DUST MANAGEMENT PLAN

Units 9, 10 & 11, Vauxhall Industrial Estate Ruabon Wrexham LL14 6HA

New Horizon Biofuel & Animal Beddings Co Limited

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1.6	08/07/2024	CP	NHB	NRW comments – updated site plan in Appendix I

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1 Introduction

1.1 Site history / background

1.1.1 Oaktree Environmental Ltd have been instructed by New Horizon Biofuel & Animal Beddings Co Limited to prepare a Dust Management Plan (DMP) for their site situated at Units 9, 10 & 11, Vauxhall Industrial Estate Ruabon Wrexham LL14 6HA.

1.1.2 All references to the site in this DMP shall mean the permitted boundary extracted from the EP.

1.1.3 This DMP will allow New Horizon Biofuel & Animal Beddings Co Limited to implement an action plan should the site operatives detect the presence of airborne dust escaping beyond the site boundary, receive complaints from local business or residents and should NRW suspect dust emissions from the site during an inspection.

1.1.4 All references to the site in this DMP shall mean the permitted boundary extracted from the EP. The following references which shown throughout this DMP are defined as the following:

- **Dust** = Dust plumes, debris, fluff and other emissions, eg, small fibres, pieces of litter etc.
- **Prolonged rainfall** = 1 in 100-year flood event or 3 more wet days
- **High winds** = Where wind speed reaches 4 of the Beaufort Wind Scale or if dust is being emitted beyond the site boundary
- **Windy weather** = winds which could cause dust to emit from the site boundary or cause complaints
- **Dry weather** = three dry days or weather conditions exceeding 75^0F for more than one day.
- **Severe weather conditions** = The above and including dense fog, hail or snow.
- **Significant levels of dust** = Activities with the potential to emit dust beyond the site boundary.

1.2 Site location

1.2.1 The site is located at Units 9, 10 & 11, Vauxhall Industrial Estate Ruabon Wrexham LL14 6HA as shown on Drawing No. VIE/2704/03. The national grid reference of the site is SJ 30505 45326.

1.2.2 **AQMA** – The site is not located within an AQMA area.

1.3 Hours of operation

1.3.1 All internal areas of the site will operate on a 24/7 basis with approximately two days per month being shutdown to carry out a full housekeeping. The site will operate 07:00 - 19:00 then 19:00 – 07:00 in two separate shift patterns.

1.3.2 External activities comprising the mechanical treatment of waste will only operate between the hours 07:00 – 19:00 Monday – Sunday.

1.3.3 In the event that the site is closed or not in operation for any reason, the gates will be locked and secured to prevent unauthorised vehicular and/or pedestrian access and a 24-hour security presence will be maintained to monitor waste and product stocks.

1.4 Facility overview

1.4.1 The site is currently an A16a hazardous waste physical treatment facility and operates under Environmental Permit (EP) Ref. EPR/CB3797CA. This DMP has been produced as a result of the following variations to the permit which increase the risk of dust arising at the site:

- Addition of wood processing facility to Units 9 & 11, treatment operations will comprise sorting, separation, compaction, shredding, drying, size reduction using a hammermill and baling for recovery.
- Addition of a tyre recycling facility to Unit 11, treatment operations will comprise sorting, separation, compaction, shredding, and baling recovery.

1.4.2 The previous permit application did not require a DMP, it is only as a result of the tyre and wood processing operation this DMP is being produced, therefore, this DMP will mainly focus of the use of this operation.

1.4.3 The main issue of dust could arise from, but not limited to the following:

i) Waste reception and tipping areas of shredded wood waste in external areas of the site
ii) Manoeuvring of vehicles tracking dust on areas of the site not benefitting from an impermeable surface
iii) Operation of mechanical treatment plant (wood and tyre shredders) in external areas of the site
iv) Storage and loading areas comprising potentially 'dusty' wastes i.e. processed wood and tyre shred.

1.4.4 In addition to this document, the site will also operate in accordance with a number of site-specific documents; namely an Environmental Management System (EMS) which will make reference to this DMP.

1.4.5 All relevant operational staff will be suitably trained to ensure they understand the purpose of this DMP and understand what actions need to be taken in event of a complaint. Training will be taken by the site manager, technically competent manager/s (TCM/s) or third-party Dust / Air Monitoring Consultant.

2 Sensitive Receptors

2.1 Receptor Plan

2.1.1 A sensitive receptors plan (SRP) has been produced to accompany this DMP and is shown in Appendix I referenced as on Drawing No. VIE/2704/04.

2.2 List of receptors

2.2.1 The receptors illustrated in the Receptor Plan are detailed in the table below with approximate distances to them. Sensitive Receptors i.e. residential properties which are over 500m have not been included within the table below as it is considered that they will not be affected by any dust pollution arising from the site.

Table 2.1 – Distances to Selected, Representative Sensitive Locations

Boundary	Receptor	Approximate distance from boundary of site (m)
Southwest	Residential properties to the west of Ruabon Road	320
Northwest	Residential properties to the west and east of Ruabon Road	300
Northwest	Further residential properties off Brandy Brk	405
Northwest	Further residential properties off Moreton Avenue	290 - 340
Northwest	Residential properties of Hafod Wen and Ddyfrdwy	320 - 500
North/northwest	Further residential properties off Heol Kenyon	300 - 450
Southeast	New Hall Independent Hospital	400
East	Ruabon – Barmouth Railway Line	10
East & north - west	Johnstown Newt Sites SAC & Stryd Las a'r Hafod SSSI	10 – 1,000
South-west	Gardden Fort Wood (LWS)	450
West	Priority Habitats - Areas of Ancient Semi Natural Woodland and Restored Ancient Woodland sites	180 - 950
Surrounding	Surface waters	50 – 1,000

2.2.2 Other receptors not shown in the above table are illustrated on Drawing No. VIE/2704/04.

2.3 Other dust and emission sources

2.3.1 Other dust/particulate emitting operators are tabulated below in the table below.

Table 2.2 – Other Dust/Particulate Emitting Operators

Company	Address	Type of Business	Approximate distance & location from site boundary (m)	Possible Dust Issue
N/A	Various users of the Vauxhall Industrial Estate	Industrial / Commercial & Waste	Adjacent	Airborne particulates
HK Motors & I Hayward	Gardden View, Ruabon, Wrexham, LL14 2SS	Waste	435	Visual soiling and airborne particulates
Enovert Haford LFG Site	101 Bangor Road, Johnstown, Ruabon, Wrexham, LL14 2SS	Waste	200	Visual soiling and airborne particulates

3 Site Operations

3.1 Waste deliveries/removals

3.1.1 Waste is delivered to the site via the existing access to the north of the site which is a concrete road. Upon arrival into the site, an operative will direct the driver to the relevant area on site where the contents of the vehicle and waste transfer/consignment note are inspected.

