



Remediation

Dust Management Strategy

**Crabtree Lane
for
Keepmoat Homes**

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Quality Management

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LIMITATIONS

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This report has been prepared based on the information received during the timescale available and all potential contamination; constraints or liabilities associated with the site may not necessarily have been revealed.

The report is only valid when it is used in its entirety.

This report is confidential to the client and DBR accepts no responsibility to third parties to whom the report, or any part thereof, is made known. Any such party using any information contained within the report does so at their own risk.

Table of Contents

1.	Introduction.....	4
1.1.	Scope	4
1.2.	Roles and Responsibilities.....	4
2.	The Development and Construction Programme.....	6
2.1.	Overview of the Proposed Development.....	6
2.2.	Construction Programme.....	6
3.	Site Description.....	7
3.1.	Site Location	7
4.	Dust Risk Assessment	8
4.1.	Background	8
4.2.	Methodology	8
4.3.	Potential Receptors	9
4.4.	Potential Dust Generating Works	10
4.5.	Wind Dirtection.....	11
4.6.	High Risk Recptors	11
5.	Dust Management and Control	12
6.	Monitoring/ Record Keeping	13
7.	Conclusion	14

1. Introduction

1.1. Scope

This document presents a Dust Management Strategy (DMS) for the proposed site at Crabtree Lane, Manchester M11 1BR.

This DMS is a working document that sets out the management and control procedures in place at the site to manage dust. The DMS aims to ensure that dust assessment forms part of daily inspections, and that dust is primarily controlled by good operational practices, with appropriate measures undertaken to prevent dust beyond the site boundary.

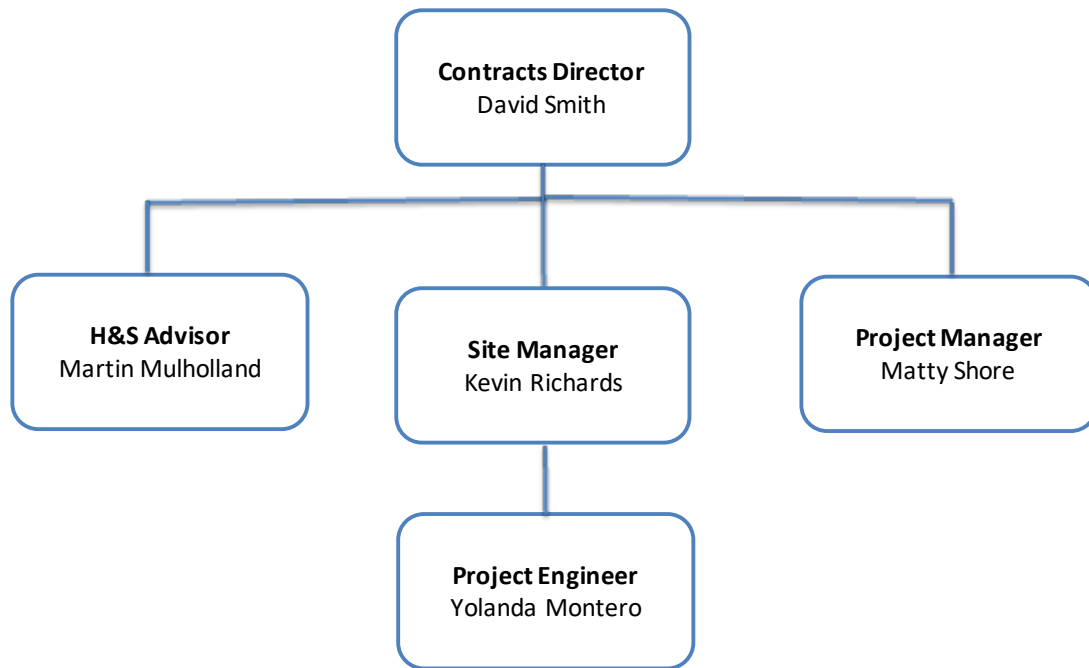
This DMS covers the following:

- A general description of the site, its location and the on-site operations;
- A description of the likely dust sources, pathways and receptors;
- The control procedures used to manage dust at the site daily;
- The roles and responsibilities of site personnel;
- Trigger levels and risk factors and the corrective actions to be taken during abnormal conditions;
- The monitoring and auditing of the effectiveness of the control procedures; and
- Details of responsibilities regarding record keeping, and the implementation and maintenance of this DMS. Overview of the proposed development and associated construction programme.

