

SLYFIELD WOOD FACILITY

Environmental Permit Application
Dust and Emissions Management Plan
Prepared for: Chambers Waste Management Plc
Client Ref: 402.064322.00001

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1.0 Introduction

Chambers Waste Management Plc (Chambers) has instructed SLR Consulting Limited (SLR) to prepare an Environmental Permit (EP) application for the proposed Slyfield Wood Facility in Guildford, Surrey, under the Environmental Permitting (England and Wales) Regulations (as amended) 2016.

This Dust and Emissions Management Plan (DEMP) has been prepared to support the EP application for the proposed Slyfield Wood Facility, hereafter referred to as 'the site'.

The site is located within the administrative area of Guildford Borough Council, which has no Air Quality Management Areas (AQMAs) in close proximity of the site.

The site will comprise an open fronted building, with approximately half of the building being used for storage of skips and vehicle parking, which is currently permitted on the site but undertaken in the open, and approximately half being occupied by the proposed wood shredding operations. The site area is accessible by North Moors Road.

The activities on site will include:

- Treatment of material via shredding;
- Storage of materials; and
- Bulk removal of materials.

It is recognised that activities on site could lead to release of fugitive emissions of dust particles (between 2.5 and 10 micrometres) and therefore, it is a requirement to control activities on site to prevent or mitigate potential releases of dust.

Measures incorporated into the design of the site to assist with dust control include:

- The orientation of the building and western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the impact of potentially wind-blown dust;
- Unloading, treatment, storage and removal of wood will be undertaken within the building;
- A water misting directional spray system will be constantly sprayed to suppress and minimise the dust from the shredding process;
- A DISAB 5132T industrial Hoover will be used on site on a monthly basis;
- Material will be stored in designated storage areas within the building which provides shelter from the wind to reduce dust emissions;
- Drop heights will be minimised where possible to reduce resuspension of dust;
- Storage and processing will be undertaken on an impermeable surface with no requirement for drainage within the building; and
- Internal haul routes are hardstanding.

This DEMP sets out the potential sources of dust at the site, the measures in place to control dust generation and monitor releases, and the management and monitoring actions that will be taken in response to a dust event. The DEMP is a 'live document', in this respect the dust control measures, and management procedures contained within it will be updated on a periodic basis. This DEMP will be kept in the site office and be available to all employees.

1.1 Proposed Operations

Chambers propose to relocate the wood shredding operation currently undertaken at their existing Slyfield MRF to this new facility. Wood will be pre-segregated at the existing Slyfield MRF (regulated under EP ref. EPR/WP3490EP) operated by Chambers, where it will continue to be received, inspected, recorded, and separated. The separated wood will then be transported to the new facility where it will be stored temporarily within the proposed open fronted storage building prior to shredding.

Wood will be accepted onto site and stored in one 252m³ stockpile before passing through a mobile shredder. Shredding will be undertaken by a piece of mobile plant called a Doppstadt high speed shredder/grinder which is currently used at the existing Slyfield MRF. Processed wood will be stored within a second 252m³ stockpile within the new storage building ready for collection and removal from the site.

The throughput of wood processed at the new facility will be the same as at the existing Slyfield MRF; approximately 200 tonnes of processed wood will be removed from the new facility each week. Chambers propose to accept, store and chip up to 10,400 tpa of waste wood.

The Site Layout is shown in Drawing 02.

1.2 Sensitive Receptors

1.2.1 Surrounding Land Use

The site is located at 21-23 Westfield Road, Slyfield Industrial Estate, Guildford, GU1 1RR, approximately 445m north of Bellfields, Guildford. The site is centred on national grid reference TQ 00404 52496.

The site is located in the north of the Slyfield Industrial Estate, with industrial premises to the south and west. The site is bounded by open land to the east and a storage container area to the north.

The Site location is illustrated on Drawing 01. The Site boundary and site layout is shown on Drawing 02 and Drawings 03 and 04 illustrate the surrounding receptors and natural and cultural heritage.

A summary of the immediate surrounding land use is provided in Table 1.

Table 1-1
Surrounding Land Uses

Boundary	Description
North	Storage container area, open ground, drain, pond, track, and the River Wey Navigation.
East	Open ground, River Wey Navigation, allotments, and Riverside Park and Nature Reserve.
South	Industrial/commercial premises including Barnes DAG Guildford directly adjacent to the site, Westfield Road, Moorfield Road, and residential premises.
West	Chambers Waste Management, North Moors Road, industrial/commercial premises, and open ground.

The immediate surrounding land uses are described in further detail below.

Industrial/Commercial Premises

The site is located in the north of the Slyfield Industrial Estate, with industrial/commercial premises to the south and west. The closest industrial/commercial premises is Barnes DAG Guildford, a motor vehicle dealer, that lies directly adjacent to the south of the EP boundary.

Residential

There are minimal residential premises within 500m of the EP boundary. The closest residential premises are located 445m south of the site boundary within Bellfields, Guildford, and extend to the south and west.

Local Transport Network

North Moors Road is located approximately 95m to the west of the site and Westfield Road is approximately 65m to the south; both roads provide access to the site.

A local footpath lies approximately 395m north of the site's boundary.

Open Ground

Open ground lies immediately to the east and northeast of the boundary and extends around to the north approximately 60m from the site boundary.

