

Project

Rochdale Station, Corner Plot
Air Quality Screening and Dust Risk
Assessment

Prepared for

Rochdale Borough Council
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Summary

You are proposing a 33-unit residential scheme with a commercial unit on the ground floor at the Corner Plot site in Rochdale.

Construction activity associated with the proposed development is assessed to be medium risk for dust soiling and medium risk for human health effects. The adverse impacts of construction on air quality are likely to be negligible through good site practice and by adopting the mitigation measures in **Section 6.1**.

Occupants of the development will likely be exposed to acceptable nitrogen dioxide (NO₂) and particulate matter (PM₁₀, and PM_{2.5}) concentrations. Measures to reduce air pollution and limit exposure to poor air quality are in **Section 6.2**.

This assessment has shown the impact of construction and operational vehicles on local air quality is likely to be negligible. Therefore, a detailed air quality assessment is not necessary.

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I.0 Introduction

You are proposing a 33-unit residential scheme with a commercial unit on the ground floor at the Corner Plot site in Rochdale.

The potential air quality impacts associated with the proposed development relate to an increase in concentrations of NO₂, PM₁₀, and PM_{2.5} due to emissions generated by construction works, construction traffic, and additional road traffic once the development is operational.

This assessment looks at the existing air quality conditions around the site, considers the local and national policy context, and describes the proposed assessment methodology.

Figure I. Site Area



2.0 Relevant Policy and Guidance

The Air Quality Strategy

The Air Quality Strategy for England, Scotland, Wales, and Northern Ireland¹ sets out air quality objectives and policy options to improve air quality in the UK. The main aim of the Strategy is to ensure that ambient air quality is of an acceptable level to protect human health and the environment. It takes account of the Limit Values set out in EU legislation.

Local Air Quality Management (LAQM)

The Environment Act 1995 introduced the LAQM system, whereby local authorities have a duty to review and assess air quality within their areas against the air quality objectives defined in the Air Quality Strategy. The authority must then declare an Air Quality Management Area (AQMA) and define the measures which will be implemented to improve air quality where exceedances of the objectives are identified during this process.

National Planning Policy Framework (NPPF)

The NPPF (2021)² sets out the Government's planning policies for England and outlines how they are expected to be applied to achieve the Government's aim of sustainable development. The NPPF states in paragraph 185 that:

“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.”

And at paragraph 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..... 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.”

¹ Department for Environment, Food and Rural Affairs (DEFRA) and the Devolved Administrations (2007). The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volumes 1 and 2)

² Ministry of Housing, Communities and Local Government (July 2021).

Rochdale Adopted Core Strategy

Policy G9 of Rochdale Borough Council's (RBC) Adopted Core Strategy³ 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*
- b. Requiring that development does not have impacts that lead to an unacceptable increase in air, water, noise, light or other pollution*
- c. Ensuring sensitive new developments such as housing, schools and hospitals are not adversely affected by existing sources of pollution such as roads and certain types of industry."*

Guidance

The following guidance documents have also been used where appropriate, in this assessment:

- Local Air Quality Management Technical Guidance (LAQM.TG(16))⁴
- Land-Use Planning and Development Control: Planning for Air Quality. VI.2⁵
- National Planning Practice Guidance - Air Quality⁶
- Guidance on the Assessment of Dust from Demolition and Construction⁷

³ Rochdale Borough Council (2016). Adopted Core Strategy.

⁴ DEFRA (2018). Part IV of the Environment Act 1995 Environment (Northern Ireland) Order 2002 Part III Local Air Quality Management Technical Guidance (TG22).

⁵ Environmental Protection UK / Institute of Air Quality Management (2017).

⁶ Department of Communities and Local Government (DCLG) (2014).

⁷ Institute of Air Quality Management (2023)

3.0 Existing Air Quality in the Study Area

3.1 Existing Conditions

Existing air quality conditions near to the site have been defined after reviewing the following:

- RBC Review and Assessment reports and monitoring data;
- National Atmospheric Emissions Inventory (NAEI) data and maps;
- DEFRA's Local Air Quality Management (LAQM) Support Pages, including background maps; and
- Maps and plans of the site and surrounding area.

3.1.1 AQMAs

The site is not within an AQMA, but part of the Greater Manchester Combined Authority (GMCA) AQMA is approximately 250m east; this AQMA was defined by GMCA for annual mean NO₂ exceedances.

