AVAL CONSULTING GROUP.
CIVIL, ENVIRONMENT & STRUCTURAL ENGINEERS

Air Quality and Dust Management Plan

1 - 36 Brunel Walk, Haringey, London, N15 5HQ

London Borough of Haringey

13th June 2024

Project Information

Title	Air Quality and Dust Management Plan
Job Code	93156
Sector	Environment
Report	AQDMP
Client	London Borough of Haringey
Revision	A
Status	Final
Date of Issue	13th June 2024

Revision History

Revision	Date	Author	Reviewer	Approver	Status
A	13th June 2024	SG	MT	AC	Final

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1. Introduction

1.1. Overview

The London Borough of Haringey ('the client') is seeking consent for residential development at 1 – 36 Brunel Walk, Haringey, London, N15 5HQ (hereafter referred to as the 'proposed development'), which is within the London Borough of Haringey (LBH).

AVAL Consulting Group Limited (ACGL) was instructed by the client to produce an Air Quality and Dust Management Plan to accompany the planning application to the LBH for consent to undertake the proposed work.

The potential local air quality effects of the proposed development have been assessed using the latest planning guidance from Environmental Protection UK (EPUK), the Institute of Air Quality Management (IAQM)[1] and the Department for Environment, Food and Rural Affairs (Defra)[2].

A construction dust risk assessment has been undertaken, to consider the potential risk from dust-generating activities during the construction phase of the development. This has been carried out in accordance with the latest IAQM guidance on construction dust[3].

1.2. Site Location

Figure 1.1 shows the proposed site location. The proposed development is located within an Air Quality Management Area (AQMA).

The sensitive receptors are identified based on locations where the public could be adversely affected by the changes in air quality caused by a development. High-sensitive receptors are places such as hospitals, schools and residential properties whereas the medium/low sensitivity receptors are shops, workplaces and parks.

The sensitive receptors within 50m of the site boundary are as follows:

- Residential receptors on the either side of Elmar Road and on the other roads such as Turner Avenue, Brunel Walk and Seaford Road.

[1] IAQM (2017): 'Land Use Planning and Development Control: Planning for Air Quality v1.2'.
[2] Defra (2016): 'Local Air Quality Management – Technical Guidance (TG16)'.
[3] IAQM (2016): 'Guidance on the Assessment of Dust from Demolition and Construction v1.1'.

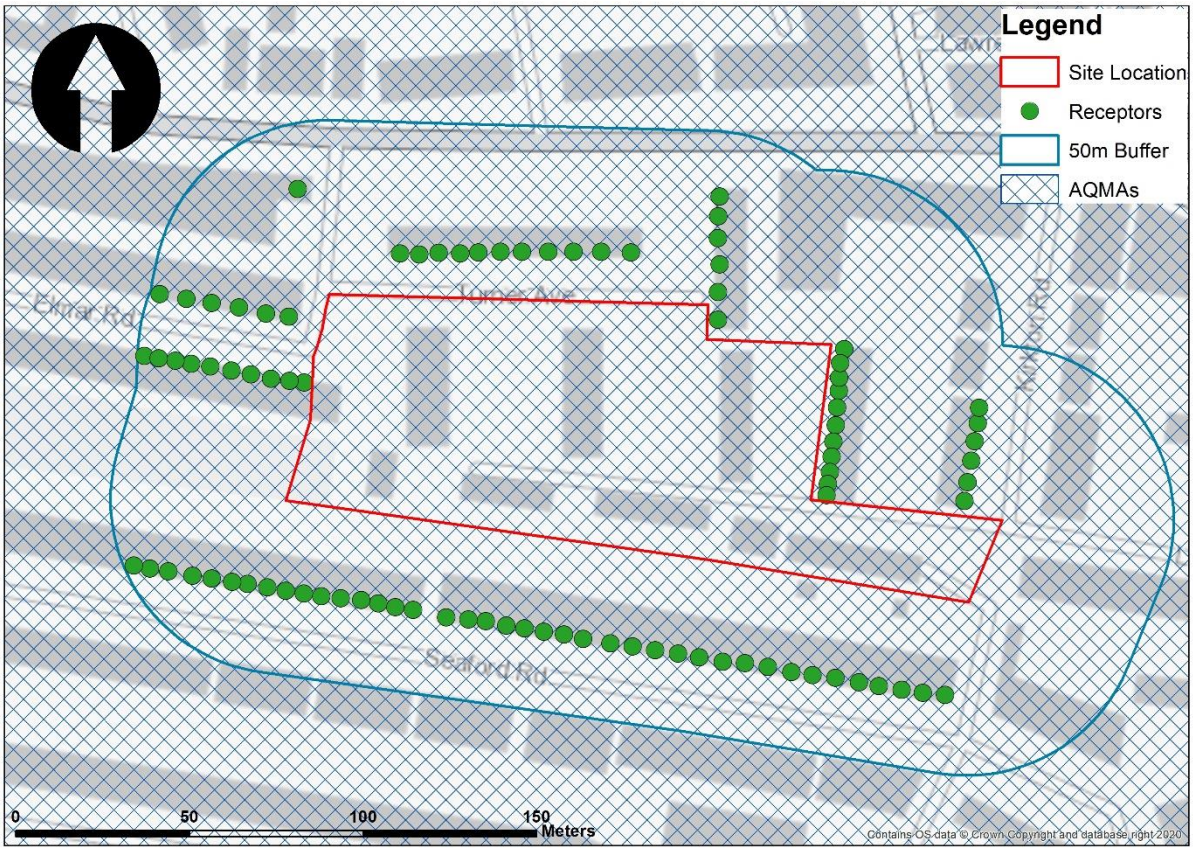

Figure 1.1: Proposed site location

1.3. Hoarding

Prior to any site clearance works on site 2.4-meter height hoarding will be erected on all site boundaries including Brunel Walk, Turner Avenue, Seaford Road and Elmar Road.

Site layout will ensure that the dust increasing/decreasing activities and machinery will be located away as far away as practically as possible from the off-site residential receptors. A site Layout Plan (See Figure 1.2) indicates the following:

- Hoarding on site boundaries;
- Location of NRMM;
- Materials and Stockpiling Area;
- Fuel Storage area;
- Wheel wash location;
- Water supply point; and
- Site drainage and enclosed areas to prevent contaminated water from leaving the site.

