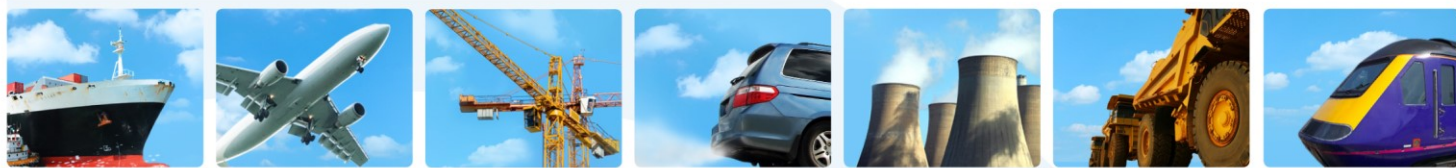




Air Quality and Dust Management Plan: 423-435 Lordship Lane

March 2023



Experts in air quality
management & assessment

Document Control

Client	Ivorystone Investments Limited	Principal Contact	James Bailey (Patrick Parsons)
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Report Prepared By:	Samantha Barber
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Air Quality Consultants Ltd
23 Coldharbour Road, Bristol BS6 7JT Tel: 0117 974 1086
24 Greville Street, Farringdon, London, EC1N 8SS Tel: 020 3873 4780
aqc@aqconsultants.co.uk

Registered Office: 23 Coldharbour Road, Bristol BS6 7JT
 Companies House Registration No: 2814570

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1 Introduction

- 1.1 This document details the Construction Dust Risk Assessment (CDRA) and Air Quality and Dust Management Plan (AQDMP) for the proposed development at 423-435 Lordship Lane (hereafter referred to as the “site”) in the London Borough of Haringey (LBH). The proposed development is described as:

“Demolition of existing building and erection of part 1, part 5, part 6 and part 7 storey building comprising commercial uses (use class A1, A2, A3, A4, A5) at ground floor and 50 residential dwellings above. Provision of waste refuge storage, cycle parking, disabled car parking and amenity space.”

- 1.2 The planning application for the proposed development (reference HGY/2017/3679, dated 14th December 2017) was refused by notice by the LBH. Subsequently, a planning appeal (reference APP/Y5420/W/19/3223654, dated 29th June 2020) was submitted, and planning permission was granted by the Secretary of State, subject to various planning conditions.

- 1.3 Condition 5 states:

“No development shall take place until a detailed Air Quality and Dust Management Plan (AQDMP) detailing the management of demolition and construction dust, has been submitted and approved in writing by the Local Planning Authority. The plan shall be in accordance with the Greater London Authority’s Control of Dust and Emissions Supplementary Planning Guidance document (July 2014) and shall include a Dust Risk Assessment. The development shall be carried out in full accordance with the approved AQDMP.”

- 1.4 A CDRA was previously undertaken within the air quality assessment that accompanied the 2017 planning application¹. Notwithstanding this, given the time lapse between the air quality assessment and the appeal decision notice, an updated CDRA has been undertaken.

- 1.5 The AQDMP describes the measures to be applied to minimise the risk of dust impacts during the entirety of the demolition and construction works. The package of measures presented in Section 2 is based on the results of the CDRA of the potential impacts of dust and fine particulate matter (PM₁₀) emissions from the construction activities. The CDRA assessment has been carried out following the methodology published by the Institute of Air Quality Management (IAQM)² (IAQM, 2016) (upon which the Greater London Authority’s (GLA’s) Supplementary Planning Guidance (SPG) on the Control of Dust and Emissions from Construction and Demolition (2014) is based). This is summarised in Appendix A1.

¹ Gem Air Quality Ltd (201) Westbury Court 423-453 Lordship Lane: Air Quality Assessment, Report Ref: AQ1065.

² The IAQM is the professional body for air quality practitioners in the UK.

- 1.6 The full risk assessment is set out in Appendix A2, while the findings are summarised below in Table 1. The assessment in Appendix A2 includes a summary of the works to be carried out, their timescales and the potential sources of dust emissions during each stage. It also provides a description of the nearest receptors to the site and discusses which are most likely to be affected by any dust emissions from the site during each stage of the works.

Table 1: Summary of Risk of Impacts Without Mitigation

Source	Dust Soiling	Human Health
Demolition	Medium Risk	Medium Risk
Earthworks	Low Risk	Low Risk
Construction	Low Risk	Low Risk
Trackout	Low Risk	Low Risk

- 1.7 The IAQM and GLA guidance are clear that, with appropriate mitigation in place, the impacts of construction dust will normally be 'not significant'. The aim of the CDRA set out in Appendix A2 is thus to determine the appropriate level of mitigation so as to ensure that impacts will normally not be significant. The best-practice mitigation measures set out in Section 2 are based on Section 8.2 of the IAQM guidance. They are considered appropriate to mitigate the level of risk set out in Table 1, with some only required during certain stages of the works.
- 1.8 Responsibilities for the AQDMP and the day-to-day actions to prevent dust issues are set out in Section 3. The monitoring to be undertaken is set out in Section 4, while Section 5 sets out how the responsible persons will respond to any dust events.
- 1.9 The AQDMP does not cover issues related to any contaminated materials. It is expected that these will be dealt with following standard methods.

2 Dust Management Measures to be Applied

- 2.1 The mitigation measures set out below are principally derived from the IAQM (2016) and GLA (2014) guidance. The best-practice measures set out in the guidance have been refined and added to, as necessary.
- 2.2 The measures set out in Table 2 are considered sufficient as to ensure that any dust impacts during the demolition and construction works will be 'not significant'. However, the AQDMP is a 'living' document and should be amended as necessary should additional measures be identified as being required.