3.1.2 Wind Direction

The nearest meteorological monitoring station to the site is the Manchester monitor⁸. The prevailing wind direction at this station is southerly, and this is likely to be the same at the site.

3.1.3 Point Sources of Pollution

The NAEI point source inventory⁹ shows the nearest industrial point source, Union Papertech Ltd, is approximately 4.5km west. Emissions from this source are likely transported mostly away from the site given the southerly wind direction. Therefore, road traffic is likely the main emissions source at the site.

3.2 Background Pollutant Concentrations

Table I summarises the background pollutant concentrations of NO₂, PM₁₀, and PM_{2.5} used in the assessment for the area encompassing the proposed development. Background concentrations of NO₂, PM₁₀ and PM_{2.5} have been taken from the most recent version of DEFRA's background maps. 2022 represents the base year; 2022 is the most recently reported monitoring dataset for the RBC area. 2025 represents the first year of operation. The concentrations are below the relevant objectives in each year.

Table I. Background Pollutant Concentrations (µg/m³)

Grid Square	NO ₂		PM ₁₀		PM _{2.5}	
	2022	2025	2022	2025	2022	2025
389500, 412500	15.0	13.4	12.0	11.7	8.2	7.9
Annual Mean Objective Limits	40µg/m ³		40µg/m ³		25µg/m ³	

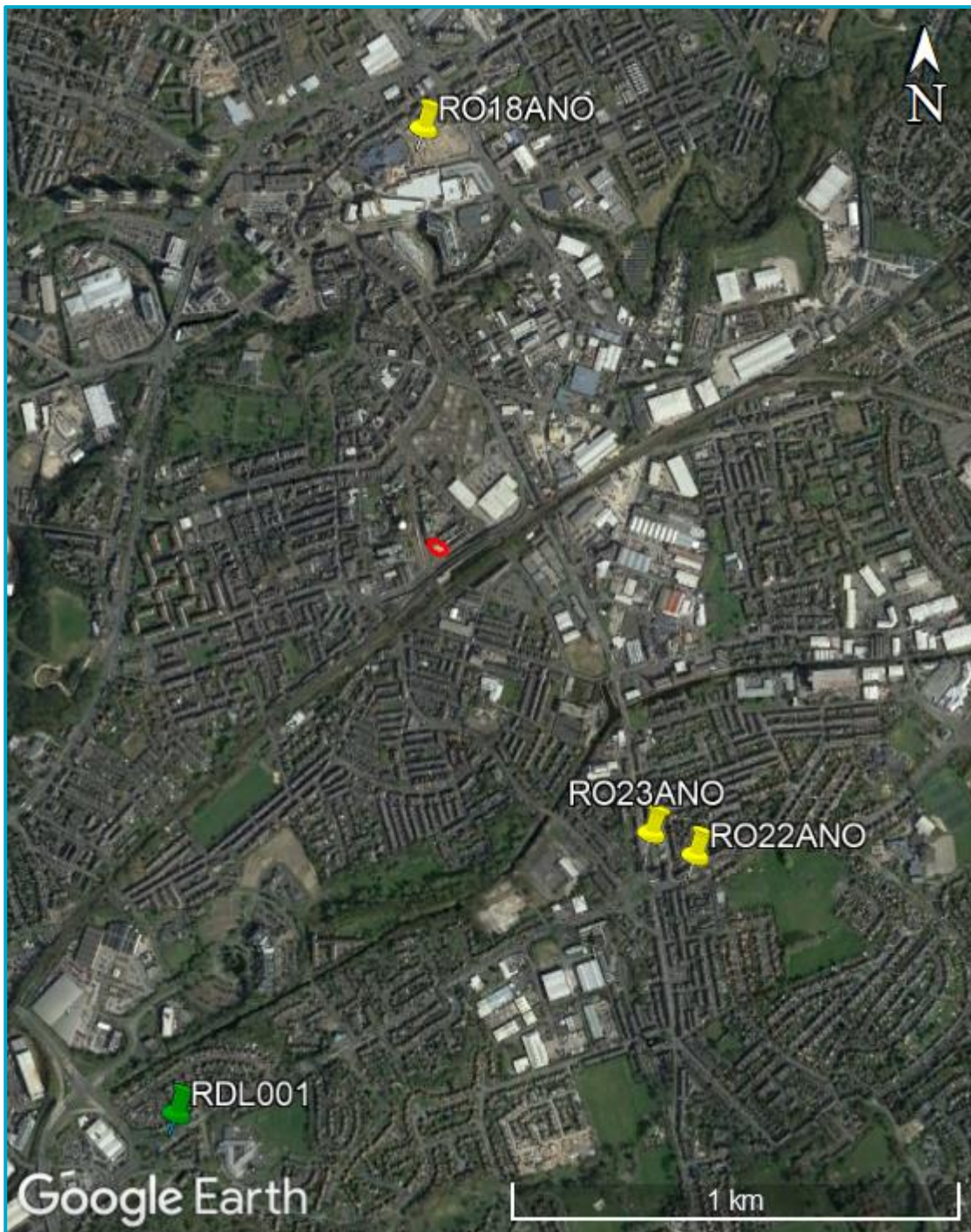
⁸ ADM (2023). Accessed via <https://www.aboutair.com/met-data-search/>.