3.1.2 Waste will arrive and depart at/from the site primarily consisting of New Horizon Biofuel & Animal Beddings Co Limited's own vehicles/contracts and all loads are either sheeted or contained upon delivery and removal. These types of vehicles are shown below:

- HGV skip vehicles
- Fixed body bulk loaders with a number of smaller deliveries of plastic
- 8-wheeled tipper vehicles which can carry loads of up to 18-20 tonnes
- Articulated Lorries
- Transit vans

3.1.3 Any third-party deliveries to the site will be advised that any potentially dusty loads be suitably sheeted. If the customer has the capability to wet down potentially dusty loads, they will be asked to do this. If a customer is unable to place a dust sheet on a vehicle or wet a load they will be prohibited from loading/unloading until suitable containment has been provided. In more extreme cases customers may be asked to leave the site immediately.

3.1.4 As the site will only be accepting two types of waste i.e. wood and plastic, plastic is not considered a dusty waste, even when processed, do operatives will also be trained to identify what needs to be done when a load of wood is delivered or removed from the site.

3.1.5 if any loads are found to be containing high levels of dusts, site management i.e. the site manager or TCM will be alerted by site staff and management will reject the load in accordance with the site's rejected waste procedure shown in the EMS. If unauthorised

waste is discovered after deposit, it will be loaded into a quarantine skip using mobile plant which will be sheet prior to removal. The site will mobilise the DustLayer (Corgin) Spray over the rejected material for a temporary basis to minimise any impact and halt operations until this load has been fully contained.

3.2 Waste acceptance

3.2.1 Waste delivered to the site via the existing access to the north and upon arrival all waste will undergo a visual inspection on arrival at the site prior to progressing through to the wood storage and processing area of the site (Unit 11). Once the vehicle has passed the initial inspection, the waste consignment and transfer documentation will be fully checked to ensure the waste matches the pre-acceptance information received.

3.2.2 Any wastes identified during the incoming waste inspections which do not conform to site acceptance criteria will not be accepted and/or removed and quarantined immediately to await safe removal from the site and NRW will be contacted (where necessary) if the non-conforming waste discovered is likely to lead to a breach of permit conditions or a potential risk of combustion. The majority of all waste delivered to the site will comprise New Horizon Biofuel and Animal Bedding Co Ltd's own vehicles so it is unlikely loads will be rejected.

3.3 Site infrastructure

3.3.1 The site infrastructure is clearly detailed on Drawing No. VIE/2704/03 which is shown in Appendix I of this DMP. The drawing illustrates the following areas on site:

i) Different surfaces i.e. concrete, tarmac etc.
ii) Location of buildings
iii) Height/type of perimeter fencing
iv) Reception and storage areas of waste
v) Location of fixed plant/equipment i.e. loading hoppers, shredder
vi) Existing dust mitigation techniques
vii) Locations of mains water points and vehicle wash-down areas

3.4 Accepted wastes with dust potential

3.4.1 The does not accept any wastes which could cause a dust issue, it is considered the temporary storage of shredded tyres and wood and the treatment of wood and tyres would be the main cause of dust and particulates which could arise from the site.

3.4.2 It is also important to note that the site will only look to accept untreated, non-hazardous clean wood or virgin timber as the wood will be used for Biomass and animal bedding. Grade B or C wood will not be accepted as this is not suitable for the required product being produced.

3.5 Stored wastes with dust potential

3.5.1 As per the previous section, it is considered that only the above wastes could have the potential to emit dust would be once they are treated. The wastes once treated would only be stored for a maximum of 12 hours before they are removed into bags or off site. This process would be continuous throughout the day.

3.5.2 Reference should be made to the Risk Assessment Tables outlined in Section 5.7 and the control measures outlined in Section 4 for details of the handling procedures and mitigation measures in place for wastes stored at the site.

3.6 Overview of site operations

3.6.1 As mentioned in section 1.4.2, it is considered that the only operations which could create dust would be in relation to the wood and tyre operations so the plastic recycling aspect has been removed from this section and DMP. In terms of the wood operations, this would involve the following:

WOOD RECYCLING

- All waste wood would be accepted in bulked loads and shredded on arrival. The shredded wood would then be stored in will be accepted in **AREA 6** for temporary storage prior to being dried and processed in Unit 9 for either biomass or horse bedding.

- The site will also store non-waste virgin timber in surrounding bays, this wood would also be dried and act as fuel to power the biomass boilers on site.
- The shredded wood from **AREA 6** will be transferred to the drying floor to the north of the operation **(AREA E)**, which comprises an enclosed walk-in floor which is fed from the west. The wood is stored inside this walk-in floor for a maximum of 30 minutes, an internal conveyor is then activated which transfers the wood directly into Unit 9 to undergo the baling procedure (see below). Once the wood has been removed from the walk-in floor, a new batch of wood will be inserted. No wood will be stored in the walk-in-floor out-of-hours.
- There are also a number of other walk-in floor external bays to the south of the wood recycling operation. These bays will only be used for drying non-waste virgin timber. This timber is then transferred to Unit 9 where it is used for the boiler or bagged as woodchip which is sold in the horticultural industry.
- The wood baling plant comprises a dust extraction system, drier, hammermill and magnets. The hammermill will reduce the <50mm shredded wood to <5mm, the magnets and driers removes any non-conformities from the wood turning into a product.
- The wood bale product is then transferred to Unit 11 to await export as a product.

3.6.2 The two shredders which process different wood types will not run simultaneously and will be operated depending on demand for the product.

3.6.3 The Biomass Boiler and Pelleting Plan in Unit 9 will not run simultaneously and will be operated depending on demand for the product.

TYRE RECYCLING

- ELTs will be accepted in **AREA 9** where they will undergo a visual inspection. Any non-confirming waste will be stored in a rejected waste container and removed from the site.
- The tyres are then manually fed into the hopper of the tyre treatment plant. The hopper feeds a conveyor then into a double shaft shredder which reduces the tyre size into

<100m rubber. Anything above 100m will feed back onto the secondary conveyor and re-shredded so it is below <100mm.

- The <100mm tyre shred then feeds a conveyor and undergoes a final shred in the rasper shredder which reduces it into a <50mm tyre shred.
- Following the shredding processes, an overband magnet to removes the tyre wire and deposits it into a container below (**AREA 10**).
- The tyre shred should now be <50mm certified PAS 107 tyre derived rubber and will fall into **AREA 11**. The material from **AREA 11** undergoes a final inspection and is then bagged and transferred to **AREA 12**. The tyre shred is them transferred to Unit 11 to await export as a non-waste.

3.7 Mobile plant and equipment

3.7.1 Mobile plant and equipment along with their preventative maintenance are clearly detailed in the site's Fire Prevention Plan (FPP) and not considered necessary to duplicate as part of this DMP.