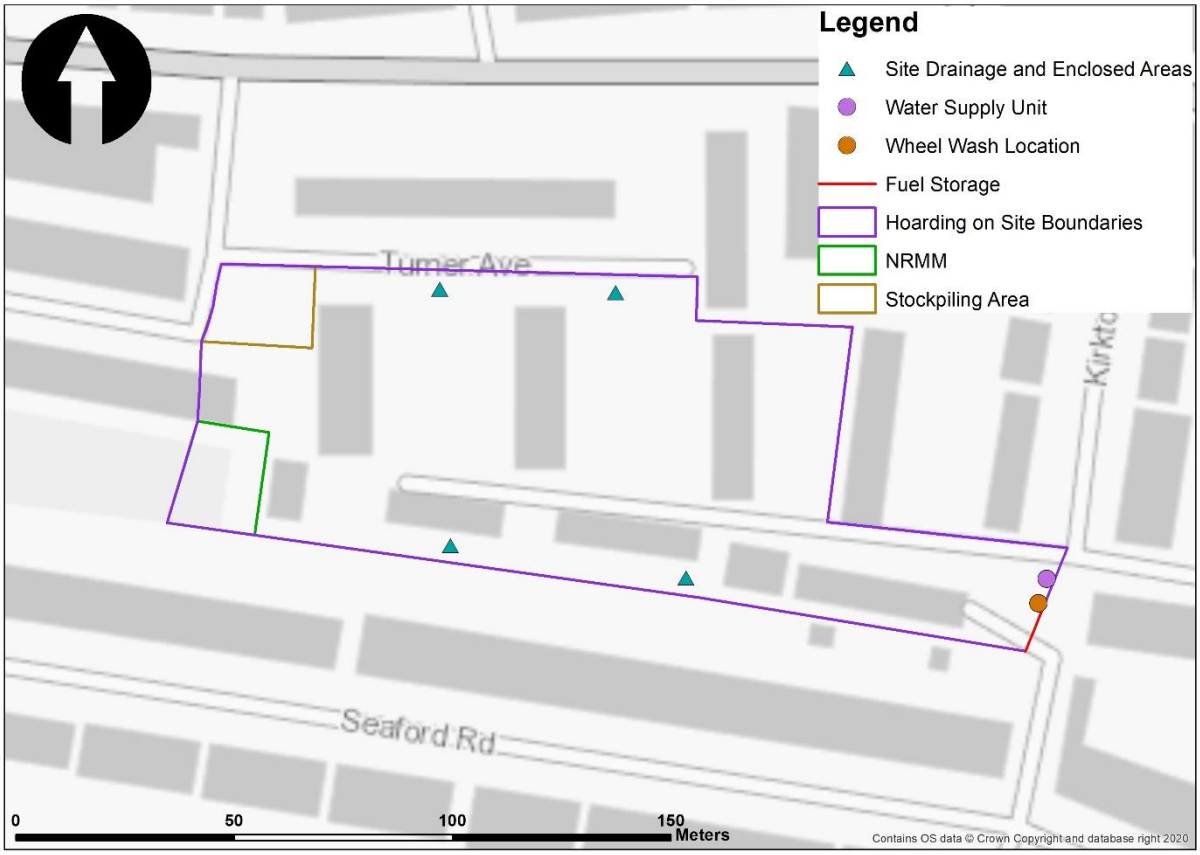

Figure 1.2: Hoarding and Access

1.4. Responsibilities and Site Management

The roles and responsibilities for the project for key personnel in relation to dust and air quality control at the site are provided in Table 1 below.

Table 1: Roles and Responsibilities

Roles	Responsibilities
Site Manager – Selsdon Building Contractors	• Ensure work is carried out in accordance with this Air Quality Dust Management Plan • Ensure staff are aware of the requirements of environmental plans and procedures • Ensure dust inspections are undertaken when necessary • Monitoring emissions and dust as part of general site inspections • Ensure site documentation (method statements and environmental risk assessments) includes dust mitigation • Respond to dust alerts • In conjunction with the environment team, deliver regular training to the site workforce
Air Quality Specialist	• Advise and instruct on how to meet legal and contractual air quality requirements • Assist in the implementation of this Air Quality Dust Management Plan

Roles	Responsibilities
	• Plan and implement air quality monitoring • Carrying out compliance checks on monitoring units • Advise on preventative action and mitigation measures that may need to be employed on-site • Liaise with the London Borough of Haringey when necessary
Community Liaison Manager	• Liaise with the Environmental Manager to report complaints relating to environmental issues
Contractors Contact Details	Selsdon Building Contractors Limited, The Mccay Partnership, Unit 24 Capital Business Centre, 22 Carlton Road, South Croydon, Surrey, CR2 0BS. Email Id: info@selsdonpm.co.uk
All Personnel	• Carry out the works in accordance with agreed methods and briefings • Report anything that deviates from agreed processes • Report all incidents and examples of best practice to section manager • Attend environmental training

1.5. Programme of Potential Dust Generation Activities

The activities listed below have been highlighted as activities that have the potential to give rise to Dust, Particulate and NO_X emissions. Control measures identified in Section 3 will be implemented to mitigate any air quality impact of the contractor's demolition and construction activities as detailed below.

