



## **AIR QUALITY DUST MANAGEMENT PLAN**

**For**

### **WH206 – CAXTON ROAD, WOOD GREEN**

**Project Reference:** ENV1-WOOD-072 - Land off Caxton Road, Wood Green

**Site Address:** Former Petrol Station at the Mall  
Caxton Road  
Wood Green  
London  
N22 6YQ

**Customer:** Weston Homes Plc  
The Weston Group Business Centre  
Parsonage Road  
Takeley  
Essex  
CM22 6PU

**Prepared By:** Stansted Environmental Services Ltd  
The Stansted Centre  
Parsonage Road  
Takeley  
Essex  
CM22 6PU



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                                                        The Weston Group Business Centre  
                                                        Parsonage Road  
                                                        Takeley  
                                                        Essex  
                                                        CM22 6PU

Preparation of this Air Quality Dust Management Plan has been completed using information provided by Weston Homes Plc.

**Principal Contractor:** Weston Homes Plc

**Date:** July 2021

**Prepared and Approved By:**

**Silvio Petrasso** BSc (Hons), CMIOSH, MIOA, IMAPS, ACIEH  
**Managing Director**

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## **1. Introduction**

### **1.1. General**

Stansted Environmental Services Limited has been commissioned by Weston Homes Plc to prepare an Air Quality Dust Management Plan (AQDMP) for their development site at the former Petrol Station at the Mall, Caxton Road, Wood Green, London, N22 6YQ. Permission has been granted for redevelopment of the site to include the construction of 75 residential units under planning permission reference number HGY/2020/0795.

This AQDMP has been developed to risk assess the potential of airborne pollutants namely nitrogen oxide (NO<sub>x</sub>) and particulate matter (PM<sub>x</sub>), from construction operations, to construction workers and nearby offsite human and ecological receptors.

### **1.2. Planning Status**

This AQDMP has been prepared to address the requirements of Condition 10 relating to Planning Permission HGY/2020/0795 which requires the preparation of a Construction Environmental Management Plan (CEMP). Furthermore, the condition states that the CEMP shall include a Construction Logistics Plan (CLP) and Air Quality and Dust Management Plan (AQDMP).

### **1.3. Limitations**

This report and its findings should be considered in relation to the terms and conditions proposed and the agreed scope of works between SES and the "Client" Weston Homes Plc.

The conclusions and recommendations contained within the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report and the proposed development.

Interpretations and recommendations contained within the report represent the professional opinion of SES and were arrived at in accordance with industry best practice guidance and current legislation at the time of writing.

## 2. Site Location and Description

### 2.1. Site Location

The site covers an area of approximately 0.24Ha (0.61 acres) and currently occupies a prominent corner position at the junction of Caxton Road and Mayes Road. It is broadly square in shape and comprises level, cleared land and may be located by NGR TQ30954 90112. The site location is shown in Figure 1.

