Dust and Emissions Management Plan

For the Enclosed Composting Wood Processing Aggregates Waste Transfer and Treatment at

Sinkfall Farm Barrow in Furness

August 2024

Report for:
Brian Armistead Ltd.
Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
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Management Plan by:
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PERMIT EPR/DB3701SN/V003

Revision Date 24th August 2024

Revisions

1. Dust from wood shredding and Biomass drying
2. Dust from Aggregates Treatment
3. Take out Bioaerosols (as separate Doc)
4. Now expands on several new elements: Housekeeping, monitoring, suppression, contingency emergency and complaints.

SEE SECTIONS 7, 8 and 9.

EXECUTIVE SUMMARY

This report gathers together the relevant information, reference data and description of the site and provides a Site Specific Dust and Emissions Management Plan to determine the impacts that may be caused by carrying on composting and other waste reclamation activities at the site:

Brian Armistead Ltd.
Sinkfall Farm
Rakesmoor Lane
Barrow-in-Furness
Cumbria
LA14 4QE

The Risk Assessment takes account of and follows the guidance as described in the reference:

[Ref 1]: Guidance on the Evaluation of Risk Assessments for Composting Facilities, Cranfield University (G.H. Drew et al) published by the EA August 2009 and can be found on the web-address: http://publications.environment-agency.gov.uk/pdf/GEHO0809BQUO-e-e.pdf

In taking account of information that has informed the potential for the generation of bioaerosols at this site, based on previous measurements at similar sites, account has been taken of the approved methodology for undertaking measurements; i.e.

The facility provides a good measure of environmental protection as follows:

1. Enclosure for much of the principal activities within the building
2. Undertaking the majority of the shredding activity within the building
3. Utilises aerobic windrow composting of the material within a building
4. Undertakes the screening activity within an enclosed building.
5. Uses air ventilation in preference to turning during later stages of composting
6. The quantity on site is typically less than 500 tonnes in process at any one time
7. Provides the facility for a water-based damping down regime for increased control of airborne emissions such as dust and bioaerosols during material movement.
8. Provides systems for 'Housekeeping' in order to maintain work spaces, waste storage areas, traffic roadways, hard surfaces clear of dust and debris and dust suppressed.
9. The associated external operations to comprise non-emissive activities and to be undertaken with due consideration for the wind direction and weather.
10. Provides systems for monitoring by management and operatives in order to check rising levels of dust and activate procedures for dust removal and suppression.
11. Provides systems for contingencies in case of dust issues; or instances of failures, equipment break-downs or accidents; and to provide emergency measures for such instances if required.
12. Provides a system of off-site monitoring and fast response to third party complaints.

Summary of Conclusions

APPENDIX 5.3 RISK ASSESSMENT CONCLUSIONS

1. **There are NO third parties resident/working within 180 metres of the facility.**

2. **There are NO Sensitive Receptors resident within 180 metres of the facility.**

3. **The three primary activities that may entail dust raising or generation are:**
   a. Vehicles within the main yard (Dust raising).
   b. Aggregates Crushing.
   c. Wood shredding

4. **Dust emissions from these activities are managed and controlled by:**
   a. Suppression of dust in the main yard, using the mobile tanker and sparge pipe.
   b. Suppression of dust at the crusher is by fitting the water supply to the machine.
   c. Wood shredding is undertaken within the enclosure of the main building.

5. **Persons using the footpath are not at risk due to the distance from the active activities, the enclosure and the short duration of exposure (less than 6 hrs.) near to the site.**

6. **Processes relating to wood shredding, storage and drying are undertaken within the buildings or within containers.**

7. **Processes in relation to wood drying, do not entail the drying of materials that form dust; because the particle size requirement excludes 'fines' of less than 1.5mm.**

8. **There are no dusts received for transfer or treatment. Processes that may generate light dust during treatment are undertaken within buildings.**

9. **Soils are received externally, and stored in stockpiles that are damped down and surface consolidated to minimise dust.**

10. **Aggregates are received externally, and stored in stockpiles that are damped down and when crushing or screening is undertaken, the treatment is managed to minimise dust, and the resultant stockpiles are damped down with spray irrigation..**

11. **Taking into account the enclosure of the main activities and the site location in regard to wind directions, then the risks of impact to any nearby sensitive receptors are determined as very LOW.**

D. J. Baldwin (Technical Director)
MCIWM CEnv. Tel: 01743 340630

CONTENTS

QUALITY ASSURANCE for the RISK ASSESSMENT AND REPORTING

Recogen Ltd. Environmental Quality Reporting – An Independent Assessor

For the purposes of quality assurance in undertaking this risk assessment, Recogen Ltd. is a recognised organisation with appropriately trained, qualified and experienced personnel; *independent* to the composting site operator. This assessment was undertaken by D J Baldwin, BSc (Hons) CEnv. MCIWM, Technical Director with Recogen Ltd. who has over 35 years of waste and environmental management experience. David is FACTS (fertiliser advice certification) qualified and holds the Environmental Permit Operators Certificate (EPOC).

Recogen Ltd. is registered as a Quality Environmental Consultancy on the National Business Link Register and is a supplier of Technical Consultancy to DEFRA, The Waste and Resources Action Programme (WRAP) and to The Organic Recycling Group (ORG) formerly known as The Composting Association and which is now part of the Renewable Energy Association.

David has managed or contributed to many major projects on waste management for Government (**DEFRA, ETSU, DTI, WRAP, EA**) and The Waste Management Industry including Composting and Anaerobic Digestion processes, compost site design, product quality assurance (PAS100:2005 and 2011), The Compost Quality Protocol, ISO9001, ISO14001, COSHH and H&S Risk Assessments.

DEFINITIONS

Definitions – as provided in Environment Agency PS031 Nov 2010

Bioaerosols, composting and health effects. Bioaerosols are complex mixtures of airborne micro-organisms and their products, and are ubiquitous, particularly in rural environments. The most serious health problems appear to arise from *Aspergillus fumigatus*, but there are other fungal spores and bacteria that cause problems. International studies have shown that there is a wide variability in individual susceptibility to bioaerosol exposure.

Composting operations. Includes any associated waste storage and treatment operations carried out at the composting facility. Composting is the biological decomposition of biodegradable waste under conditions that are predominantly aerobic and that allow the development of raised temperatures as a result of biologically produced heat.

Sensitive receptors. Sensitive receptors refers to people likely to be within 250 metres of the composting operation for prolonged or frequent periods. This term would therefore apply to dwellings (including any associated gardens) and to workplaces where workers would frequently be present. It does not apply to the operators of composting facilities or their staff while carrying out the composting operation as their health is covered by Health and Safety legislation.

Acceptable levels at the sensitive receptors. Refers to the concentrations of bioaerosols (as predicted or as derived from direct measurements) at the sensitive receptors which are attributable to the composting operations. The acceptable levels are 300, 1000 and 500 cfu m-3 for gram-negative bacteria, total bacteria and Aspergillus fumigatus respectively, as measured by the standardised monitoring protocol.

Operations…likely to result in the uncontrolled release of high levels of bioaerosols. Include the shredding of waste and the turning of waste in the sanitisation, stabilisation and maturation stages of composting where these operations are not contained or are not subjected to exhaust ventilation and scrubbing/filtering.

About the SSBRA. Generally, the complexity of a risk assessment is related to the size and complexity of the proposed facility and the uncertainty of the risk posed, varying from a qualitative, largely generic approach at one extreme to a site specific quantitative risk assessment at the other.

Standard methods of determining bioaerosol levels are available. However based on our present scientific understanding of bioaerosols, the way they behave and their health impacts we now consider that there is currently no suitable methodology for carrying out adequate quantitative SSBRAs for new composting facilities. Accordingly, we believe that we need to take a precautionary approach and not normally permit those facilities where we would have expected a quantitative SSBRA until such time as a suitable methodology becomes available.

The types of new facilities affected by this are those that would have handled more than 500 tonnes of waste at any one time and would have carried out any “composting operations in the open that are likely to result in the uncontrolled release of high levels of bioaerosols”, as defined above. In practice, this would not include situations where the entire composting operation is carried out inside a building, or where composting takes place outside, but using negative aeration and without turning. However it would include compost maturation in conventional outdoor turned windrows, carried out following other treatment operations such as in-vessel composting, treatment in a dry AD (anaerobic digestion) plant and treatment in an mechanical biological treatment plant.

Associated definitions (EA Position Statement 2007)

A workplace is defined as where workers would frequently be present. This should be the boundary of land under the ownership of the business unless it is confirmed that any land within that ownership is not, and is never, going to be used by workers except for short periods of time, for example for maintenance work, animal husbandry.

Dwelling includes the boundary of the garden of the domestic property. This does not include any land such as a paddock or field in the same ownership of the domestic property.

Composting site boundary. The bioaerosol risk assessment or application should include a plan of the composting facility showing the boundary of the permitted, licensed or exempt area. We will treat this as the composting site boundary unless there is a defined area within this where waste storage, processing and other waste handling operations are to take place. If this is the case, we will treat the boundary of this smaller defined area as the composting site boundary. In all cases, we will expect the composting site boundary to be physically identifiable on the ground once composting operations start.

SECTION 1.0 Introduction

1.1 Composting, Wood Recycling and Dust generation

Composting is currently being encouraged by the UK Government as a means of converting and stabilising organic biodegradable waste materials such as “green waste”, and putrescible waste. The processes rely on biological activity, notably the utilisation of bacteria and fungi in order to bio-degrade the volatile material and convert it to more stable forms of humic substance.

The overall process relies on mechanical treatment in the preparation and handling of the material, as well as specialist facilities for controlling the processes involved.

It is recognised that when any agitation of organic material occurs, especially turning, screening or shredding, or when leachate is recirculated, elevated levels of dust may be released into the air. Once released into the air the dust may remain airborne for long periods and drift off-site.

Systems and processes have been developed in order to minimise the movement of compost in open spaces with minimised the handling of the material during the initial phases of treatment and enclosure of the screening process provide very good control of dust and emissions as there is minimal susceptibility to high winds across the windrows or processes.

1.2 Dust and Dust Risks to health

Dust may entail very fine particles of material that may be carried independently in the air or otherwise may become attached to other particles of dust or moisture. Consequently the minute particles may be inhalable and also respirable (deposited in the air sacs of the lungs where gases are exchanged).

Wood dust can be hazardous to health depending on the nature and origin of the wood dust. There are occupational health levels for the concentration of dust in the air we breathe.

During the course of daily activities, people inhale airborne microbes. This is as much a feature of normal everyday life as eating or drinking. Most individuals' bodies are perfectly capable of coping adequately with the presence of dust and do not suffer any ill effects. It is only when airborne dust and microbes, such as those generated during the composting process, are present in high concentrations that they may become harmful to human health.