Surface Water Features

North and northeast of the site boundary lies drains, a pond, and the River Wey Navigation. The closest surface water feature is a drain that lies approximately 200m northeast of the site boundary.

Recreational Park Area

Riverside Park Local Nature Reserve is located approximately 350m to the east of the site boundary. The park has walking routes, woodland, and is a wetland habitat.

Woodland

Several areas of woodland are located within 500m of the site boundary to the north, east, south, and west. The woodland closest to the site boundary is located approximately 155m northwest.

1.2.2 Ecological Receptors

The Multi-Agency Geographic Information for the Countryside (MAGIC)¹ website has been reviewed to determine the presence of any designated habitat sites and protected species within a 1km radius from the site's EP boundary. A nature and conservation screening has been carried out and is included within Appendix A of the Environmental Risk Assessment (Ref: 402.064322.00001_ERA).

Several nationally/locally designated sites within 1km of the site boundary were identified, these include the following:

- The Riverside Park Local Nature Reserve that is located approximately 350m to the east;
- Several areas of Ancient Woodland located approximately 465m southeast, 570m east and 830m north;
- Multiple areas of Deciduous Woodland from the Priority Habitat Inventory to the north, south, east, and west, with the closest located 155m northwest of the site boundary; and
- An area of Traditional Orchards from the Priority Habitat Inventory located approximately 680m to the west of the site boundary.

Searches on the MAGIC map reveals that none of the following ecological receptors have been identified within 1km of the proposed EP boundary:

- Sites of Special Scientific Interest;
- Special Protection Areas;

¹ www.magic.gov.uk, accessed December 2023

- Special Areas of Conservation;
- Ramsar Sites;
- National Nature Reserve;
- Areas of Outstanding Natural Beauty;
- National Parks;
- RSPB Reserves;
- Protected Habitats and Species; and
- National Forests.

1.2.3 Identified Receptors

Local receptors and natural and cultural receptors within 1km of the site are recorded in Table 1-2 below.

**Table 1-2
Identified Receptors**

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Local receptors located within 1km of the EP boundary as shown on Drawing 03			
Slyfield Industrial Estate	Industrial/Commercial	North, south, and west	Adjacent
Barnes DAG Guildford	Industrial/Commercial	South	Adjacent
Open Ground	Open Ground	East	Adjacent
Westfield Road	Local Road Network	South	65
North Moors Road	Local Road Network	West	95
Woodland	Woodland	North, east, south, and west	155
Surface Water Drains	Surface Water Feature	North	200
Pond	Surface Water Feature	Northeast	330
Riverside Park Local Nature Reserve	Recreational Park Area/Open Ground	East	350
Footpath	Local Transport Network	North	395
River Wey Navigation	Surface Water Feature	Northeast	410
Residential Properties in Guildford	Residential	South	445
Burpham Court Farm Park	Open Ground/Commercial Premises	Northeast	485
Jacobs Well Playpark and pond	Recreational Area/Open Ground and Surface Water Feature	Northwest	570
Jacobs Well Village Hall	Commercial/Recreational	Northwest	580
A3 Road	Local Transport Network	East and southeast	630

Receptor Name	Receptor Type	Direction from Site	Approximate Distance from Site Boundary at closest point (in metres)
Small industrial estate	Industrial/Commercial	Northeast	630
Moorfield Road Sewage Works	Industrial/Commercial Premises	South	638
Allotments	Recreational Area/Open Ground	South	745
Waterside Road Playground and Playing field	Recreational Area/Open Ground	Southwest	750
Burpham Primary School	Educational	East	750
Bellfields Green	Recreational Area/Open Ground	Southwest	880
Sunderland Memorial Park and Playground	Recreational Area/Open Ground	East	880
Weyfield Primary School	Educational	Southwest	940
Ecology and Cultural and Natural Heritage identified within 1km of the EP boundary as shown on Drawing 04			
Priority Habitat Deciduous Woodland	Priority Habitat Inventory	North, east, south, and west	155
Riverside Park Local Nature Reserve	Local Nature Reserve	East	350
Ancient Woodland	Woodland	North, east, and southeast	465
Allotments	Recreational	East	510
Grade 2 Listed Buildings	Grade 2 Listed Buildings	North, east, and west	515
Traditional Orchards Priority Habitat	Priority Habitat Inventory	West	680

1.2.4 Meteorology

The closest meteorological station considered to be representative of local site conditions with available data is Farnborough, located 14.8km east of the site. A wind rose for 2014-2017 and 2019, a 5-year average, is presented in Figure 1. As is apparent from this wind rose, the predominant wind direction is from the southwest. Wind from the northeast and the southeast occur relatively infrequently.