Table 2: Best Practice Mitigation Measures to be Adopted for the Works

Measure	Desirable	Highly Recommended
Site Management		
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site		✓
Develop a Dust Management Plan (DMP)		✓
Display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary		✓
Display the head or regional office contact information		✓
Record and respond to all dust and air quality pollutant emissions complaints		✓
Make a complaints log available to the local authority when asked		✓
Carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the Local Authority when asked		✓
Increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions are being carried out and during prolonged dry or windy conditions		✓
Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and ensure that the action taken to resolve the situation is recorded in the log book		✓
Preparing and Maintaining the Site		
Plan the site layout so that machinery and dust-causing activities are located away from receptors, as far as is 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		✓
Install green walls, screens or other green infrastructure to minimise the impact of dust and pollution	✓	
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		✓
Carry out regular dust soiling checks of buildings within 100 m of site boundary and provide cleaning if necessary	✓	
Put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly		✓
Agree monitoring locations with the Local Authority		✓
Where possible, commence baseline monitoring at least three months before work begins		✓
Operating Vehicle/Machinery and Sustainable Travel		
Ensure all on-road vehicles comply with the requirements of the London LEZ (and ULEZ)		✓
Ensure all Non-road Mobile Machinery (NRMM) comply with London's NRMM emission standards. Currently, NRMM used on any site within Greater London are required to meet Stage IIIB of EU Directive 97/68/EC (The European Parliament and the Council of the European Union, 1997) and its subsequent amendments as a minimum, while NRMM used on any site within the Central Activity Zone, Canary Wharf or one of London's Opportunity Areas are required to meet Stage IV of the Directive as a minimum. The proposed development <u>is not</u> within an area where this stricter requirement applies. From January 2025, NRMM used anywhere in London will be required to meet stage IV, while from January 2030 the stage V standard will apply. From January 2040 only zero emission machinery will be allowed.		✓
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		✓
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials		✓
Implement a Travel Plan that supports and encourages sustainable staff 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, 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		
Reuse and recycle waste to reduce dust from waste materials		✓
Avoid bonfires and burning of waste materials		✓
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 water suppression is used during demolition operations.		✓
Avoid explosive blasting, using appropriate manual or mechanical alternatives		✓
Bag and remove any biological debris or damp down such material before demolition		✓
Measures Specific to Construction		
Avoid scabbling (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	✓	
Measures Specific to Trackout		
Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site	✓	
Avoid dry sweeping of large areas	✓	
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport	✓	

3 Responsibilities and Records

Key Responsibilities

Site Manager

- 3.1 The day-to-day operations at the site will be the responsibility of the Site Manager, who will be responsible for ensuring that the measures set out in Section 2 are implemented fully and appropriately, and that the monitoring protocol set out in Section 4 and the response protocols in Section 5 are adhered to. If the monitoring indicates that dust emissions are likely to have an impact on the local community, then the Environmental Health Officer at the LBH will be informed by the Site Manager; additional measures will be implemented where necessary.
- 3.2 If any exceptional dust and/or air emissions occur, or any complaints are received, they will be investigated by the Site Manager or a delegated representative, who will record the complaint. They will then identify the cause, take appropriate measures to reduce emissions in a timely manner, and record the measures taken. This information will be made available to the LBH upon request. Section 5 details specific measures that will be taken to address dust issues, and the Appendices to this AQDMP provide example forms to be used to record dust events.

All Staff

- 3.3 All staff will be responsible for minimising dust emissions from the site and will be responsible for reporting dust problems to the Site Manager immediately, on an on-going basis.
- 3.4 All operational staff will be trained in their responsibilities with regard to dust control at the site. The Site Manager will maintain a statement of training requirements for each operational position, and a record will be kept detailing the training received by each member of staff.

Contacts and Communications

- 3.5 The name and contact details of the Site Manager will be displayed at the site entrance. These signs will also include the address and phone number for demolition and construction contractor.
- 3.6 All complaints will be logged, all actions tracked, and each item closed out to the satisfactory agreement of all parties.

Managing the AQDMP

- 3.7 The Site Manager will review the AQDMP quarterly, in light of any complaints or issues that have been identified during the previous months. The following issues will be considered during the review:
- effectiveness of mitigation measures employed;

- additional mitigation measures implemented within the previous months;
- complaints received in relation to dust impacts at off-site receptors;
- review of any dust events recorded within the previous months;
- review of the effectiveness of the visual monitoring scheme; and
- review of the effectiveness of personnel training on dust awareness.

3.8 Should any control measures be shown to be failing or should a need for further control measures be identified, new controls will be agreed and implemented in an updated AQDMP.

4 Monitoring

Visual Inspections

- 4.1 Regular visual inspections of the site will be carried out by the Site Manager, or an appropriately trained operator, during periods when dust generating activities are being undertaken close to sensitive receptors. The inspection will consist of a walk around the perimeter of the site compound with observations made of any dust emissions in this area. Particular attention will be paid to any areas where professional experience would suggest that current operations have a higher-than-normal risk of dust emissions. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 50 m of the trackout routes (up to 50 m from the site entrance), with cleaning to be provided if necessary.
- 4.2 Inspection results will be recorded and the logs (example in Appendix A2) will be made available to the LBH when requested. If significant dust is identified beyond the site boundary, a Dust Event Form will be completed (see Appendix A4), and investigation/remedial action will be taken, as outlined in Section 5. The Site Manager will review Dust Event Forms regularly to ensure that any necessary actions have been implemented, and to identify problem areas where additional mitigation against further dust emissions may be necessary.
- 4.3 Should any complaints be received relating to dust soiling, the results of these inspections will be recorded in the Dust Complaint Form (see Appendix A5).
- 4.4 The frequency of visual inspections will be increased when activities with a high potential to produce dust are being carried out on site and during periods of adverse weather.