Table 2: Programme of Dust Generating Activities

Activity	Programme of Activity
Site Set-up / Enabling Works incl. foundation removal *13.03.24 (4 wks)*	• Installation of hoarding • Site cabins set up • Site traffic, deliveries and general plant operation • Vehicle and plant emissions • Demolition works (Foundation grubbing out and **crushing on site**) • Site traffic movement, deliveries and general plant operation • Vehicle and plant emissions • Adaption of existing concrete hoarding
Sub-structure construction *15.04.24 (13 wks)*	• Site traffic movement, deliveries and general plant operation • Vehicle and plant emissions • Concrete pumping • Dig will require excavator & piling rig on site (NRMM)

Construction of structural shell
 	
01.07.24 (56 wks)
	• Site traffic movement, deliveries and general plant operation. Vehicle and plant emissions in connection with the below activities:
	  • Brickwork and Blockwork
	  • PCC plank floors and roofs / Stairs
	  • Mobile crane
	  • Roofing (green roof & PV)
	  • Composite windows

General fit-out construction	• Site traffic movement, deliveries and general plant operation Vehicle and plant emissions

Activity	Programme of Activity
03.03.25 (22wks)	
Site de-mobilisation and external works *03.03.25 (23wks)*	• Formation of footpaths, parking areas and street furniture. • Hard and soft landscaping • Removal of hoardings

1.6. Relevant Guidance

The following guidance is considered relevant for the activities proposed and will be complied with at all times:

- Mayors SPG 'The Control of Dust and Emissions during Construction and Demolition', July 2014
- Guidance on the assessment of dust from demolition and construction, Version 1.1, IAQM October 2018
- Guidance on Monitoring in the Vicinity of Demolition and Construction Sites, Version 1.1, IAQM, October 2018
- Best in Class 'Guidance on Dust and Emissions from Construction' LLECP, March 2019

1.7. Training

Procedures and practises relating to air quality and dust control will be incorporated into the site and employee inductions. Toolbox talks will be delivered to all site operatives weekly to ensure that all aspects of the AQDMP are understood and put into practice.

A management plan will be implemented alongside this AQDMP to ensure operatives are aware of the consequences of not following this plan and know how to respond to any potential incidents.

1.8. Managing Complaints

Managing complaints will be the responsibility of the Site Manager. Any complaints relating to dust or air quality issues will be reported and filed. Complainants will remain informed of site investigations and any action taken to mitigate the issue raised.

A record of all environmental incidents that result in air pollution will be recorded through the forms included in Appendices B, C and D. Information to be recorded and/or actioned includes:

- Time, date, identity and contact details of the complainant;
- The wind direction, strength and weather conditions;
- If the complainant has been referred by the local authority;

- Complainant description of the dust emission;
- Length of emission;
- Cause of emission;
- A site inspection will be carried out immediately and its findings recorded;
- Dust mitigation methods will be employed immediately;
- A visit to the site of the complaint will be carried out as soon as possible to identify any ongoing problems;
- The complainant will be contacted and advised of mitigation and response; and
- The Local Authority will be notified that a complaint has been received

Records of all complaints and checks undertaken will be held at the site for the duration of the works and will be investigated by the Site Manager.

1.9. AQDMP Review

The continuing effectiveness of this AQDMP should be reviewed in consultation with site management. The reviews will take into account the compliance records, complaints history, monitoring records and any recent sensitive developments on neighbouring land.

Reviews of the plan will also be undertaken in the event of continued exceedances of the dust risk criteria after mitigation measures have been established. The plan should be amended as necessary, including any changes to the monitoring methods and control measures which may be agreed upon.

It is recommended that the AQDMP is reviewed six months from initial implementation. Following an initial review, it is recommended that the AQDMP should also be reviewed and updated:

- if there are any significant changes to the proposed development or methods used on-site.
- if any dust complaints are received or if current controls are not considered to be adequate.

AQDMP should be reviewed and updated where applicable and any updates to the AQDMP should be agreed in writing with LBH prior to implementation.

2. Air Quality Dust Risk Assessment

2.1. Guidance and policies

Dust is a major environmental concern associated with construction activities. Residents living in proximity to such a site can potentially be affected by site dust up to 1 km from the source, although continual or severe concerns about dust sources are most likely to be experienced near to dust sources, generally within 100 metres. In general, large dust particles (greater than 30 µm) make up the greatest proportion of dust emitted from construction sites and will largely deposit within 100 m of sources. Intermediate sized particles (10-30 µm) are likely to travel up to 250-500 m. Smaller particles (less than 10µm), which make up a small proportion of the dust emitted, can travel up to 1km from sources1.

The Greater London Authority's Supplementary Planning Guidance (SPG)2 for the control of dust from construction was used when assessing the construction phase of the proposed development. Guidance published by the IAQM3 on the 'Assessment of Dust from Demolition and Construction' has also been referred to. Whilst the SPG was produced for developments in London, it is seen as a high standard for developments across the UK. It provides a number of mitigation measures that should be adopted to minimise impacts of dusts and fine particles.

The guidance seeks to reduce emissions of dust and PM_{10} from construction and demolition activities in London. It also aims to manage emissions of nitrogen oxides (NO_X) from construction and demolition machinery. The SPG:

- Provides more detailed guidance on the implementation of all relevant policies in the London Plan and the Mayor's Air Quality Strategy to neighbourhoods, boroughs, developers, architects, consultants and any other parties involved in any aspect of the demolition and construction process;
- Sets out the methodology for assessing the air quality impacts of construction and demolition in London; and
- Identifies good practice for mitigating and managing air quality impacts that is relevant and achievable, with the overarching aim of protecting public health and the environment.

The principles of the SPG apply to all developments in London as their associated construction and demolition activity may all contribute to poor air quality unless properly managed and mitigated.

Based on the SPG discussed in the previous section, the main air quality impacts that may arise during construction activities are:

- Dust deposition, resulting in the soiling of surfaces;
- Visible dust plumes, which are evidence of dust emissions;
- Elevated PM_{10} concentrations, as a result of dust generating activities on site; and
- An increase in concentrations or airborne particles and nitrogen dioxide due to exhaust emissions from diesel powered vehicles and equipment on site.

2.2. Demolition and Construction Phase

The construction phase of the proposed development will involve a number of activities that could produce polluting emissions to air. Predominantly, these will be emissions of dust.

However, they could also include releases of odours and/or more harmful gases and particles. The SPG's guidance to assess the impacts of construction on human and ecological receptors has been followed in carrying out this air quality assessment. The guidance suggests that where a receptor is located within 350m of a site boundary and/or within 100m of a route used by construction vehicles, up to 500m from the site entrance, a dust assessment should be undertaken. High sensitivity receptors are considered particularly sensitive when located within 20m of a works area. Figures 3 and 4 show receptors that could be sensitive to dust that are located within 350m of the boundaries of the Application Site.

Review of Defra's Multi Agency Geographic Information for the Countryside (MAGIC) website (http://www.magic.defra.gov.uk), which incorporates Natural England's interactive maps, has identified no sensitive ecological receptors in the area.