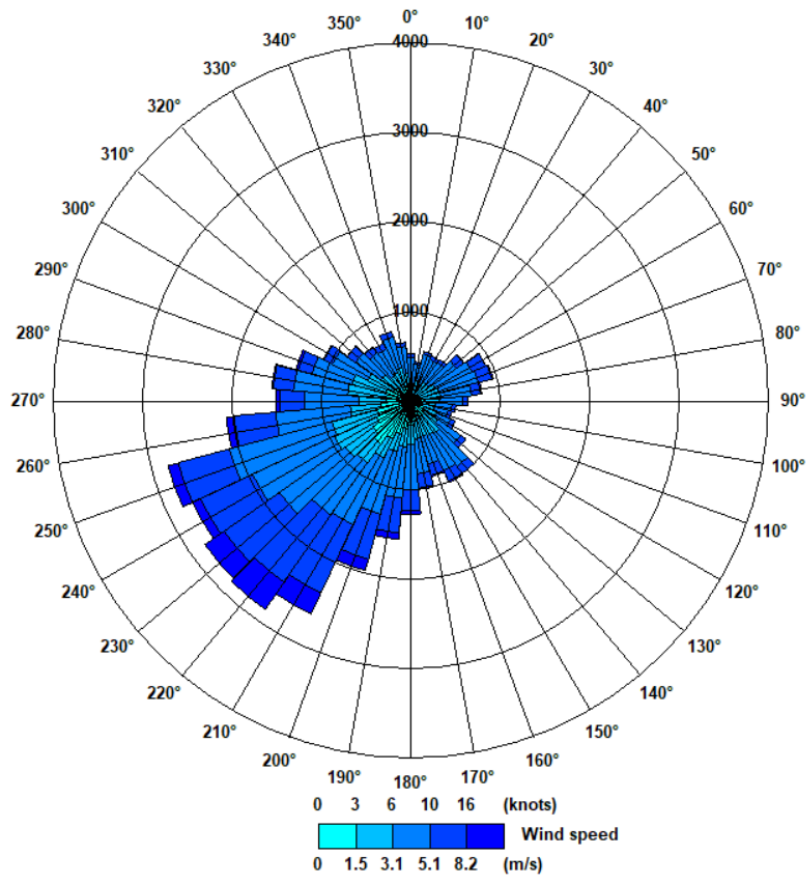


Figure 1-1 Windrose for Farnborough Meteorological Station 2014-2017 and 2019

Research has indicated that rainfall greater than 0.2mm per day is sufficient to effectively suppress windblown dust emissions². Relevant rainfall data of the climate average period 1991-2020 that is applicable to the site has been obtained from the Meteorological Office website³. The average annual rainfall $\geq 1\text{mm/day}$ for the site is 114.09 days per year, comprising 32% of the year. It is therefore considered that on those days the natural suppression afforded by the rain would eliminate all sources of dust across the site.

Rainfall is typically lower in the summer months, combined with higher temperatures to increase the drying time of material. The potential for dust generation and subsequent transfer of airborne dust emissions beyond the site boundary is therefore higher during the summer months.

1.3 Sources of Dust in the Surrounding Area

Within the surrounding site locale, there are a number of other sources that have the potential to release dust emissions. The predominant sources of dust emissions within the immediate vicinity of the site are considered

² Guidance on the Assessment of Mineral Dust Impacts for Planning, Institute of Air Quality Management, v1.1, May 2016.

³ Meteorological Office, UK Climate Averages, <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-average>, accessed December 2023.

to be the adjacent Recycling Centre, also operated by Chambers Waste Management Plc, and the Concrete plant operated by CEMEX. Table 1-3 below illustrates this and other sources of dust within 1km of the site.

Table 1-3
Sources of Dust Emissions within the Surrounding Area

Company	Location	Type of Business	Direction from the Site	Distance from the Site (m)
Chambers Waste Management Plc Waste Recycling Facility	20-24 Westfield Road	Recycling Centre	South	15
CEMEX Guildford Concrete Plant	Westfield Road	Concrete Product Supplier	Southwest	30
Guildford Metal Exchange	14 Westfield Road	Metal Recycling	Southwest	145
Champion Timber (Guildford)	Moorfield Road	Timber Supplier	South	140
Solus Accident Repair Centres	35 Moorfield Road	Vehicle Repair Centre	South	200
Guildford Community Recycling Centre	Moorfield Road	Recycling Centre	Southeast	320
Vines of Guildford Car Bodyshop & Cosmetic Repairs	Slyfield Green Estate	Vehicle Repair Centre	South	285
Fastlane Paint & Body - Guildford	22-28 Moorfield Road	Vehicle Repair Centre	Southwest	380

2.0 Operations at Slyfield Wood Facility

2.1 Deliveries

Relocating the wood shredding operation to the proposed new building at the application site will result in a minor increase in vehicle movements, which is forecast to be 2 bulker trips per day to transport the segregated wood from the existing Slyfield MRF across Westfield Road to the proposed site, a total road journey of less than 200 metres (approximately 80m “as the crow flies”).

The volume of processed wood removed from the proposed site each week will remain at the current level of 200 tonnes per week in 10 articulated lorries with a load capacity of 20 tonnes each, equating to approximately 2 collections per day. The only change from the current situation, is that the articulated lorries will travel to and from the site, rather than the adjacent Slyfield MRF building at 20-24 Westfield Road. This represents no change to the current situation as same number of lorries will be utilising the same road network.

All loaded vehicles will be sheeted to avoid the spillage of materials.

No site deliveries will be permitted outside the permitted working hours.

2.1.1 Emissions Ratings

Emissions ratings for the non-road going machinery will be as follows:

- Forklift Trucks: Euro 6; and
- Shunt Vehicle: Euro 6.

2.2 Proposed Wood Shredding Process

The first steps (stages 1 and 2) of the wood-shredding process described below will continue at the existing Slyfield MRF facility at 20-24 Westfield Road, however the wood shredding process itself and the storage of both pre- and post-shredded wood (Stages 3 and 4) will be re-located into the proposed new storage building at the proposed Site at 21-23 Westfield Road.