Everyone reacts to dust in different ways. It depends upon a variety of factors and can never be predicted: some people have worked in potentially dusty environments for many years without displaying any adverse health effects.

Factors, such as prior exposure to dust, (sensitisation) individual susceptibility, concentration levels and composition (the numbers and types of microbes present) and the exposure time and frequency to which people are exposed all contribute to the way in which their bodies react. There are three main types of response:

Allergy This is an immunological response that results in the body becoming 'sensitised' following exposure. Sensitisation does not usually occur immediately; rather it is a consequence of inhaling a substance over a period of months or even years.

Inflammation This is a response of body tissues to an injury. It typically results in swelling, redness and pain.

Toxic Poisoning which is a disturbance of the normal bodily functions by a specific substance known as a toxin.

Besides from these bodily reactions it is possible that bioaerosols may lead to skin infections (spots/ boils) or else are may cause stomach sickness.

1.3 The Approach to Dust Risk Assessment

The Risk Assessment considers the 'Source,' 'Pathway' and 'Receptor', methodology for assessing Risks, i.e.

The **Source** of the Dust is considered, by examination of the various activities and points within the process where bioaerosols may be generated and released. This also includes consideration of various techniques and systems for minimising those releases.

The **Pathway**, is the route by which the dust travels from the source to the receptor. Generally this is aerial, but may include vehicles or even liquid transport systems, whereby dust or similar material is carried by one medium and then by drying or exposure to the wind, becomes air-borne and travels beyond the site boundary to the receptor. The dominant wind direction and speeds are taken into account and also 'barriers' (such as topography etc.) that may serve to attenuate the concentration of dust during travel.

The **Sensitive Receptors** are identified and consideration given to the degree of sensitivity, daily period of exposure and overall duration of exposure. The context and nature of the activities that the receptors undertake are also considered as this may affect their actual exposure to the dust (in-doors, protected areas), their rate of breathing, e.g. exercising and their sensitivity (asthmatic or with weakened respiratory system).

This Risk Assessment relies upon recently published research data and sampling information from similar sites. It takes into account various process controls and management procedures.

While it is appreciated that seasonal factors and day-today site operations can cause change, this report gathers together a wide range of information, data and evidence, in regard to the proposed site operation.

The Bioaerosol levels have been monitored at similar facilities and the results of monitoring sessions have revealed LOW Background levels, due to the effect of the enclosure, (building) minimising the release of bioaerosols from the source.

1.4 Risk Mitigation

Risk management techniques comprising technological and managerial systems shall be utilised at the site. Table 1. summarises the key features of these Risk Mitigation techniques.

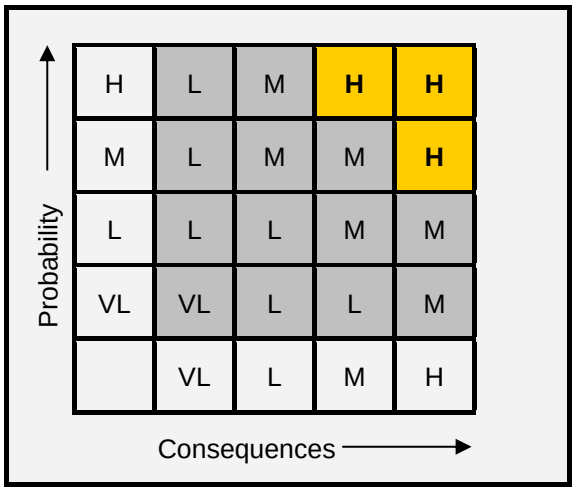
Table 1: Risk Mitigation techniques include technological processes and operational procedures including:

Technological	Procedural
▪ Waste Shredding Processes are Enclosed	○ Controls over material type received
▪ Composting Process is Enclosed	○ Received material processed within set timescales.
▪ Composting Process utilises fan aeration	○ Management of material to maintain high moisture content
▪ Process is closely managed, with control of process aeration, temperature and moisture	○ Clean water damping of hard surfaces to minimise dust.
	○ Environmental Monitoring undertaken
▪ Utilises clean water damping of process material.	○ Operator training, supervision and management
▪ Compost Screening is Enclosed	○ Site Cleanliness procedures

1.5 Risk Assessment Methodology

The Risks have been assessed (Section 11) using the 'Probability v Consequences' matrix published in Ref 1. Guidance on the Evaluation of Risk Assessments for Composting Facilities, Cranfield University (G.H. Drew et al) published by the EA August 2009 at page 18, as follow (Box 1):

Box 1 Risk Assessment Matrix



SECTION 2.0 Sinkfall Recycling – Site Location and Layout

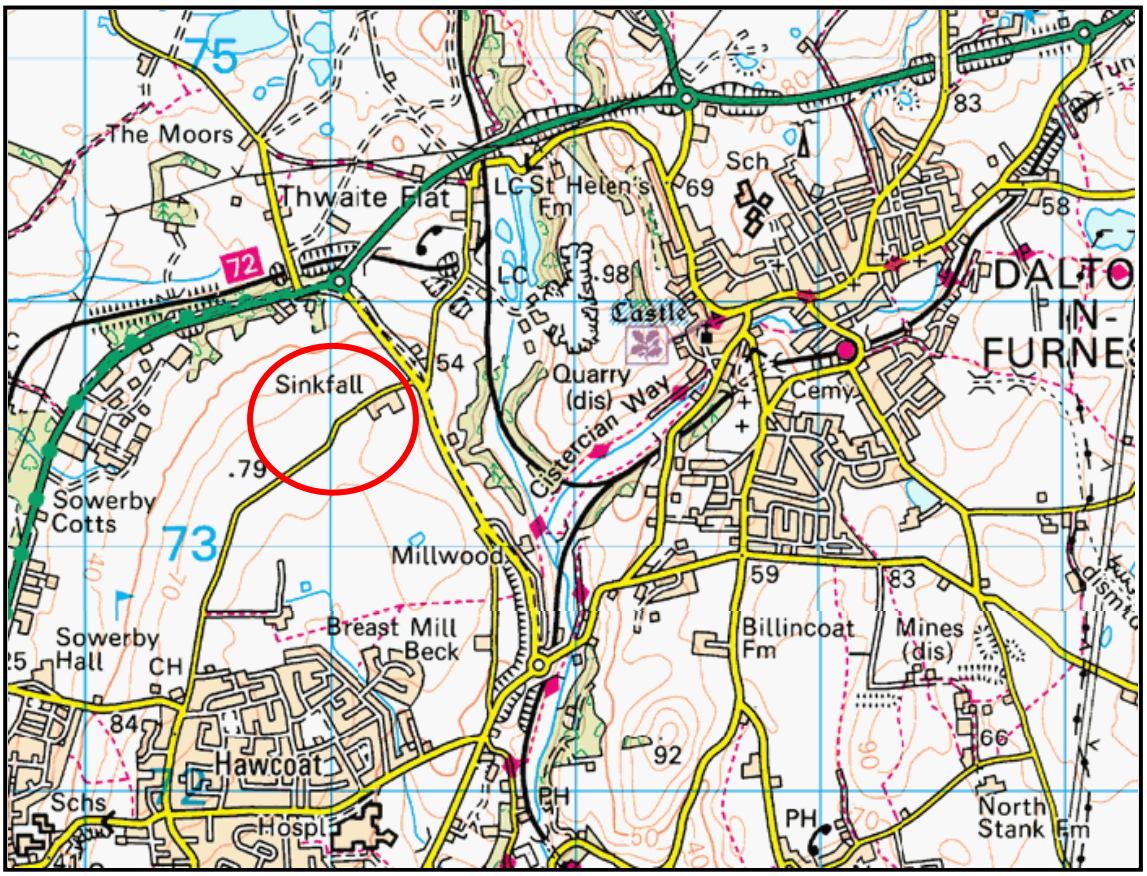
2.1 Site Location

The site is located at the following address and grid reference. A location map and site plan is shown below at Figures 1 and 2.

Site Location:

Sinkfall Farm,
Rakesmoor Lane
Barrow-in-Furness,
Cumbria
LA14 4QE National Grid Reference: **SD2118,7358**

Figure 1. Extract from Map (1km grid) Showing location of Composting Facility.



Operator: **Brian Armistead Ltd.**
Site Manager: **Mr. Brian Armistead**

Office Tel: 01229465000
Mobile: 0783141414569

SECTION 3.0 The Sinkfall Recycling Facility

3.1 The Recycling Facility

The site now provides facilities for a wider range of materials transfer and treatment, including composting, aggregates recovery and recycling; and facilities for the sorting and transfer of waste materials including clinical and hazardous waste. The site is operated under an Environment Agency regulated Environmental Permit **EPR/DB3701SN/V003** that was updated in 2024.

The total capacity of the site is for 120,000t/yr. Limits specified for various materials include:

500 t limit for material prior to disposal
10,000 t limit in total for the material in storage on the site.
1000t limit for materials associated with composting – pre-storage, maturation etc.
There are some suitably low tonnage limits for the clinical waste, and Hazardous waste.

In 2017 a new biomass boiler system was added to enable agricultural crops and other materials to be dried and conditioned to form products including animal feeds, animal bedding and dry woodchip biomass to be used in agriculture and associated industries. The Combustion Process is operated under a Local Authority regulated Environmental– LAPPC Part B - Permit.

3.2 The Waste Transfer and Treatment Activities

3.2.1 Waste Transfer – Non Hazardous Waste

The site provides simple waste transfer facilities for household waste that is collected and delivered by the Local Authority, together with other contract waste such as from 'Bring centres' (collection of glass, paper, cans, plastics etc.) and commercial premises.

In addition, wood, metals, soil and aggregates are stored and recovered and swiftly despatched off site to their respective markets.

3.2.2 Waste Transfer – Clinical and Hazardous Waste

The site provides secure waste transfer facilities for Clinical Waste and for Hazardous Waste. These do not undergo treatments (but Permitting rules regard the re-bagging or uploading of bagged clinical waste as a treatment). Not all clinical waste is Hazardous.

Hazardous waste materials need to be retained segregated and not mixed. These are kept in very small quantities and held in specialist containers, within a secondary lockable shipping container or similar. There are site rules for accessibility and training of the relevant staff in regard to these.

3.2.3 Waste Treatment

The site has been upgraded to provide simple treatment activities for some of the household, commercial and Industrial waste that is received. Specifically this is for compost, wood, aggregates, soils and some other recovered materials.

Some of the treatments entail the use of powerful heavy duty machinery.

3.3 The composting scheme

3.3.1 The composting Activities

The site provides composting facilities for green waste and is operated in keeping with the conditions of an 'Environmental Permit'. The Permit provides the requirement for a range of

management systems, including training of staff, waste acceptance criteria and standards for the management of the composting processes. The systems help ensure that the materials can be composted at the site without causing environmental nuisance.