The SPG guidance suggests Demolition, Earthworks, Construction, and Trackout should all be assessed separately to determine the overall significance of the construction phase.

2.3. Construction Significance

In the SPG dust guidance, the first step in assessing the risk of impacts is to define the potential dust emission magnitude. This can be considered 'Negligible', 'Small', 'Medium' or 'Large' for each of the construction stages. The SPG provides examples of criteria that may be used to assess these magnitudes.

The second step is to define the sensitivity of the area around the construction site. As stated in the SPG guidance:

The sensitivity of the area takes into account several factors:

- the specific sensitivities of receptors in the area;
- the proximity and number of those receptors;
- in the case of PM10, the local background concentrations; and
- site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust."

Based on these factors, the area is categorised as being of 'Low', 'Medium' or 'High' sensitivity.

When dust emission magnitudes for each stage and the sensitivity of the area have been defined, the risk of dust impacts can be determined. The SPG provides a risk of impacts matrix for each construction stage. The overall significance for the construction phase can then be judged from the stages assessed.

The overall significance for the construction phase can then be judged from the construction stages assessed.

2.4. Construction Impacts

The assessment was undertaken using information in Table 3 below and Table 9 taken from SPG Guidance. Table 3 summarises the information during the four stages. The information from this has been used to develop dust emission magnitude mentioned in Table 4.

Table 3: Description of Four Activities for the Proposed Development

Activity	Descriptors
Demolition	N/A
Earthworks	• The total site area is approximately 14,644m^2. • Maximum of 1 earth moving vehicles at any one time.
Construction	• Construction of 4 new building containing 45 apartments including amenities and parking. • Variety of construction materials such as concrete, metal work, zinc cladding, tiles, brick, glass, plasterboard and insulation. • No on-site concrete mixing
Trackout	• No more than 10-15 HGV movements in and out of load/unload area in any one day at peak • Vehicles will load/unload in dedicated area outside the hoarding – so limited track-out from site.

2.4.1. Dust Emissions Magnitude

The summary of the dust emission magnitude as a result of the activities of Demolition, Earthworks, Construction and Trackout, as specified in the SPG and discussed above, are listed in Table 4.

Table 4: Dust Emission Magnitude for Construction

ACTIVITY	DUST EMISSION MAGNITUDE
Demolition	Medium
Earthworks	Medium
Construction	Medium
Trackout	Small

2.4.2. Sensitive Receptor Assessment

Banding of the number of high sensitivity human receptors in the vicinity of the proposed development is detailed in Table 5 below, with distance banded contours shown in Figure 3.

Table 5: Approximate Number of High Sensitivity Human Receptors Close to Application Site

Distance to Site (m)	Approximate Number of Highly Sensitive Receptors	Details
<20	1-10	Potential existing residential receptors surrounding the development
<50	10-100	Potential existing residential receptors surrounding the development
<100	10-100	Potential existing residential receptors surrounding the development
<200	10-100	Potential existing residential receptors surrounding the development
<350	10-100	Potential existing residential receptors surrounding the development

2.4.3. Sensitivity of the Area to Health Impacts

The annual mean concentration of PM_{10} is well below the AQS of 40 Annual Mean µg/m^3 according to the UK-AIR background maps for the relevant 1Km x 1Km square (table 6). The sensitivity of the area to all activities can be summarised in Table 7 that potential dust soiling will high on all four stages and human health will be low on all four stages.

Table 6: background PM_{10} Concentrations During the Construction Phase

Year	UK-Air Background Grid Reference	PM_{10} Annual Mean µg/m^3	Project Grid Reference
2024	533500, 189500	17.86	533121,189038
2025		17.70	

Table 7: Sensitivity of Area Close to the Application Site

Potential Impact	Sensitivity of Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	High	High	High	High
Human Health	Low	Low	Low	Low

2.4.4. Risk of Impacts

Having established the likely dust emission magnitude and sensitivity of the area, the risk of impacts can be determined in accordance with the SPG guidance. These are summarised in Table 8.

Table 8: Summary Risk Effects of Construction

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Track out
Dust Soiling	Medium	Medium	Medium	Low
Human Health	Low	Low	Low	Negligible

The overall risk of impact of demolition, earthworks, construction and track out is Medium risk.

A qualitative assessment of dust levels associated with the proposed development has been carried out. The impact of dust soiling and PM_{10} can be reduced to low through suggested appropriate mitigation measures, which are listed in Section 3.0 and are applicable to a

low/medium risk site. Implementation of these Best Practice Measures will help reduce the impact of the construction activities.

With these mitigation measures enforced, the likelihood of nuisance dust episodes occurring at those receptors adjacent to the development are considered low. Notwithstanding this, the developer should take into account the potential impact of air quality and dust on occupational exposure standards (in order to minimise worker exposure) and breaches of air quality objectives that may occur outside the site boundary. Fixed PM_{10} Monitoring is recommended along side continuous visual assessment of the site, and a complaints log maintained in order to determine the origin of a particular dust nuisance.

3. Dust, Particulate (PM_{10}) and NO_X Emission Mitigation Measures

Please see Table 9 for a summary of mitigation measures that will be implemented on site.

Table 9: Mitigation Measures on Site

	Mitigation measure	Implemented on site
	Site Management	
1	A stakeholder communications plan, including community engagement, will be developed and implemented prior to work beginning on site	✔
2	This Air Quality Dust Management Plan will be implemented on-site	✔
3	The name and contact details of the individual accountable for air quality emissions and dust generated from the site will be displayed on the site boundary, along with the head or regional office contact information	✔
4	A **Site Records Database** will be maintained to record complaints and outcomes of the site inspections, ULEZ vehicles, NRMM Compliance in the forms contained within **Appendices A-E** and will be issued to LBH upon request.	✔
5	The AQDMP will be reviewed and updated at least every six months or if dust issues emerge and issued to LBH for approval	✔
	Preparing and Maintaining the site	
6	A 2.4-meter minimum height fixed solid hoarding will be erected around the perimeter of all the work on all site boundaries prior to the start of any site clearance and demolition works (**See Figure 2)**	✔
7	The site layout will be planned so that Stockpiles, NRMM plant and dust- causing activities are located as remote as practically possible from off-site residential receptors on Brunel Walk, Turner Avenue, Seaford Road and Elmar Road.	✔
8	Solid screens or barriers will be erected around dust activities or the site boundary that are, at least, as high as any stockpiles on site	✔
9	Site or specific operations will be fully enclosed where there is a high potential for dust production and the site is active for an extensive period.	✔
10	Site fencing, barriers and scaffolding will be kept clean using wet methods	✔
11	Stockpiles will be covered or fenced to prevent wind whipping	✔
12	Site runoff of water or mud will be avoided	✔