The proposed wood shredding process is as follows:

1. All waste wood will continue to be received, inspected, and recorded in line with the waste acceptance procedures, within an open-fronted storage building at 20-24 Westfield Road constituting part of the existing waste management facility (Ref: EPR/WP3490EP).
2. The waste will then continue to be fed through a series of separators / pickers, separating the waste and storing in storage bays by waste type (i.e. metal, wood etc). These storage bays will be situated within the existing MRF building at 20-24 Westfield Road.
3. The separated wood product will then be transported from 20-24 Westfield Road out of the existing MRF to the proposed new building at the Slyfield Wood Facility, via the access to 4 North Moors (site entrance). This will involve 2 bulker lorry trips per day.
4. The pre-processed segregated wood will then be stored within the proposed building at the site prior to being shredded. Shredding will be undertaken by a piece of mobile plant called a Doppstadt high speed shredder/grinder. The mobile shredder plant will be situated in the proposed building with space for stockpiles of processed wood ready for collection and removal from the site. Mist will be constantly sprayed to suppress the dust from the shredding process, as is the case at the existing process in the MRF at 20-24 Westfield Road.

From the process described above steps 1 and 2 shall remain unchanged. All waste arriving at the site, including wood, will continue to be received, sorted, treated, and segregated within the existing MRF at 20-24 Westfield Road with no handling of waste occurring within the proposed new storage building at the site.

The only changes to the existing process will be steps 3 and 4 where the clean segregated wood, which has already been through the waste management sorting process at the existing MRF, is transported the short distance to the proposed new building on site rather than being shredded within the existing MRF building at 20- 24 Westfield Road, where the shredding operation and storage of the processed wood currently takes place.

The proposed site lies on impermeable surfacing and the site layout is shown in Drawing 02. The infrastructure is designed to prevent dust and particulate emissions because all activity is carried out within the building, the air misting suppression plant will be installed to control the dust generation in the proposed building, and the orientation of the building and western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the effect of potentially wind-blown dust.

The site will operate during the following working hours:

- 0600 to 2030 hours Monday to Friday
- 0600 to 1700 hours on Saturday

There will be no construction on Sundays, Bank Holidays, Public Holidays, and National Holidays.

2.3 Waste Acceptance Procedure

All waste arriving at the site, including wood, will continue to be received, sorted, treated and segregated within the existing MRF at 20-24 Westfield Road with no further significant handling of waste occurring within the proposed new wood facility.

The MRF site will implement waste acceptance procedures to check that the characteristics of the waste received matches the information provided during waste pre-acceptance and that the waste meets acceptable dust criteria (does not appear visually dusty). This will ensure that the waste is as expected and that it can be accepted at the site and transport to the proposed wood chip facility, without generating dust emissions.

The procedure will follow a risk-based approach considering:

- The source, nature and age of the waste;
- Potential risks to process safety, occupational safety and the environment;
- The potential for self-heating; and
- Knowledge about the previous waste holder(s).

2.3.1 Means of Measurement

The quantity of waste accepted and despatched from the facility is measured using the site's weighbridges located at the existing MRF. In the event that either of the weighbridges are unavailable this will be calculated by the recording of volume of waste entering the site and application of standard Environment Agency (EA) conversion factors as appropriate.

2.3.2 Waste Pre-Acceptance

Prior to sending waste to the existing MRF site, the customer will order a container and the Chambers system will send out a ticket detailing the items that will be not accepted on site, in the form of an automatic email.

Waste is only accepted on site if the site has the capacity for it.

2.3.3 Waste Control

All waste arriving at the site, including wood, will continue to be received, sorted, treated and segregated within the existing MRF, operated by Chambers, at 20-24 Westfield Road with no further significant handling of waste occurring within the proposed new wood facility.

All drivers bringing waste material to the site report to the weighbridge located at the existing MRF where the materials will be visually inspected, where possible, in order to confirm their description and composition against the relevant waste transfer note, and other accompanying documentation. All wastes undergo a further visual inspection during deposition on the concrete surfacing within the Waste Recycling Building prior to transportation to the wood facility. Site operatives will also ensure that loads meet acceptable dust criteria and do not present as visually dusty.

Waste will only be stored and treated at the MRF site if the description in the accompanying documentation is in accordance with the EP and that onsite inspection confirms the waste is consistent with the description provided.

Should the wastes be found not to conform during the visual inspection (i.e., appears visually dusty), then the details will be recorded, and the waste will be removed to the designated quarantine area as appropriate.

Records of non-compliant waste received at the site will include details on:

- The quantity;
- Characteristics;
- Origin;
- Delivery date and time; and
- The identity of the producer and carrier.

Waste will not be accepted unless the site is adequately resourced to receive the waste.

A record will be kept in the site diary of all rejected wastes. In the event of non-conformance, the waste producer and the EA will be notified.

2.3.4 Waste Quarantine Procedure

All waste arriving at the site, including wood, will continue to be received, sorted, treated and segregated within the existing MRF at 20-24 Westfield Road with no further significant handling of waste occurring within the proposed new wood facility.

Waste which does not conform to the permitted waste types will be placed in a designated quarantine area located at the existing MRF. Any waste that site staff are uncertain of in nature will be left in situ and if necessary, the advice of the EA would be sought. Only when this advice has been received will removal of the waste be undertaken. This waste would be removed as soon as possible to a suitably permitted facility. A record is kept in the site diary for the MRF of all rejected wastes and all wastes kept in isolation storage.