This document will be reviewed on a regular basis and developed throughout the construction phase and immediately upon receipt of any justified complaint. Any changes to the approved DMS mitigation measures resulting from either the regular reviews or following receipt of a complaint will be forwarded to Manchester City Council (MCC). This DMS should be read in conjunction with the Demolition Management Plan (DMP). An Asbestos Management Plan (AMP) will be issued to support this document which will deal with all aspects of asbestos, if encountered.

1.2. Roles and Responsibilities

The organogram below summarises the roles and responsibilities of the DB Remediation (DBR) management team responsible for ensuring the works are undertaken in accordance with the measures outlined in this DMS.



2. The Enabling Works Programme

2.1. Overview of the Enabling Works

The works comprise the demolition and remediation of the site to provide a development platform for the construction of a residential development and associated infrastructure, comprising:

- Site clearance, including vegetation;
- Asbestos management;
- Demolition of site structures;
- Removal of below ground features and surface hardstanding
- Recovery and recycling of masonry and hardstand by crushing;
- Cut/fill works to regrade to a platform for development.

2.2. Construction Programme

The current expectation is that the proposed enabling operations is anticipated to take up to 6 months to complete. It is anticipated that these works will commence in the summer of 2025 subject to planning approval being granted for the site.

The typical site working hours will be:

- Monday to Friday 07:30 to 18:00
- Saturdays 08:30 – 14:00
- No working Sunday and Bank Holidays.

3. Site Description

3.1. Site Location

The site located in the north of Openshaw, between Openshaw and Clayton. The site has an approximate address of B&S Massey, Crabtree Ln, Manchester M11 1BR.

The site is irregular in shape but is considered roughly rectangular. The site is formed by three main structures in the west with the remaining areas being largely hardstanding which is also generally heavily vegetated with self-seeded trees and bushes.

The buildings are largely empty however, some machinery remains, as does significant amount of waste. Asbestos was noted at the surface across the site but was focussed on the southern end of the western building.

The surrounding area comprises a mix of residential and commercial use as defined below:

- North – Ashton canal, commercial / industrial units with residential beyond.
- East – Open waste land and possible materials processing / recycling site.
- South – Residential development
- West – Commercial / Industrial properties

4. Dust Risk Assessment

4.1. Background

Every year, thousands of workers are made ill from exposure to dust in the workplace that could result in an increase of lung diseases including Occupational Asthma, COPD and even Cancer. Dust is not always an obvious health hazard in the workplace as the particles which cause the most damage are often invisible to the naked eye, and the health effects of exposure can take many years to develop.

Dust particles or “Particulate Matter” (PM) are measured by diameter in microns (μm). Particles as large $200\mu\text{m}$ can remain suspended by normal ambient air currents. The smaller they get, the less visible they are to the naked eye, becoming barely visible at $100\mu\text{m}$. At the size of $<\text{PM}_{10}$ (the regulated size threshold for airborne crystalline silica particles), the dust is able to avoid the body’s natural defenses, penetrating deep into the lungs potentially causing chronic lung diseases. The UK is currently focused on measuring the fractions of PM where particles are less than 10 micrometres in diameter (PM_{10}) and less than 2.5 micrometres in diameter ($\text{PM}_{2.5}$) based on the latest evidence on the effects of PM to human health. Figure 1 below shows a particle size comparison.

