

APPENDIX 12.1 DRAFT DUST & EMISSIONS MANAGEMENT PLAN

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Appendix 12.1

Draft Dust & Emissions Management Plan

1 INTRODUCTION

This document comprises a Dust Management Plan (DMP) and has been prepared by RPS on behalf of the applicant. The DMP has been produced in relation to the proposed development of the application site. In relation to dust, this document aims to ensure a proactive approach to the effective management of fugitive dust during the construction works.

This plan contains mitigation measures and industry standard good practice measures for reducing dust and emissions from vehicles. This is in line with Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction Sites. This plan will be used to ensure that mitigation measures are appropriate and being applied rigorously and to provide early warning of increased dust emissions to inform the cessation or modification of activities prior to impacts occurring. General good practice guidance measures that will be implemented onsite to control dust and vehicle emissions are outlined.

2 DEFINITION OF DUST

2.1 Types of Particles

Dust is the generic term used to describe particulate matter in the size range 1-75 µm in diameter. Particles greater than 75 µm in diameter are termed grit rather than dust. Dusts can contain a wide range of particles of different sizes. The normal fate of suspended (i.e. airborne) dust is deposition. The rate of deposition depends largely on the size of the particle and its density; together these influence the aerodynamic and gravitational effects that determine the distance it travels and how long it stays suspended in the air before it settles out onto a surface. In addition, some particles may agglomerate to become fewer, larger particles; whilst others react chemically.

The effects of dust are linked to particle size and two main categories are usually considered:

- PM10 particles, those up to 10 µm in diameter, remain suspended in the air for long periods and are small enough to be breathed in and so can potentially impact on health; and,
- Dust, generally considered to be particles larger than 10 µm which fall out of the air quite quickly and can soil surfaces (e.g. a car, window sill, laundry, general amenity).

The IAQM Guidance on the assessment of dust from construction sets out 350 m as the distance from the site boundary and 50 m from the site traffic route(s) up to 500 m of the entrance, within which there could potentially be nuisance dust (amenity) and PM10 effects on human receptors. For sensitive ecological receptors, the corresponding distances are 50 m in both cases.

2.2 Potential Impact of suspended particulates on amenity

In terms of disamenity effects, residential dwellings are considered highly sensitive. In some instances, industrial and commercial premises may be considered highly sensitive receptors if they are particularly vulnerable to soiling effects. The latter may include, for example, vehicle showrooms, food manufacturers and electronics manufacturers. The sensitivity will relate to the level of amenity that can be reasonably expected. For example, dwellings and schools are more sensitive than industrial units or farms. Care should be taken to ensure that the assessment takes into account whether exposure will arise in practice (e.g. computer chip manufacture is sensitive to dust and so premises are likely to have extensive dust filtering equipment, although the frequency of filter changes may need to be increased).

Dust arising from construction works can reduce amenity in the local community due to visible dust plumes and dust soiling. The generally coarser dust that leads to these effects may, therefore, be referred to as 'disamenity dust'. The most noticeable air quality impact likely to arise during construction works activities is dust accumulation resulting from deposition, which can lead to disamenity due to the soiling of surfaces.

The UK Government Planning Portal does not define disamenity, but its literal meaning would be "impaired amenity" and from its definition of amenity could be considered to be a negative element or elements that detract from the overall character or enjoyment of an area. The Oxford English Dictionary defines disamenity as "the unpleasant quality or character of something". For example, in relation to the impacts of landfill projects, DEFRA has described "disamenity" as nuisance caused by an activity such as noise, odour, litter, vermin, visual intrusion and associated perceived discomfort.

2.3 Limits for nuisance dust

In contrast to suspended particulate matter (PM), there are no UK or European statutory standards that define the point when deposited dust causes annoyance or disamenity. This is largely due to the difficulty in accurately determining human response to dust accumulation and soiling. There are a number of "custom

and practice” thresholds in use. These however are based on rather old studies, incorporate large corrections and assumptions, are sometimes equipment-specific, and lack validation in current conditions. More recent guidance for the minerals industry for example, recommends that site-specific thresholds should be agreed between the site operator and the local planning authority, appropriate for both the site and its surroundings, taking into account baseline values.

Similarly, no firm guidance is available on significance criteria for frequency of disamenity dust episodes. Previous guidance suggested that a community may be prepared to tolerate an incident once a month, but not repeated incidents at frequencies of once or twice a week. There is, however, no contemporary evidence base to support this assumption.

2.4 IAQM Guidance

The documents referenced in this DMP are as follows:

- Institute of Air Quality Management (IAQM) Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites;
- IAQM (IAQM) Guidance on the Assessment of Dust from Demolition and Construction.

The type of activities that could cause fugitive dust emissions are: demolition; earthworks; handling and disposal of spoil; wind-blown particulate material from stockpiles; handling of loose construction materials; and movement of vehicles, both on and off site. The level and distribution of construction dust emissions will vary according to factors such as the type of dust, duration and location of dust-generating activity, weather conditions and the effectiveness of suppression methods.