3.7.2 A no idling policy is in place which ensures that engines are switched off when vehicles or plant are not in use. This policy will ensure that tail pipe emissions are significantly reduced.

4 Dust Management & Control Measures

4.1 Responsibility for implementation of the DMP

4.1.1 The site manager, site foreman and TCM (site management) will be responsible for the implementation of the DMP. Deputy site managers, senior plant operatives will also be identified in order to support the site manager. Full job roles at the site are clearly demonstrated in the operator's other documentation.

4.1.2 Site management will ensure the DMP is reviewed annually or sooner in the event of complaints/dust issues; whichever is the soonest, with any amendments or alterations put in place as soon as reasonably possible.

4.1.3 The above staff with the aid of Oaktree Environmental Ltd (if required) will be responsible in providing training to relevant operational staff to ensure they are deemed competent and understand the contents of this DMP. Staff will undergo re-fresher every 12 months or in the event of a dust complaint / issue or the implementation operational changes. If the site is receiving dust complaints daily, staff would undertake an immediate refresher training course and then every week/month until the level if complaints cease. If deemed necessary, a suitable Dust/Air Monitoring Consultant may be contacted to train staff regarding third party monitoring i.e. Ambient Air Monitoring.

4.2 Sources of fugitive dust/ emissions

4.2.1 The main dust/emission sources which arise from site are detailed in the following table below:

Table 4.1 – Dust emission sources

Source/Plan Ref	Description
Area 6	Storage of shredded wood
Areas 10 & 11	Storage of tyre shred
The wood shredder	The shredding process and discharge of <50mm waste wood
The wood baler, hammermill process	The hammermill and drying process reducing the wood to <3mm
The tyre shredding plant	The two shredding processes reducing the tyres to <50mm rubber.
Various sources	Vehicles accessing/aggressing the site tracking dust on to or off the site
Various sources	Dust being blown around from site surfaces or dusty wastes not contained
Areas 6, 10 & 11	Loading and manoeuvring of these wastes around the site
Various sources	Particulate emissions from the exhaust of vehicles/plant/machinery on site (NO2).
Fixed processing plant	Small amounts of dust could accumulate around fixed processing plant i.e. shredder but also plant associated with plastic shredding
Various sources	Prolonged periods of dry/warm or windy weather conditions

4.3 Control Measures (housekeeping/general/staff training/daily inspections)

4.3.1 Good housekeeping and site practices are vital to ensure that the impacts from fugitive dust and debris impacts are controlled. The site undertakes regular inspections (minimum once every 12 hours) throughout the day for the presence of dust/debris with corrective actions taking place upon discovery. Operational staff are suitably trained in procedures to keep the levels of dust /debris to a minimum including prevention and mitigation. The inspections will be once every 12 hours minimum and more frequent (three times every 12 hours) during dry weather conditions or when winds reach 4 or above on the Beaufort Wind Scale.

4.3.2 The areas listed in table 4.1 above i.e. where dusts arise or build up will be continuously monitored throughout the working day by trained staff, this would also include items of fixed plant comprising the shredders and various parts of wash plants. These items will be monitored for excess dust/debris build up throughout the working day and cleaned on a daily basis; paying special attention to the areas where dust is more likely to build up. The cleans will be minimum once daily but could be up to three times per day if staff notice a build-up which would cause a dust impact.

4.3.3 The site will rely on weather updates for wind speed/gusts using live information from the Met Office or other suitable weather website (Refer to Section 6.3 which details how the site will operate under periods of high winds).

4.3.4 The site also undertakes a daily street sweep, including footpaths, gutters situated on and off site, the sweep can also spans off site to damp down hardstanding areas outside of Unit 9. In the event of dry or windy weather conditions or if inspections identify dust starting to plume, this will be increased to three times per day.

4.3.5 Other off-site inspections include a daily perimeter check near shredding areas. This is done every morning, with any litter or mud/debris which may have escaped perimeter fencing will be collected and disposed of at the site. As per the section above, this will be increased to three times per day i.e. morning, midday and shutdown in the event of dry, windy weather conditions or inspections identify dust issues.

4.3.6 The operator will avoid fugitive dust emissions by committing to the following housekeeping schedule and using the checklist below:

HOUSEKEEPING SCHEDULE

- Maintain a clean, well-organised site
- Use suppression systems to dampen down potentially dusty wastes
- Jet spray and disinfect storage bays when emptied
- Clean equipment that has been in contact with dusty materials
- Carry out a deep clean of all waste storage bays at least once a quarter and record this in the site diary
- Inspect all items of fixed processing plant where dust/debris accumulates and clean at least once daily. The dust/debris will be swept into a sealed tonne bag to await removal from the site
- Concrete floors designed with a slope towards drainage system and designed in a way that allows easy cleaning
- Floors sealed to prevent absorption and adsorption of dust producing residues

4.3.7 The operator has a maintenance team which carries out the cleaning and maintenance on a continual basis then a final check one hour at the end of each day or one hour before their shift ends. The check will include completing the daily checklist in Appendix III at least once per day by the site foreman and/or TCM. The checklist would be completed more frequent i.e. three times per day dependant on weather conditions which could exacerbate dust.

4.3.8 In dry and/or windy weather conditions such as a high wind or a combination of dry weather and high winds where it is apparent dust escaping beyond the boundary, the site will have no other option than to shut the site and contact the Local Environment Officer.

4.4 Control measures (boundary fencing/containment)

4.4.1 All waste storage and processing areas are stored within dedicated storage bays with a suitable freeboard height of at least 1m to limit the amount of dust/debris escaping the bay.

4.4.2 It is not suitable possible to cover external waste piles or containers of waste with the potential to cause dust because the waste is continually be deposited / removed from the pile / container throughout the day. Having to remove cover from the pile / container each time one of the above scenarios occurs would not be practical from an operational point of view. This is likely to lead to backlog of vehicles trying to access the site... It is considered the site suppression measures shown in Section 7 are a more suitable option.

4.5 Control measures - site surfacing /drainage

4.5.1 The entire site benefits from a concrete and hardstanding surface draining to a number of sealed underground storage tanks. As the site is surfaced with concrete, this reduces the risk of airborne debris such as mud, stones being tracked around areas of the site from vehicle chassis.

4.5.2 The concrete area is relatively flat and any defects such as cracks, rivets will be repaired as soon as practically possible to ensure the site can be swept using a road-sweeper or similar. The external road leading to Unit 9 will also be dampened down in dry weather conditions.

4.5.3 Inspections of the drainage system take place daily and the site has a series of drain mats around the site which can be used to prevent the release of pollutants escaping the sewer system in the event of an incident. The daily checks will prevent any mud/silt arising from the site discharging into the sewer system.