The composting is undertaken in accordance with a Quality Management System. It shows that the facility can produce quality compost that can be beneficially used in agriculture or for landscaping purposes. Historic incidents are taken into account in forming this plan.

The facility provides a good measure of environmental protection as follows:

1. Separation distance of the principal areas of activity away from sensitive receptors
2. The quantity of material in process externally is managed to a relatively low quantity
3. The site has for several years undertaken composting of green waste
4. The site is linked to a farm and operatives work to established Health & Safety procedures
5. The process provides the facility for harvested rainwater water-based damping down of material to control of airborne emissions such as dust and bioaerosols.
6. Harvested rainwater is stored in a below ground tank at the site to provide a useful fire suppressant.
7. The external operations are undertaken with due consideration for the wind direction
8. The site does not store materials for extended periods and there-by minimises risks.

3.3.2 Green Waste Composting Process

The green waste composting process is based on a proven system:

External reception and checking of both kerbside collected green waste and that arriving from the civic amenity sites and landscapers. Material is received to external areas, with the green waste material being stored externally on the impermeable paved yard area to the north of the site. The fresh material is sorted and stored prior to preparation/ shredding treatment.

The feedstock material is managed in storage to ensure that risks to the environment are minimised (effluent and airborne emissions) and that combustion risks are minimised by managing the material to minimise forms of ignition including self-heating (spontaneous combustion).

Figure 2 shows an illustration of the facility spatial layout. The Permit provides for flexibility so that the seasonal variation in the wood and green waste inputs is allowed for, as well as areas for the movement of material within the external pad and for the passage of vehicles.

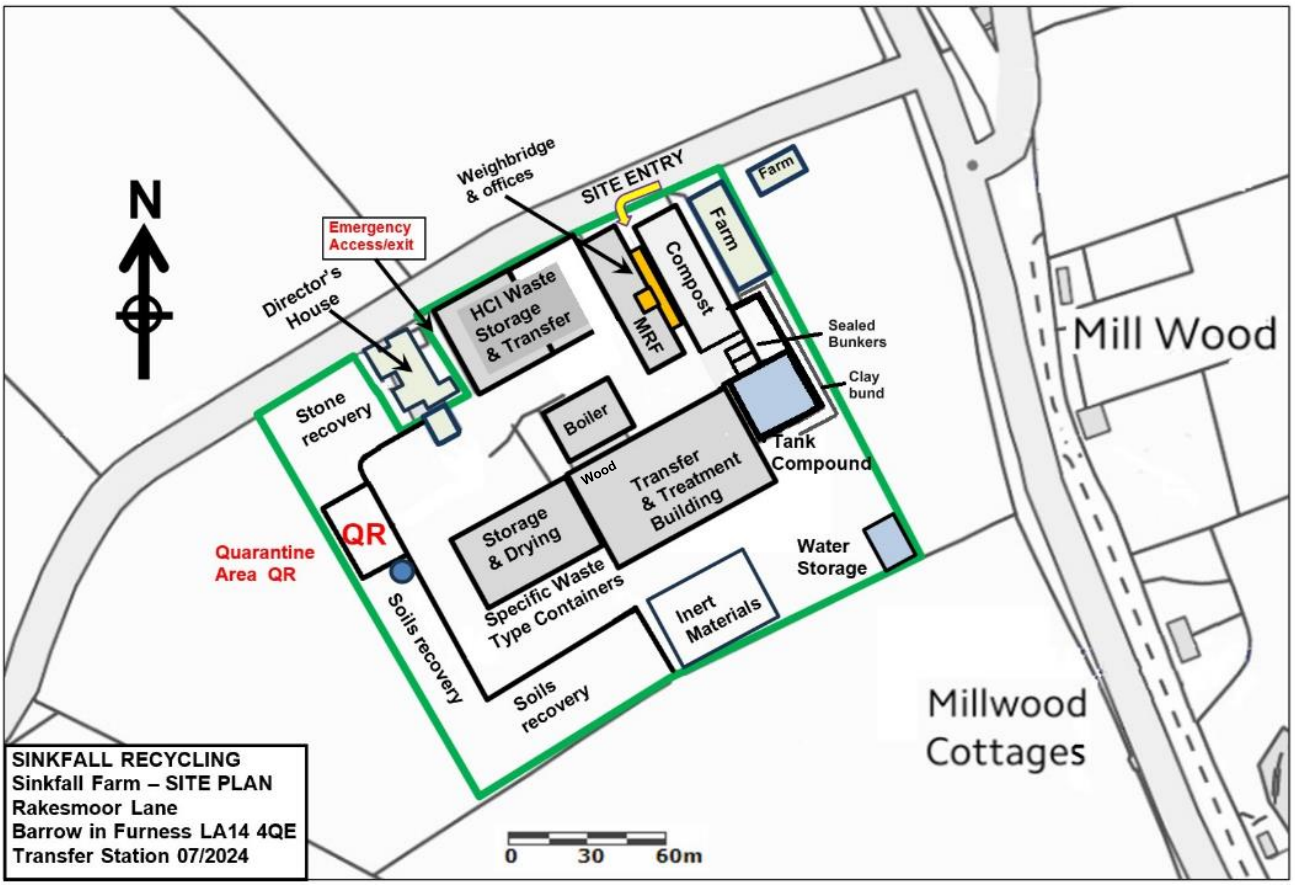
Shredding is carried out so that the material is processed and discharged to the northern building within the site. Material is moved into ‘windrows’ (Batches of material) and follows the aerobic ‘turned windrow composting process. Screening may be undertaken externally with a suitable screener when weather conditions are appropriate. Product maturation after screening is undertaken within a second building to the east of the site. Environmental measures are in place for the damping down of the composting activities and dust on the exposed yard surfaces using harvested rainwater. Oversize storage is to the south of the site and the quantity stored at any time is limited. This material is pre-treated to remove litter and then re-utilised with fresh feedstock.

3.3.3 Green Waste Processing Capacity

The capacity of the composting site is up to 7,500 tonnes per year of imported waste material. This indexes to the need at peak times to keep to the limit of 1,000 tonnes of material at any one time; however, not all of this tonnage would be in process at the same time. Some of the material will be in the form of oversize, some material will be in the reception area and some material will be finished product awaiting despatch. Box 1 summarises the tonnages of materials onsite at any one time and the annual throughput capacity.

Green waste comprising grass, leaves and vegetation shall be processed within the composting system to make compost and large wood pieces (oversize) shall be screened within the area just south of the centre and then stored in a segregated storage area along the southern perimeter of the site. Finished Compost product is stored within a segregated walled area to the east of the site.

Figure 2. Illustration Showing Location of the Principal Waste Activities

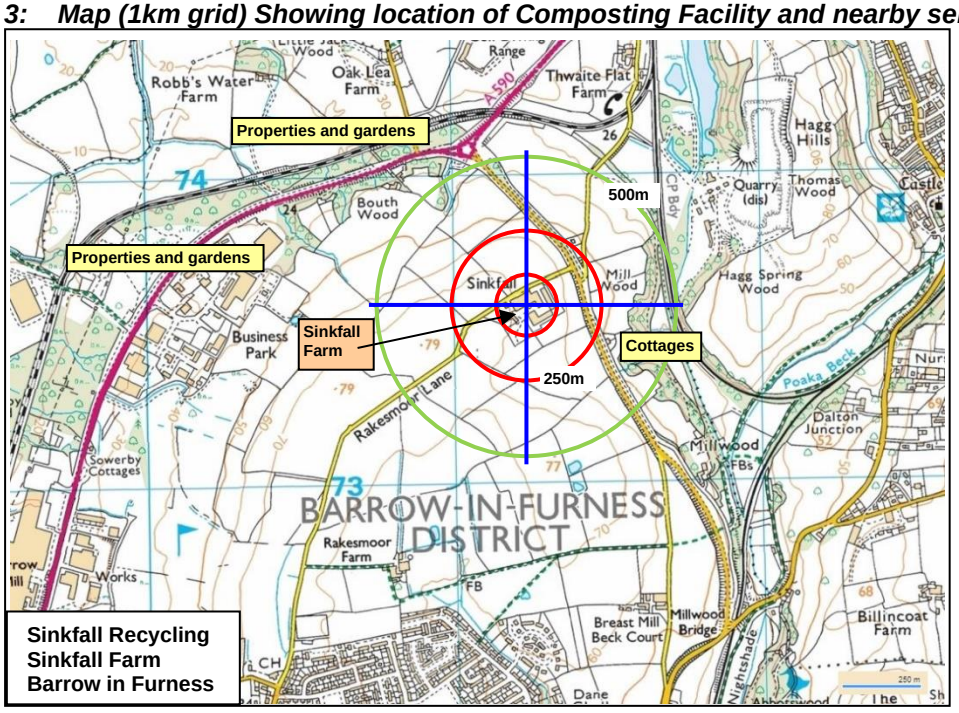


SECTION 4.0 Environmentally Sensitive Receptors

4.1 Site Situation with Regard to Environmentally Sensitive Receptors

The nearest dwellings are located at the village of Sowerby to the West, Bouth Wood to the North; and Cottages at Mill Wood to the east. See Figure 3. These are beyond 200m distant from the site. Other receptors include the roads and the fields nearby but these are not 'sensitive' receptors.

Figure 3: Map (1km grid) Showing location of Composting Facility and nearby sensitive receptors



SECTION 5.0 Meteorological Conditions for the Site

Computer modelling of dispersion requires hourly sequential meteorological data and to provide robust statistics, the record should be of a suitable length; preferably four years or longer.

The meteorological data used in this study is obtained from assimilation and short term forecast fields of the Numerical Weather Prediction (NWP) system known as the Global Forecast System (GFS).

The GFS is a spectral model and data are archived at a horizontal resolution of 0.25 degrees, which is approximately 25 km over the UK (formerly 0.5 degrees, or approximately 50 km). The GFS resolution adequately captures major topographical features and the broad-scale characteristics of the weather over the UK. Smaller scale topological features may be included in the dispersion modelling by using the flow field module of ADMS (FLOWSTAR). The use of NWP data has advantages over traditional meteorological records because:

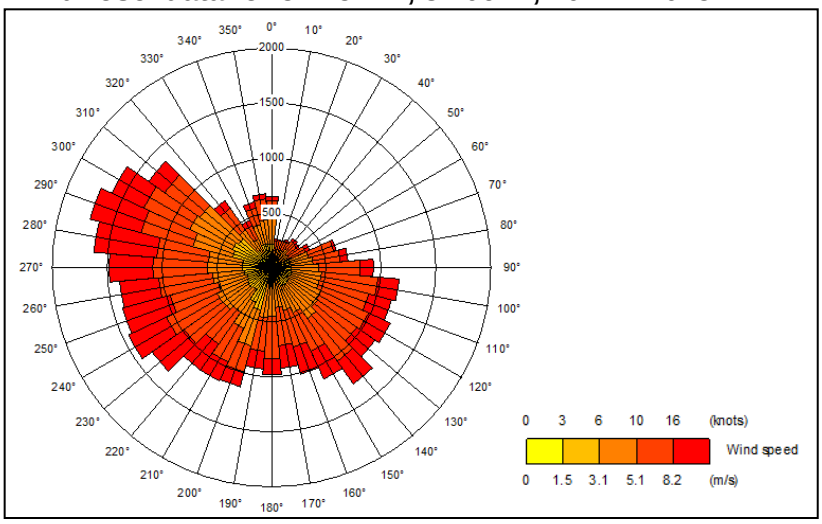
- Calm periods in traditional records may be over represented, this is because the instrumentation used may not record wind speed below approximately 0.5 m/s and start up wind speeds may be greater than 1.0 m/s. In NWP data, the wind speed is continuous down to 0.0 m/s, allowing the calms module of ADMS to function correctly.