⁹ NAEI (2023). Accessed via <https://naei.beis.gov.uk/emissionsapp/>.

3.3 Monitoring Locations

Figure 2 shows the most relevant monitoring locations to the site.

Figure 2. Automatic Monitor (green) and Diffusion Tube (yellow) Locations in Relation to Site (red)



3.4 NO₂ Monitoring

Data from the most relevant NO₂ monitors to the site are in **Table 2**.

Table 2. NO₂ Monitoring Data

Monitoring Site ID	Site Type	OS Grid Ref.	Height (m)	Annual Mean NO ₂ Concentrations (µg/m ³)				
				2018	2019	2020	2021	2022
Automatic								
RDL001	Roadside	389325, 411411	3.0	-	-	-	28.5	27.0
Diffusion Tube								
RO18ANO	Urban Background	389877, 413590	2.0	31.1	26.8	20.9	18.7	22.7
RO22ANO	Roadside	390464, 411976	2.0	28.6	43.4	31.5	32.7	32.2
RO23ANO	Roadside	390377, 412030	2.5	-	37.8	27.6	31.4	31.7
Annual Mean Objective Limit								
40µg/m ³								

Annual average NO₂ concentrations exceeding the NO₂ objective are shown in bold. NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in bold and underlined.

RO18ANO isn't considered representative of the NO₂ concentration at the site because it is located closer to main roads than the site, and therefore closer to road traffic emissions, meaning the NO₂ concentration at RO18ANO is likely to be higher than at the site.

RDL001, RO22ANO, and RO23ANO aren't considered representative of the NO₂ concentration at the site because they located on or very close to an A road, whereas the site is located away from A roads. Therefore, these monitors will likely be exposed to more road traffic than the site, and therefore higher concentrations of NO₂.

Conclusions about the NO₂ concentration at the site can be drawn from this, however. The NO₂ concentration at these monitors is below the annual mean objective limit and given the NO₂ concentration at the site is likely to be lower than at these monitors because it is located away from A roads, the NO₂ concentration at the site is likely to be below the annual mean objective limit.

The DEFRA background NO₂ data in **Table 1** don't agree with the monitored background NO₂ concentrations in **Table 2**. The DEFRA data appear to be an underprediction of background NO₂ concentrations in the area.

3.5 PM₁₀ Monitoring

There is one PM₁₀ monitor in the RBC administrative area. Data from this monitor are shown in **Table 3**.

Table 3. PM₁₀ Monitoring Data

Monitoring Site ID	Site Type	OS Grid Ref.	Height (m)	Annual Mean PM ₁₀ Concentrations (µg/m³)				
				2018	2019	2020	2021	2022
Automatic								
RDL001	Roadside	389325, 411411	3.0	-	-	-	15.5	18.0
Annual Mean Objective Limit								
40µg/m³								

RDL001 isn't considered representative of the PM₁₀ concentration at the site for the reason given in **Section 3.4**. However, the conclusion drawn about the site's NO₂ concentration can also be drawn for PM₁₀. The PM₁₀ concentration at this monitor is below the annual mean objective limit and given the PM₁₀ concentration at the site is likely to be lower than at this monitor, the PM₁₀ concentration at the site is likely to be below the annual mean objective limit.