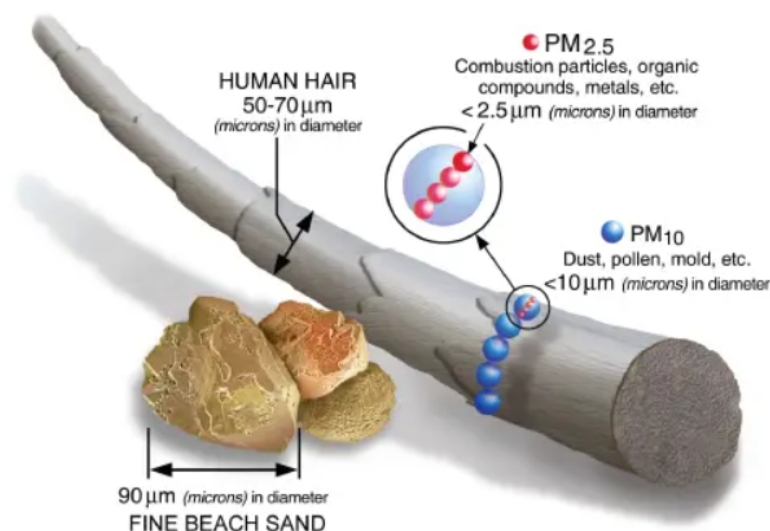


Figure 1: Dust Size Comparison

4.2. Methodology

The Institute of Air Quality Management (IAQM) Guidance on the Assessment of Mineral Dust Impacts for Planning includes an assessment methodology, which has been used to determine the magnitude of dust effects due to operations at the site.

Locations sensitive to dust emitted during site operations will be places where members of the public or site workers are regularly present. Residential properties and commercial operations close to the site will be most sensitive to operational dust. Any areas of sensitive vegetation or ecology that are very close to dust sources may also be susceptible to some negative effects.

The IAQM minerals guidance describes a qualitative source-pathway-receptor approach to determine the risk of dust effects. The assessment method uses several steps to determine the site characteristics and baseline conditions, an estimate of the dust impact risk and an estimate of the likely magnitude of effects. Potential dust sources and activities have been identified and the risk of impacts at sensitive receptors determined based on the prevailing meteorological

conditions and topography, the likely magnitude of emissions (with mitigation in place) and the distances over which effects may occur.

The IAQM minerals dust guidance divides activities on minerals sites into types to reflect their different potential impacts. The relevant activities are as follows:

- Site preparation/restoration;
- Material handling;
- On-site transportation; and
- Exposed surfaces.

A series of steps then consider the potential impact due to:

- Annoyance due to the deposition of dust;
- Harm to the natural environment.

The sensitivity of receptors is defined in Table 1; however, professional judgement should be used to identify where on the spectrum between high and low sensitivity a receptor lies.

Table 1: Sensitivities of People to Dust Soiling

Class	Principles	Examples
High	Users can reasonably expect enjoyment of a high level of amenity; or the appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.	Dwellings, museum and other culturally important collections, medium and long-term car parks and car showrooms.
Medium	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; or the appearance, aesthetics or value of their property could be diminished by soiling; or the people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.	Parks, places of work.
Low	The enjoyment of amenity would not reasonably be expected; or property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or there is 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.	Playing fields, farmland (unless commercially sensitive horticultural), footpaths, short term car parks and roads.

4.3. Potential Receptors

It is commonly accepted that the greatest impacts on dust deposition will occur within 100m of an emissions source (IAQM, 2016). The potential impact of dust emissions at receptors is dependent on the distance from the source to the receptor and the presence of any physical features that may affect dispersion. Particles responsible for most dust annoyance will usually deposit within 100m of the source and within this distance receptors would be categorised as close. The receptor areas identified are all within 100m of potentially dust generating activity and are shown in Figure 2

below and described in Table 2. The sensitivity of the receptor areas has been determined based on the land use and the information in Table 1.