4.6 Control Measures – site surfaces and vehicle movements

4.6.1 The control measures implemented by site management to minimise the risk of dust and debris emissions from dusty site surfaces and vehicle movements include:

- A permanent water supply will be made available on site during dry weather conditions to ensure that the dust suppression systems can function effectively.
- All site surfaces used for the tracking and running of vehicles and/or plant and all stockpiles of wastes which have the potential to be dust-forming are mechanically swept morning and pre-end of shift (minimum twice daily), six days per week to minimise fines, dust & debris.

- In addition to the above point all areas that the above, sweeper can't reach i.e. fixed processing plant are manually will be swept & cleaned daily by operational staff. The yard foreman / TCM will then review the sweep and complete the check form using Appendix III.
- Vehicle speed on site is restricted to 5 miles per hour. Signs are erected at the relevant areas of the site, including the main access gates, to advise drivers of the speed limit. This will reduce the re-suspension of dust and particulate matter.
- Exiting vehicles will leave the site and will avoid all areas where wastes are stored or stockpiled. All vehicles will be checked by operatives before they leave the site to ensure no mud/dust can stretch beyond the site access. Checks will also ensure that incoming/outgoing vehicle loads are sheeted.
- Any mud/dust deposited off site will be treated as an emergency and cleaned by operatives or by way of a road sweeper in the immediate event of discovery or a complaint received or within 24 hours in extenuating circumstances. The site has access to a road sweeper which can be brought into the site when required from other sites operated by New Horizon Biofuel & Animal Beddings Co Limited.

4.6.2 There are areas of hardstanding on site which become a source of dust in dry weather or mud in wet weather (which could then become a source of dust). During dry periods, hardstanding surfaces will be sprayed to prevent dust formation. The hardstanding area comprises crushed stone or aggregate and not a made ground muddy surface so will act similar to an impermeable surface. Site inspections of hardstanding surfaces will take place daily and if there is a presence of mud arising on these areas, the operator will source suitable material i.e. crushed stone/aggregate within a 48-hour period and the area will be cordoned off to prevent vehicles travelling over the area and tracking mud on and off site.

4.7 Control Measures – site suppression

4.7.1 **Hosepipes** – There are hoses situated around the site which can be utilised to spray on bays and stockpiles; and for further dampening of the main 'dusty' stockpiles and the site surface. The hosepipes will be used daily to dampen down all wastes at the site to ensure dust does not escape beyond the boundary.

4.8 Control measures – wheel wash / wash down area

4.8.1 No wheel wash is proposed at the site, however, before exiting the operational areas site, all vehicles will be stopped and visually inspected by trained staff to reduce the risk of mud/debris being tracked off-site. If the member of staff inspecting the vehicle is satisfied, the vehicle is suitable to egress and will be directed off site.

4.8.2 If the vehicle is not suitable to egress, the staff member will instruct the driver to go to the wash down area to clean the wheels and bodies of vehicles. These steps will be repeated until the vehicle is clear and the potential of mud being tracked onto roads is eliminated. Following this, a final inspection will be carried out by the trained staff member before any vehicle can leave the site.

4.8.3 In the unlikely event that the material is deposited on the access road or public highway it will be treated as an emergency and will be cleared immediately by the operator using either a hose, brush and shovel or vacuum tanker/road sweeper.

4.8.4 In the unlikely event that the material is deposited on the access road or public highway it will be treated as an emergency and will be cleared immediately by the operator using either a hose, brush and shovel or vacuum tanker/road sweeper.

4.9 Control measures – water supply

4.9.1 A permanent water supply will be made available on site during all weather conditions to ensure that the dust suppression can function effectively. All external water pipes will be lagged to prevent frost damage during winter months and the operator will set up a notification alert system with the Met Office in the event of a drought being imminent. This will enable the operator to source water in the short and long term and store in tanks prior to a potential water ban.

4.10 Control Measures – storage of wastes

4.10.1 The control measures implemented by site management to minimise the risk of dust and debris emissions from the continuing storage of wastes and the loading/unloading of these include:

- All stockpiles of wastes with the potential to cause dust will be stored inside buildings, concrete walls. Where waste is stored inside concrete walls, the waste will be stored 1m below the height of the bay. This is considered suitable for this type of facility given the nature of surrounding receptors.
- In the event of dry or windy conditions, the dust cannons will be deployed to all external waste piles in particular **AREAS 4, 10 & 11** and where external shredding is taking place.
- Drop heights will be kept to a minimum to prevent dust emissions where adjustment permits.
- Suitably trained staff will continuously monitor the height of waste storage throughout the day with a minimum of twice a day reporting.

4.11 Control measures – vehicle movements and mobile plant

4.11.1 As discussed in Section 3.6.2, a no idling policy is in place which ensures that engines are switched off when vehicles or plant are not in use. This policy will ensure that tail pipe emissions are significantly reduced.

4.11.2 The site will follow the first in first our principle as detailed in the FPP to reduce additional movements inside the building. In summary, waste will be tipped from the HGV into waste reception areas, the oldest material will be extracted from the rear of the pile and scooped into the mobile processing plant and the same HGV will collect the processed material and remove off site. It is unlikely that vehicles will access/egress the site unladen.

4.12 Control Measures - Loading and Unloading Vehicles

4.12.1 The operator of the loading plant will direct vehicles to a position and location which reduces wind whipping of loaded material.

4.12.2 Drop heights will be kept to a minimum and tipped in a manner to ensure the pile does not exceed the heights shown in Section 4.10.1 and as shown on Drawing No. VIE/2704/03.

4.13 Control measures – use of wood shredding plant externally

4.13.1 As discussed in Section 3.6.2, a no idling policy is in place which ensures that engines are switched off when vehicles or plant are not in use. This policy will ensure that tail pipe emissions are significantly reduced.

4.13.2 In terms of these items of the shredding plant, it will not be used continuously throughout the day and only when there is enough material to process. The site will not operate any mechanical treatment during high winds and if operated during dry/hot weather conditions, always using water suppression.

4.14 Control measures – wood treatment plant in Unit 9

4.14.1 The entire unit is fitted with a dust extraction system. The dust extraction does not emit any emissions to air and comprises a fully houses internal duct system which collects to the dust and blows this into the three-no. storage vessels shown on Drawing No. VIE/2704/03. The vessels are sealed to prevent any dust escaping. The vessels are monitored daily and emptied weekly which is based on the operating hours of the plant. In the event of a breakdown in the extraction system, the treatment plant would be forced to shut down as conditions would be unsafe for staff.

4.14.2 The plant is situated in an enclosed area inside the building so it is unlikely dust would emit beyond this area if the unit.

4.15 Control measures – tyre shredding plant

4.15.1 The tyre shredding plant has attached water spray jets over the shredding areas which will reduce any dust emissions arising from the shred process. These water jets are fitted to on board water tanks which are continuously monitored by staff throughout the day. Once the tanks reach 20%, they will be manual filled using a hose or the container will be replenished.