3.6 PM_{2.5} Monitoring

There is one PM_{2.5} monitor in the RBC administrative area. Data from this monitor are shown in **Table 4**.

Table 4. PM_{2.5} Monitoring Data

Monitoring Site ID	Site Type	OS Grid Ref.	Height (m)	Annual Mean PM _{2.5} Concentrations (µg/m³)				
				2018	2019	2020	2021	2022
Automatic								
RDL001	Roadside	389325, 411411	3.0	-	-	-	9.2	10.0
Annual Mean Objective Limit								
25µg/m³								

RDL001 isn't considered representative of the PM_{2.5} concentration at the site for the reason given in **Section 3.4**. However, the conclusion drawn about the site's NO₂ concentration can also be drawn for PM_{2.5}. The PM_{2.5} concentration at this monitor is below the annual mean objective limit and given the PM_{2.5} concentration at the site is likely to be lower than at this monitor, the PM_{2.5} concentration at the site is likely to be below the annual mean objective limit.

4.0 Dust Risk Assessment

4.1 Dust Emission Magnitude

Activities may generate dust and particulate matter during the construction phase, as well as exhaust emissions from construction vehicles and plant, which could result in complaints of nuisance and human health effects.

The likely level of risk has therefore been assessed following guidance published by the Institute of Air Quality Management (IAQM). The assessment considers the nature and scale of the activities undertaken and the sensitivity of the surrounding area. Mitigation measures proportionate to the level of risk identified are then set out.

The IAQM assessment methodology has been used to determine the potential dust emission magnitude for the following four different dust and PM₁₀ sources: demolition, earthworks, construction, and trackout.

4.1.1 Demolition

The existing single storey retail units will be demolished. The total demolition volume will be less than 12,000m³, based on the building footprint and the approximate building height of 3.5m. The materials being demolished will be mainly concrete and brickwork. The potential dust emission magnitude from demolition is judged to be small, following IAQM guidance.

4.1.2 Earthworks

The total site area is 771m². The site is located on *sand to sandy loam* geology; sand is made up of coarse particles which are less prone to suspension in the air when dry than finer particles like clay and silt. It is unlikely there will be more than 5 heavy earth moving vehicles operating on site at once, based on the size of the site. The potential dust emission magnitude from earthworks is judged to be small, following IAQM guidance.

4.1.3 Construction

The construction period is assumed to be 52 weeks. Construction works will include piling, concrete frame construction, traditional brickwork operations, external landscaping, and residential fit-out. The total construction volume is likely to be less than 75,000m³. The main construction materials are likely to be concrete and brickwork. The potential dust emission magnitude from construction is judged to be medium, following IAQM guidance.

4.1.4 Trackout

The number of outward HDV movements per day during the construction period is currently unknown. However, it is unlikely there will be more than 20 per day, based on the size of the site. Construction vehicles leaving site will likely travel over less than 50m of unpaved road given the existing road network around the site. The potential dust emission magnitude from trackout is judged to small, following IAQM guidance.

4.1.5 Summary of Dust Emission Magnitude

Table 5 summarises the dust emission magnitude of each activity.

Table 5. Dust Emission Magnitude

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

4.2 Sensitivity of the Study Area

4.2.1 Dust Soiling Effects

There are residential dwellings directly north and east of the site, which are highly sensitive to dust soiling effects. St John the Baptist RC Church to the northwest of the site is considered highly sensitive to dust soiling effects for its historic and cultural value. Nye Bevan House to the west is also considered highly sensitive to dust soiling effects due to it being a health centre. Rochdale Train Station to the south and the Fireground to the north are considered to have medium sensitivity to dust soiling effects.