13	Training on how to control pollution emissions will be provided to all personnel expected to be present on site as part of the site induction. This will include reference to the benefits of reducing pollution, minimizing disruption from complaints, methods on minimizing pollution and what should be done if emissions breach any site thresholds.	✔
14	All residential properties within 50 m of the site will be notified of the demolition and construction works prior to works beginning on site. Sufficient notice (two weeks) will be provided to ensure that any concerns can be dealt with before works commence. Notification will be undertaken via flyers through letterboxes and notices displayed around the site and will provide information on the planned scope of works programme detailing expected disruptions and direction to the Planning Portal and planning reference number. The information provided will aim to reassure residents that the works will be carefully planned, managed and supervised to ensure the project will affect them adversely.	✔
	Waste Management	
15	Waste will be reused and recycled where possible to reduce dust from waste materials	✔
16	Waste Materials will be removed from the site on average 3 times per week	✔
17	Bonfires and burning of waste materials will be prohibited	✔
	Operations	
18	Cutting, grinding or sawing equipment will only be used where fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems	✔
19	Scabbling (roughening of concrete surfaces) will be avoided if possible	✔
20	Dry sweeping of large areas will be avoided	✔
21	An adequate water supply on the site for effective dust/particulate matter suppression/mitigation will be ensured, using non-potable water where possible and appropriate. Handheld sprays will be used 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	✔
22	Enclosed chutes, conveyors and covered skips will be used	✔
23	Drop heights from loading shovels, hoppers and other loading or handling equipment will be minimised and fine water sprays will be used on such equipment wherever appropriate	✔
24	Equipment will be 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	✔
25	A change of shoes and clothes are required before going off-site to reduce transport of dust.	✔
26	Fuel (diesel) if required will be stored safely in bunds on-site, and will be located at a location remote as possible from the nearest off-site sensitive receptors on Brunel Walk, Turner Avenue, Seaford Road and Elmar Road.	✔
	Measures Specific to	

	Earthworks	
27	Earthworks and exposed areas/soil stockpiles will be covered or fenced to prevent wind whipping and will be re-vegetated to stabilize surfaces, as soon as practicable	✔
28	Hessian, mulches or trackifiers will be used where it is not possible to re-vegetate or cover with topsoil, as soon as practicable	✔
29	Secure covers will be only be removed in small areas during work and not all at once	✔
	Measures Specific to Construction	
30	Sand and other aggregates will be stored in bunded areas and will not be allowed to dry out, unless this is required for a particular process, in which case appropriate additional control measures will be put in place	✔
31	Only small supplies of fine powder materials will be used on site, and bags will be sealed after use and stored appropriately to prevent dust	✔
	Measures Specific to Trackout	
32	Water-assisted dust sweeper(s) will be used on the access and local roads, to remove, any material tracked out of the site a minimum of three times a week and on a daily basis if required	✔
33	Vehicles entering and leaving the site will be covered to prevent escape of materials and dust during transport.	✔
34	Vehicles leaving the site will be inspected and cleaned to ensure that any mud or other dust causing materials are removed from the vehicles prior to exiting the site on to the local roads.	✔
35	A wheel washing system to dislodge accumulated dust and mud prior to leaving the site will be implemented and installed on site and minimise soil tracked out prior to leaving the site.	✔
	Site Dust Monitoring	
36	Daily Dust Monitoring *by visual assessment* will be undertaken at the proposed locations (DMP1-3) on the site boundaries (**See Figure 5**) taking into account the nearest sensitive off-site residential receptors and the prevailing wind conditions.	✔
37	**Daily Dust Monitoring** *by visual assessment* will be carried out a minimum of two times per day and recorded in the Daily Dust Monitoring Form (**See Appendix A)** and issued to the LBH upon request.	✔
38	**Daily Dust Monitoring** *by visual assessment* shall be increased to a minimum of four times per day when activities with high potential to produce dust, and during prolonged dry and windy conditions. The results of these inspection will be recorded in the Daily Dust Monitoring Form (**See Appendix A**) and issued to the LBH upon request.	✔

39	**Weekly Dust Monitoring** of off-site buildings within 25m of the site boundary as identified (**see Figure 1**) will be undertaken by visual assessment and cleaning will be provided where necessary. The results of these inspections will be recorded in the Weekly Dust Monitoring Form (**See Appendix B**) issued to the LBH upon request.	✔
40	All Complaints, Dust Events, exceptional incidents either on-site or off-site will be recorded using the DETIC Form (**See Appendix C**) and issued to issued to the LBH upon request within 24 hours of the occurrence of the complaint or Dust Event, or the next working day if it occurs at a weekend of bank holiday.	✔
	Operating On-Road Vehicles, Sustainable Travel and NRMM	
41	All on-road vehicles will comply with the Ultra-Low Emission Zone (ULEZ) vehicle emission standards (Petrol/Diesel Euro 6 (AIR Index Urban NO_X rating A, B) and Euro VI) as a minimum. A monthly ULEZ vehicle compliance Form for the demolition works (**See Appendix D**) will be issued to the LBH upon request.	✔
42	Contractors and suppliers that can provide non-diesel, hybrid and electric vehicles where possible will be encouraged at the procurement stage of the tender for these services.	✔
43	Demolition Logistics Plans (DLP) and Construction Logistics Plan (CLP) will be implemented to minimize the impact of on-road vehicle emissions on local air quality by restricting on-road vehicle trips to off peak hours (09:30 -15:30 hrs.). A monthly compliance audit shall be conducted and the results issued to the LBH upon request.	✔
44	No Vehicle Engine Idling – All on-road vehicles will have their engines switched off when stationary. Staff will be trained in smooth driving.	✔
45	Information on public transport access to site will be provided in the form of noticeboards and toolbox talks	✔
46	A Travel Plan will be implemented that supports and encourages sustainable travel e.g. public transport, cycling, walking.	✔
47	Most of the project team will use public transport to travel from the office to the site where possible	✔
48	Secure tool storage on site will be provided, to avoid the need for contractors to travel by van every day	✔