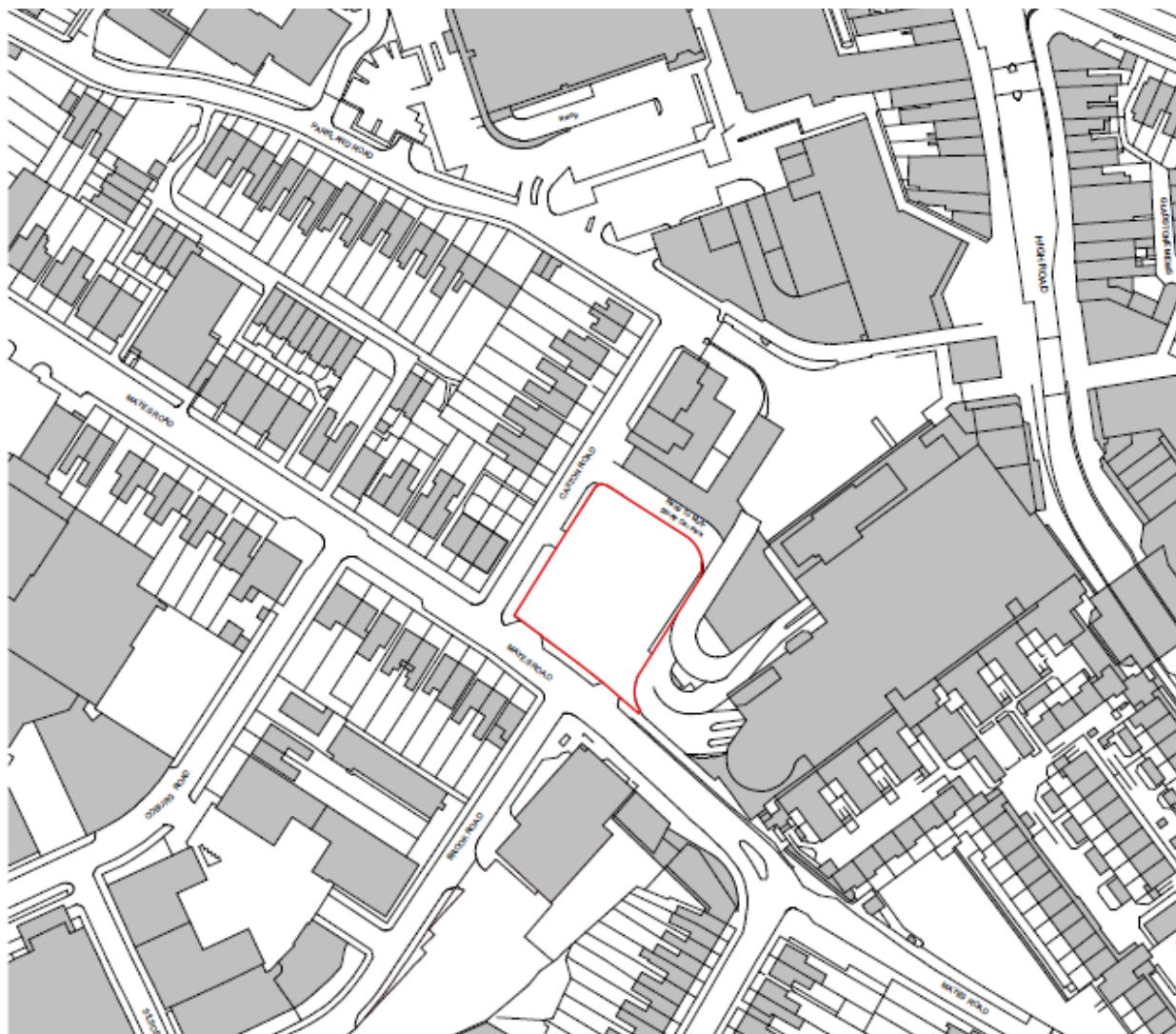


**Figure 1: Site Location**

### 2.2. Site Setting

The site is located within a highly accessible location, within 300 metres from Wood Green London Underground Station (Piccadilly Line). Additionally Turnpike Lane Underground Station (Piccadilly Line) is an eight-minute walk to the south-east and Alexandra Palace National Rail, where the station is a 10-minute walk to the northwest.

Figure 2 overleaf depicts the Current Site Plan.



Figure 2: Current Site Plan

### 2.3. Proposed Scheme

Permission has been granted for “Redevelopment of the site to provide a single building of between 4 and 9 storeys in height, comprising 75 residential units (C3) and 953 sqm of flexible commercial floor space (Use Classes A1-A5, B1 and B8), with associated cycle parking, plant, refuse and recycling provision, landscaping and all necessary ancillary and enabling works.”

Figure 3 below depicts the Proposed Site Plan.



**Figure 3: Proposed Site Layout**

### **3. Management Criteria**

#### **3.1. Council's Planning Guidance – “Haringey – Development Management DPD, Adopted July 2017”**

The Development Management DPD outlines the policies required to achieve these strategic objectives. With specific regards to air quality policy DM23 ‘Environmental Protection’ states;

- A. All development proposals should consider air quality and be designed to:
  - a. Improve or mitigate the impact on air quality in the Borough; and
  - b. Improve or mitigate the impact on air quality for the occupiers of the building or users of the development.
- B. Air quality assessments will be required for all major development and other development proposals, where appropriate.
- C. Where necessary, adequate mitigation must be provided.