The main effect of any dust emissions, if not mitigated, could be annoyance due to soiling of surfaces, particularly windows, cars and laundry. However, it is normally possible, by implementation of proper control, to ensure that dust deposition does not give rise to significant adverse effects, although short-term events may occur (for example, due to technical failure or exceptional weather conditions). The following mitigation measures and recommended best guidance will ensure the risk of dust impacts are controlled during construction activities.

3 PROPOSED MITIGATION MEASURES

During the construction phase there will be associated air quality and dust emissions to the atmosphere. Mitigation measures are needed to reduce the potential for significant effects of dust emissions in the vicinity of the Proposed Development. In order to avoid significant impacts from atmospheric emissions during the construction phase, an outline dust and emissions management plan has been created.

The principal activities that have the potential to result in fugitive emissions of dust from site construction works are pole erection excavations, rock breaking, excavation and stockpiling for the underground cable and track out from vehicles. Dust can be spread onto the public highway and along public access paths by vehicles entering and exiting the site.

3.1 Communications

With respect to communications, the following will be implemented:

- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the Contractor Environmental Manager;
- All site personnel to be fully trained by the Contractor Environmental Manager in relation to dust control measures as presented in the Draft Dust & Emissions Management Plan. This
- Display the head or regional office contact information.

To be implemented before works commence on site and training given as appropriate by the Contractor Environmental Manager.

3.2 Site Management

With respect to site management, the following will be implemented:

- Record all dust complaints, identify cause(s) and record the measures taken to address the fugitive dust escape;
- No burning of any material is permitted on site;
- Make the complaints record available to the relevant regulatory authorities when asked.

To be implemented during works by the appointed Contractor Environmental Manager.

3.3 Earthworks & Construction

With respect to earthworks and construction, the following will be implemented:

- Fine powder materials are delivered in enclosed bags or containers;
- Only use rock breaking equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Long-term stockpiles are not planned and the Contractor Environmental Manger will ensure that stockpiles are managed and exist for the shortest possible time.
- Typically pole erection will be completed within a day, therefore excavated material will not be left uncovered for more than a day. In the event that pole excavation should take longer than one day, excavated material will be covered with suitable waterproof material (heavy duty plastic sheeting or tarpaulin);

- For underground cable locations, excavation on agricultural lands, top soil will be stripped and stockpiled adjacent to the works and will be re-used when re-instating the trench. Other excavated material will be stockpiled separately within the identified working area and will be re-used as back fill. In the event that pole excavation should take longer than one day, excavated material will be covered with suitable waterproof material (heavy duty plastic sheeting or tarpaulin);

To be implemented during construction period by the appointed Contractor Environmental Manager.

3.4 Vehicle Movement and Vehicle Emissions

As with any construction site, there are associated vehicle movements, emissions and plant use. With respect to vehicle movements and vehicle emissions, the following will be implemented:

- An onsite speed limit (to be displayed) will be implemented by the main contractor that will be appropriate to the types of construction plant utilised (The IAQM guidance suggests to: Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas);
- Vehicle operatives will ensure all vehicles switch off engines when stationary and not in immediate use - no idling vehicles (emissions to air controlled);
- No black smoke is emitted other than during ignition (emissions to air controlled). Vehicle operatives will ensure that black smoke emission are prevented during machinery use;
- All vehicles should hold current MOT certificates where required (emissions to air controlled);
- All loads entering and leaving site to be covered;
- Vehicles and plant will be removed from the Active Work Section and moved to the next Active Work Section. All lands will be reinstated to prior condition. Hand brushes will be used to clean public carriageway or hard standing areas where required.
- With the cable at an Active Work Location constructed, the Material, Machinery and Equipment will be demobilised and will then be used at the next Active Work Location. Hand brushes will be used to clean the public carriageway or hard standing areas where required; mud will be brushed back into adjacent agricultural land.

To be implemented throughout by the appointed Contractor Environmental Manager.

Complaints Form - Customer Details

Customer Name -	
Address -	
Postcode -	
Customer Contact Details -	
Tel -	
Email -	
Date -	
Complaint Ref Number -	
Complaint Details -	

Investigation Details

Investigation carried out by -	
Position -	
Date & time investigation carried out -	
Weather conditions -	
Wind direction and speed -	
Investigation findings -	
Feedback given to local authority -	
Date feedback given -	
Feedback given to public -	
Date feedback given -	

Review and Improve

Improvements needed to prevent a reoccurrence -	
Proposed date for completion of the improvements -	
Actual date for completion -	
If different insert reason for delay -	
Does the dust management plan need to be updated -	
Date that the dust management plan was updated -	

Closure

Site manager review date	
Site manager signature to confirm no further action required	

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