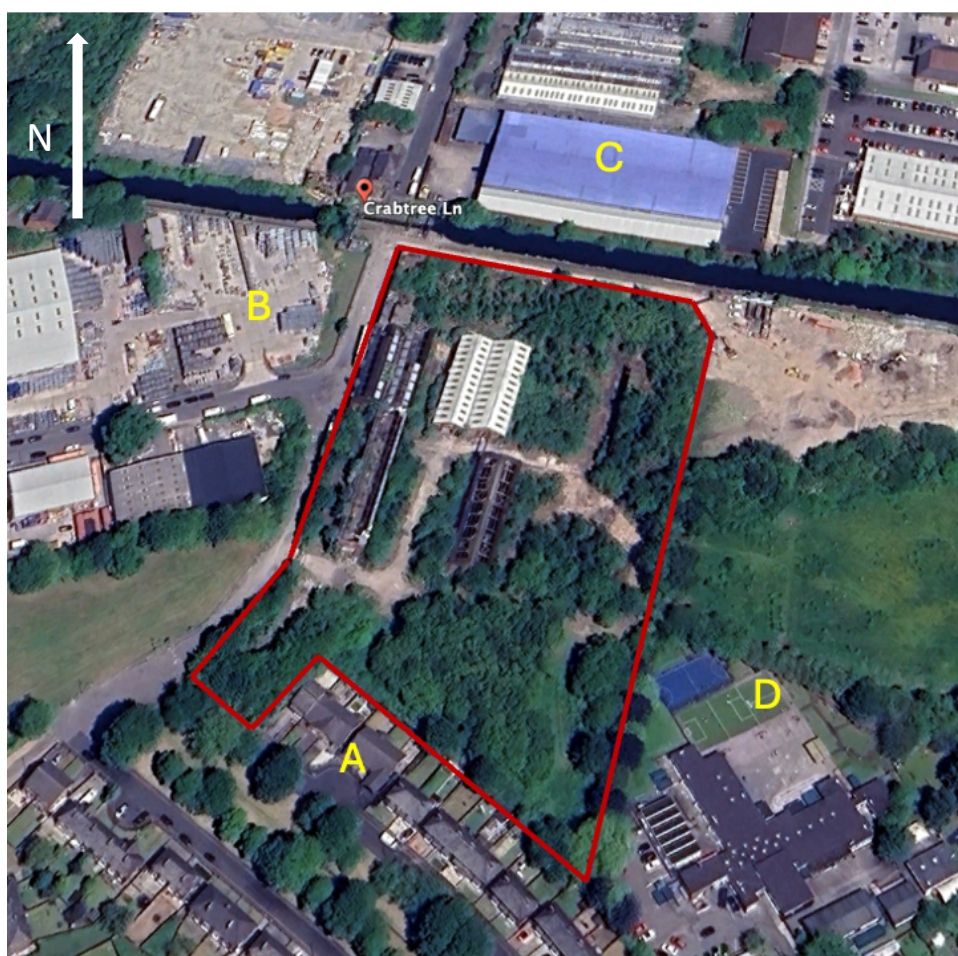


Figure 2: Potential Receptors

Table 2: Potential Receptors Sensitivity Classification

Receptor Area	Description	Land Use	Sensitivity to Dust
A	Eastern By-Pass	Residential	High
B	Clayton Industrial Estate	Industrial / Commercial	Medium
C	Industrial Estate	Industrial / Commercial	Medium
D	Openshaw Community School	Public	High

4.4. Potential Dust Generating Works

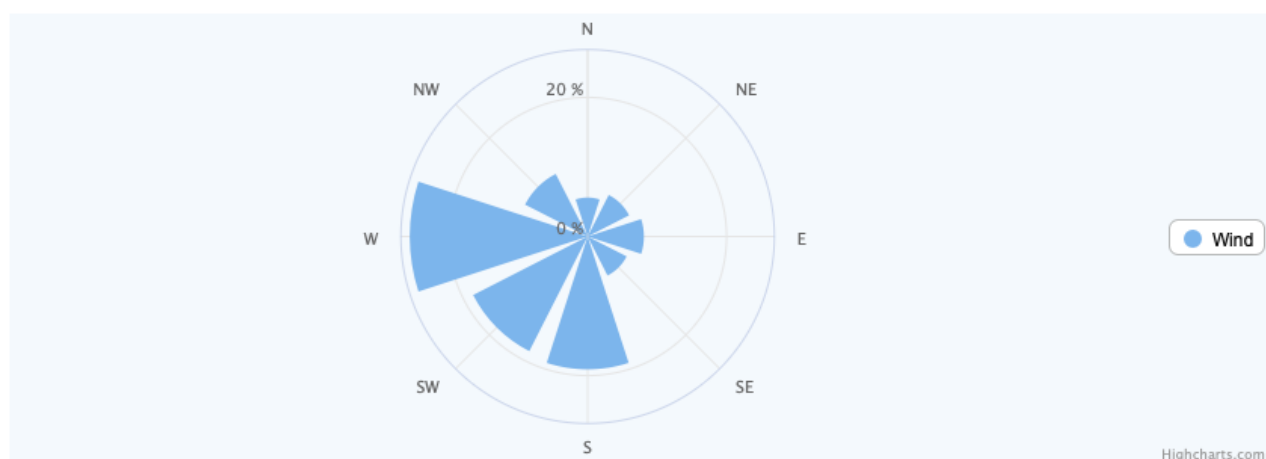
The main activities likely to disturb material and generate significant volumes of dust are listed below. When these types of works are operating on site, monitoring and observations will be made on a regular basis to assess whether additional dust mitigation measures are required.