4.15.2 There is also a separate dust extraction system fitted within tyre shredding plant so any particles would be blown into this system and captured by the filters. The filters then disperse the particles from tyre granulation process into three no. sealed storage vessels (similar to Unit 9) which are monitored daily and emptied weekly. There are no point source emissions to air from tyre recycling operations. In the event of a breakdown in the extraction system or water jet system, the treatment plant would be forced to shut down as conditions would be unsafe for staff.

4.15.3 The plant is situated in an enclosed area inside the building so it is unlikely dust and particulates would emit beyond this area if the unit.

5 DUST MANAGEMENT RISK ASSESSMENT MODEL

5.1 Fundamental considerations

5.1.1 **Source/Hazard:** A property or situation that in particular circumstances could lead to harm.

5.1.2 **Consequences:** The adverse effects or harm as the result of realising a hazard which causes the quality of human health or the environment to be impaired in the short or long term.

5.1.3 **Risk:** A combination of the probability of occurrence of a defined hazard and the magnitude of the consequences of the occurrence.

5.2 Pathway

5.2.1 Important in the assessment of a particular risk(s) and to inform the subsequent management of the risk(s) is the identification of the pathway(s) through which the risk may affect the identified receptor(s). The following are examples of pathways:

- Air
- Ground
- Water
- Direct contact / exposure

5.3 Consequences

5.3.1 The following table highlights the consequences of the hazard(s) identified and the abbreviations for each as used in the Risk Assessment Table 5.5 in Section 5.7.

Table 5.1 – Consequences

Abbreviation	Consequences
A	MINOR INJURY
B	MAJOR INJURY
C	DEATH
D	AIR POLLUTION
E	WATER POLLUTION
F	POLLUTION OF LAND

5.4 Effects of consequences

5.4.1 In order to quantify the level of risk and identify the appropriate management procedures, the potential effects must be considered, as outlined in the table below:

Table 5.2 – Potential effects

Abbreviation	Effect of Consequences	Management Required?
S	SEVERE	In all cases
Mo	MODERATE	In most cases
Mi	MILD	Occasionally
N	NEGLIGIBLE	No

5.4.2 Note: "Management" is the action required to reduce the risk of a hazard causing a problem on site. Contingency measures are procedures which are in place to reduce the consequences of a hazard.

5.5 Risk estimation and evaluation (probability/frequency of occurrence of hazard)

5.5.1 The following table allows the likelihood of an occurrence of an identified risk to be assessed:

Table 5.3 – Likelihood

	Probability	Evaluation
1	Very likely	Could occur during any working day
2	Likely	Could occur regularly
3	Possible	Event possible
4	Unlikely	Event very unlikely

5.6 Risk assessment outcome (combination of probability & consequence)

5.6.1 The following table shows the resultant risk of an identified hazard or potential situation. This uses the hierarchy of both probability and consequence to assess the level of risk. The level of risk determines what level of management would be required in order to reduce the risk of occurrence and/or scale.

Table 5.4 – Risk assessment outcome

		Consequence			
		S	**Mo**	**Mi**	**N**
Probability	**1**	High	High	Medium	Low
	2	High	Medium	Low	Near-Zero
	3	Medium	Low	Near-Zero	N/A
	4	Low	Near-Zero	N/A	N/A

5.6.2 Where the risk assessment outcome is high, first-level management of the risk is essential, i.e. removal of hazard, implementation of major infrastructure/structural design measures to contain the risk/hazard and company policy changes to incorporate the management of the risk. All risk management measures must be supplemented with detailed induction training, spot training and tool-box talks to ensure all site staff and users are made fully aware of the risk/hazard, all potential consequences and necessary management and contingency procedures.

5.6.3 Where the risk assessment outcome is medium, the management of the risk should be tackled by management or delegates. If removal of the hazard is not possible, management will normally be met through implementing minor structural design measures or by imposing procedures for the prevention of occurrences which will be conveyed to all site staff through the appropriate training, including any contingency measures/procedures.

5.6.4 Where the risk assessment outcome is low, the management of the risk can be done wholly through appropriate training to site staff including any contingency measures/procedures.

5.6.5 Where the risk assessment outcome is near-zero, site staff should be made aware of the possibility of an occurrence and contingency measures should be readily available to all staff should they be required.

5.7 Risk assessment table

5.7.1 The following pages contain the site-specific risk assessment for the site with appropriate remedial actions, recommendations and comments included for each identified hazard, potential contaminant or situation.

5.7.2 The table also contains references to the appropriate section(s) of the site's EMS for additional management procedures.

5.7.3 As discussed in the section above, all situations which identify a risk from Low –High should be incorporated into the staff/visitor training schedule, where appropriate and acted on as required.

5.7.4 Table 5.1, overleaf details the relevant pathways and receptors for each individual dust/emission source and relevant measures required to break these linkages. The control measures outlined in Section 4 will be included within these tables as well as additional specific measures.

SEE TABLES OVERLEAF

Table 5.5 – Source, pathway, receptor, abatement tables

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
Area 6 - Storage of shredded wood & Areas 10 & 11 storage of tyre shred Dust being blown around from site surfaces or dusty wastes not contained	Air	See Section 2.2	Air Pollution Water Pollution	Moderate	3	Low	All stockpiles of waste and storage bays can be sprayed using hoses during periods of dry/windy weather to prevent excessive drying and dust formation. Low storage durations will prevent the wastes from drying out. The storage area bays are located to ensure that vehicles leaving the site do not track through wastes. All stockpiles of will be stored within concrete walls. Where waste is stored inside concrete walls, the waste will be stored 1m below the height of the bay. The site undergoes continuous monitoring by operational staff who will continue to inspect and clean the site daily in addition to monitoring stockpile and freeboard heights.	Very Low
The wood shredder, shredding process and discharge of <50mm waste wood	Air	Site personnel / visitors Surrounding site users / occupiers Surface water including the Grand Union Canal to the south Flora & fauna Residential receptors Surrounding businesses	Air Pollution Water Pollution	Moderate	2	High	The site will not carry out any external treatment during windy weather conditions (>7 on the Beaufort Scale) and operations will reduce or suspend if the site management detect large amounts of dust is arising from dry/hot weather conditions. The shredder is situated on the floor and the presence of surrounding infrastructure walls to the south of the location will prevent dust escaping from the site. The site will not situate the shredder on any stockpiles of waste. Drop heights will be kept to a minimum to prevent dust emissions which will be no more than 1m – 2m above the shredder. The loading of waste into the shredder is undertaken by a 360^0 excavator which can deposit directly into the hopper of the shredder, this is considered better method than a loading shovel. Hosepipes can be targeted to the external processing areas in the event staff notice airborne dust arising.	Low