#### **3.2. IAQM Guidance on the Assessment of Dust from Demolition and Construction**

This guidance contains a methodology for determining the significance of construction developments on local air quality using a simple four step process:

- STEP 1: Screen the requirement for a more detailed assessment
- STEP 2: Assess the risk of dust impacts
- STEP 3: Determine any required site-specific mitigation
- STEP 4: Define post mitigation effects and their significance

The risk of dust emissions from a demolition/ construction site causing loss of amenity and/ or ecological impacts is related to a number of factors, including: the activities being undertake; the duration of these activities; the size of the site; the mitigation measures implemented and meteorological conditions. In addition, the proximity of receptors to the site and the sensitivity of these receptors to dust, impacts the level of risk from dust emissions. Receptors include both ‘human receptors’ and ‘ecological receptors’. The former refers to a location where a person or property may experience adverse effects for airborne dust or dust soiling, or exposure to PM10, over a time period relevant to the air quality objectives. Ecological receptors are defined as any sensitive habitat affected by dust soiling, through both direct and indirect effects. Following assessment of the impacts of dust as a result of the development, a qualitative risk impact level can be assigned, ranging from ‘negligible’ to ‘high risk’. Based on the designed risk impact level the appropriate mitigation measured can be determined, applicable to the site and measures specific to demolition, earthworks, construction and trackout.

### 3.3. IAQM Guidance on the Assessment of Dust from Demolition and Construction

A summary of the air quality objectives, as set out in the UK Air Quality Strategy (2007), is presented below.

| Pollutant                 | Concentration         | Measured as    |
|---------------------------|-----------------------|----------------|
| Particulate Matter (PM10) | 40 µg/m <sup>3</sup>  | Annual mean    |
|                           | 50 µg/m <sup>3</sup>  | 24-hour mean   |
|                           | 200 µg/m <sup>3</sup> | 15-minute mean |

Table 1: DEFRA UK Air Quality Objectives

### 3.4. IAQM Guidance on the Assessment of Dust from Demolition and Construction

London Borough of Waltham Forest (LBWF) declared an AQMA in 2004 encompassing the complete borough. Management includes the monitoring of nitrogen dioxide and particulate matter.

Current management of air quality is covered under LBWF Air Quality Action Plan (2004).

### 3.5. The Control of Dust and Emissions during construction and demolition – SPG 2014

This supplementary planning guidance builds on voluntary guidance published in 2006. It incorporates more detailed practices published by the IAQM to create best practice guidance.

It seeks to reduce emissions of dust from construction and demolition activities in London. It also aims to manage emission of nitrogen oxides from construction and demolition machinery by means of a new non-road mobile machinery ultra-low emissions zone (ULEZ).

### 3.6. The Mayor of London's Air Quality Strategy (2010)

The objective of the strategy is to significantly reduce NO<sub>2</sub> and PM<sub>10</sub> concentrations through a number of measures.

## 4. Air Quality and Dust Risk Assessment

### 4.1. General

As part of the Air Quality Assessment produced by Ardent Consulting Engineers, report reference 194760-04, A Construction Dust Assessment was carried out, a copy of which can be found in Appendix 2.

The Construction Dust Assessment should be read in conjunction with this Air Quality Dust Management Plan (AQDMP).

### 4.2. Findings

A summary of the potential risk of dust impacts prior to mitigation is presented in Table 2.

| Source       | Emission Magnitude | Human Health Risk | Dust Soiling Risk | Overall Risk |
|--------------|--------------------|-------------------|-------------------|--------------|
| Demolition   | N/A                | N/A               | N/A               | N/A          |
| Earthworks   | Medium             | Low               | Medium            | Medium       |
| Construction | Medium             | Low               | Medium            | Medium       |
| Trackout     | Medium             | Low               | Medium            | Medium       |

**Table 2: Risk of Dust Impacts Prior to Mitigation**

The classification of the site has identified the development as 'Medium Risk' with respect to earthworks and construction activities. This is due to the elevated risk of dust soiling.

As such mitigation measures have been recommended in the following sections

## **5. Dust Management Plan**

### **5.1. Demolition Phase Controls**

- Not applicable as the site has been demolished to ground level.

