

**Manchester Metropolitan University
Science & Engineering Project
Air Quality Plan**

Construction Phase Impacts

To Mitigate the potential impacts during the construction phase it is recommended that mitigation measures as stated below are Implemented.

It is recommended that a Dust Management Plan is implemented prior to works commencing on site, the measures that should be incorporated are as the below table.

Issue	Mitigation Measure
Communications	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
	Develop and implement a stakeholder communications plan that includes community engagement before work commences on site
	Display the head or regional office contact information
Dust Management Plan	Develop and implement a Dust Management Plan (DMP), which may include measures to control emissions, approved by the Local Authority.
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
Monitoring	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 log book
	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 check of surfaces such as street furniture, cars, window sills within 100 m of the 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
	Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with MCC. 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
	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
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible

Issue	Mitigation Measure
	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 cover as described below
	Cover, seed or fence stockpiles to prevent wind whipping.
Operating vehicles/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 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where applicable)
	Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials
	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
	Minimize 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
Demolition	Soft strip inside building before demolition
	Ensure effective water suppression is used during demolition activities
	Avoid explosive blasting, using appropriate manual or mechanical alternatives
	Bag and remove any biological debris before demolition

Issue	Mitigation Measure
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable
	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as is practicable
	Only remove the cover in small areas during work and not all at once
Construction	Avoid scrubbling (roughening of concrete surfaces) if possible
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place
	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 material ensure bags are sealed after use and stored appropriately to prevent dust
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 in continuous use
	Avoid dry sweeping of large areas
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable
	Record all inspections of haul routes and any subsequent action in a site log book
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable)
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits
	Access gates to be located at least 10 m from receptors where possible

Dust Management

The B&K project team will develop an Environmental Risk Assessment for this project. This will identify, amongst other things, the potential for nuisance to existing neighbouring premises, passing pedestrians and the construction workforce from noise and dust and sets into place control / mitigation measures. The Environmental Risk Assessment will be reviewed and monitored at regular intervals when the identified controls and mitigation will be amended as necessary to reflect any relevant identified changes to planned processes.

Prior to the works starting on site, a range of measures will be put in place to control dust nuisance and to prevent any dust produced by the site activities from migrating over the hoarding line and disrupting neighbouring properties and highway.

The dust controls that will be set up for this project will be comprehensive and are put in place to

- Control dust produced by site activities

- Control dust generated by site transport
- Monitor the results of these preventative measures
- Educate and inform all contractors and operatives of the reasons and importance for noise and dust control

Dust Control for Site Activities

Activities that have the potential to produce dust such as excavation works, construction traffic and the movement of plant and materials around the site will be identified and a task specific set of control measures will be agreed and checked before works can commence. Method Statements for all activities will highlight processes that may create dust and ensure that appropriate control measures are in place before the activity will be allowed to proceed. Dust suppression equipment such as mobile water bowser with fine sprays to damp down and trap the dust before it becomes a problem will be used for the demolition and excavation works.

All contractors will be challenged to eliminate on site activities that have the potential to create dust and where this is not possible a robust control and suppression procedure will be agreed before that work element can proceed. The contractors' foremen and the site management will check the precautions as the works are carried out to ensure that the dust suppression is effective.

The selection of materials that inherently create less dust will all be considered where possible.

To ensure that the wind conditions and direction can be known on site by all, and as a reminder of the potential for the wind to carry dust off site, a windsock or vane with an anemometer with a digital read out will be set up in a prominent position. Attention to dust creating activities will be given when the wind is blowing across the site towards neighbouring premises and highway.

Before the site is closed at night, and particularly before the weekend or bank holiday, any stockpiles will be checked, the adequacy of the covers inspected, and additional covers will be used if there is any possibility of out of hours dust problems. At weekends and bank holidays, the number of stockpiles of potential dust generating materials on site will be kept to a minimum

Dust effects during the construction period are temporary in nature, the impacts will only occur throughout the construction phase and are short term as they will only arise at particular times as are determined when site activities and the prevailing weather conditions combine.

However, with the application of the above measures the impacts will not be significant.