Dust and PM₁₀ Monitoring

- 4.5 As shown in Table 1, the site has been identified as a *Medium Risk* site due to dust soiling and human health impacts during demolition, and a *Low Risk* site due to dust soiling and human health impacts during earthworks, construction activities and trackout. Impacts of dust soiling are typically in relation to loss of amenity and potential nuisance effects of dust which is most noticeably attributable to the coarser fraction of dust (i.e. >10 microns in diameter). Impacts on health relate to the impacts of the demolition and construction activities on the short-term PM₁₀ concentrations at nearby sensitive receptor locations.
- 4.6 With the implementation of the mitigation measures detailed within Section 2, the residual impacts are considered to be '*not significant*'. However, as stated within the GLA's guidance (2014), all construction sites "*should be monitored for the generation of air pollution*". The guidance also states that "*the need for monitoring will depend on existing air quality, air pollution risks from the development, the technical practicalities and financial implication of dust monitoring*".

4.7 All monitoring strategies should be proportional to the potential risk of impacts. GLA's guidance sets out the requirements for monitoring, depending on the outcomes of the risk assessment. The monitoring strategy for the works will be based on the requirements for *Medium Risk* sites. The GLA's guidance on monitoring is as follows:

"Medium Risk Site (Dust Soiling / Nuisance / PM₁₀)

- *Take into account the impact of air quality and dust on occupational exposure standards to minimise worker exposure and breaches of air quality objectives that may occur outside the site boundary, such as by visual assessment; and*
- *Keep an accurate log of complaints from the public, and the measures taken to address any complaints, where they were required;*
- *Determine the prevailing wind direction across the site using data from a nearby weather station;*
- *If measuring air quality along a line:*
 - *Set up a line across the site according to the direction of the prevailing wind; and*
 - *Operate a minimum of two automatic particulate monitors to measure PM₁₀ levels at either end of the line – either inside or outside the site boundary. These instruments should provide data that can be downloaded in real-time by the local authority; and*
- *If monitoring air quality at sensitive receptors:*
 - *Identify which location(s) need to be monitored and set up an automatic particulate monitor at each of these to measure representative PM₁₀ levels. These instruments should provide data that can be downloaded in real-time by the local authority;*
 - *If required, supplement monitoring with hand held monitors to get on-the-spot readings at selected points, such as close to sensitive receptors; and*
 - *Consider also monitoring dust deposition and soiling rates as these can be used to indicate nuisance."*

4.8 Taking account of the above, it is considered necessary to monitor for PM₁₀ emissions using real time automatic monitors, as recommended on Appendix 8 of the GLA's SPG on the Control of Dust and Emissions from Construction and Demolition (GLA, 2014). Monitoring data will be made available to the LBH.

4.9 Two automatic PM₁₀ monitors will be installed onsite; based on the outcome of the CDRA and the location of nearby sensitive receptors, this is considered appropriate. The monitoring will be undertaken throughout the duration of the demolition and construction works. Proposed monitoring locations are shown in Figure 1, and have been identified based on the prevailing wind direction,

location of demolition and construction works, and the proximity of sensitive receptors to the site. It should be noted that these monitoring locations are indicative; their exact location will be subject to site constraints (such as access and power supply) and will need to be agreed with the LBH.



Figure 1: Proposed Monitoring Locations

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- 4.10 For PM₁₀ measurements, a Site Action Level (SAL) of 190 µg/m³ as a 1-hour average will be used as recommended by IAQM (2018).
- 4.11 In the event that the SAL is exceeded, the Site Manager will be alerted immediately via an automated SMS and/or email alert system, and the following actions taken (further details of the procedure to be adopted following SAL exceedances are detailed in Section 5):
- the event will immediately be recorded in a log book, along with the date and time and details of any actions taken on site to reduce emissions;
 - an assessment of the results will be undertaken to ascertain the cause of the exceedance;
 - construction activities taking place at the time the action level was exceeded will be reviewed;
 - if necessary, the mitigation measures that are in place will be reviewed and revised; and

- the LBE will be informed of the exceedance by the Site Manager, as well as the actions taken to reduce emissions, within 24 hours.

4.12 The LBH will also be alerted in the event that the SAL is exceeded.

4.13 The installed PM₁₀ monitors will be calibrated annually, in accordance with manufacturer's instructions. Filters on each monitor will be changed quarterly.

Meteorology

4.14 The wind speed and direction will be monitored by the Site Manager in order to alert staff to potential adverse conditions that may trigger the additional mitigation measures outlined in Section 2. This will be either by direct observation or from published weather forecasts. Meteorological conditions at the time of any significant dust emissions will be recorded in the Dust Event Form.

5 Response and Reporting

- 5.1 The regular inspections, visual monitoring of dust emissions and observations of the meteorological conditions may identify occasions when potential dust sources are not being mitigated effectively, mitigation measures are not in place, or unacceptable dust impacts have occurred or may occur. Furthermore, abnormal emissions due to equipment failure (such as road sweeper breakdown, wheel washing facilities, etc.) and/or adverse weather (such as long periods of dry weather and/or high wind speeds (especially when both are combined)), are major risk factors that have been identified that may require action in order to prevent or minimise dust emissions.
- 5.2 All significant dust events will be investigated and addressed. If necessary, they will be reported to the LBH. The flowchart set out in Figure 2 sets out the approach that will be taken when such events occur.