- Demolition;
- Plant Movement/Trafficking;

- Crushing;
- Relic Removal;
- Material Handling.

4.5. Wind Direction

The annual average wind direction for Manchester is displayed below on the Wind Rose in Figure 3. This will help determine the potential receptors that are most likely to receive airborne dust deposits.



Wind direction graph in Manchester using average values according to our data.

N ▼ Northern	NE ▲ Northeastern	E ◀ Eastern	SE ▼ Southeastern	S ▲ Southern	SW ◀ Southwestern	W ▶ Western	NW ▲ Northwestern
5.6%	6.7%	8.1%	6.3%	19.1%	18.5%	25.6%	10.1%

Figure 3: Wind Rose for Manchester —Source: world-weather.info/archive

4.6. High Risk Receptors

It is considered that the surrounding industrial / commercial areas to the north (along with public access to the canal paths) are at the highest risk of being affected by dust deposits due to their proximity to the site's boundary and average wind direction.

5. Dust Management and Control

The following dust control and mitigation measures will be implemented at the site:

- Demolition dust suppression measures as identified in the DMP.
- Stockpiles of dust producing materials will be positioned well away from boundaries and, if necessary, in dry and windy periods will be damped to prevent wind-blown dust.
- On site roadways will be dampened down using a towable water bowser.
- The use of recycled water (where possible) for the purposes of dust suppression will be implemented.
- If dust is being generated during excavation or screening operations the material will be dampened down and if this does not resolve the issue, then the operations will cease until the weather conditions change.
- A maximum speed limit of 10mph within the site area will be enforced on dry days to reduce dust re-suspension from road vehicles.
- The site entrances/exits and through roads will be cleaned as necessary. Road sweepers will attend site when required.
- Tarmac or hardstanding haul roads to remain where possible to avoid plant running on loose ground.
- Stockpiles will be kept for the shortest possible time and their height minimised. The predominant wind direction will be considered during the construction of stockpiles to reduce the likelihood of effects on sensitive receptors.
- 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.
- If deemed necessary, erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Make the complaint records available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site or the action taken to resolve the situation.
- Protective eyewear (goggles/glasses) are to be worn by all personnel on site.
- Daily inspections of dust generating activities shall be monitored and recorded by the Site Manager within the Daily Site Diary, consideration shall be given to wind directions and receptors.
- Where dust control/suppression is ineffective the works item shall be stopped and the control measures and working methodology reviewed. Additional actions shall be defined and put in place prior to works commencement.
- The daily inspection records shall be available to the local authority if asked.

The monitoring requirements for the above will comprise environmental monitoring and visual observations. Any complaints received by surrounding residents/businesses will be logged and addressed during site progress meetings.

All operational staff members are responsible for minimising any dust emissions from the site. When abnormal dust emissions are observed, operators are instructed to report this to the Site Manager without delay. It is the responsibility of the Site Manager to organise action to mitigate emissions of dust.

6. Monitoring/ Record Keeping

All site personnel will be responsible for reporting dust problems to the Site Manager immediately, on an on-going basis. A daily visual inspection will be carried out by the Site Manager, or an appropriately competent operative. The inspection will consist of a walk around the active areas with observations made of any dust emissions detected. Particular attention will be paid to any areas where there is a greater risk of dust emissions.

A record of the inspection will be available upon request. If significant dust is identified or a complaint is received, then an immediate investigation/remedial action will be taken. During adverse meteorological conditions, when it is dry and/or windy, additional inspections shall be carried out downwind of any dust generating activities.

A total of six monitoring points has been selected and are illustrated on Figure 4 below.

Noise & Dust Monitoring Points



Figure 4: Monitoring Locations

Asbestos monitoring will be completed by a specialist contractor during phases of demolition and crushing. A combination of boundary and personal monitoring will be undertaken during key risk activities. Further details can be found in the Asbestos Management Plan.

7. Conclusion

The dust risk assessment has determined that there is a risk of dust soiling due to demolition and enabling work operations at the site. It is considered that ongoing visual inspection to monitor dust from the site, along with the corrective actions identified in this DMS, are sufficient to ensure there are no significant impacts due to dust.