- Traditional records may include very local deviations from the broad-scale wind flow that would not necessarily be representative of the site being modelled; these deviations are difficult to identify and remove from a meteorological record. Conversely, local effects at the site being modelled are relatively easy to impose on the broad-scale flow and provided horizontal resolution is not too great, the meteorological records from NWP data may be expected to represent well the broad-scale flow.

- Information on the state of the atmosphere above ground level which would otherwise be estimated by the meteorological pre-processor may be included explicitly.

A wind rose showing the distribution of wind speeds and directions is shown in Figure 4.

Figure 4. The wind rose. data for 54.152 N, 3.206 W, 2012 – 2015



Wind speeds are modified by the treatment of roughness lengths and because terrain data is included in the modelling, wind speeds and directions will be modified. The terrain and roughness length modified wind rose is shown in Figure 4. Note that elsewhere in the modelling domain, modified wind roses may differ more markedly and that the resolution of the wind field is approximately 340 m.

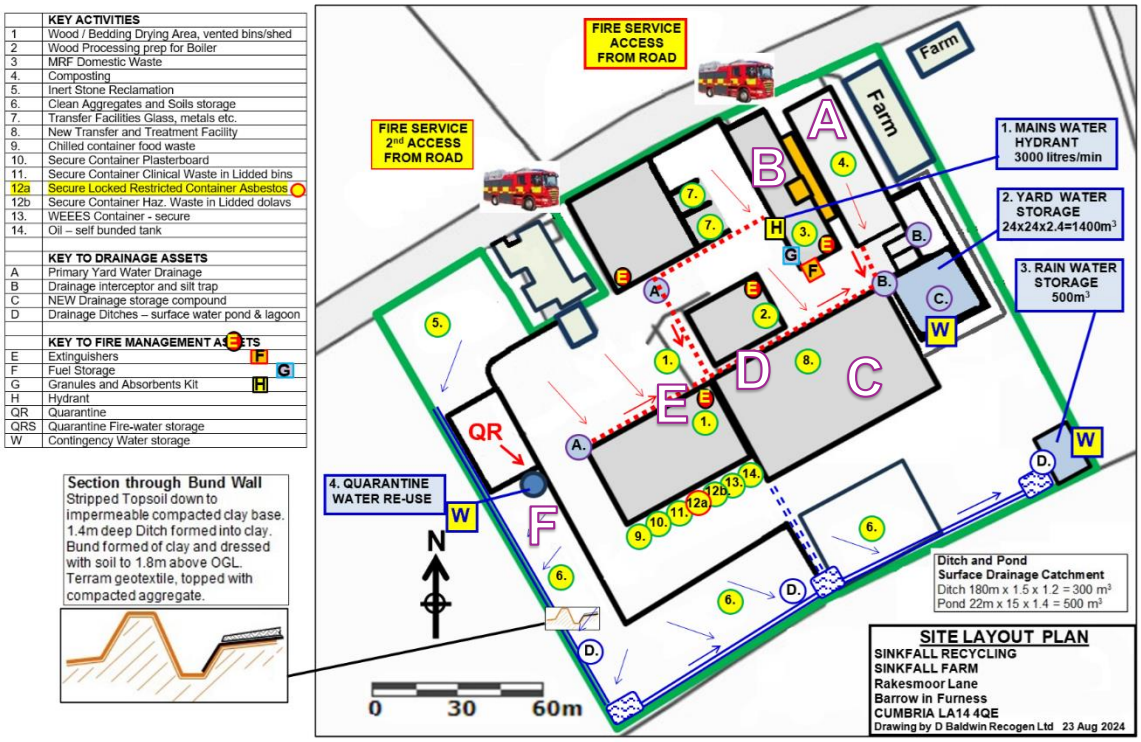
SECTION 6.0 Sinkfall Recycling: Dust Sources and Control Points

6.1 Sources of Dust at the Sinkfall Facility.

The Figure 5 provides a plan of the Sinkfall Facility, showing the main activities and their locations. Within this site plan, the primary areas where dust may be generated or released have been marked as A to F.

The plan also shows where water is available for damping down or suppressing dust if required.

Figure 5 The primary areas where dust may be generated or released



Ref	Activity	Frequency	Nature of Activity
A	Composting inclusive of processes	In use daily	Within building. Passive aeration.
B	MRF for Domestic Recyclables	In use daily	Includes movement and treatment
C	Transfer and Treatment Building	In use daily	Includes handling treatment & storage
D	Wood storage and treatment	In use weekly	Includes handling treatment & storage
E	Wood drying floor	Occasional Use	Includes handling, storage and airflow
F	Aggregates crushing and soils mixing.	Occasional Use	Includes handling, crushing & storage

6.2 [A] Composting System

Table 2 summarises the principal points where dust may be managed and controlled.

Table 2: Sinkfall Recycling Composting facility's SEVEN Dust Control Points

1.	**WEIGHBRIDGE RECEPTION**	Material will arrive on sites in high sided lorries, enclosed skips, Refuse Collection Vehicles or similarly enclosed vehicles. Feedstock deliveries shall be compliance checked for type, and dust/bioaerosol potential.
2.	**GREEN WASTE STORAGE**	Any dry or dusty green waste material shall be moved to the storage area and damped down immediately so as to avoid dust emissions.
3.	**FEEDSTOCK SHREDDING**	The output/emissions from the shredder are confined within the northern reception enclosure. The shredder can be provided with Localised Exhaust ventilation (LEV) or damping down using water if required.
4.	**ENCLOSED COMPOSTING PROCESS**	The composting process is enclosed within the building. The headspace of the building shall also be conditioned by an air misting system. This cools the air space and damps down dust so that the air is conditioned and the surface of the compost is damped and reduces release of dust.
5.	**FUGITIVE EMISSIONS**	The composting process utilises static passively aerated windrows meaning that there is minimal movement or turning of the material. The building's dust suppression misting systems operate, so that fugitive emissions are minimised.
6.	**SCREENING**	Screening is also undertaken within the compost building. The discharge of the screener is managed so that the material is damp; and the oversize where there may be litter and dusty material is retained inside the building to avoid the risk of wind causing the release of dust.
7.	**PRODUCT DESPATCH**	Stabilised, cooled material is loaded to farm trailers. Damping down is available in case of dusty conditions. Trailers may be sheeted if required. The yard area shall be damped down and swept after loading. Loading can be done inside building if required.

6.3 [B AND C] Waste Transfer and Treatment System

The Transfer and Treatment of waste has the potential for dust generation. Dust release and emissions are therefore carefully managed, as follows:

- Fugitive dust emission from HGVs transferring or off-loading waste within the 'Waste Transfer Buildings' (northern and Southern Buildings; notably paper and card, mixed household waste, and builder's waste.
- Fugitive dust from waste storage and processing areas; as above.
- Fugitive dust from the re-loading of waste in the areas as above.

A series of dust mitigation measures are implemented on site to ensure dust emissions are controlled as far as is practically possible. The measures include:

- Sheeting of vehicles delivering materials to the site (if necessary);
- sheeting of vehicles transporting potentially dusty loads off site;
- use of mobile bowser to damp down materials stockpiles, vehicle running
- surfaces, vehicle loads and areas on and around machinery which may give rise
- to dust, especially during dry and windy conditions;
- Cleaning of any spillages using wet cleaning methods;
- Enclosure of waste processing operation to prevent fugitive emission; and,
- Drop heights minimised to prevent dust emissions.

A permanent water supply is available on site in all climatic conditions to ensure that the dust suppression systems can function effectively.

Any spillages will be cleaned using wet cleaning methods. HGVs transferring waste off site shall be fully enclosed or else shall be sheeted to prevent dust release during travel. The waste storage and processing areas are within enclosed buildings to minimise risk of fugitive dust emission.

Table 3 summarises the principal points where dust may be managed and controlled.

Table 3: Sinkfall Recycling WASTE TRANSFER Dust Control Points

1.	**WEIGHBRIDGE RECEPTION**	Material will arrive on sites in high sided lorries, enclosed skips, Refuse Collection Vehicles or similarly enclosed vehicles. Waste deliveries shall be compliance checked for type, and dust potential.
2.	**WASTE STORAGE**	Any dry or dusty waste material shall be moved to the storage area and damped down immediately so as to avoid dust emissions.
3.	**WASTE HANDLING**	The emissions from handling shall be minimised by attention to: Driver Training Loading shovel operation Inspection and checking of materials Dust mitigation measures Attention to wind and weather conditions (assessment of dust risk) Any containment, coverage, suppression or mitigation required Limiting drop-heights when loading vehicles or skips. Suction ventilation (LEV) or damping down using water if required.
4.	**ENCLOSED PROCESSES**	The Waste handling and treatment processes are undertaken within either the northern or southern waste transfer building. The headspace of the southern building may be conditioned by an air misting system. This cools the air space and damps down dust so that the air is conditioned and the surface of the waste is damped and reduces release of dust.
5.	**FUGITIVE EMISSIONS**	The waste handling processes are monitored by management; and work procedures and methods are selected to minimise the generation of dust and therefore minimise fugitive emissions.
6.	**MITIGATION OF DUST RAISING BY TRAFFIC**	The waste handling areas are monitored by management; and the floor surfaces are checked to ensure debris and dust is not generated and caused to become airborne by wheeled traffic. Housekeeping methods include: a. Dry dust cleaning and clearing b. Wet methods for dust clearing and cleaning c. Dust suppression d. Driver training e. attention to wind and weather (hot dry weather) patterns and forecasts

6.4 [D] Wood Biomass Processing and drying System

The shredding of wood whether for biomass, or for product formation has the potential for dust generation. Dust release and emissions are therefore carefully managed, as follows:

- Fugitive dust emission from HGVs transferring Grade A wood to the fuel storage and processing area;
- Fugitive dust from wood storage and processing area.