49	Prior to commencement of works on the site it shall be registered on the NRMM register https://london.gov.uk/non-road-mobile-machinery-register for NRMM with engines of 37kW-560kW used on the site. All non-road mobile machinery (NRMM) used on the site shall include CESAR Emissions Compliance Verification (ECV) identification and shall comply with the minimum Stage IV NO_X and PM_{10} emission standards as stated in The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018 and its subsequent amendments unless it can be demonstrated that the machinery is not available or that a comprehensive retrofit to meet both PM and NO_X emission standards is not feasible. A monthly NRMM compliance form **(See Appendix E**) will be issued to the LBH upon request.	✔
50	The existing site mains electricity power supply will be utilized and the use of diesel- or petrol-powered generators will be avoided.	✔
51	Hybrid power generators (e.g. diesel-electric) if required will be used	✔

4. Daily Dust Monitoring

4.1. Daily Visual Assessment

A daily visual inspection of the site will be carried out by the Site Manager or an appropriately trained operator a minimum of twice per day at the Dust Monitoring locations (DMP1-4) (See Figure 4.1).

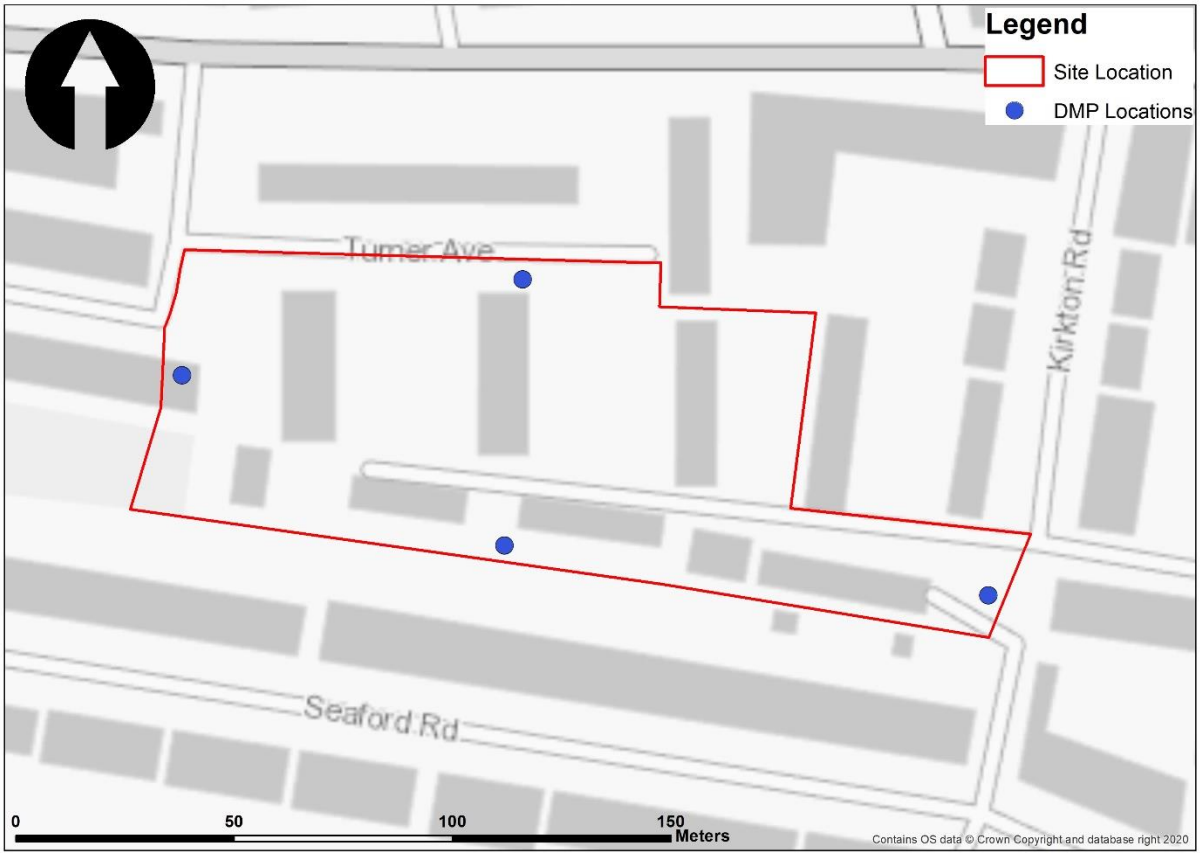

Figure 4.1: Dust Monitoring Locations

The frequency of visual inspections will be increased to four times per day when activities with a high potential to produce dust are being carried out on site such as during demolition and earthworks. The frequency of inspections should also be increased to four times per day during periods of adverse weather, i.e., during periods of dry weather with high wind speeds. The results of these inspections will be recorded logged in the Daily Dust Monitoring Form (See Appendix A) and issued to the LBH upon request.

4.2. Weekly Visual Assessment

A weekly off-site inspection will consist of a walk around the perimeter of site and making observations about dust emissions and dust soiling, particularly focusing of locations upwind of on-site activities. Observations will include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 25m of the site boundary, with cleaning to be provided if necessary. Inspection results will be recorded in a Weekly Dust Monitoring Form

(see Appendix B) and any specific notes relating to dust soiling or dust generating activities will be recorded. The Weekly Dust Monitoring Forms will be issued to LBH upon request.

As a minimum, the following areas will be checked for deposition of dust and be recorded in the Weekly Dust Monitoring Form (see Appendix B).