### **5.2. Construction Phase Controls**

- Vehicle movements on site are controlled by a site speed limit of 5mph
- Dust suppression netting (monaflex) to be used on areas of scaffolding
- Cutting of silica-based materials will be contained within enclosures with continuous dust suppression
- Welfare area to be swept to avoid a build of debris
- Exposed soils to be dampened down during dry weather periods
- Temporary hardstanding (ideally asphalt) site haul/ tracking routes to be put in place and routinely swept
- Wheels will be washed where required prior to vehicles leaving the site to limit trackout.
- Materials and waste to be covered to avoid airborne debris
- Ensure plant such as generator exhausts and flues do not point directly to the ground
- Burning of any material shall be strictly prohibited

### **5.3. Segregation and Diversion Targets**

In the event of abnormal operation conditions such as a high and dry stockpile of fine material, dusty waste, spilt loads and complaints the following additional measures should be put in place:

- Ensure all wagons and stockpiled material are covered
- Stockpiled materials and waste to be piled no higher than the hoarding level
- Limit the quantities of dusty materials received
- Minimise handling and drop heights for waste
- Avoid idling mobile plant and ensure generator exhausts and flues do not point directly to the ground and/ or placed near sensitive receptors
- Put in place a more robust Traffic Management Plan to avoid nearby sensitive receptors
- Wheel washing at entry and exit point of site
- Run-off from water suppression or wheel washing prohibited from entering local and/ or highway interceptors

## 6. Monitoring of Dust Mitigation Methods

### 6.1. General Mitigation Monitoring

The effectiveness of normal site operation dust mitigation measures is to be monitored by the Site Manager by on-going routine visual site checks and record actions taken in the site diary and more extensively through periods of abnormal operating conditions. The following table can be used as a guide.

| Trigger                              | Mitigation Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Monitoring Actions                                                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No triggers – Normal Site Operations | Daily inspections ensuring site surfaces are free from dust. Ensure all loose dry fine material including stockpiles are covered and or dampened down. Ensure dust screening enclosures and dust suppression is in place for cutting/ grinding activities. Ensure all vehicles comply to site speed limit and do not idle. Ensure all vehicles entering and leaving the site are sheeted and wheels are washed. Ensure a regimented wet clean of hoardings, fencing, barriers and scaffolding is in place and adhered to. Ensure a regimented wet sweeping of access and egress points is in place and adhered to. | Daily record of site inspections in the Site Diary including any mitigation actions taken, tool-box talks and risk assessment and method statement review                                                                                                                         |
| Inclement Weather Conditions         | Ensure all normal operation mitigation actions have been completed.<br><br>Additional action measures to include hosing of all incoming and outgoing vehicles and their loads (if dusty). Ensure during times of high blustery winds unloading of fine material is temporarily suspended.                                                                                                                                                                                                                                                                                                                          | Increase site inspections to hourly if required. Ensure all normal operation monitoring actions have been completed.<br><br>Additional record of meteorological data and forecast required.                                                                                       |
| Dust Complaints Received             | Ensure all normal operation mitigation actions have been completed.<br><br>Additional mitigation actions include suspending dust emission activity until controls have been put in place and/or extensive dust suppression put in place across the site.                                                                                                                                                                                                                                                                                                                                                           | Increase site inspections to hourly if required. Ensure all normal operation monitoring actions have been completed.<br><br>Additional record of meteorological data and forecast required; time and date of complaint; source of complaint; and corrective actions put in place. |
| Accidents (spills)                   | Ensure all normal operations mitigation actions have been completed and appropriate spill clean-up and containment materials are available at strategic locations across the site.<br><br>Enforce exclusion zone and ensure spillage is swept/ cleared/ hosed down immediately. Ensure procedure is reviewed and remedial procedures put in place if required.                                                                                                                                                                                                                                                     | Daily record of site inspections in the Site Diary including any mitigation actions taken, tool-box talks and RAMS review<br><br>Additional record of near miss, notification to HSE and/ or Environment Agency if applicable                                                     |

**Table 3: General Mitigation Action Plan**

## 6.2. Additional Monitoring

Due to the Medium Risk rating of the site associated with an elevated risk of dust soiling, SES advise that continuous monitoring of PM10 is carried out during the enabling and substructure groundwork phases of the project. It has been advised by the client that this is anticipated to be no longer than 6 months.