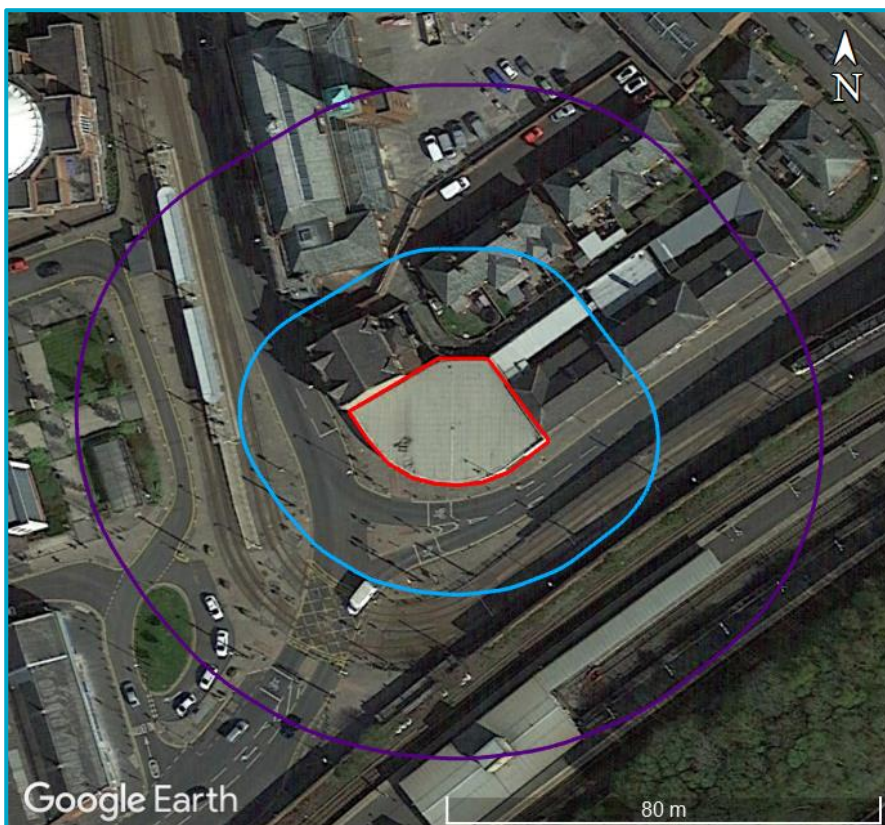
The southerly wind direction in the area means receptors to the north will likely be most affected by dust generated on site.

1) Demolition, Earthworks, and Construction

Demolition, earthworks, and construction are considered together as they will occur over the same area.

There are approximately 6 residential dwellings within 20m of the demolition, earthworks, and construction boundary (**Figure 3**). There are approximately 10 more residential dwellings within 50m, as well as Rochdale Train Station, Nye Bevan House, and the Fireground. The sensitivity of the local area to dust soiling effects due to demolition, earthworks, and construction is judged to be high, because Nye Bevan House is a highly sensitive receptor that is likely to have more than 100 users per day.

Figure 3. Demolition, Earthworks, and Construction Boundary (red) with 20m (blue) and 50m (purple) Buffers