A series of dust mitigation measures are implemented on site to ensure dust emissions are controlled as far as is practically possible. The measures include:

- Sheeting of vehicles delivering materials to the site (if necessary);
- sheeting of vehicles transporting potentially dusty loads off site;
- use of mobile bowser to damp down materials stockpiles, vehicle running
- surfaces, vehicle loads and areas on and around machinery which may give rise
- to dust, especially during dry and windy conditions;
- Cleaning of any spillages using wet cleaning methods;
- Enclosure of wood processing operation to prevent fugitive emission; and,
- Drop heights minimised to prevent dust emissions.

A permanent water supply is available on site in all climatic conditions to ensure that the dust suppression systems can function effectively. Any external water pipes are lagged to prevent frost damage during winter months.

Any spillages will be cleaned using wet cleaning methods. HGVs transferring wood to the fuel storage and processing building will be sheeted to prevent dust release during transfer. The wood storage and processing area is enclosed to minimise risk of fugitive dust emission.

The boiler is contained within a dedicated building. It is fed by a slow moving feed mechanism and has inbuilt water suppression systems if required.

6.5 [E] Wood Biomass Processing and drying System

Wood drying is undertaken using static (passive) systems that utilise warmed dried air for the drying. There is no continuous tumbling or agitation system used.

Drying is fully enclosed within lidded containers, or else within the drying building.

6.6 [F] Soils and Aggregates Processing Systems

Aggregate Crushing
The crushing of aggregates for product formation has the potential for dust generation, as concrete is broken down to finer fractions, and cement dust is released. The dust type is heavy and gravitates to the floor quickly; however, water sprays are utilised on the crusher outlet, and end of elevators, in order to damp down and suppress any dust.

The crusher is fitted with a 75mm water supply pipe that distributes water as spray to the working areas of the machine, especially the discharge from the crushing drum/plate, and the conveyor belts.

Soils.
The soils in storage are held in stockpiles that have been consolidated, for stability and to provide surface capping to minimise soil erosion or dust generation. Water irrigation is available for damping the stockpiles down as and when required.

Soil screening and mixing is done by machinery that is self contained, so that the mixing or screening occurs within the machine. If required, the soil product can be damped down with irrigation.

SECTION 7.0 DUST MANAGEMENT and MONITORING

7.1 Appreciation of Dust Management

It is appreciated that dust presents risks to health and also is a nuisance.

Dust from Waste may contain a wide range of chemical, physical and biological constituents. Various types of dust present COSHH health and safety hazards and entail specific limits for occupational exposure. Asbestos and Lead have specific management requirements.

Dust will be a 'substance hazardous to health' if it is a substance:
■ which is listed in Table 3.2 of part 3 of Annex VI of the CLP Regulation; and
■ for which an indication of danger specified for the substance is very toxic, toxic, harmful, corrosive or irritant; or
■ if it is a substance to which a workplace exposure limit (WEL) applies

WELs are British occupational exposure limits and are set in order to help protect the health of workers. WELs are concentrations of hazardous substances in the air, averaged over a specified period of time, referred to as a time-weighted average (TWA).

Apparently innocuous materials such as flour and grain have WEL's assigned; however, in the context of Sinkfall, increased attention is given to hard wood dust (because it is carcinogenic, and the WEL affects other wood that the hardwood is mixed with); softwood dust; and dust from crushing concrete which is high in silicates.

Silica dust is a hazardous substance. The dust can be very fine and if it gets deep into the lungs, it can cause serious lung diseases like:
■ lung cancer;
■ silicosis;
■ chronic obstructive pulmonary disease (COPD).

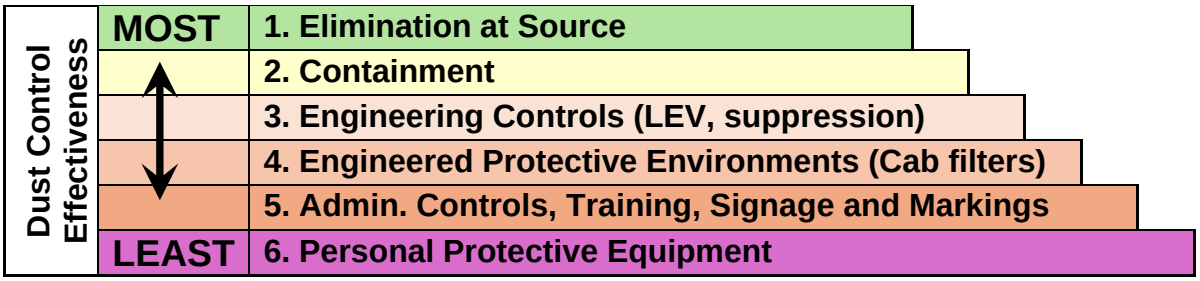
All operatives at Sinkfall shall undergo training with regard to dust, both for their own health and safety; and also to understand dust management procedures and the use of the hierarchy and protective measures.

7.2 Sinkfall Hierarchy of Dust Control Measures

The Management of Dust at the site shall start before the waste arrives at site, by undertaking a dust risk assessment, as a component of the Waste Acceptance Criteria.

Dust Management shall work in accordance with the following Dust Risk and Management Hierarchy, where AVOIDANCE of dust sources, or generation of dust is priority .

SINKFALL HIERARCHY OF DUST CONTROL MEASURES



The Hierarchy translates into the following Priorities

1.	**Elimination at Source.**	Rejection of Wastes that entail high levels of high risk dust, fibres or powders. Rejection of Wastes that are known to degenerate into high risk dust Restraint from undertaking activities or processes known to generate high risk dust from specific materials
2.	**Containment**	Materials are managed by containment, within skips, containers, vessels, euro-bins, sacks etc. and by the skips being lidded or sheeted both in transit or in storage, if dust is a risk. Some materials may be contained in bunkers within the relevant storage building, and where required these will be covered, sheeted or dust suppressed. Materials such as paper and card, shall be compacted and baled swiftly within the processing and are not stored in bulk on site for many days. Composting is undertaken within the wind protective building.
3.	**Engineering Controls**	Where required, various engineering controls are utilised to suppress and contain dust during storage and during processing. Specifically, this includes covered conveyors and elevators within the MRF, equipment having containment systems such as enclosures, the option to use suppression within the buildings; the provision and use of spray water irrigation to the concrete and aggregates crushing process; and spray irrigation of the stockpiles of crushed concrete, aggregates and soils as and when required. Localised air exhaust ventilation is in use win conjunction with shredded wood waste, where the air supply fans to the combustion hearth of the boiler, provides suction extraction ventilation of the building.
4.	**CPE – Cab Protective Equipment**	This includes equipment and enclosure ventilation and filtration systems for mobile plant operators, where the operative can occupy a protected environment; or else a fresh air supplied environment when working in areas where dust may exist. This includes the MRF Building, the transfer and Treatment building and all loading shovels and vehicles that have air filtration equipment fitted.
5.	**Administrative Controls, Training and Signage**	This includes Management supervision and monitoring; and the training of operatives both for their own health and safety and also for specific processes in order to minimise the generation or raising of dust; and the protective controls to use in specific instances. It includes awareness of time exposures and the need to rotate to fresh air environments at the required intervals. Signage shall be in used to reinforce the training measures and provide warnings and reminders of processes that require specific measures. Training shall include the provision and use of protective equipment, and include the fitment of personal respiratory masks and filters.
6.	**Personal Protective equipment**	This control measure helps protect employees from first-hand exposure to dust. For example, staying within the Cab with the door closed, or else using a respirator or mask when shredding wood to avoid direct inhalation of wood dust or other harmful substances. It includes training in order to select the correct choice of filter for specific tasks, and the fitment of face mask filters to ensure correct facial fitment

7.3 Monitoring

Various levels of monitoring shall be undertaken at the site, to:

a) ensure materials received are not likely to generate adverse dust problems
b) to ensure procedures at the site are maintained in place to deal with dust

c) to ensure specific processes have the correct engineering containment and controls in place
d) to ensure the engine exhaust filters of mobile plant and equipment are working efficiently
e) to ensure operative training is maintained with regard to dust emissions and H&S
f) to ensure H&S Protection equipment and procedures are in place for operatives and visitors

The above monitoring shall include:

a) Waste Pre-acceptance and acceptance Criteria checking before reception of materials
b) Manager assessment of dust risk from handling the material
c) Manager assessment of dust risk from processing the material
d) Manager instruction to operatives for special measures required (containment/suppression etc).
e) Manager supervision and monitoring of activities where dust risk is elevated.
f). Manager supervision and monitoring of dust suppression systems in action where required.

Specific Monitoring - Personnel
This shall be in accordance with the Health and Safety COSHH requirements. Monitoring shall include an assessment and specification for the monitoring of dust within the various areas of work and for specific activities and operations where personnel may be exposed to dust.

Specific Monitoring - Environmental
This shall include an assessment of the requirement to undertake environmental emissions monitoring from e.g. mobile plant and equipment engine exhausts; and from the emission points from the site, including the transfer buildings and the concrete crushing, if required.

Specific Monitoring may include activities relating to the wood shredding, and concrete crushing.

7.4 Housekeeping

The Sinkfall approach is to prioritise ‘Good House-keeping’ in order to control and manage dust.

This adopts the dust management hierarchy shown earlier; and includes the following:

1. Good waste acceptance systems for checking and assessing wastes before and during reception, to understand the dust management requirements and to reject materials if necessary.

2. To maintain the containment of materials for as long as possible within the processes, using:

a. Enclosed skips (lidded or else sheeted over)
b. Enclosed RoRo containers (lidded or else sheeted over)
c. Enclosed Eurobins that are lidded
d. Containerised wastes; i.e. sacks, bags, drums, IBC’s dumpy-bags.
e. Storage within specific bunkers within the building.
f. Compacting or baling in order to collect and contain the materials to prevent emission.
g. Use of containment measures within the processing lines
h. Wind protection measures = use of buildings to protect processes from wind and weather.

3. Cleanliness within the trafficked areas and buildings, including:

a. Dry cleaning of surface of the main yard and Transfer building floor areas, to minimise the build up of soil, debris and dust, using a road sweeper or similar to remove the dust without causing emission.
b. Wet cleaning and clearing of dust and debris from the yard and transfer building floors.

c. Spray water irrigation of the yard area and building floor areas, to suppress dust and enable cleaning and clearing without raising dust.
d. To undertake end-of-day cleaning of the floor areas within the transfer buildings.
e. To undertake occasional whole of floor and wall clearing and cleaning of the storage areas within the transfer buildings, when waste bunkers become vacated. This may include steam cleaning to remove grime and pests.
f. To undertake occasional waste skip cleaning using steam to remove grime and residues.

