition and Construction, or relevant successor guidance, including the requirement for developers to submit construction management plans as appropriate;*
- 3. Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data and, if approved, to make appropriate provision for future monitoring of air pollution;*
- 4. Restricting and carefully regulating developments that would generate significant point source pollution such as some types of industrial activity and energy generation;*
- 5. Significantly expanding the network of electric vehicle charging points, both for public and private use, including as part of new developments;*
- 6. Implementing the charging Clean Air Zone within the Plan area, as directed by Government and associated measures;*
- 7. Facilitating the more sustainable distribution of goods within the urban area, including through accommodating urban consolidation centres and urban distribution centres that use ultra-low-emission vehicles, and local delivery facilities to reduce repeat delivery attempts;*
- 8. Designing streets to avoid trapping air pollution at ground level, including through the appropriate location and scale of buildings and trees;*

9. *Controlling traffic and parking within and around schools and early years sites;*
10. *Promoting actions that help remove pollutants from the air, such as enhancing the green infrastructure network and using innovative building materials that capture air pollutants; and*
11. *Development should be located in areas that maximise the use of sustainable travel modes and be designed to minimise exposure to high levels of air pollution, particularly for vulnerable users."*

Guidance

Department for Environment, Food and Rural Affairs, Clean Air Strategy, 2019

Published in January 2019 the Clean Air Strategy sets out a coherent framework and national action to improve air quality throughout the UK.

The Strategy is underpinned by new national powers to control major sources of air pollution, in line with the risk they pose to public health and the environment, plus new local powers to act in areas with an air pollution problem. The Strategy also supports the creation of Clean Air Zones to lower emissions from all sources of air pollution, backed up with clear enforcement mechanisms.

Improving Air Quality in the UK: Tackling Nitrogen Dioxide in our Towns and Cities. UK Air Quality Plan for Tackling Nitrogen Dioxide, 2017

The UK Government was required by the High Court to release an Air Quality Plan to meet the NO₂ Limit Value in the shortest timescale as possible. This document was adopted on 26th July 2017.

The plan focuses on reducing concentrations of NO_x and NO₂ around road vehicle emissions within the shortest possible time. With the principal aims to:

- a. reduce emissions of NO_x from the current road vehicle fleet in problem locations now; and*
- b. accelerate road vehicle fleet turnover to cleaner vehicles to ensure that the problem remains addressed and does not move to other locations.*

The other aims include reducing background concentrations of NO_x from:

- Other forms of transport such as rail, aviation and shipping;
- Industry and non-road mobile machinery; and
- Buildings, both commercial and domestic, and other stationary sources.

The Plan provides measures to reduce NO_x and NO₂ concentrations in the UK, such measures include:

- Mandate local authorities to implement Clean Air Zones within the shortest possible time;
- Consultation on proposal for a Clean Air Zone Framework for Wales;
- Consultation on a draft National Low Emission Framework for Scotland;
- Commitment to establishing a Low Emission Zone for Scotland by 2018;
- Tackling air pollution on the English Road network;
- New real driving emissions requirement to address real world NO_x emissions;
- Additional funding to accelerate uptake of hydrogen vehicles and infrastructure;
- Additional funding to accelerate the uptake of electric taxis;

- Further investment in retrofitting alongside additional support of low emission buses and taxis;
- Regulatory changes to support the take up of alternatively fuelled light commercial vehicles;
- Exploring the appropriate tax treatment for diesel vehicles;
- Call for evidence on updating the existing HGV Road User Levy;
- Call for evidence on use of red diesel;
- Ensure wider environmental performance is apparent to consumers when purchasing cars;
- Updating Government procurement policy;
- New emissions standards for non-road mobile machinery;
- New measures to tackle NOx emissions from Medium Combustion Plants; and
- New measures to tackle NOx emissions from generators.

The above measures do not provide any actions which are relevant to the operation or design of the Development.

A High Court ruling¹ on 21st February 2018, stated the UK Governments air quality improvement plan adopted on 31st July 2017 was unlawful as *'it does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations'*. The UK Government *'must ensure steps are taken to achieve compliance as soon as possible, by the quickest route possible and by a means that makes that outcome likely'*.

The judgement stated that the UK Government must produce a supplementary plan, setting out requirements for feasibility studies to be undertaken in the 33 Local Authority Areas. GMCA is not considered within this judgement.

In May 2018, it was announced the European Union (EU) was going to take the UK to the European Commission over failure to meet the Limit Values for NO₂.

Environmental Protection UK & Institute of Air Quality Management Guidance; Land-Use Planning & Development Control: Planning for Air Quality, 2017

Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) provide guidance for air quality considerations within the local development control processes, promoting a consistent approach to the treatment of air quality issues.