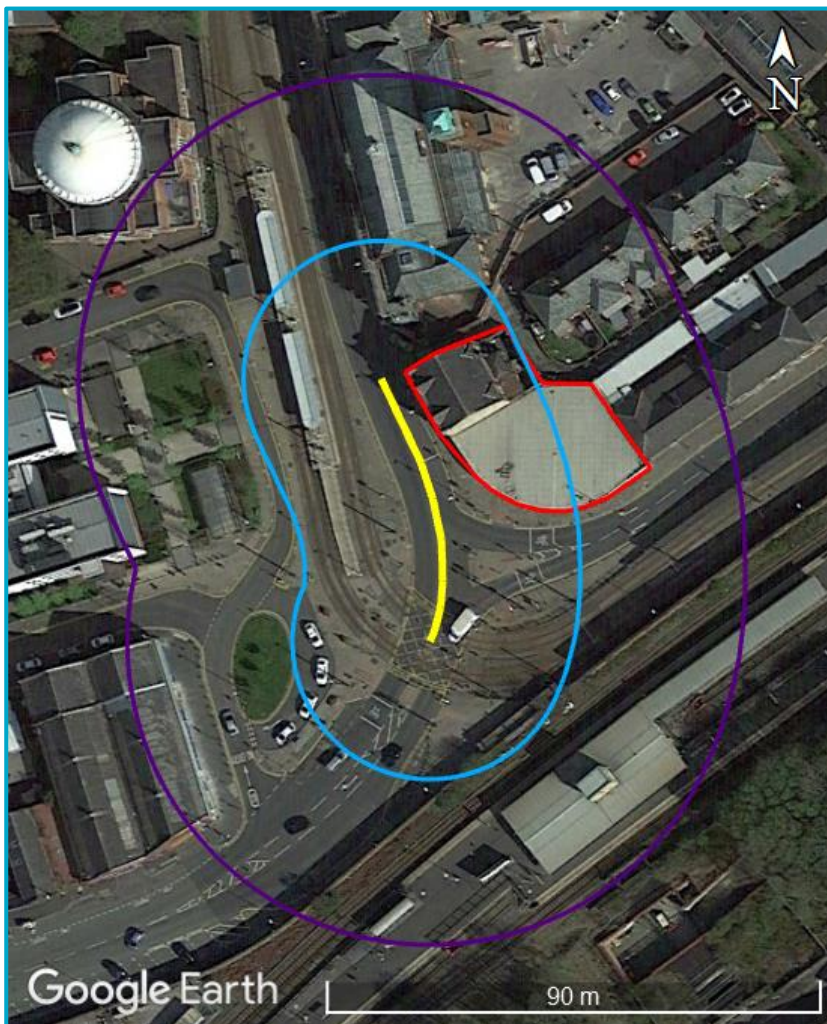
2) Trackout

The site is classified as small size, following IAQM guidance. The guidance recommends assessing trackout effects on the first 50m of public road from the site exit for small sites.

Construction traffic will likely exit the site on to Maclure Road and either travel south (**Figure 4**) or north (**Figure 5**).

The Fireground is the only receptor within 20m of the southbound trackout route. Rochdale Train Station, Nye Bevan House, St John the Baptist RC Church, and several residential dwellings on Station Road are within 50m.

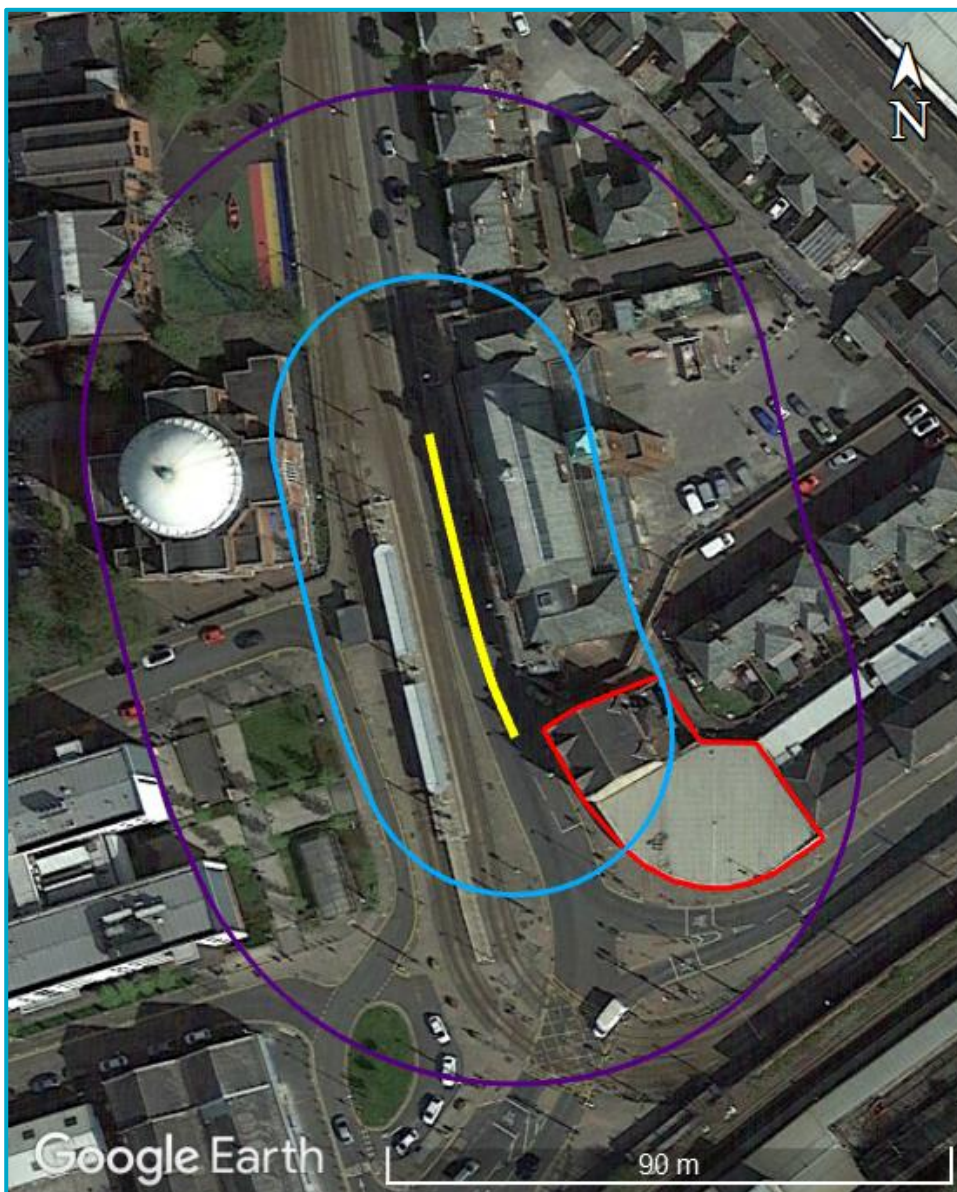
Figure 4. Assumed Southbound Trackout Route (yellow) with 20m (blue) and 50m (purple) Buffers