4. Cleanliness of plant and equipment, including:

a. To undertake regular waste loading shovel cleaning using steam to remove residues.
b. Drivers and operatives to undertake daily checks of filtration systems and to undertake daily cleaning of their vehicle cabs to vacuum clean and remove dust and residues.
c. To undertake occasional waste processing line cleaning using steam to remove grime, dust and residues.

7.5 Dust Suppression

Dust suppression at Sinkfall is provided by the following and as shown in the site plan below:

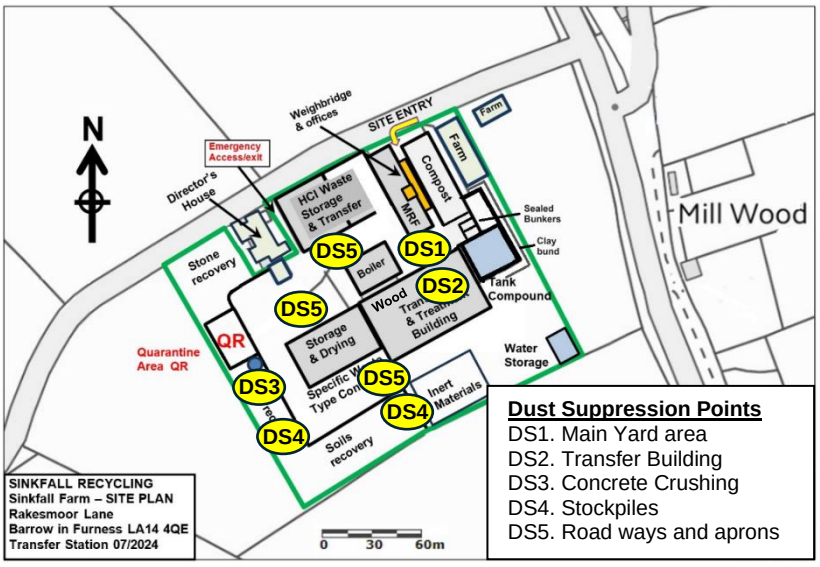
1. Dust suppression within the main yard area; this is provided by water tanker with water irrigation and spray bar apparatus that is used regularly whenever dust risk is increased (e.g. during hot dry weather). Water is taken from the 'Harvested water storage tank' (Roof rainwater harvesting system) or else the storage pond south of the site or else filled from the water hydrant on site.

2. Dust suppression within the Main Transfer and Treatment building; using a sprayed fine droplet irrigation canon to provide a blanket of water spray over the waste and floor areas.

3. Dust suppression when crushing concrete; the machine has in-built water irrigation pipe-lines and spray outlets to continually provide dust suppression while crushing the concrete and aggregates. The dust suppression provides focus to the crushing drum or plate exit, and to the conveyor and elevator exit points.

4. Dust suppression to the stockpiles of crushed aggregates (and soils), using a stand-alone water irrigator, fed by a pump and pipeline with water from the rainwater harvesting storage.

5. Dust suppression to the roadways around the site, the aprons of the buildings and to outlying stockpiles of soils or aggregates; this is provided by water tanker with water irrigation and spray bar apparatus that is used regularly whenever dust risk is increased (e.g. during hot dry weather). Water is taken from the 'Harvested water storage tank' (Roof rainwater harvesting system) or else the storage pond south of the site or else filled from the water hydrant on site.



SECTION 8.0 CONTINGENCY AND EMERGENCY PLANS FOR DUST

8.1 Dusty Materials Contingency Plans

The Contingency Plans to **deal with dusty materials** comprise the following:

1. Cease or restrict the intake reception of specific materials when dust is an issue.

2. Restrict the intake of specific materials until such time as suitable containment or storage within the buildings or enclosures can be provided.

3. Load materials into a suitable enclosed container and remove from site.

4. Wet down with water spray over the material, and continually while loading material by machine, into an skip or container that can be enclosed.

5. Wet down by water spray any stockpile of material that shows signs of adverse dust release; i.e. in hot dry weather or during gusting wind.

6. Use tarpaulin sheet to cover dusty material within the transfer station.

8.2 Contingency Plans for Dust Management Equipment Failure

1. Water supply. Water can be taken from the mains hydrant to fill the rainwater tank.

2. The mobile tanker can be used with a water cannon, to wet down stockpiles of aggregates if the pump and irrigation sprinkler fails.

3. For sprinkler failure on the crusher, the activity may need to be stopped.

4. For sprinkler failure on the crusher, the water bowser and tractor driven pump may be used to supply water to the in-built crusher irrigation system.

5. Spare cab filters shall be held in reserve if required.

6. Arrangements with dealer to hire in spare loading shovel if required.

8.3 Emergency Procedures for Dust Management

1. Divert incoming Material to a ‘sister’ site.

2. Close down entry to site.

3. Cease all activities that are associated with the dust issue.

4. Swiftly clear up any dusty material into lidded containers.

5. Damp down and suppress dust; and clear material to lidded containers.

6. Check all staff for any impact to health.

SECTION 9.0 COMMUNITY ENGAGEMENT AND COMPLAINTS

9.1 Engagement with the Community.

Sinkfall Recycling is a socially aware and community based family managed company that sets out to work with the community and therefore takes all aspects of community relations seriously. Mistakes and mishaps do happen.

Sinkfall have good relationships with their close neighbours and there is a mutual respect. The neighbours will contact Sinkfall directly and refer to any issues or nuisance that the Sinkfall activities may cause.

The Managing Director of Sinkfall – Brian Armistead – reacts to such instances immediately and makes arrangements to visit and meet with the complainant. Luke Armistead (director) will deputise and do this if Brian Armistead is away from site.

If required (such as when building construction is ongoing or concrete crushing is to be undertaken) Sinkfall management will contact the neighbours and let them know what is happening and ask them to contact Sinkfall if any nuisance occurs.

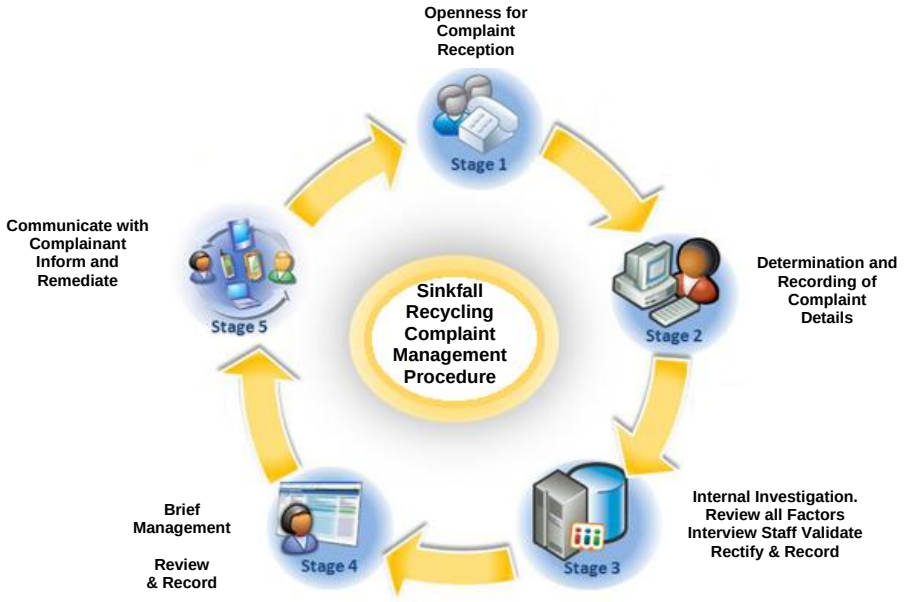
9.2 Reporting of Complaints

Sinkfall advertises their direct contact number and website details, so that the public may make complaints swiftly at any time of the day or night.

The Complaint shall be recorded and responded to within 24 hours

9.3 Internal Procedure Summary – Managing the Reporting of Complaints

Sinkfall have reporting and management procedures within their EMS. This is shown in diagrammatic form below and in detail on the next page.



9.4 General Complaint Management Procedure

1) Receive Complaint and acquire as much information and detail as possible

2) Record and Register the complaint and notify senior management

3) Determine the context, nature, form, and source of the Complaint; in particular the identity and contact details of the complainant , the date and time of the incident or issue being the subject of the complaint; and details of the extent, duration, magnitude and nuisance.

4) Investigate the source and cause of the incident or issue that generated the Complaint; check the date and time; activities being undertaken at the time, persons responsible and other relevant details such as environmental conditions (weather), third party activities in the area; irregular or unplanned activities, accidents, breakdowns or equipment malfunctions.

5) Record and report details and results of investigation to senior management.

6) Consider the environmental and other risks that the incident or issue may entail.

7) Implement properly considered measures to secure, alleviate or rectify the situation.

8) If necessary, report the incident to the relevant authorities, (EA, Police, Fire, etc).

9) Respond to the complainant with information describing measures being taken to alleviate or rectify the situation.

10) Record and follow up with additional checks and monitoring of the situation.

9.5 General Complaint Management Form

Refer to the form shown at Appendix 6

APPENDIX 1.0 DUST RISK ASSESSMENT – WOOD & COMPOST ACTIVITIES

Table 7a. Wood and Compost Risk Assessment Table

Hazard		Hazard (Risk Potential)			Mitigation	RISK ASSESSMENT		
Critical Control Point		Hazard Description	Magnitude & Frequency	Pathway & Sensitive Receptors	Control Measures	Impact Magnitude (Consequences)	Probability	RISK
1.	**WEIGHBRIDGE RECEPTION**	Material to arrive on site in enclosed lorries, or as small loads on pick-up trucks. Checked for type & quality	Enclosed Vehicles with minimal emission; low volume site throughput	Dust/ emissions may travel in the air.	Check Source and type of Feedstock. Only approved materials to be accepted. Dusty or spore laden materials not accepted. Roadways damped down during dry weather.	Avoided high bioaerosol laden materials. Dust is damped down. Magnitude LOW	Probability of difficult materials arising at site is low, Probability is LOW	**LOW**
2.	**GREEN WASTE STORAGE**	Fresh material offloaded and if required is damped down with spray irrigation immediately so as to avoid dust/bioaerosol emissions.	Low magnitude and short period exposure time. Only small quantities stockpiled ready for shredder.	Stored in enclosed area. Volatile materials within building. Enclosures help contain emissions, provide protection from wind dust blow	Green waste bunker area to store Fresh non-dusty green waste, material is not disturbed until needed. Storage of volatile materials within enclosed building; helps contain emissions, provide protection from wind dust blow	Benefit of enclosed storage area and building reduces emissions; therefore Magnitude is LOW	Probability of risk materialising is LOW	**LOW**
3.	**FEEDSTOCK PREPARATION & SHREDDING**	Shredding generates fragments and air movement. Hazards may include bacteria, and Fungi.	Magnitude approx.. 300t at any time, once per 8 weeks and may be undertaken over 2 days so that timing can be managed.	Internal, therefore no direct emission. Misting system is used. Extraction of air from area using Local Exhaust Ventilation, reduces emission if necessary.	Shredder has enclosed rotor and discharges via a grate and a conveyor belt to avoid particles becoming airborne. Shredding undertaken within the building. Spray misting system is utilised and Local Exhaust Ventilation, with dust cyclone is available to further reduce emission if required.	Potentially presents a high risk; BUT for all shredding is done within the building. Reception Building air to be damped with spray misting /irrigation. Magnitude retained LOW	Some potential for emissions to escape via the doorway when material being loaded to shredder, though shredding is inside building. Risk probability LOW	**LOW**