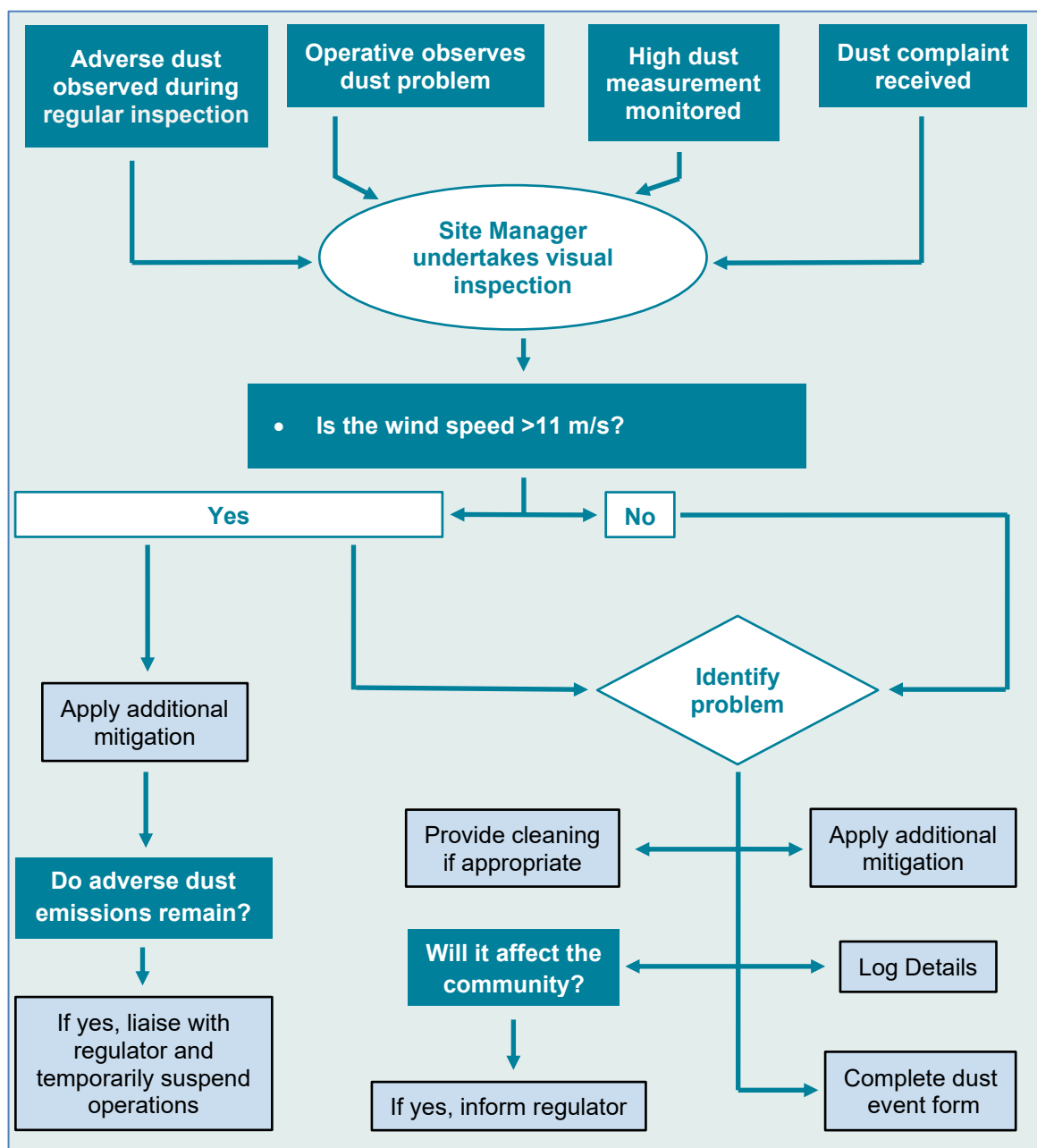


Figure 2: Dust Event Response Flowchart

Dust Event or Complaint Response Procedure

- 5.3 If the potential for unacceptable dust emissions is identified, either through visible plumes of dust crossing the site boundary or if a complaint is received, the cause will be immediately investigated by the Site Manager or a delegated representative, who will record the event either in the Dust Event Form in Appendix A4 or the Dust Complaint Form in Appendix A5.

5.4 It is the responsibility of the Site Manager to record, respond to and follow up all complaints regarding dust. Site Managers are responsible for ensuring that suitably qualified personnel are available to respond to complaints at all times.

5.5 Investigations will include:

- a review of site activities to identify the cause of the dust complaint/exceedance or event (if possible);
- a review of the dust control measures implemented at the time of the event;
- a review of the meteorological conditions at the time of the event;
- implementation of appropriate measures to reduce emissions in a timely manner;
- recording the measures taken in the Dust Event Form or Complaint Form, and amending working practices as necessary to avoid a repeat of the incident; and
- the outcome of the investigation will be communicated back to the complainant (if relevant) in a timely and appropriate manner.

5.6 This information will be made available to the LBH upon request.

5.7 It is the responsibility of the Site Manager to record, respond to and follow up all complaints regarding construction dust. Site Managers are responsible for ensuring that suitably qualified personnel are available to respond to complaints at all times.

5.8 In the event that significant levels of dust are experienced off-site, additional mitigation measures will be employed. These will include:

- immediate identification of the source of the dust;
- the liberal use of water suppression;
- covering or sheeting sources of unacceptable dust emissions; and
- removal of excessively dusty material from the site.

5.9 In the event that unacceptable dust emissions continue, despite the additional mitigation measures, consideration should be given to modifying site operations, in liaison with the LBH, and temporarily suspending site operations until the issue can be resolved.

Actions to be Taken by the Site Manager

5.10 It is the responsibility of the Site Manager to complete a Dust Complaint Form in the event of a complaint (see Appendix A5). Specific actions include to:

- note the time, date, name and contact details of the complainant. Note if the complaint has been referred from the local authority. Ask the complainant to describe the dust emission or nuisance; is it constant or intermittent, how long has it been going on for, it is worse at any time of day/any day of the week, does it come from an identifiable source;
- within a day after receipt of a complaint undertake a site inspection. Note all dust producing activities taking place. If the complaint was related to an event in the recent past, note any dust producing activities that were underway at that time, if possible. Implement any remedial action as necessary;
- within a day after receipt of a complaint, visit the area from where the complaint originated to carry out a visual inspection and ascertain if dust is still a problem; and
- if another source of dust other than the construction work is identified as causing the nuisance, verify the source. Photograph the source and emissions.

5.11 Within a week after the initial investigations have been completed, contact the complainant to explain any problems found and remedial actions taken. In addition:

- if necessary, update any relevant mitigation measures to prevent any recurrence of problems;
- ensure that the local authority is notified that a complaint has been received, what the findings of the investigation were, and any remedial measures taken. This should be done within two weeks of a complaint being received;
- inform workers on site of any complaints, the findings of any investigations and what remedial measures should be taken; and
- following exceedances of the site alert level, toolbox talks will be delivered to the site team to inform of causes of dust/odour emissions, receptor locations and/or control measures that can be employed.