- Site access and egress, and all haul routes in the immediate vicinity of the site;
- All locally parked cars (within 25 metres of the site boundary);
- The adjacent section of Brunel Walk, Turner Avenue, Seaford Road and Elmar Road; and
- Adjacent commercial and residential properties, including windows, doors and frames

4.3. Visual Monitoring Procedures and Protocols

If significant dust is identified beyond the site boundary, a DETIC Form should be completed (see Appendix C), and immediate investigation (e.g. though cross checking of site activities and monitoring data)/remedial action should be undertaken. The Site Manager will review DETIC 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. LBH will be issued the DETIC Form within 24 hours or the next working day if it occurs at a weekend or bank holiday.

Should any complaints be received relating to dust soiling the results of these inspections will be recorded in the DETIC Form (See Appendix C) and issued to LBH within 24 hours or within the next working day if it occurs at a weekend or bank holiday.

4.4. Dust Soiling Monitoring

In the event that complaints are received regarding dust soiling close to the development site, then a period of dust soiling monitoring may be undertaken to determine whether or not the dust affecting the complainants is likely to be generated by the site, and whether or not the level of dust soiling experienced has the potential to be considered a nuisance.

Dust soiling monitoring would be undertaken for a minimum period of 4-6 weeks but may be continued for longer periods if high levels of dust soiling are measured.

Dust soiling monitoring would involve the deployment of monitors such as sticky pad or glass slide dust gauges at several locations including at affected receptors and at the boundary of the site closest to these properties, as well as at background locations upwind of dust generating activities.

The below Table 9 demonstrates site action levels for sticky pads with a combined Effective Area Coverage (EAC) and Absolute Area Coverage (AAC).

Table 9: Dust Emission Classification Applicable to Construction Sites

AAC: Dust Coverage						
EAC: Dust Coverage		**Level 0 <80% / interval**	**Level 1 80 – 95% / interval**	**Level 2 95 – 99% / interval**	**Level 3 99 – 100% interval**	**Level 4 100% over 45 °**
	Level 0 <0.5% / day	**Very Low**	**Very Low**	**Very Low**	**Low**	**Medium**
	Level 1 0.5 - 0.7% / day	**Low**	**Low**	**Low**	**Medium**	**High**
	Level 2 0.7 – 2.0% / day	**Medium**	**Medium**	**Medium**	**High**	**High**
	Level 3 2.0 – 5.0% / day	**High**	**High**	**High**	**High**	**Very High**
	Level 4 >5.0% / day	**Very High**	**Very High**	**Very High**	**Very High**	**Very High**

4.5. Continuous Monitoring

Continuous monitoring will support, not replace, visual inspections, ensuring a thorough examination. The two continuous monitors are set with a trigger level threshold of 250 ug/m3, representing a 15-minute mean for PM_{10} concentrations. Refer to the figure below for the precise locations of the continuous dust monitoring points for the proposed development.

The results of dust and particulate monitoring will be shared with the pollution team for ongoing assessment on a monthly basis.

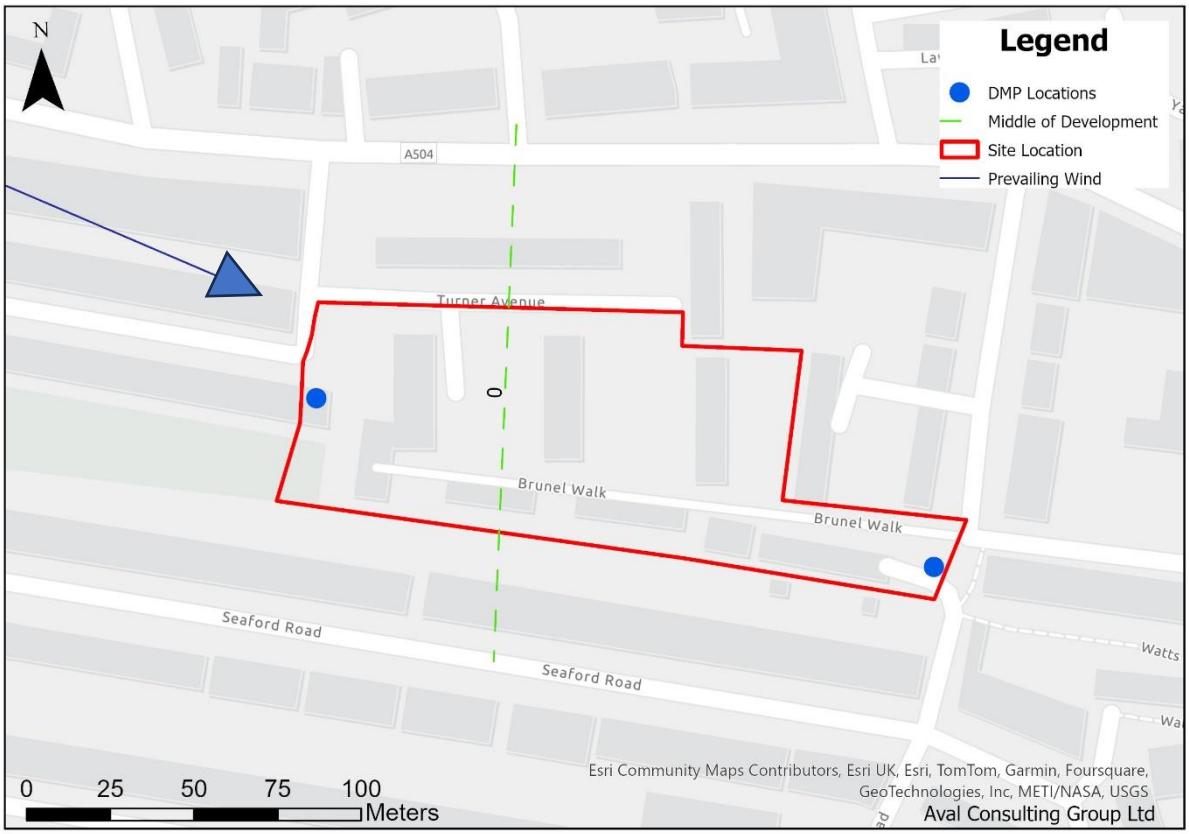

Figure 4.2: Continuous Dust Monitoring locations

4.6. Meteorology

The risk of dust impacts is highly dependent on weather conditions. High wind speeds increase the potential for dust to be raised and blown from site, while dry periods reduce particle cohesion and consequently increases the potential for dust generation. Weather considered high risk:

- Wind speeds greater than 5.0 m/s; and
- Prolonged periods of dry weather.