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
The wood baler, hammermill and drying process reducing the wood to <3mm	Air	Site personnel / visitors Surrounding site users / occupiers Surface water including the Grand Union Canal to the south Flora & fauna Residential receptors Surrounding businesses	Air Pollution Water Pollution	Moderate	2	High	This operation is located entirely inside an enclosed area of Unit 9 reducing the impact of dust. There is a dust extraction system in this area of the Unit which captures any dust and particulates. The filters on the extraction system are changed minimum every three weeks to ensure it is functioning. Suspension of the treatment plant if the dust extraction system fails. The site undergoes continuous housekeeping and has dedicated maintenance / housekeeping team who continue to inspect and clean the site daily including in and around areas if fixed plant where dust and fluff could accumulate.	Low
The tyre shredding plant and shredding processes reducing the tyres to <50mm rubber.	Air	Site personnel / visitors Surrounding site users / occupiers Surface water including the Grand Union Canal to the south Flora & fauna Residential receptors Surrounding businesses	Air Pollution Water Pollution	Moderate	2	High	The tyre shred plant is fitted with water spray jets over the shredders and also has a dust extraction unit fitted to reduce impact of dust and other particulates escaping during its operation. Suspension of the treatment plant if the dust extraction system and water spray system fails. The site undergoes continuous housekeeping and has dedicated maintenance / housekeeping team who continue to inspect and	Low

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
`Vehicles accessing/aggressing the site tracking dust on to or off the site Loading and manoeuvring of these wastes around the site	Air	Site personnel / visitors Surrounding site users / occupiers Surface water including the Grand Union Canal to the south Flora & fauna Residential receptors Surrounding businesses	Air Pollution Water Pollution	Moderate	3	Med	Damp all external site surfaces down using a mixture of bowser, hose pipes or mobile dust cannon. The operator will pay special attention to the areas where dust/debris is likely to build-up i.e. near to treatment plant and stockpiles. All site operatives will be trained in these procedures, and it will be the responsibility of site management to ensure the measures have been carried out. The site undergoes continuous housekeeping and has dedicated maintenance / housekeeping team who continue to inspect and clean the site daily. Vehicle speed on site is restricted to 5 miles per hour. Signs are erected at the relevant areas of the site, including the main access gates, to advise drivers of the speed limit. This will reduce the re-suspension of dust and particulate matter. Exiting vehicles leaving the site will avoid all areas where wastes are stored or stockpiled. All vehicles will be checked before they leave the site to ensure no mud/dust can stretch beyond the site access. All incoming/outgoing vehicle loads will be sheeted. Any mud/dust deposited onto the public highway will be treated as an emergency and cleaned by operatives or by way of a road sweeper to clean the external yard and surrounding roadways. Continuous monitoring regime in place to identify any potential. for dust leaving site boundary. Formal complaints procedure in place.	Low

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
Particulate emissions from the exhaust of vehicles/plant/machinery on site (NO2). t	Air	See Section 2.2	Air Pollution Water Pollution	Moderate	3	Low	All vehicles are serviced annually to ensure they are fit for purpose to ensure emissions are below the acceptable level. All mobile plant used is serviced annually to as part of preventative and legislative maintenance so ensure the plant is suitable. The processing plants on site do not emit and source emissions to the atmosphere. All vehicles undergo daily inspections under the site's preventative maintenance schedule to ensure no visible faults are detected. Ongoing inspections will note any faults with machinery and if a fault detected, the site/compliance manager or TCM will decommission the plant/vehicle until it is fit for purpose.	Very Low - Negligible
Small amounts of dust could accumulate around fixed processing plant i.e. shredder but also plant associated with plastic shredding	Air	Site personnel / visitors Surrounding site users / occupiers Surface water including the Grand Union Canal to the south Flora & fauna Residential receptors Surrounding businesses	Air Pollution Water Pollution	Moderate	3	Med	Daily inspections (four over 24 hours) will note any faults or dust accumulation on or with machinery and if a fault or dust detected, the site/compliance manager or TCM will decommission the plant/vehicle until it is fit for purpose and dust has been removed. Staff will be trained to identify dust and fluff around plant. Disposal of dust and fluff into sealed containers. Dust extraction system will limit dust associated with wood treatment plant in Unit 9. The treatment plants will be shut down for two days per month to undergo a thorough inspection and clean.	Low

Source(s)	Pathway	Receptor(s)	Consequences	Effect	Probability	Assessment Outcome	Remedial Action/ Recommendations/ Comments	Assessment Outcome following action & recommendation
Prolonged periods of dry/warm or windy weather conditions	Air	See Section 2.2	Air Pollution Water Pollution	Moderate	2	Medium	Additional visual assessment / monitoring will be onsite and undertaken around the site perimeter in order to ensure dust is not escaping beyond the site. Drop heights will be kept to a minimum to prevent dust emissions. Site management will carry out the wetting down/suppression/ of all onsite stockpiles and access roads during these conditions. The processing and tipping/loading/unloading of waste will cease (only if dust complaints are received or monitoring shows dust escaping beyond the boundary) until conditions have been improved. The site manager is responsible for ensuring this. Additional visual assessment / monitoring will be onsite and undertaken around the site perimeter in order to ensure dust is not migrating offsite. Notification system set up with the Met Officer to prepare for any potential dry/windy weather conditions in advance.	Low

6 Monitoring and contingency measures

6.1 Monitoring and recording

6.1.1 **Visual assessment** - Site management and site operatives will make visual inspections of dust emissions around the entire site and off site (outside of the site perimeter) as shown on Drawing No. VIE/2704/03 at least twice every 12 hours four throughout a full day (24 hours). Additional monitoring (three times every 12 hours) may be carried out during times of dry/windy weather conditions or should trained operatives observe dust plumes emanating on site. The monitoring will be carried out at intervals while the site is operational, should it be observed that dust is being emitted from the site, notes will made as to; the amount, direction and source of the dust. Site Management will review all feedback from the visual monitoring and take the necessary action to mitigate the issue and ensure it doesn't happen again. If dust is detected, site management and operatives will act immediately by either dousing the problematic area, covering it with tarpaulin or using a mechanical sweeper. The housekeeping/monitoring form shown in Appendix III will be referred to and completed daily.

6.1.2 In the event of dust being visible off-site operations will reduce such as processing of waste, increasing suppression, reducing vehicle movements into the site, increase the frequency of staff training and reducing the height of dusty waste being stored at the site. If the reduction in operations is not effective in reducing dust emissions from the site, operations will cease until the problem has been fully rectified. The TCM and site foreman will be responsible for deciding this course of action.