6 References

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7 Glossary

AQC	Air Quality Consultants
AQDMP	Air Quality Dust Management Plan
CDRA	Construction Dust Risk Assessment
GLA	Greater London Authority
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
IAQM	Institute of Air Quality Management
LAEI	London Atmospheric Emissions Inventory
LBH	London Borough of Haringey
µg/m³	Microgrammes per cubic metre
NRMM	Non-road Mobile Machinery
PM₁₀	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
SAL	Site Action Level
SPG	Supplementary Planning Guidance

8 Appendices

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A1 Construction Dust Risk Assessment Procedure

A1.1 The criteria developed by IAQM (2016), upon which the GLA's guidance (2014) is based, divide the activities on construction sites into four types to reflect their different potential impacts. These are:

- demolition;
- earthworks;
- construction; and
- trackout.

A1.2 The assessment procedure includes the four steps summarised below:

STEP 1: Screen the Need for a Detailed Assessment

A1.3 An assessment is required where there is a human receptor within 350 m of the boundary of the site and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s), or where there is an ecological receptor within 50 m of the boundary of the site and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s).

A1.4 Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is *negligible* and that any effects will be 'not significant'. No mitigation measures beyond those required by legislation will be required.

STEP 2: Assess the Risk of Dust Impacts

A1.5 A site is allocated to a risk category based on two factors:

- the scale and nature of the works, which determines the potential dust emission magnitude (Step 2A); and
- the sensitivity of the area to dust effects (Step 2B).

A1.6 These two factors are combined in Step 2C, which is to determine the risk of dust impacts with no mitigation applied. The risk categories assigned to the site may be different for each of the four potential sources of dust (demolition, earthworks, construction and trackout).

Step 2A – Define the Potential Dust Emission Magnitude

A1.7 Dust emission magnitude is defined as either 'Small', 'Medium', or 'Large'. The IAQM guidance explains that this classification should be based on professional judgement, but provides the examples in Table A1.1.

Table A1.1: Examples of How the Dust Emission Magnitude Class May be Defined

Class	Examples
Demolition	
Large	Total building volume >50,000 m ³ , potentially dusty construction material (e.g. concrete), on site crushing and screening, demolition activities >20 m above ground level
Medium	Total building volume 20,000 m ³ – 50,000 m ³ , potentially dusty construction material, demolition activities 10-20 m above ground level
Small	Total building volume <20,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10 m above ground, demolition during wetter months
Earthworks	
Large	Total site area >10,000 m ² , potentially dusty soil type (e.g. clay, which will be prone to suspension when dry to due small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes
Medium	Total site area 2,500 m ² – 10,000 m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m – 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes
Small	Total site area <2,500 m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <10,000 tonnes, earthworks during wetter months
Construction	
Large	Total building volume >100,000 m ³ , piling, on site concrete batching; sandblasting
Medium	Total building volume 25,000 m ³ – 100,000 m ³ , potentially dusty construction material (e.g. concrete), piling, on site concrete batching
Small	Total building volume <25,000 m ³ , construction material with low potential for dust release (e.g. metal cladding or timber)
Trackout ^a	
Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m
Medium	10-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m
Small	<10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50 m

^a These numbers are for vehicles that leave the site after moving over unpaved ground.

Step 2B – Define the Sensitivity of the Area

A1.8 The sensitivity of the area is defined taking account of a number of factors:

- the specific sensitivities of receptors in the area;
- the proximity and number of those receptors;

- in the case of PM₁₀, the local background concentration; and
- site-specific factors, such as whether there are natural shelters to reduce the risk of wind-blown dust.

A1.9 The first requirement is to determine the specific sensitivities of local receptors. The IAQM guidance recommends that this should be based on professional judgment, taking account of the principles in Table A1.2. These receptor sensitivities are then used in the matrices set out in Table A1.3, Table A1.4 and Table A1.5 to determine the sensitivity of the area. Finally, the sensitivity of the area is considered in relation to any other site-specific factors, such as the presence of natural shelters etc., and any required adjustments to the defined sensitivities are made.

Step 2C – Define the Risk of Impacts

A1.10 The dust emission magnitude determined at Step 2A is combined with the sensitivity of the area determined at Step 2B to determine the *risk* of impacts with no mitigation applied. The IAQM guidance provides the matrix in Table A1.6 as a method of assigning the level of risk for each activity.

STEP 3: Determine Site-specific Mitigation Requirements

A1.11 The IAQM guidance provides a suite of recommended and desirable mitigation measures which are organised according to whether the outcome of Step 2 indicates a low, medium, or high risk. The list provided in the IAQM guidance has been used as the basis for the requirements set out in Section 2.

STEP 4: Determine Significant Effects

A1.12 The IAQM guidance does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be 'not significant'.

A1.13 The IAQM guidance recognises that, even with a rigorous dust management plan in place, it is not possible to guarantee that the dust mitigation measures will be effective all of the time, for instance under adverse weather conditions. The local community may therefore experience occasional, short-term dust annoyance. The scale of this would not normally be considered sufficient to change the conclusion that the effects will be 'not significant'.