A single MCERT PM10 Aeroqual Dust Sentry (or similar) is advised to be fitted to the hoarding on the southern boundary of the site to take into account the nearest sensitive receptors. This will need to be agreed with the LPA Air Quality Officer.

The continuous monitor will allow for accurate real-time 15-minute logs of airborne PM10 to allow site to comply with generically adopted Air Quality trigger levels; 'amber' 150µg/m<sup>3</sup> and 'red' 250µg/m<sup>3</sup> alerts along with a 24-hour 250µg/m<sup>3</sup> limit.

With this system the site management team will receive automatic email alerts so that when dust level trigger levels are breached, action can be taken in accordance with Section 7.1. This also allows for a full investigation of events which can be included in monthly reports.

On completion of the 6-month real-time continuous monitoring, daily visual audits by the site management team must continue and records kept in the site diary.

In the event of a complaint, SES can attend the site and undertake monitoring using an instantaneous handheld dust monitor such as a Casella Microdust Pro or similar.

## 6.3. Quality Control and Quality Assurance

The single MCERT PM10 Aeroqual Dust Sentry (or similar) that is proposed will be installed in accordance with European Directive 2008/50/EC and as follows:

- The flow around the inlet sampling probe shall be unrestricted with free in an arc of at least 270°
- No obstructions affecting the airflow in the vicinity of the sampler and at least 0.5m from the nearest façade
- The inlet sampling point shall be between 1.5m and 4m above the ground level within the breathing zone

To comply with Quality Control guidelines, only the uses of MCERT continuous monitors are advised. The monitor must have been laboratory calibrated within the last two years and be field calibrated and serviced monthly, during the monitoring period. Reference to the closest LPA managed monitoring station is advised during field calibration and of time of high ambient dust levels, i.e. from long distance wind-blown pollution.

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## **7. Community Liaison**

### **7.1. Project Manager**

The Project Manager is the identified contact who will be responsible for fulfilling the role of Community Liaison for the development as a whole. Their responsibilities will include the following:

- Recording and responding to enquiries or complaints from the local community, including businesses and general public
- Establishing and maintaining good open relationships with local stakeholder groups

### **7.2. Complaints Procedure**

The Project Manager will inform stakeholders of the complaints procedure as part of any communication they may have. The complaints procedure should include the following:

- Publication of the contact details for all relevant contacts (including SES if appointed to carry out monitoring), including their telephone and email contact details
- Implementation and maintenance of complaints register with records all communications received from the general public or stakeholders
- Classification of the nature of each communication by complaint, enquiry or comment
- If a communication requires action the Site Manager will assign the task to a member of Site Team
- Ensure completion of actions and ensure the complaints register is updated with a record of all actions and outcomes.
- If complaint continues to be unresolved, it is advised contact is made with SES to arrange additional monitoring.

It is the responsibility of the Project Manager to ensure that all site staff including sub-contractors shall be provided with an appropriate induction and ongoing tool box talks regarding the management of environmental issues.

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## **8. Vehicle Emissions**

### **8.1. Background**

From the 1st September 2015, construction equipment used on the site of any major development within Greater London has been required to meet the EU Stage IIIA as a minimum; and construction equipment used on any site within the Central Activity Zone or Canary Wharf has been required to meet the EU Stage IIIB standard as a minimum. This has now become more stringent with the introduction of EU Stage IV and the Ultra Low Emission Zone (ULEZ) within Central London which was introduced on the 8th April 2019 and is to be expanded in September 2020.

### **8.2. Site Requirements**

Although the site does not operate within Central London it does operate within Greater London and as such, prior to construction movements commencing, the client and their subcontractors are to register any Non-Road Mobile Machinery (NRMM) of net power between 37kW and 560kW at [www.nrmm.london](http://www.nrmm.london) to help monitor the use of such equipment across London. NRMM used on the site shall meet with EU Directive 97/68/EC as above mentioned in Section 9.1.