The quarantine area for the storage of unsuitable waste consists of a steel container. Any non-permitted waste of a biodegradable nature would be removed to a suitable licensed site on a daily basis. A separate quarantine container is also kept at the MRF to ensure that any rogue asbestos materials discovered at the site are segregated from the waste stream.

2.4 Site Security

The site has the benefit of perimeter fencing, lockable site entrance gate and its location within an industrial estate to minimise unauthorised entrance. Gates and fencing will be inspected weekly. Any defects or damage

which compromises their integrity will be made secure by temporary repair by the end of the working day. Permanent repairs will be affected as soon as practicable, taking into account the severity of the damage. All inspections, defects, damage and repairs will be recorded in the Site diary.

The site also benefits from a 24-hour presence with 24-hour CCTV in operation throughout which is periodically monitored by a private Security Services company out of hours to ensure the site is secure. In addition, a night security guard is on site during non-operational night shifts to monitor the CCTV and carry out hourly patrols. Each hourly patrol involves visiting set points around the site. At each point the guard patrol system is activated using a 'wand' system connected to GPS to record the site point being investigated. This data is downloaded and checked daily to ensure patrols will be carried out correctly.

All visitors and contractors will be required to sign in at reception and regular contractors undergo a site induction. If a site induction has not been complete, visitor must be escorted at all times by a member of staff.

2.5 Mobile Plant and Equipment

Particulate matter can be a by-product of the site's mobile plant Doppstadt high speed shredder/grinder and vehicle movements.

The equipment that will be on site is as follows:

- 1 x Doppstadt high speed shredder/grinder
- 1 x Rehandlers with Grab with Auto Fire Suppression
- 1 x Loading Shovels with Auto Fire Suppression
- 1 x DISAB 5132T Industrial Hoover

The mobile shredder is parked in the external yard area overnight and away from any combustible material. Out of hours the yard is monitored by a night security guard and CCTV, which is monitored by a private Security Services Company.

Plant and equipment will be visually inspected prior to every use to ensure it is fit for purpose. Operatives will be required to complete inspection records for all plant on a regular basis. This will identify any faults and defects including leakages of fuel and combustible liquids and ensures these issues will be immediately rectified. All equipment will be serviced in line with manufacturer's recommendations and instructions. A service schedule will be displayed in the site office and records of all servicing and maintenance will be stored within the site office.

All faults and defects will be reported to the Site Manger and recorded in the site diary.

Only trained and competent staff will be able to operate plant and machinery.

3.0 Dust and Particulate (PM10) Management

3.1 Responsibility for Implementation of the DEMP

A suitably trained Site Manager/Supervisor will be on site who is responsible for the implementation of dust management measures where required. Responsibilities will be allocated to specific personnel to ensure dust generation is effectively controlled as outlined in Table 3-1 below.

Table 3-1 Dust Management Responsibilities

Actions	Responsibility
Monitoring meteorological forecast	Site Manager/Supervisor
Routine visual dust monitoring	Site Manager/Supervisor
Coordinating air misting rain gun application	Site Manager/Supervisor
Coordinating plant area cleaning	Site Manager/Supervisor
Application of plant dust suppression	Operatives
Completing dust event forms	Site Manager/Managing Director
Liaison with public and regulator	Manager Director
Coordinating dust management plan updates	Manager Director

The procedure for the Site Manager to review feedback from visual monitoring will be to review the visual monitoring record in the Site Logbook.

All personnel on site understand their responsibility to ensure the generation of dust is minimised. Each employee will be made aware of the importance of dust control and the most effective measures available to minimise such emissions either as part of the induction process, or as a specific training exercise.

Specific training will be provided to:

- Site Manager/Supervisor in operation of the air misting Rain Gun dust suppression system;
- Operatives of front-end loaders of importance of minimising drop heights when loading or unloading; and
- All site personnel on importance of reporting potential dust emissions or malfunctioning dust control plant to the site management.

Training incorporates the following aspects:

- Key activities with the highest potential for dust generation;
- Methodology of visual dust assessments;
- Importance of unofficial visual dust assessments during everyday work and how to report visible dust emissions;
- How to respond to a complaint from a member of the public;
- The complaints protocol and escalation method;
- What to do in the event of a dust emission incident, and who to inform;

- The importance of the DEMP, its ‘active’ format and its location;
- Any dust monitoring methods incorporated on site at the time;
- Overview of the prevailing winds and how this affects daily operations;
- Key aspects to look out for during routine operations with regard to dust generating activities;
- Cleaning regime on site (routine and intermittent);
- Regime of maintenance of onsite plant;
- Routine measures that can be incorporated into daily work schedules to minimise dust and emissions (i.e., no idling, minimise drop heights, covering of loads); and
- Additional measures that can be undertaken to minimise dust and emissions (i.e., notification of relevant person visual dust plumes is identified, remedial actions).

Refresher training will be provided every 2 years.

3.2 Sources and Control of Fugitive Dust/Particulate Emissions

3.2.1 Sources

Potential dust sources at the site will be:

- Road vehicles entering and leaving the site, tracking material out onto the road;
- Internal vehicle / plant movements within the site on the hardstanding surface;
- Debris falling from loaded (covered) vehicles;
- Unloading, storage and removal of materials within the building;
- Shredding of material within the building; and
- Exhaust emissions from onsite vehicles / plant and from offsite HGVs.