Table A1.2: Principles to be Used When Defining Receptor Sensitivities

Class	Principles	Examples
Sensitivities of People to Dust Soiling Effects		
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 and places of work
Low	the enjoyment of amenity would not reasonably be expected; or there is property that 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
Sensitivities of People to the Health Effects of PM₁₀		
High	locations where members of the public may be exposed for eight hours or more in a day	residential properties, hospitals, schools and residential care homes
Medium	locations where the people exposed are workers, and where individuals may be exposed for eight hours or more in a day.	may include office and shop workers, but will generally not include workers occupationally exposed to PM ₁₀
Low	locations where human exposure is transient	public footpaths, playing fields, parks and shopping streets
Sensitivities of Receptors to Ecological Effects		
High	locations with an international or national designation and the designated features may be affected by dust soiling; or locations where there is a community of a particularly dust sensitive species	Special Areas of Conservation with dust sensitive features
Medium	locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or locations with a national designation where the features may be affected by dust deposition	Sites of Special Scientific Interest with dust sensitive features
Low	locations with a local designation where the features may be affected by dust deposition	Local Nature Reserves with dust sensitive features

Table A1.3: Sensitivity of the Area to Dust Soiling Effects on People and Property ³

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

³ For demolition, earthworks and construction, distances are taken either from the dust source or from the boundary of the site. For trackout, distances are measured from the sides of roads used by construction traffic. Without mitigation, trackout may occur from roads up to 500 m from sites with a *large* dust emission magnitude, 200 m from sites with a *medium* dust emission magnitude and 50 m from sites with a *small* dust emission magnitude, as measured from the site exit. The impact declines with distance from the site, and it is only necessary to consider trackout impacts up to 50 m from the edge of the road.

Table A1.4: Sensitivity of the Area to Human Health Effects ³

Receptor Sensitivity	Annual Mean PM ₁₀	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32 µg/m ³	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m ³	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m ³	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m ³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	>32 µg/m ³	>10	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	28-32 µg/m ³	>10	Medium	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	24-28 µg/m ³	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
	<24 µg/m ³	>10	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Table A1.5: Sensitivity of the Area to Ecological Effects ³

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

Table A1.6: Defining the Risk of Dust Impacts

Sensitivity of the Area	Dust Emission Magnitude		
	Large	Medium	Small
Demolition			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible
Earthworks			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Construction			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Trackout			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

A2 Construction Dust Risk Assessment

On-Site Exhaust Emissions

A2.1 The IAQM guidance (2016) 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 impact 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”.

A2.2 The proposed development is relatively small, thus the number of Non-Road Mobile Machinery (NRMM) able to operate at any one time will be limited. In line with the GLA's *Control of Dust and Emissions During Construction and Demolition SPG* (GLA, 2014), NRMM are expected to comply with emissions standards (as set out in Table 2). Additionally, there will be no idling when vehicles are not in use, and machinery will be located away from sensitive receptors as far as possible. It is therefore judged that there will be no risk of significant effects at existing receptors as a result of on-site machinery emissions.

Construction Dust and Particulate Matter Emissions

A2.3 The construction works will give rise to a risk of dust impacts during demolition, earthworks and construction, as well as from trackout of dust and dirt by vehicles onto the public highway. Step 1 of the assessment procedure is to screen the need for a detailed assessment. There are receptors within the distances set out in the guidance (see Appendix A1), thus a detailed assessment is required. The following section sets out Step 2 of the assessment procedure.

Potential Dust Emission Magnitude

Demolition

A2.4 There will be a requirement to demolish the existing brick buildings occupying the site with an approximate total volume of less than 10,000 m³. The duration of the demolition works is currently unknown. The method of demolition has not yet been decided. A mobile crusher may be used on site before removal of the material, but this has not yet been decided; such crushing plant may require a valid Environmental Permitting Regulations permit. Based on the example definitions set out in Table A1.1 in Appendix A1, the dust emission class for demolition is considered to be *small*.

Earthworks

- A2.5 The characteristics of the soil at the site have been defined using the British Geological Survey's UK Soil Observatory website (2023), as set out in Table A2.1. Overall, it is considered that, when dry, the soil has the potential to be moderately dusty.

Table A2.1: Summary of Soil Characteristics

Category	Record
Soil Layer Thickness	Deep
Soil Parent Material Grain Size	Argillaceous ^a
European Soil Bureau Description	Prequaternary Marine/Estuarine Sand and Silt
Soil Group	Medium to Light (Silty) to Heavy
Soil Texture	Clayey Loam to Silty Loam ^b

^a grain size < 0.06 mm.

^b a loam is composed mostly of sand and silt.

- A2.6 The site covers approximately 1,350 m², most of which will be subject to earthworks, however, this will mainly comprise removal of the foundations of the existing building and surrounding hardstanding. The duration of earthworks is currently unknown, however, dust will arise mainly from the handling of dusty materials (such as dry soil). Based on the example definitions set out in Table A1.1 in Appendix A1, and the large grain size outlined in Table A2.1, the dust emission class for earthworks is considered to be *small*.

Construction

- A2.7 Construction works will comprise the erection of a new part 1, part 5, part 6 and part 7 storey building. The proposed total building volume is yet to be confirmed, however it will comprise a maximum height of seven storeys and is likely to be less than 25,000 m³. The duration of the construction works is unknown. Based on the example definitions set out in Table A1.1 in Appendix A1, the dust emission class for construction is considered to be *small*.

Trackout

- A2.8 The number of heavy vehicles accessing the site, which may track out dust and dirt, is currently unknown, but given the relatively small size of the site, it is likely that there will be under 10 outward heavy movements per day. Based on the example definitions set out in Table A1.1 in Appendix A1, the dust emission class for trackout is considered to be *small*.
- A2.9 Table A2.2 summarises the dust emission magnitude for the proposed development.

Table A2.2: Summary of Dust Emission Magnitude

Source	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Small
Trackout	Small

Sensitivity of the Area

- A2.10 This assessment step combines the sensitivity of individual receptors to dust effects with the number of receptors in the area and their proximity to the site. It also considers additional site-specific factors such as topography and screening, and in the case of sensitivity to human health effects, baseline PM₁₀ concentrations.
- A2.11 The IAQM guidance, upon which the GLA's guidance is based, explains that residential properties are 'high' sensitivity receptors to dust soiling (Table A1.2 in Appendix A1). Residential properties are also classified as being of 'high' sensitivity to human health effects, while places of work are classified as being of 'medium' sensitivity. There are more than 10 residential properties within 20 m of the site (see Figure A2.1).