The Fireground and St John the Baptist RC Church are within 20m of the northbound trackout route. Nye Bevan House, St John's RC Primary School, and several residential dwellings on Station Road and Maclure Road are within 50m.

The sensitivity of the local area to dust soiling effects due to trackout is judged to be high, because Nye Bevan House is a highly sensitive receptor that is likely to have more than 100 users per day.

Figure 5. Assumed Northbound Trackout Route (yellow) with 20m (blue) and 50m (purple) Buffers



4.2.2 Health Effects of PM₁₀

The receptors identified in the previous section for the effect of dust soiling are relevant here, as there are health implications for sensitive receptors due to the dispersion and deposition of PM₁₀.

The monitored PM₁₀ data show the concentration was likely below 18.0µg/m³ in 2022, which is below the annual mean objective of 40µg/m³, as well as the 24µg/m³ regime defined in the IAQM guidance.

1) Demolition, Earthworks, and Construction

There are approximately 6 residential dwellings within 20m of the demolition, earthworks, and construction boundary. There are approximately 10 more residential dwellings within 50m, as well as Rochdale Train Station, Nye Bevan House, and the Fireground. The health effects due to demolition, earthworks, and construction are judged to be medium with receptors likely be exposed to less than 18.0µg/m³ of PM₁₀.

2) Trackout

The Fireground is the only receptor within 20m of the southbound trackout route. Rochdale Train Station, Nye Bevan House, St John the Baptist RC Church, and several residential dwellings on Station Road are within 50m.

The Fireground and St John the Baptist RC Church are within 20m of the northbound trackout route. Nye Bevan House, St John's RC Primary School, and several residential dwellings on Station Road and Maclure Road are within 50m.

The health effects due to trackout are judged to be medium with receptors likely be exposed to less than 18.0µg/m³ of PM₁₀.

4.2.3 Ecological Effects

There are no ecological receptors within 50m of the site boundary, nor within 50m of roads likely to be affected by trackout. Therefore, ecological effects are screened out.

4.2.4 Summary of Sensitivity to Dust Effects

Table 6 summarises the sensitivities assessed for the area. The highest sensitivities assessed are recorded within the table and will be taken forward in the assessment.

Table 6. Sensitivity of Area

Potential Impact	Sensitivity of Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Medium	Medium	Medium	Medium
Ecological	N/A	N/A	N/A	N/A

4.3 Overall Dust Impact Risk

The predicted dust emission magnitude (**Table 5**) has been combined with the sensitivity of the area (**Table 6**) to determine the risk of impacts during the construction phase, prior to mitigation. **Table 7** summarises the risk of dust impacts for the proposed development. The risk category identified for each construction activity has been used to determine the level of mitigation required.

Table 7. Summary of Dust Risk Impacts

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	Low Risk	Medium Risk	Low Risk
Human Health	Low Risk	Low Risk	Medium Risk	Negligible Risk
Ecological	N/A	N/A	N/A	N/A

5.0 Construction and Operational Phase Impacts

5.1 Construction Vehicles and Plant

The number of construction vehicles visiting site per day is currently unknown. However, it is unlikely the IAQM/EPUK threshold of 100 HDV movements per day will be exceeded, based on the size of the development. Therefore, the impact of construction vehicle movements is likely to be negligible and a detailed air quality assessment is not necessary.