To avoid unnecessary degradation of air quality on and surrounding the site the following measures are recommended:

- No idling when plant/ vehicles are stationary
- Avoid use of diesel or petrol powered generators if a temporary building supply (TBS) is available
- If a TBS is not available a specific risk assessment should be carried out to distinguish whether alternative methods (such as battery, solar or wind) are practicable.

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## 9. Conclusion

Stansted Environmental Services Ltd (SES) has been commissioned by Weston Homes Plc (the Client), to prepare an Air Quality Dust Management Plan (AQDMP) for their development at Caxton Road, Wood Green.

The proposed scheme involves the redevelopment of the site to provide a single building of between 4 and 9 storeys in height, comprising 75 residential units (C3) and 953 sqm of flexible commercial floor space (Use Classes A1-A5, B1 and B8), with associated cycle parking, plant, refuse and recycling provision, landscaping and all necessary ancillary and enabling works.

The potential dust emission magnitude for the earthworks, construction and trackout for the project is deemed medium. Due to the distance of the sensitive receptors, the sensitivity of the area to dust to pose a significant risk during high dust generating site activities. As such the overall risk of the site has been classified as Medium Risk.

In order to reduce the overall risk rating site-specific mitigation and control measures have been recommended.

It has been advised that continuous real-time PM10 monitoring is carried out during the enabling and substructure groundwork phases of the project. It has been advised by the client that this is anticipated to be no longer than 6 months. This would involve setting up a MCERT Aeroqual Dust Sentry or similar on the southern boundary of the site. With this method all stakeholders can remain informed in real-time. This would be in addition to regimented daily site inspections.

On completion of the 6-month continuous monitoring daily site audits by the site management team must continue, to ensure the site adheres to the mitigation advised in this report. To assist the site management team in the event of a complaint received, SES can attend the site and undertake monitoring using an instantaneous handheld dust monitor such as a Casella Microdust Pro or similar.

This AQDMP is considered sufficient to recommend the discharge of Planning Condition 10 of Planning Permission HGY/2020/0795 issued by the London Borough of Haringey.

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## 10. Appendices

Appendix 1. Glossary of Terminology

Appendix 2. Ardent Consulting Engineers Air Quality Assessment

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## Appendix 1. Glossary of Terminology

### Dust

Dust is defined as airborne particulate matter. Particulate matter is a term used to describe all suspended solid matter, sometimes referred to as Total Suspended particulate (TSP). Sources of particles in the air include road transport, wind-blown fine soils and debris and unprotected excavated material. Particulate matter with an aerodynamic diameter of less than 10µm is the subject of health concerns because of its ability to penetrate deep within the lungs and is known in its abbreviated form as PM10.

### Terminology

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AQMA              | Air Quality Management Area                                                                                                                                                                                                                                                                                                                                                                                                              |
| LBH               | London Borough of Haringey                                                                                                                                                                                                                                                                                                                                                                                                               |
| AQDMP             | Air Quality Dust Management Plan                                                                                                                                                                                                                                                                                                                                                                                                         |
| Dust Soiling      | The act of contaminating or polluting with dust particles                                                                                                                                                                                                                                                                                                                                                                                |
| µg/m <sup>3</sup> | Micrograms per cubic metre                                                                                                                                                                                                                                                                                                                                                                                                               |
| NO <sub>x</sub>   | Nitrogen oxides (taken to be NO <sub>2</sub> + NO)                                                                                                                                                                                                                                                                                                                                                                                       |
| Objectives        | A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations                                                                                                                                                                                                                                                                                                              |
| PM <sub>10</sub>  | Particulate matter with an aerodynamic diameter less than 10 micrometres                                                                                                                                                                                                                                                                                                                                                                 |
| Standards         | A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal                                                                                                                                                                                                                                                                                                                    |
| Trackout          | The transport of dust and debris from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy goods vehicles (HGVs) leave the construction / demolition site with dusty materials, which may then spill onto the road, and/or when HGVs transfer dust and debris onto the road having travelled over muddy ground on site |

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**Appendix 2.      Ardent Consulting Engineers Air Quality Assessment**

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