3.2.2 Potential Dust Sources and Magnitude

Potential magnitude of dust emissions from sources at the site, with consideration of the design and application of control measures in place, are presented in Table 3-2. The review of potential dust sources is used to inform the assessment of risk and the selection of appropriate controls.

Table 3-2 Dust Release Inventory

Dust Source	Potential Magnitude of Emissions	Reasons
Vehicle movements – access road	Low	The site access road is hard surfaced. Sweeping and cleaning of the public highway (Westfield Road) will be undertaken to mitigate dust emissions.
Vehicle movements – internal haul roads	Low	Hardstanding haul roads. Site speed limit will be imposed (10mph). Hard surfacing will be maintained, swept and treated with water where necessary to minimise dust emissions.

Dust Source	Potential Magnitude of Emissions	Reasons
Loaded vehicles	Low	Vehicles will be covered when entering or exiting the site (sheeting or enclosed vehicles). Site speed limit imposed (10mph).
Material within the building (unloading, storage, removal)	Low	Drop heights will be minimised where possible to reduce resuspension of dust. The orientation of the building and western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the impact of potentially wind-blown dust and containing fugitive dust releases within the building, preventing wind whipping.
Shredding of material within the building	Medium (when being shredded)	Fugitive dust releases will be contained within the building, preventing wind whipping. An air misting directional spray system will be constantly sprayed to suppress and minimise the dust from the shredding process.
Vehicle emissions	Low	Small number of vehicles will be in use at the site (see Section 2.5). All vehicles will be maintained in line with manufacturer's instructions and regularly serviced.

3.2.3 Source-Pathway-Receptor Routes

The pathway for the majority of the releases is atmospheric dispersion; primary from the dust/particulate source (e.g., wind whipping of material and handling operations). The source-pathway-receptor routes are detailed in Table 3-3.

Table 3-3 Source-Pathway-Receptor Routes

Source	Pathway	Receptor	Type of Impact	Where Relationship Can Be Interrupted
Import and removal activities (by road)	Falling from lorries. Track out from the site onto the public road network.	Receptors located within 500m of the permit boundary.	Visual soiling, also consequent resuspension as airborne particulates.	Internal haul routes are hardstanding, therefore the accumulation of debris on vehicles whilst on site is anticipated to be minimal. All vehicles transferring material to or from the site shall be covered (contained vehicles or sheeted). Sweeping and cleaning of the public highway (Westfield Road) will be undertaken to mitigate dust emissions. The site is located within an industrial estate so track out onto public roads network is unlikely.

Source	Pathway	Receptor	Type of Impact	Where Relationship Can Be Interrupted
Material within the building (unloading, treatment, storage, removal)	Atmospheric dispersion	Receptors located within 500m of the permit boundary	Visual soiling, also consequent resuspension as airborne particulates.	<p>The building facilitates a good level of containment of dust emissions. Drop heights will be minimised where possible to reduce resuspension of dust. The orientation of the building and western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the impact of potentially wind-blown dust and containing fugitive dust releases within the building, preventing wind whipping.</p> <p>An air misting directional spray system will be constantly sprayed to suppress and minimise the dust from the shredding process.</p>
Vehicle emissions	Atmospheric dispersion	Receptors located within 500m of the permit boundary.	Airborne particulates.	<p>Small number of vehicles will be in use at the site (see Section 2.5). All vehicles will be maintained in line with manufacturer's instructions and regularly serviced.</p>

Table 3-4 Control Measures for Dust/PM10 and Other Emissions

Abatement Measure	Description / Effect	Overall Consideration and Implementation	Trigger for Implementation
Enclosure within a building	<p>All waste treatment operations and storage will take place in a building and the western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the impact of potentially wind-blown dust and containing fugitive dust releases within the building, preventing wind whipping.</p> <p>This will eliminate pathways to sensitive receptors by creating a solid barrier between the source of dust and receptors.</p>	Implemented as a very effective method of creating a solid barrier between the sources of dust and receptors, reducing the pathway effectiveness.	Implemented at all times.

Abatement Measure	Description / Effect	Overall Consideration and Implementation	Trigger for Implementation
<p>Site / process layout in relation to receptors</p>	<p>All waste treatment operations and storage take place in a building and the western facing open frontage will minimise the impact of the prevailing south-westerly winds, minimising the impact of potentially wind-blown dust and containing fugitive dust releases within the building, preventing wind whipping.</p> <p>This will eliminate pathways to sensitive receptors by creating a solid barrier between the source of dust and receptors.</p> <p>The site is located downwind from receptors and the orientation of the building and western facing open frontage will minimise the impact of the prevailing south-westerly winds.</p>	<p>In combination with other measures to reduce dust and particulate generation this assists to maximise the distance between the source and receptor, reducing the pathway effectiveness.</p>	<p>Implemented at all times.</p>
<p>Site speed limit and minimisation of vehicle movements on site</p>	<p>Reducing vehicle movements reduces emissions from vehicles.</p> <p>A speed limit of 10mph will be enforced on internal haul roads which reduces re-suspension of particulates by vehicle movements.</p>	<p>Implement as part of good practice and incorporated into training / induction process.</p> <p>Clearly presented around the site.</p>	<p>Implemented at all times.</p>
<p>Minimising drop heights for material</p>	<p>Minimisation of the height at which materials will be handled reduces the distance over which debris, dust and particulates could be blown and dispersed by winds.</p>	<p>Implement as part of good practice and incorporated into the training process.</p>	<p>Implemented at all times.</p>