6.1.3 The site foreman and TCM will have obtained prior notifications from the Met Office in advance of problematic weather conditions including wind speed and direction, droughts etc. to ensure the site can plan in advance depending on the weather alert i.e. fill an additional water tank in the event of a period of warm weather/potential drought or reduce stockpile heights in advance of winds likely to increase the risk of dust emanating on site i.e. above level 4 on the Beaufort Wind Scale. The site will also monitor weather conditions at the start and end of each working day to plan in advance whether what suppression on site is required. Further to this, there is also a wind sock situated to the southern boundary

which is visible to all staff on site who can view the wind direction. The location of the wind sock is indicatively shown on Drawing No. VIE/2704/03

6.1.4 Out of hours monitoring will not be regularly required as it is deemed that the processing and loading of the material is likely to give rise to the highest levels of dust emissions i.e. the use of the shredding equipment. However, should it become apparent out-of-hours that stockpiles are giving rise to dust, site management will then make a decision on whether additional out of hours monitoring is required (based on predicted wind speeds, observed success of crusting agents etc.).

6.1.5 The results of monitoring exercises and any remedial action taken will be entered into the site's diary or log book which is available for NRW to inspect upon request. The name of the inspector will be stated in the site's diary / inspection form for each day of operation.

6.1.6 Should the monitoring conclude that a certain activity is giving rise to dust which is migrating offsite, steps will be made to reduce the impact of this activity, which may include, but is not limited to; additional steel sheets/netting on top of boundary walls/fences, increase in height of bay walls/enclosure, reduction of stockpile size, increased dust suppression, suspension of the work until lower wind speeds are recorded. The site would also increase daily inspections to three times per day.

6.1.7 The site supervisor will be suitably trained to carry out these duties. Further information regarding training and technical competence is provided within the site's EMS.

6.1.8 Site management will also be required to make a note of any unavoidable events such as bad weather in the site diary, rather than just actual complaints received. This will ensure that if complaints are received retrospectively from either the local authority or directly, any circumstances which led to that complaint as a result of elements outside of the operator's control would be able to be attributed (or, at least, in part) to the cause of the complaint.

6.2 Staff shortages/human error

6.2.1 In the event of unforeseen staff shortages arising from illness, suspension or no shows, the operator will make a judgement whether to reduce the number of incoming loads, thus reducing processing frequency and divert material to an alternative site. The operator will then seek further employment within a timely manner to ensure the site can continue to operate at its required capacity.

6.2.2 All staff are trained and undergo toolbox talks every 6 months (or sooner if operations change) to reduce the impact of human error. In instances where a human error has caused to an onsite dust issue, the site may suspend operations until the issue has been rectified and the member of staff will be warned and re-trained accordingly.

6.3 Weather conditions

6.3.1 The site will set up a notification alert system with the Met Office to receive updated weather alerts for the following weather conditions which could cause a potential on or off-site dust complaint:

- Where wind speed reaches 4 of the Beaufort Wind Scale or if dust is being emitted beyond the site boundary
- Droughts or periods of hot weather exceeding 3 major dry days which could lead to water shortages, hosepipe bans and excessive dust.

6.3.2 The site will install the following preventative measures to avoid serious dust pollution:

HIGH WINDS

- Increase daily inspections to six times per day from four.
- Stockpiles will be reduced to a suitable height to prevent the material escaping beyond the site boundary i.e. 1.5m below the heights (top and front) of containment walls instead of 1.0m.
- Stockpiles may be covered with tarpaulin in the event the above procedures are not considered effective.

- In the event of stronger winds i.e. above 6 on the Beaufort Wind Scale, whilst the site will deploy the above measures, the site manager will make a decision whether to stop processing waste and may be forced to suspend all other operations which could emanate dust i.e. loading, tipping of waste until conditions have improved. This decision will be based on site inspections, reviewing the dust monitoring points or following a complaint which has been substantiated and true.

DROUGHTS/WARM, DRY WEATHER

- Increase daily inspections to six times per day.
- In extreme cases such as a hosepipe ban or water shortage, the site will ensure there is additional water available i.e. tanks which can be used for suppression.
- The site will contact the water company in the event of low water pressure to see if the issue can be rectified, if it can't the site will carry out contingency procedures shown in Sections 4.8.2 and 6.1.1 – 6.1.3.
- For periods of prolonged dry conditions, stockpiles and processing heights may be reduced further to reduce the risk of dust.
- If the above measures are not suitable, the site will look install dust netting in a timescale agreed with NRW.
- Where dust is becoming a major concern then the operator will stop processing the material and cover the piles using tarpaulin until conditions or dust suppression techniques are considered effective.
- Invest in further dust suppression equipment i.e. water bowsers, dust cannons in the event of complaints.

6.4 Operational failure

6.4.1 The site manager or TCM will be contacted by staff in the event of any operational failure such as the breakdown of plant, systems or equipment and will decide whether operations are to continue or be suspended prior to corrective action being taken. Serious operational failures, which result in the closure of the site, will be recorded in the site diary.

6.4.2 All details of defects, problems and repairs carried out will be recorded on a daily inspection form. Detailed comments may also be recorded in the site diary. All repairs will be carried out within 5 working days unless agreed otherwise with NRW.

6.4.3 All repairs to site security will be made within 5 working days of the discovery of the damage and the site will be made secure until the repair has been carried out.

6.4.4 Any major defects found during the daily site inspection which are likely to lead to a breach of permit conditions will be repaired by the end of the working day in which they are found, where possible. If a repair is not possible by the end of the working day and a potential breach of permit conditions may occur, NRW will be contacted to agree a suitable timescale for repair.

6.4.5 All defects and problems likely to give rise to pollution will be recorded on the form NHB/RF/4 or the operators own recording procedures with repairs/solutions being carried out immediately.

6.4.6 Essential spares for plant maintenance are kept on site in a workshop which is located on the adjacent recycling site (i.e. not within the permitted site).

6.5 Liaison with Neighbours / engagement plan

6.5.1 In the extreme event of significant but temporary dust issues during normal operations, neighbours will be contacted to advise them of the situation and the action being taken. NRW will also be notified.

6.5.2 The operator will enable any complaints from neighbouring premises (if received) to be dealt with within 24 hours. The complainant will then be supplied with remedial actions taken and any procedures or measures put in place by the operator to reduce or ideally eradicate the likelihood of a subsequent complaint. This will be done by completing the Engagement Plan shown in Appendix III, a completed copy will then be sent to the complainant.

6.5.3 Any engagement or complaints from members of the public or third parties will need to be fully reviewed and substantiated so only genuine complaints/comments/engagement from the public or are taken seriously. The site will review all complaints from NRW and Local Council within a 24-hour period.

6.5.4 If any dust complaints are received, the complaint will be assigned to an operative familiar with the sites operation who will complete a 'complaints and events log' and detailed individually on the complaints form (in Appendix II), both of which will be kept for inspection on request from NRW. Details of information to be completed are dates, nature of complaint, weather conditions at the time of the complaint, investigation details, action taken and a signature (as a minimum). Dust complaints will be investigated and responded to within 24 hours and suitably reviewed by the site manager who is ultimately responsible.