Table 7b. Wood and Compost Risk Assessment Table

Hazard		Hazard (Risk Potential)			Mitigation	RISK ASSESSMENT		
Critical Control Point		Hazard Description	Magnitude & Frequency	Pathway & Sensitive Receptors	Control Measures	Impact Magnitude (Consequences)	Probability	RISK
4.	**ENCLOSED COMPOSTING PROCESS**	Composting is within enclosed building	Once (one day) per 2 weeks	Process air may escape via doorway and generally in the downwind direction, away from NSR's	Spray misting system is used regularly. System has ability to provide additional water damping (irrigation) to surface of compost, to suppress dust and emissions. Irrigation also suppresses the Aspergillus when compost is retained at >60% moisture content.	Process is fully enclosed, with minimal release of emissions hence Magnitude is retained LOW. Emission from the compost is maintained low by irrigation damping down system to minimise Aspergillus bioaerosol.	Probability of major bioaerosol release from process is LOW	**LOW**
5.	**FUGUTIVE EMISSIONS**	Composting is within enclosed building	Daily, with low requirement to have doors opened other than when loading/ emptying.	Process air may escape via doorway but spray misting system reduces risk.	Compared to an open windrow that is located externally, the building provides protection from wind passing over the windrows and therefore reduces the rate of release. There is a good system for spray misting to damp the environment and suppress the release of dust and bioaerosols.	Process is fully enclosed, with minimal release of emissions hence Magnitude is retained LOW. Emission from the compost is maintained low by irrigation damping down system to minimise Aspergillus bioaerosol.	Some potential for release if airflow raised or no irrigation. Else Probability LOW	**LOW**
6.	**SCREENING**	Screening is within enclosed building. Fugitive dust could escape via open doorway during loading the screener	Once (one/two days) per 8 weeks	Process air may escape via doorway and generally in the downwind direction, away from NSR's	System has ability to provide water damping (irrigation) to surface of compost, to suppress dust and emissions. Irrigation also suppresses the Aspergillus when compost is retained at >60% moisture content.	Process is enclosed, with minimal air exhaust hence Magnitude is retained LOW. Emission from the building is maintained low by good design and irrigation system to minimise Aspergillus.	Probability of major bioaerosol release from process is LOW	**LOW**
7.	**COMPOST DESPATCH**	Stabilised, cooled material is loaded to vehicles. Hazards may include bacteria, and Fungi	Low frequency, medium magnitude of emission; but is undertaken in enclosed area.	Enclosed systems. Compost is well stabilised in accordance with PAS100.	Material is cooled screened and stabilised. Opportunity for damping down any dust. Screener under enclosed conditions, with spray misting system available..	Low Magnitude	LOW Probability	**LOW**

APPENDIX 2.0 DUST RISK ASSESSMENT – AGGREGATES ACTIVITIES

Table 7c. Aggregates Dust Risk Assessment Table

Hazard		Hazard (Risk Potential)			Mitigation	RISK ASSESSMENT		
Critical Control Point		Hazard Description	Magnitude & Frequency	Pathway & Sensitive Receptors	Control Measures	Impact Magnitude (Consequences)	Probability	RISK
1.	**WEIGHBRIDGE RECEPTION**	Material to arrive on site in enclosed lorries, Checked for type & quality	Enclosed Vehicles with minimal emission risk	Dust/ emissions may travel in the air.	Check Source and type of Feedstock. Only approved materials to be accepted. Dusty materials not accepted. Roadways damped down during dry weather.	Avoided dusty materials. Dust is damped down. Magnitude LOW	Probability of difficult materials arising at site is low, Probability is LOW	**LOW**
2.	**AGGREGATES STORAGE**	Fresh material offloaded and if required is damped down with spray irrigation to minimise dust emissions.	Low magnitude and short period exposure time.	Stored in external area. Soil heaps provide protection from wind dust blow	Fresh non-dusty aggregates , material is not disturbed until needed. Storage has capability for water damping to suppress dust.	Modest quantities and suppression systems therefore Magnitude is LOW	Probability of Dust risk is LOW	**LOW**
3.	**AGGREGATES CRUSHING AND SCREENING**	Crushing generates fragments and air movement. Fine cement dust may become airborne	Magnitude being crushed is low and process only undertaken over 2 days each instance so that timing can be managed.	Stored in external area. Soil heaps provide protection from wind dust blow. Crushing is at far west of site, farthest from receptors.	Crusher has enclosed plate crushing device and discharges via a screener grate and a conveyor belt to avoid particles becoming airborne. Spray irrigation dust damping system is utilised.	Potentially presents a risk; BUT quantities are low, and duration is short, and damped with spray misting /irrigation. Magnitude retained MEDIUM/LOW	Some potential for emissions to escape from crusher, or from elevators, but heavy materials, damped down and so the Risk probability LOW	**LOW**
4.	**AGGREGATE PRODUCTS STORAGE**	Fresh aggregate products do not contain dust. The fine grades are removed as a 'sand' for soil mixing and damped down	Low magnitude and short storage time before despatch off site	Stored in external area. Aggregate heaps Are at west side of site, far away from receptors	Freshly made non-dusty aggregate products are not moved until needed. Storage period is low, due to demand. Negligible dust due to size grading.	Modest quantities with minimal dust, therefore Magnitude is LOW	Probability of Dust risk is LOW	**LOW**

APPENDIX 3.0 DUST RISK ASSESSMENT – SOILS ACTIVITIES

Table 7d. Soils Dust Risk Assessment Table

Hazard		Hazard (Risk Potential)			Mitigation	RISK ASSESSMENT		
Critical Control Point		Hazard Description	Magnitude & Frequency	Pathway & Sensitive Receptors	Control Measures	Impact Magnitude (Consequences)	Probability	RISK
1.	**WEIGHBRIDGE RECEPTION**	Material to arrive on site in enclosed lorries, Checked for type & quality	Enclosed Vehicles with minimal emission risk	Dust/ emissions may travel in the air.	Check Source and type of Soil. Only approved materials to be accepted. Dusty materials not accepted. Roadways damped down during dry weather.	Avoided dusty materials. Dust is damped down. Magnitude LOW	Probability of difficult materials arising at site is low, Probability is LOW	**LOW**
2.	**SOILS STORAGE**	Fresh soils are offloaded and if required is damped down with spray irrigation to minimise dust emissions.	Low magnitude and short period exposure time.	Stored in external area. Soil heaps provide protection from wind dust blow	Fresh non-dusty aggregates , material is not disturbed until needed. Storage has capability for water damping to suppress dust.	Modest quantities and suppression systems therefore Magnitude is LOW	Probability of Dust risk is LOW	**LOW**
3.	**SOILS MIXING AND SCREENING**	Mixing and screening may generate small size grades. Soils are mixed with compost to provide humus to agglomerate the fine particles	Magnitude being mixed is low and process only undertaken over 2 days timing can be managed.	Stored in external area. Soil heaps provide protection from wind dust blow. Mixing is at far west of site.	Mixing is done within the hopper of the screening machine. The elevator belt is lowered, to reduce the risk of fine soil particles becoming airborne. Spray irrigation dust damping system is utilised.	Potentially presents a risk; BUT quantities are low, and duration is short, and damped with spray misting /irrigation. Magnitude retained MEDIUM/LOW	Some potential for emissions to escape from crusher, or from elevators, but heavy materials, damped down and so the Risk probability LOW	**LOW**
4.	**SOILS PRODUCTS STORAGE**	Fresh topsoil products do entail free dust. The topsoil contains damp compost that binds the soil particles. The soils may be damped down	Low magnitude and short storage time before despatch off site	Stored in external area. Soil heaps are at west side of site, far away from receptors	Freshly made non-dusty soil products are not moved until needed. Storage period is low, due to demand. Negligible dust due to the formation of the mixture.	Modest quantities with minimal dust, therefore Magnitude is LOW	Probability of Dust risk is LOW	**LOW**

APPENDIX 4.0 DUST RISK ASSESSMENT – WASTE TRANSFER & TREATMENT

Table 7e. Waste Transfer Station - Risk Assessment Table

Hazard		Hazard (Risk Potential)			Mitigation	RISK ASSESSMENT		
Critical Control Point		Hazard Description	Magnitude & Frequency	Pathway & Sensitive Receptors	Control Measures	Impact Magnitude (Consequences)	Probability	RISK
1.	**PAPER AND CARDBOARD** **WASTE RECEPTION**	Material arrives on site in enclosed lorries, Checked for type & quality	Enclosed Vehicles with minimal emission risk	Dust/ emissions may travel in the air.	Check Source and type of paper/card Only approved materials to be accepted. Dusty materials not accepted.	Avoided dusty materials. Dust is damped down. Magnitude LOW	Probability of difficult materials arising at site is low, Probability is LOW	**LOW**
2.	**PAPER AND CARDBOARD** **WASTE STORAGE (Baled)**	Paper and cardboard is stored within the MRF Building, is baled and the bales stored for a few days and then despatched	Baling is undertaken every day, and so the storage of loose paper is minimised.	Stored in the MRF Building.	Baled each day. Stored in the MRF Building. Retained on site for minimum time	Modest quantities held in building therefore Magnitude is LOW	Probability of Dust risk is LOW	**LOW**
3.	**CLINICAL WASTE** **WASTE RECEPTION AND STORAGE**	Material arrives on site in enclosed lorries, Checked for type & quality	Enclosed Vehicles with minimal emission risk	Clinical Waste received in Yellow polybags; in containers. Bulked to euro bin/containers	Clinical Waste maintained in Polythene bags. NO Treatment (other than bulking up) Enclosed in secondary container	Bagged materials. Magnitude VERY LOW	Probability of difficult materials arising at site is low, Probability is VERY LOW	**VERY LOW**
4.	**HAZARDOUS WASTE** **WASTE RECEPTION AND STORAGE**	Material arrives on site in enclosed lorries, Checked for type & quality	Enclosed Vehicles with minimal emission risk	Asbestos Waste received in Specialist polybags; transferred to dedicated metal container. Other Haz. Waste stored in separate containers. Held in steel freight container.	Clinical Waste maintained in Polythene bags. NO Treatment (other than bulking up) Enclosed in secondary container Other Haz. Waste segregated into specialist containers. Held in steel freight container.	Bagged materials. Magnitude VERY LOW Containerised materials. Magnitude VERY LOW	Probability of difficult materials arising at site is low, Probability is VERY LOW Probability of dust is VERY LOW	**VERY LOW**