Abatement Measure	Description / Effect	Overall Consideration and Implementation	Trigger for Implementation
Good housekeeping	A consistent, regular housekeeping regime will be in place to ensure the site is regularly checked and issues remedied to prevent and remove dust and particulate build up.	Easy to implement and requires minimal equipment. Encourages a sense of pride and satisfaction amongst the staff which promotes vigilance and a positive culture.	Implemented at all times.
Sheeting of loaded vehicles (unless enclosed)	Prevents the escape of debris, dust and particulates from vehicles as they travel.	Vehicles would be checked upon entering and prior to leaving the site.	Implemented at all times.
Surfacing of vehicle routes	All waste acceptance, storage, treatment and processing will take place on impermeable concrete surfacing. Site haul roads and access roads are hardstanding. All operational areas have an impermeable concrete surface. This reduces the amount of dust generated at ground level by vehicles and site activities.	Hardstanding surfaces reflect industry best practice.	Site surfaces will be visually inspected daily for signs of wear or damage. Remedial works will be commissioned as required. Any required repairs will be given a temporary solution immediately, and a permanent repair will be affected as soon as practicable.
Marking of storage areas	Clear delineation of storage areas minimises the risk of vehicles traversing across loose particulates on the ground and causing re-suspension or re-distribution across the site.	Easy method to implement, with clear line marking provided on the impermeable concrete at the storage areas.	Implemented at all times. May not be available during periods if storage areas will be required to be re-located for short periods of time. All operatives will be made aware of any areas where clear signage is not available during this short period.
On-site sweeping	Sweeping is effective in managing larger debris, dust and particulates.	Sweeping and cleaning of the public highway (Westfield Road) will be undertaken to mitigate dust emissions.	Implemented when visual dust monitoring triggers this.

Abatement Measure	Description / Effect	Overall Consideration and Implementation	Trigger for Implementation
	<p>Road sweeping vehicles will damp down dust and particulates whilst brushing and collecting dust and particulates from the road surface, particularly at the kerbside.</p>		
<p>Visual Dust Monitoring</p>	<p>Visual dust monitoring provides a cost-effective method of monitoring that allows for pro-active, immediate response to dust generating events.</p>	<p>Daily visual assessment will be undertaken by site operatives throughout their shift for airborne or deposited dust. Daily assessments include the following areas:</p> <ul style="list-style-type: none"> • Perimeter walk around; • If required, offsite walkover surveys; • Material storage and treatment areas; • Internal haul routes; and • Access road and public highway near site exit. <p>Site operatives who undertake visual assessments will have appropriate training. Details recorded will include (as a minimum):</p> <ul style="list-style-type: none"> • Weather conditions (qualitative wind speed, direction, rainfall); • Current site operations; • Identification of any significant dust on site or dispersion beyond the site boundary; and <p>Additional mitigation</p>	<p>In the event that visual dust monitoring identifies dust being transported beyond the site boundary and mitigation measures fail to resolve the issue, all dust generating activities will cease until the source of the dust has been identified and steps taken to prevent the off-site emissions. Additional visual monitoring will be undertaken where:</p> <ul style="list-style-type: none"> • Particularly dusty conditions are detected on site by operational staff; • Dust emissions are evident near the boundary during any activity; and • In response to complaints being received – in this situation off-site monitoring must also be carried out at appropriate locations.

3.3 Visual Dust Monitoring

Visual dust monitoring provides a cost-effective method of monitoring that allows for pro-active, immediate response to dust generating events.

Throughout operational hours the site will have a continuous presence of staff who will carry out continual visual monitoring for airborne or deposited dust throughout their shift. Visual assessment will be undertaken on a daily basis around the site boundary by site operatives for airborne or deposited dust. Daily assessments include, as a minimum, a visual assessment of the following areas (identified as areas / activities with the highest potential for dust generation):

- Perimeter walk around;
- If required, offsite walkover surveys;
- Material storage and treatment areas;
- Internal haul routes; and
- Access road and public highway near site exit.

Results of the visual dust monitoring will be recorded in the Site Log Book which will be kept in the site office. The following details will be recorded:

- Weather conditions (wind speed (qualitative i.e., strong, light etc), direction, rainfall);
- Current site operations;
- Identification of any significant dust on site or dust dispersion beyond the site boundary; and
- Additional mitigation measures put in place if required (e.g., more frequent air misting Rain Gun application, more frequent deployment of the road sweeper).

In the event of a complaint more frequent or offsite visual monitoring will be undertaken if required until the issue is resolved as described in the Dust Action Plan contingency measures

As described in Table 3-1 Dust Management Responsibility, the procedure for senior management to review feedback from visual dust monitoring will be for the Site Manager to review the visual monitoring record in the Site Logbook daily.

Site operatives who undertake visual dust assessments will have appropriate training.

An increase in the frequency and scale of visual monitoring will be undertaken where:

- Particularly dusty conditions are detected on site by operational staff;
- Dust emissions are evident near the boundary during any activity; and/or
- In response to complaints being received – in this situation off site monitoring will also be carried out at appropriate locations.