Wind speed and direction will be measured and recorded daily on site and monitored by the Site Manager in order to alert operatives of any conditions that may require additional mitigation measures.

5. On Road Vehicle and Non-Road Mobile Machinery (NRMM) Emissions

5.1. On Road Vehicles

All on-road vehicles will comply with the Ultra-Low Emission Zone (ULEZ) vehicle emission standards e.g., Petrol/Diesel Euro 6 (AIR Index Urban NO_X rating A, B) and Euro VI) as a minimum. Evidence that contractors and suppliers have been contacted and their responses to the applicant in respect to the use of ULEZ compliant vehicle can be found in Appendix D. A monthly ULEZ vehicle compliance Form for the demolition and construction works (see Appendix D) will be issued to LBL.

The use of Ultra-Low Emission Vehicles (ULEV) (e.g. Electric, Hybrid (Electric-Petrol) where possible will be encouraged at the procurement stage of the tender for these services. The Applicant will actively work with suppliers that can provide electric or hybrid vehicles where practicable and details included in the monthly ULEZ compliance Form (See Appendix D).

Construction site workers will use sustainable means of travel (public transport, walking and car-sharing). Information on public transport access to site will be provided in the form of noticeboards and toolbox talks. Car-sharing for contractors will be encouraged on-site by putting in place a notice board, in order for to people to register for car sharing opportunities.

5.2. NRMM

Prior to the commencement of works the development site shall be registered on the NRMM register https://london.gov.uk/non-road-mobile-machinery-register for all NRMM for engines of 37kW-560kW. All Non-Road Mobile Machinery (NRMM) used on the site shall include CESAR Emissions Compliance Verification (ECV) identification.

All non-road mobile machinery (NRMM) if equal to or over 37kW shall comply with the Stage IV NO_X and PM_{10} emission standards of The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018 and its subsequent amendments (or the latest standard if the GLA requirements change) as a minimum. Where compliance with Stage IV requirements is not achievable or practical, an exemption will be sought from the GLA prior to arrival of the equipment on site and the details recorded in the monthly NRMM compliance Form (See Appendix E).

Use of NRMM will be minimised as much as possible and electric or battery powered alternatives will be used as a preference. If NRMM under 37kW is to be used, use of the equipment will be minimised and kept as far away from sensitive receptors as is practicable. For NRMM under 37kW, the contractor will endeavour to use equipment fitted with after treatment devices where practicable.

NRMM where the power output is less than 37kW will be fitted with an after-treatment device (DPF) stated on the approved list managed by the Energy Saving Trust; the ongoing conformity of plant retrofitted with suitable after treatment devices, to a defined performance standard, should be ensured through a programme of on-site checks

A monthly NRMM compliance form (See Appendix E) will be issued to the council. All relevant machinery emissions information and documentation will be stored and summarised within

our electronic filing system. The project will record the plant details on a spreadsheet, or similar, and the NRMM online register (https://london.gov.uk/non-road-mobile-machinery-register) will be completed and maintained by the project administrative support and overseen by the site manager. The project team will co-operate with local authority inspections and provide the requisite information as required.

Appendix A : Daily Dust Monitoring Form

Date	Time	Monitoring location	Weather conditions	Investigative action taken (to include on- and off-site observations)	Dust mitigation in place	Additional remedial measures undertaken to ensure compliance with the AQDMP	Preventative measures implemented to prevent further dust exceedences	Name and position of assessor	Signed by

Appendix B : Weekly Dust Monitoring Form

Inspected Items	Frequency	Mon	Tue	Wed	Thu	Fri	Sat
Person completing the checklist	*Initials*						
Dust being controlled correctly by personnel	Daily						
Visual inspection of mud/debris on haul routes	Daily						
Visual inspection of dust soiling on local streets, cars and window sills	Daily						
Visual observation of dust generation from earthworks and construction	Daily						
Wind direction	Daily						
Wind speed	Daily						
Weather forecast	Daily						

Appendix C : Dust Exceedance Trigger, Incident and Complaint (DETIC) Form

Trigger exceedance, Incident and Complaint Form (TIC Form)					
Ref No.		Date		Time	
VES / NO	**Noise:**				
	Monitor Location:				
	Trigger:	Amber: Red:			
	Level of exceedance:				
VES / NO	**Vibration:**				
	Monitor Location:				
	Trigger:	Working day: 15-minute average:			
	Level of exceedance:				
YES / NO	**Dust:**				
	Monitor Location:				
	Trigger:	15-minute average:			
	Level of exceedance:				

Complaint Notification (Yes/No)					
Contract Project Name:				Contract Project Number:	
Date:		Time:		Received By:	
Complainants Name:					
Telephone Number:					
Address:					
Weather Conditions:					
Type of Complaint (tick appropriate box)					
Noise:		Vibration:		Dust:	
Other:		Trigger alert:			

Description of complaint / incident:			
Investigative action taken:			
Details of BP mitigation in place:			
Remedial action taken:			
Preventative measures implemented to prevent further complains / incidents / exceedance:			
Is the complaint considered (please tick):	Justified ☐	Unsubstantiated ☐	Unfounded ☐

Appendix D : ULEZ Vehicle Monthly Compliance Form

ULEZ Vehicle Monthly Compliance Form

A monthly Ultra Low Emission Zone (ULEZ) vehicle emissions compliance log for on-road vehicles associated with demolition and construction works in the form of the table below will be submitted to the council on a monthly basis by e-mail toairquality@lbhf.gov.uk. The vehicles ULEZ compliance will be verified on-line using (https://tfl.gov.uk/modes/driving/check-your-vehicle-35896?intcmp=35896)

Date/Time	Contractor /Supplier Name	Type of Vehicle *(HGV, LGV, Car)*	Make & Model of Vehicle	Vehicle Registration Number	Fuel Type *(Diesel, Petrol, Electric, Hybrid)*	ULEZ compliant *(Yes/No)*	Name of Assessor	Signature of Assessor

Appendix E : NRMM Monthly Compliance Form

Contractor	Machine Type	Plant ID	KW	Engine Manufacturer	Type Approval number	EU Stage	Retrofit Info	Date Checked	Exemption applied for