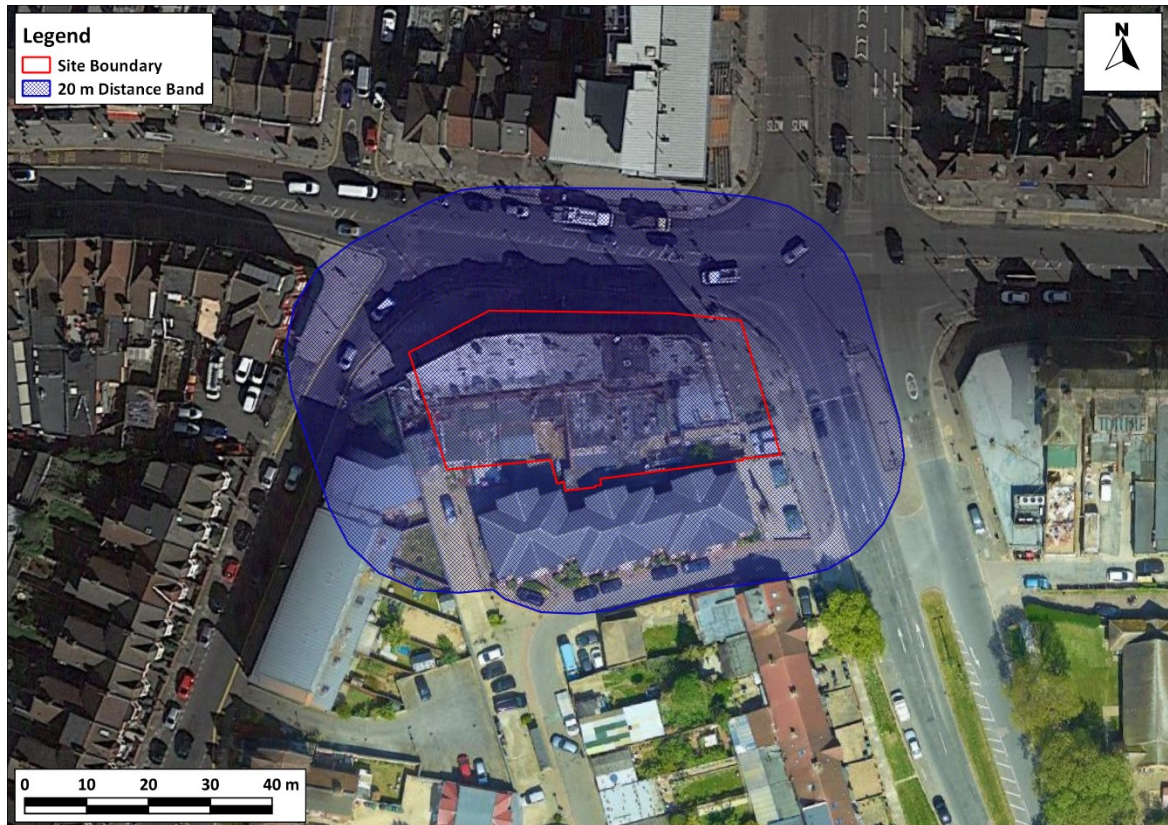


Figure A2.1: 20 m Distance Band around Site Boundary

Imagery ©2023 Bluesky, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The GeoInformation Group.

A2.12 Table A2.2 shows that the dust emission magnitude for trackout is *small* and Table A1.3 in Appendix A1 thus explains that there is a risk of material being tracked 50 m from the site exit. It has been assumed that construction vehicles will utilise Downhills Way, A1080 Westbury Avenue and A109 Lordship Lane. There are more than 10 residential properties within 20 m of the roads along which material could be tracked (see Figure A2.2).