The EPUK and IAQM guidance explains how development proposals can adopt good design principles to reduce emissions and contribute to better air quality. The guidance also provides a method for screening the need for an air quality assessment and a consistent approach for describing the impacts at individual receptors. The EPUK and IAQM Guidance, advises that:

"In arriving at a decision about a specific proposed development the local planning authority is required to achieve a balance between economic, social and environmental considerations. For this reason, appropriate consideration of issues such as air quality, noise and visual amenity is necessary. In terms of air quality, particular attention should be paid to:

- *Compliance with national air quality objectives and of EU Limit Values;*
- *Whether the development will materially affect any air quality action plan or strategy;*
- *The overall degradation (or improvement) in local air quality; or*

¹ <https://www.judiciary.gov.uk/judgments/the-queen-on-the-application-of-clientearth-no-3-claimant-v-secretary-of-state-for-environment-food-and-rural-affairs-and-others/>

- *Whether the development will introduce new public exposure into an area of existing poor air quality".*

Planning Practice Guidance: Air Quality, 2019

The Government's online Planning Practice Guidance (PPG) states that all development plans can influence air quality in several ways including the development proposals, location and any provision made for sustainable transport. Consideration of air quality issues at the plan-making stage can ensure a strategic approach to air quality and help secure net improvements in overall air quality where possible.

Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity.

Where air quality is a relevant consideration the local planning authority may need to establish:

the 'baseline' local air quality, including what would happen to air quality in the absence of the development;

whether the proposed development could significantly change air quality during the construction and operational phases (and the consequences of this for public health and biodiversity); and

whether occupiers or users of the development could experience poor living conditions or health due to poor air quality.

Institute of Air Quality Management: Guidance on the Assessment of Dust from Demolition and Construction, 2014

The IAQM Construction Dust Guidance provides guidance to consultants and Environmental Health Officers (EHOs) on how to assess air quality impacts from construction related activities. The guidance provides a risk based approach based on the potential dust emission magnitude of the site (small, medium or large) and the sensitivity of the area to dust impacts. The importance of professional judgement is noted throughout the guidance. The guidance recommends that once the risk class of the site has been identified, the appropriate level of mitigation measures are implemented to ensure that the construction activities have no significant impacts.

Greater Manchester Low-Emission Strategy and Air Quality Action Plan, 2016

The Low Emission Strategy and Air Quality Action Plan covers the whole of Greater Manchester and details measures that will be taken across the area and summarises how the Plan will be evaluated. The primary objectives of this Plan are to improve air quality across Greater Manchester and to embed low-emission behaviours by 2025, whilst supporting the UK Government in meeting all EU thresholds for key air pollutants at the earliest date to reduce ill-health in Greater Manchester.

Key priority areas have been identified in the Plan, which are generally locations near to major roads and heavily trafficked areas in Manchester city centre, and other major urban centres across the other nine districts, where air quality is poor and where people live. The AQAP sets

out three key performance indicators defined to help categorise improvement actions, these are:

- Reduce Traffic;
- Increase Efficiency; and
- Improve fleet

To ensure that these proposed actions are successfully implemented, policies and interventions were identified and separated into the following broad subjects;

- Development Management and Planning Regulation;
- Freight and Heavy Goods Vehicles;
- Buses;
- Cycles;
- Travel Choices;
- Cars; and
- Information and Resources.

Appendix B**Assessor Experience**

Appendix B: Assessor Experience

Name: Eleri Paterson Hughes

Years of Experience: 1

Qualifications:

- BSc (Hons)
- Msc (Hons)
- Associate Member of IAQM
- Associate Member of IES

Eleri is a graduate air quality consultant with experience in preparing the technical delivery of a wide range of air quality projects for a variety of clients in both the public and private sector.

Name: Dr Iarla Kilbane-Dawe

Years of Experience: 30

Qualifications:

- PhD (Cantab) Atmospheric Physics & Chemistry
- BA (Mod) Physics
- Member of the IAQM
- Full Member of the Institution of Environmental Sciences (IES)

Iarla has been responsible for the technical delivery of over 100 air quality projects and programmes in the £100k-£5M range for a variety of clients in both the public and private sector. These projects include consideration of emissions from both transportation and industrial sources, through both monitoring and modelling. His work has included drafting guidance and evidence documents for policy makers, and providing scientific and technical advice on air quality to senior officials and ministers while at DfT. He therefore he has an in depth understanding of the regulatory requirements for these sources and the published technical guidance for their assessment.

UK and Ireland Office Locations