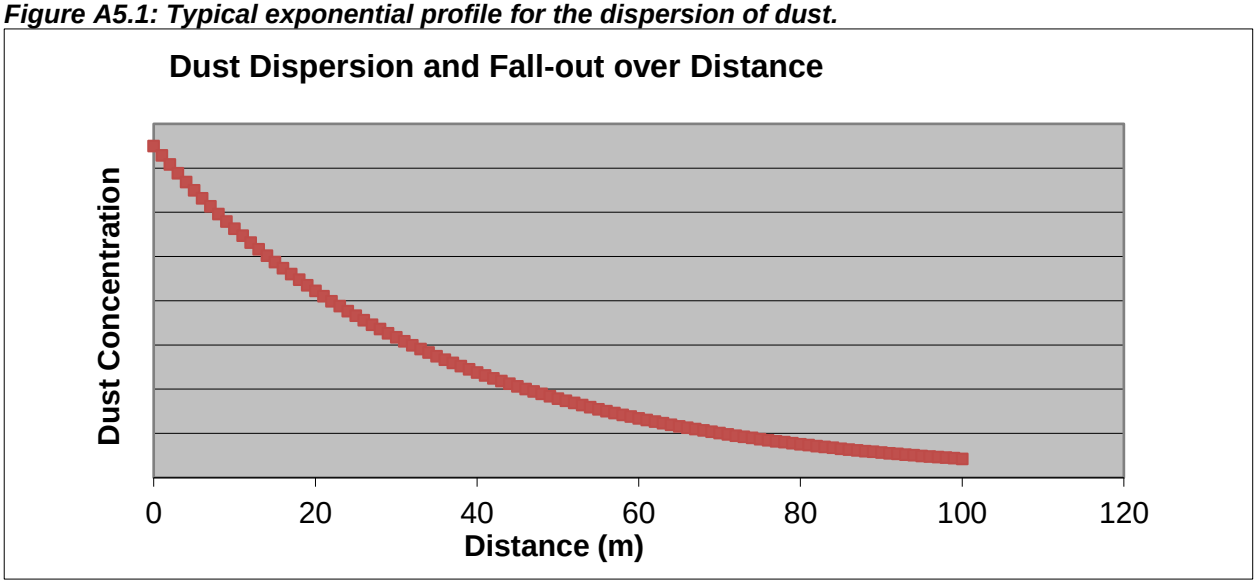
APPENDIX 5.0 SUMMARY OF RISK ASSESSMENT

A5.1 Summary of the Risk Assessment Information

Dust dispersions may be modelled, and concentrations are projected to fall exponentially and in most instances should fall to acceptable background concentrations quite quickly.

The consensus from various studies is that dust emissions decline rapidly within the first 100 metres from a site and generally decline to background levels within 250m

Figure A5.1: Typical exponential profile for the dispersion of dust.



APPENDIX 5.2 OVERALL RISK ASSESSMENT

A5.2.1 Summary of the Risk Assessment Facts and Evidence

The Theoretical assessment comprises reference data and dispersion calculations and provides various relevant scientific facts that inform the assessment. The consensus from various studies is that dust from waste management activities decline rapidly within the first 100 metres from a site and generally decline to background levels within 250m.

For the **Sinkfall Recycling's Site**, where enclosure is the main safeguard, then the original emission is already attenuated and the projected dispersal provides further reduction and fall out and is expected to give rise to levels of bioaerosols that are in keeping with background levels.

The Directors dwelling is located at the farmstead and these are the owners and operators working 24/7 at the site.

12.2 Summary of the Process using the Risk Assessment Matrix

Table 9. Composting Site - Risk Assessment Matrix Summary Table

Hazard		COMPOST RISK ASSESSMENT		
Critical Control Point		Impact Magnitude (Consequences)	Probability	RISK
1.	WEIGHBRIDGE RECEPTION	Low potential	Low Probability	LOW RISK
2.	GREEN WASTE STORAGE	Low potential	Low Probability	LOW RISK
3.	FEEDSTOCK PREPARATION & SHREDDING	Medium potential	Low Probability	LOW RISK*

4.	**ENCLOSED COMPOSTING PROCESS**	Low potential	Low Probability	LOW RISK
5.	**FUGUTIVE EMISSIONS**	Low potential	Low Probability	LOW RISK
6.	**SCREENING**	Low potential	Low Probability	LOW- RISK
7.	**COMPOST DESPATCH**	Medium potential	Low Probability	LOW- RISK

*Need to carefully manage the shredding process. **Manage damping down of dust to minimise emissions.

Table 10. Aggregates Processing Site - Risk Assessment Matrix Summary Table

Hazard		**AGGREGATES RISK ASSESSMENT**		
Critical Control Point		**Impact Magnitude (Consequences)**	**Probability**	**RISK**
1.	**WEIGHBRIDGE RECEPTION**	Low potential	Low Probability	LOW RISK
2.	**AGGREGATES STORAGE**	Low potential	Low Probability	LOW RISK
3.	**AGGREGATES CRUSHING AND SCREENING**	Medium potential	Low Probability	LOW RISK
4.	**AGGREGATE PRODUCTS STORAGE**	Low potential	Low Probability	LOW RISK

*Need to carefully manage the crushing process. **Ensure the spray irrigation is in place to suppress emissions.

Table 10. Soils Processing Site - Risk Assessment Matrix Summary Table

Hazard		**SOILS RISK ASSESSMENT**		
Critical Control Point		**Impact Magnitude (Consequences)**	**Probability**	**RISK**
1.	**WEIGHBRIDGE RECEPTION**	Low potential	Low Probability	LOW RISK
2.	**SOILS STORAGE**	Low potential	Low Probability	LOW RISK
3.	**SOILS MIXING AND SCREENING**	Medium potential	Low Probability	LOW RISK
4.	**SOILS PRODUCTS STORAGE**	Low potential	Low Probability	LOW RISK

Table 11. Transfer Station Activities - Risk Assessment Matrix Summary Table

Hazard		**WASTE TRANSFER RISK ASSESSMENT**		
Critical Control Point		**Impact Magnitude (Consequences)**	**Probability**	**RISK**
1.	**PAPER AND CARDBOARD WASTE RECEPTION**	Low potential	Low Probability	LOW RISK
2.	**PAPER AND CARDBOARD WASTE STORAGE (Baled)**	Low potential	Low Probability	LOW RISK
3.	**CLINICAL WASTE WASTE RECEPTION AND STORAGE**	Medium potential	Low Probability	VERY LOW RISK
4.	**HAZARDOUS WASTE WASTE RECEPTION AND STORAGE**	Low potential	Low Probability	VERY LOW RISK

APPENDIX 5.3 RISK ASSESSMENT CONCLUSIONS

12. **There are NO third parties resident/working within 180 metres of the facility.**

13. **There are NO Sensitive Receptors resident within 180 metres of the facility.**

14. **The three primary activities that may entail dust raising or generation are:**
    a. **Vehicles within the main yard (Dust raising).**
    b. **Aggregates Crushing.**
    c. **Wood shredding**

15. **Dust emissions from these activities are managed and controlled by:**
    a. **Suppression of dust in the main yard, using the mobile tanker and sparge pipe.**
    b. **Suppression of dust at the crusher is by fitting the water supply to the machine.**
    c. **Wood shredding is undertaken within the enclosure of the main building.**

16. **Persons using the footpath are not at risk due to the distance from the active activities, the enclosure and the short duration of exposure (less than 6 hrs.) near to the site.**

17. **Processes relating to wood shredding, storage and drying are undertaken within the buildings or within containers.**

18. **Processes in relation to wood drying, do not entail the drying of materials that form dust; because the particle size requirement excludes 'fines' of less than 1.5mm.**

19. **There are no dusts received for transfer or treatment. Processes that may generate light dust during treatment are undertaken within buildings.**

20. **Soils are received externally, and stored in stockpiles that are damped down and surface consolidated to minimise dust.**

21. **Aggregates are received externally, and stored in stockpiles that are damped down and when crushing or screening is undertaken, the treatment is managed to minimise dust, and the resultant stockpiles are damped down with spray irrigation..**

22. **Taking into account the enclosure of the main activities and the site location in regard to wind directions, then the risks of impact to any nearby sensitive receptors are determined as very LOW.**

D. J. Baldwin (Technical Director)
MCIWM CEnv. Tel: 01743 340630

APPENDIX 6.0 COMPLAINTS FORM

Sinkfall Recycling. Sinkfall Farm Recycling Facility,

Rakesmoor Lane, Barrow-in-Furness.
Cumbria LA14 4QE
Telephone: 01229 465000

Complaint, Actions and Outcome Record Sheet

Complaint Ref: __ __ __

Complainant
Record name, or 'withheld' if requested but not given by complainant, or 'not supplied' if was not requested by person receiving the complaint.

Name of person	
Organisation name	
Address	
Telephone	
Fax	
E-mail	

Complaint about

Organisation name	
Composting process location	
Compost grade(s)	
Certification assessment code(s)	

Nature and record of complaint

Product / Service / Action / Document / Other (describe):

Person who used / expected it:

Date used / expected:

Nature of the deficiency:

Sinkfall Recycling. Sinkfall Farm Recycling Facility,

Rakesmoor Lane, Barrow-in-Furness.
Cumbria LA14 4QE
Telephone: 01229 465000

Complaint, Actions and Outcome Record Sheet

Complaint Ref: __ __ __

Complaint handled by

Name of person	
Role	
Received by	Letter / email / telephone / fax / meeting
Date received	
Time received	

Actions and issues being investigated

[Record details of any another organisation / external person involved, if applicable. Add more action rows if necessary.]

Action 1 (description)	
Action by (name of person)	
Date completed	
Action 2 (description)	
Action by (name of person)	
Date completed	

Outcome(s)

Action(s) and outcome(s) communicated to

Date complainant notified	
Date any other relevant parties notified	
Names of any other relevant parties notified (for each, state person and organisation)	
Name of composter's person who communicated action(s) and outcome(s)	

Record of Complaint	Keep a copy of this record file with it any other documents associated with the complaint, actions taken and the outcome.
Notification of Complaints	In the event of any Complaints or concerns being raised by third parties, the Managing Director shall be notified of the complaint and also of when the investigation has been carried out.
Actions Required in Event of Complaints	In the event of any Complaints or concerns being raised, steps shall be taken to identify, locate, preserve and recover evidence and any material on site, that may be the subject of the complaint shall be quarantined and held until the complaint procedure has satisfactorily been resolved.