5.2 Operational Road Traffic

The development will be car free. However, there will likely be some vehicles movements attributed to the development, such as people visiting the residents or deliveries to the commercial element. The project transport assessor, Arcadis, has estimated the development will generate 10 vehicle movements per day once operational. This is below the IAQM/EPUK threshold of 500 LDV movements per day, meaning the impact of operational vehicle movements is likely to be negligible and a detailed air quality assessment is not necessary.

6.0 Mitigation

6.1 Dust Mitigation Measures for the Construction Phase

The assessment of potential construction phase impacts has found that the proposed development is medium risk for dust soiling and medium risk for human health effects. The following tables presents mitigation measures that should be used to reduce the risk of air quality impacts during the construction phase of the proposed development.

Table 8. General Dust Mitigation Measures

Communications
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
Display the head or regional office contact information.
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site.
Site Management
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
Make the complaints log available to the local authority when asked.
Record any exceptional incidents that cause dust and/or air emissions, either on- or off site, and the action taken to resolve the situation in the logbook.
Monitoring
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
Preparing and Maintaining the Site
Plan site layout so machinery and dust causing activities are located away from receptors, where possible.
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
Avoid site runoff of water or mud.
Keep site fencing, barriers and scaffolding clean using wet methods.
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
Cover, seed, or fence stockpiles to prevent wind whipping.
Operating Vehicle/Machinery and Sustainable Travel
Ensure all vehicles switch off engines when stationary - no idling vehicles.
Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking and car-sharing).
Operations
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
Use enclosed chutes and conveyors and covered skips.
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

Avoid bonfires and burning of waste materials.

Table 9. Dust Mitigation Measures Specific to Demolition

Measures Specific to Demolition
Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
Avoid explosive blasting, using appropriate manual or mechanical alternatives
Bag and remove any biological debris or damp down such material before demolition.

Table 10. Dust Mitigation Measures Specific to Construction

Measures Specific to Construction
Avoid scabbling (roughening of concrete surfaces) if possible.
Ensure sand and other aggregates are stored in bunded areas and aren't allowed to dry out, unless required for a particular process, in which case ensure that appropriate additional control measures are in place.
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
For smaller supplies of fine powder materials, ensure bags are sealed after use and are stored appropriately to prevent dust.

Table 11. Dust Mitigation Measures Specific to Trackout

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

6.2 Air Quality Mitigation Measures for the Operational Development

The following examples of good practice principles in Section 5.10 of the IAQM/EPUK guidance should be followed where practicable:

“Design Phase:

- *The provision of at least 1 Electric Vehicle (EV) “fast charge” point per 10 residential dwellings and/or 1000m² of commercial floorspace. Where on-site parking is provided for residential dwellings, EV charging points for each parking space should be made*
- *New developments should not contravene the Council’s AQAP, or render any of the measures unworkable*
- *Wherever possible, new developments should not create a new “street canyon”, or a building configuration that inhibits effective pollution dispersion*
- *Delivering sustainable development should be the key theme of any application*
- *New development should be designed to minimise exposure to pollution sources, eg. by locating habitable rooms away from busy roads or directing combustion generated pollutants through well sited vents or chimney stacks.*

Operational Phase:

- *Where development generates significant additional traffic, provision of a detailed travel plan (with provision to measures its implementation and effect) which sets out measures to encourage sustainable means of transport (public, cycling and walking) via subsidised or free-ticketing, improved links to bus stops, improved infrastructure and layouts to improve accessibility and safety*
- *All gas-fired boilers to meet a minimum standard of <40mgNO_x/kWh*
- *All gas-fired CHP plant to meet a minimum emission standard of:*
 - *Spark ignition engine: 250mgNO_x/Nm³*
 - *Gas turbine: 50mgNO_x/Nm³*
 - *Compression ignition engine: 400mgNO_x/Nm³*
- *A presumption should be to use natural gas-fired installations. Where biomass is proposed within an urban area it is to meet minimum emissions standards of:*
 - *Solid biomass boiler: 275mgNO_x/Nm³ and 25mgPM/Nm³”*

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