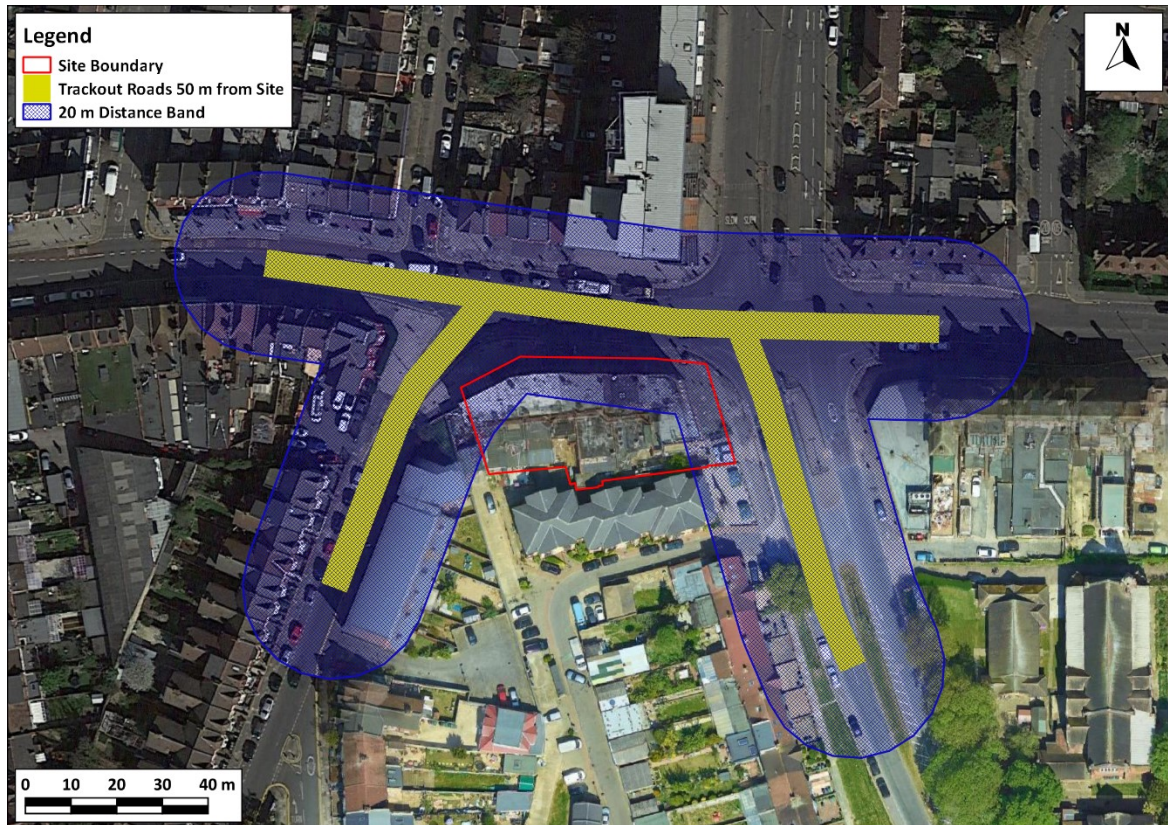


Figure A2.2: 20 m Distance Band around Roads Used by Construction Traffic Within 50 m of the Site

Imagery ©2023 Bluesky, Getmapping plc, Infoterra Ltd & Bluesky, Maxar Technologies, The GeoInformation Group.

Sensitivity of the Area to Effects from Dust Soiling

- A2.13 Using the information set out in Paragraph A2.11 and Figure A2.1 alongside the matrix set out in Table A1.3 in Appendix A1, the area surrounding the onsite works is of 'high' sensitivity to dust soiling. Using the information set out in Paragraph A2.12 and Figure A2.2 alongside the same matrix, the area is also of 'high' sensitivity to dust soiling due to trackout.

Sensitivity of the Area to any Human Health Effects

- A2.14 The matrix in Table A1.4 in Appendix A1 requires information on the baseline annual mean PM_{10} concentration in the area. In the absence of nearby automatic PM_{10} monitoring data, the baseline annual mean PM_{10} concentration is best described by the pollutant concentration maps published in the London Atmospheric Emissions Inventory (LAEI) (GLA, 2022). These maps show the modelled 2019 ground level concentrations of annual mean NO_x , NO_2 , PM_{10} and $PM_{2.5}$ in $\mu g/m^3$ at 20 m grid resolution. The maximum annual mean PM_{10} across the site is $25.4 \mu g/m^3$, and this value has been used.

A2.15 Using the information set out in Paragraphs A2.11 and Figure A2.1 alongside the matrix in Table A1.4 in Appendix A1, the area surrounding the onsite works is of 'high' sensitivity to human health effects. Using the information set out in Paragraph A2.12 and Figure A2.2 alongside the same matrix, the area surrounding roads along which material may be tracked from the site is also of 'high' sensitivity.

Sensitivity of the Area to any Ecological Effects

A2.16 The guidance only considers designated ecological sites within 50 m to have the potential to be impacted by the construction works. There are no designated ecological sites within 50 m of the site boundary or those roads along which material may be tracked, thus ecological impacts will not be considered further.

Summary of the Area Sensitivity

A2.17 Table A2.3 summarises the sensitivity of the area around the proposed construction works.

Table A2.3: Summary of the Area Sensitivity

Effects Associated With:	Sensitivity of the Surrounding Area	
	On-site Works	Trackout
Dust Soiling	High Sensitivity	High Sensitivity
Human Health	High Sensitivity	High Sensitivity

Risk and Significance

A2.18 The dust emission magnitudes in Table A2.2 have been combined with the sensitivities of the area in Table A2.3 using the matrix in Table A1.6 in Appendix A1, in order to assign a risk category to each activity. The resulting risk categories for the four construction activities, without mitigation, are set out in Table A2.4. These risk categories have been used to determine the appropriate level of mitigation (step 3 of the assessment procedure).

Table A2.4: Summary of Risk of Impacts Without Mitigation

Source	Dust Soiling	Human Health
Demolition	Medium Risk	Medium Risk
Earthworks	Low Risk	Low Risk
Construction	Low Risk	Low Risk
Trackout	Low Risk	Low Risk

A2.19 The IAQM guidance does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate

mitigation in place, the IAQM guidance is clear that the residual effect will normally be 'not significant' (2016).

A3 Inspection Checklist

423-435 Lordship Lane Inspection Checklist

Inspected Items	
<i>Person completing the checklist</i>	
<i>Date of inspection</i>	
Dust being controlled correctly by personnel	
Visual inspection of mud/debris on haul routes	
Visual inspection of dust soiling on local streets, cars and window sills	
Wheel wash being used and operating satisfactorily	
Wind direction	
Wind speed	
Weather forecast	
Additional comments	

A4 Dust Event Form

423-435 Lordship Lane Dust Event Form

Sheet No.:
Time & date form completed:
Date, time and duration of event:
Location of dust:
Weather conditions (i.e. dry, rain, fog, snow):
Cloud cover (Cloud height (low, high, very high): none, slight, partial complete):
Wind strength (light, steady, strong, gusting):
Wind direction (from/to):
Description of dust event, dust (i.e. colour, particle size) & any other comments:
On-site activities at the time the dust emission occurred:
Has a previous event occurred relating to this source:
Any other relevant information:
Any upwind dust?:
Operating conditions at the time the dust emission occurred:
Any remedial actions taken or to be taken:
Form completed by (name & signature):

A5 Dust Complaint Form

423-435 Lordship Lane Dust Complaint Form

Sheet No.:	
Date:	Time & date of complaint:
Name and address of complainant:	
Date, time and duration of offending dust:	
Location of dust, if not at the above address:	
Weather conditions (i.e. dry, rain, fog, snow):	
Cloud cover (Cloud height (low, high, very high): none, slight, partial complete):	
Wind strength (light, steady, strong, gusting):	
Wind direction (from/to):	
Complainant's description of dust & any other comments (i.e. colour, particle size):	
Has complainant previously made complaint relating to the site:	
Any other relevant information:	
Any upwind dust?:	
On-site activities at the time the dust emission occurred:	
Operating conditions at the time the dust emission occurred:	
Any remedial actions taken or to be taken:	
Form completed by (name & signature):	