In the event that visual dust monitoring identifies dust being transported beyond the site boundary, the Site Manager will be notified, and appropriate mitigation measures will be implemented. If mitigation measures fail to resolve the issue, all dust generating activities will cease until the source of the dust has been identified and steps taken to prevent the off-site emissions.

In the event that continuous offsite dust emissions are detected (i.e., more than 2 days in a row) alongside complaints being received by members of the public, correspondence with the EA will be undertaken to discuss subsequent steps.

4.0 Complaints Procedure

Complaints may be notified to the Site Manager either during or after an event, by the complainant or indirectly through a regulator who was notified.

Complaints will be reported to the relevant authorities by Chambers Waste Management in accordance with relevant permit requirements.

Complaints records will include the following (recorded in the Site Logbook):

- Date, time, and name of complainant (if given);
- Nature of complaint;
- Locality of complaint; and
- A summary of investigation and actions taken and outcome.

The complaint response will have the objective of investigating the incident and preventing any continuing issue by putting in place additional control or management measures to prevent re-occurrence of incident and updating the DEMP. Complainants will be informed of findings of investigation and actions taken.

Investigations will include but not be limited to:

- Visit by site management (i.e., Site Manager) to the location of the complainant to verify issue (if the complaint is made 'after' rather than 'during' a dust event this may not be possible);
- Review of site activities at the time of the incident to investigate potential sources;
- If a dust event is occurring, or a recurring event, undertake more frequent on-site monitoring and instigate off-site visual monitoring and record findings;
- Review of control measures and management actions at time of incident;
- Review of meteorological conditions at time of incident; and
- Reporting of findings (either in pro-forma or Site Logbook).

Monitoring of impacts will be achieved by recording and monitoring complaints. Complaints may be reported directly to site, via Local Environmental Health, or the EA (24-hr complaint reporting system).

An example Dust Event Form is included in Appendix A.

4.1 Engagement with the Community

The Site Manager (or nominated representative) will act as liaison with the regulator and local community for issues relating to dust nuisance.

The nominated representative will respond promptly to all complaints by undertaking an investigation into the dust event, including weather conditions, operations on Site and mitigation measures in place at the time of the complaint.

Complainants will be informed of the investigation.

Following the receipt of a complaint, the details of the complaint will be recorded (an example of a complaint record form is presented in Appendix B), a Dust Event Form will be completed, and the results of the subsequent investigation kept in the Site Logbook.

4.2 Management Responsibilities

There will be a trained Site Manager on site during operational hours, responsible for dealing with complaints. Contact details will be available at all times at the site entrance, with details (including a phone number / email address) provided for both operational hours and out-of-hour periods.

4.3 DEMP Update and Review

This DEMP is a controlled document, and forms part of the Environmental Management System (EMS). The DEMP will be reviewed on an annual basis. However, the DEMP is intended to be a 'live' document which serves as a reference during daily operations, and as such will be updated on a more frequent basis should the following occur:

- Significant changes are made to the plant or operational practices;
- The regulator requests that the DEMP is updated; or
- Complaints are received, which on subsequent investigation result in the identification of further control measures or remedial action, in addition to those set out within this DEMP.

APPENDIX A

Dust Event Form

Staff Details	
Name of author:	
Event notified by:	
Description of event:	
Date:	
Time:	
Investigation Details	
Activities taking place during time of event:	
Dust mitigation techniques employed at time of event:	
Summary of weather conditions leading up to and during the event:	
Details of corrective actions:	
Notes:	
Closure	
Site supervisor review date:	
Site supervisor signature (to confirm no further action required):	

APPENDIX B

Dust Complaint Form

Complainant Details	
Complainant Name:	
Address and postcode:	
Complainant contact details (telephone/ email):	
Date & time of complaint:	
Complaint reference number:	
Complaint details:	
Investigation Details	
Investigation carried out by:	
Investigator position/role:	
Date & time of investigation:	
Weather conditions at time of complaint and investigation:	
Wind speed and direction at time of complaint and investigation:	
Investigation findings:	

Complainant Details	
Feedback given to the EA?	
Date feedback given:	
Feedback given to complainant and/or public?	
Date feedback given:	
Review and Improve	
Improvements needed to prevent a reoccurrence:	
Proposed date for completion of required improvements:	
Actual date of completion (to be filled in once completed):	
If proposed date for completion of improvements was missed, state why:	
Does the dust management plan need updating?	
Date that the dust management plan was updated (if applicable):	
Closure	
Site supervisor review date:	
Site supervisor signature (to confirm no further action required):	

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

belfast@slrconsulting.com

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 906 4280

CARDIFF

T: +44 (0)29 2049 1010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

T: +44 (0)131 335 6830

EXETER

T: + 44 (0)1392 490152

GLASGOW

glasgow@slrconsulting.com

GUILDFORD

guildford@slrconsulting.com

LONDON

T: +44 (0)203 805 6418

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER (Denton)

T: +44 (0)161 549 8410

MANCHESTER (Media City)

T: +44 (0)161 872 7564

NEWCASTLE UPON TYNE

T: +44 (0)191 261 1966

NOTTINGHAM

T: +44 (0)115 964 7280

SHEFFIELD

T: +44 (0)114 245 5153

SHREWSBURY

T: +44 (0)1743 23 9250

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: + 353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)6 23 37 14 14