6.5.5 The operator would also be required to make a note of any unavoidable events plant/equipment malfunctions in the site diary, rather than just actual complaints received. This will ensure that if complaints are received retrospectively from either the Council/NRW or directly, any circumstances which led to that complaint as a result of elements outside of the operator's control would be able to be attributed to the cause of the complaint. If there are significant dust releases outside normal operations, the operator will cease operation, investigate and resolve the issue before continuing.

6.6 Contingencies

6.6.1 **Dust Cannon** – The site will install from a mobile dust cannon at the site in the event of a breakdown of the dust extraction system in Unit 9, the tyre shred plant suppression and dust extraction system failing, if staff detect dust emanating on site or as a result of complaints. The cannon will benefit from a 40m reach on an oscillating platform to ensure full coverage of all dusty waste stored at the site, including internal areas. As they are mobile, they can be used in all areas of the site. The cannon not be in use continually but only during the following circumstances where site management will inform staff to implement them:

- If the weather has been dry for three days and waste stockpiles/surface are dry.

- During warm conditions i.e. temperatures above 25^0C/75^0F.
- In conditions where the wind is exceeding 4 on the Beaufort Scale and it is evident from inspections that dust is visibly blowing around the site.
- In the event of operational staff or site management are noticing dust plumes appearing during unloading or loading of waste.
- In the event the operator requires to load dusty waste which may cause airborne dust once being loaded.

6.6.2 The cannon may not run continuously during the above circumstances but will only stop if site management detect the issue of dust has minimised.

6.6.3 The cannon would be electrically powered and can operate by plugging in one water hose which would be connected to the water main. The cannon can orientate 320^0 and has a -150 – 600 tilt. The cannon would have a 40m range and can provide suppression at up to 58 l/m. The cannons can be operated by remote control so would be initiated in the event staff detect any signs of dust appearing. The cannon would be maintained to the same standard as the mobile plant in terms of cleaning for dust and fluff and daily maintenance checks.

7 Actions when complaints are received

7.1 Complaints procedure

7.1.1 If any dust complaints are received, the relevant operator will complete a 'complaints and events log' and detailed individually on the complaints form (in Appendix II), both of which will be kept for inspection on request by NRW. Details of information to be completed are dates, nature of complaint, weather conditions at the time of the complaint, investigation details, action taken and a signature (as a minimum).

7.1.2 Dust complaints will be prioritised and investigated without delay or by end of working day only in extenuating circumstances. This will also apply to complaints received both directly and via other sources (e.g. NRW or local authority). Where investigation substantiates the complaint, fully or partially, then remedial action should be taken immediately and if measures taken fail to stop the pollution, then the activity must be stopped and not restarted unless and until additional measures have been implemented to prevent the emission causing pollution. These actions would also take place should multiple complaints in a short time period resulting in a temporary suspension of operations until the problem has been identified and rectified. Following a complaint and if it is deemed correct following investigation, the appropriate action will be taken to prevent the issue from reoccurring i.e. evaluation of current abatement measures, site operations, additional abatement measures and re-training of staff via toolbox talks. NRW will be contacted in the event the complaint cannot be escalated.

7.1.3 The operator would also be required to make a note of any unavoidable events plant/equipment malfunctions in the site diary, rather than just actual complaints received. This will ensure that if complaints are received retrospectively from either the Council/NRW or directly, any circumstances which led to that complaint as a result of elements outside of the operator’s control would be able to be attributed to the cause of the complaint.

7.1.4 If the source cannot be ascertained with 100% confidence, the site manager, compliance manager or TCM will either suspend or reduce the likely dust/particulate generating activities.

7.1.5 If the source is within the site's control, the site manager, compliance manager or TCM will take appropriate action in terms of dust/particulate abatement, to ensure that the alarm is not re-activated. This may take the form of the following:

a) Investigating the source of the dust/particulates to prevent a re-occurrence.
b) Suspending operations which are giving rise to excessive dust due to potential plant malfunction or failure of suppression techniques.
c) Additional use of the dust abatement measures.
d) Logging findings of a – c in the site diary / complaints form and also in the reporting template within the EP.

7.1.6 NRW will be notified by email of any third-party dust complaints received by the end of the working day including the complainant and the outcome of the investigation. Where complaints are substantiated as causing or likely to cause significant pollution, then NRW will be notified without delay, as required by conditions in the EP.

7.2 Complaints recording

7.2.1 Any complaints received in relation to dust will be recorded on the form shown in Appendix II by the person in receipt of the complaint:

7.2.2 The following details as a minimum will be completed on the form.

a) The name, address and telephone number of the caller will be requested.
b) Each complaint will be given a reference number.
c) The caller will be asked to give details of:

- the nature of the complaint;
- the time;
- how long it lasted;
- how often it occurs;
- is this the first time the problem has been noticed; and,
- what prompted them to complain.

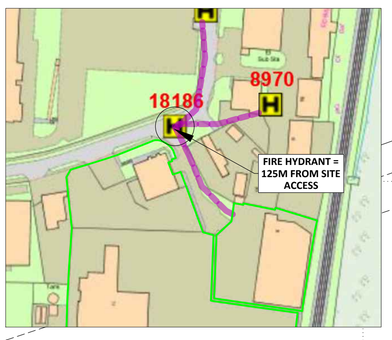
d) The person completing the form will then, if possible, make a note of:

- the weather conditions at the time of the problem (rain snow fog etc.)
- strength and direction of the wind; and,
- the activity on the installation at the time the noise, dust or odour was detected, particularly anything unusual.

e) The reason for the complaint will be investigated and a note of the findings added to the report.
f) The caller will then be contacted with an explanation of the source of the complaint if identified and the action taken to prevent a recurrence of the problem in future.
g) If the caller is unhappy about the outcome or unwilling to identify themselves the caller will be referred to the appropriate department of NRW or Local Council.
h) Following any complaint, the complaints procedure will be reviewed to see if any changes are required or if new procedures need to be put in place.

Appendix I

Drawings



Scale Bar (1:200)
0 m 10 m 20 m

FIRE HYDRANT LOCATION

Storage Area Details (PILE BASED ON AREA X H NOT L X W X H)

Plan Ref	Description	Storage type	Containment / type	Height of firewall (m)	Max width (m)	Max length (m)	Max height (m)	Max area (m)	Conversion factor used	Max volume (m3)	Max storage time	Comments
AREAS A - D	Waste water wash residue storage	<1,000 sealed IBC containers	N/A	N/A	5	1	1	5	1	5	<1 week	The containers will be emptied when full and replenished with a new empty container
AREA E	Enclosed walk-in floor for drying shredded non-hazardous untreated waste wood	Sealed walk-in floor container	Walk-in floor container	3.2	20	4	2	80	1	160	<1 hour	The walk-in floor is fed continuously throughout the day with shredded Grade A wood and is empty once the site is closed
AREA 1 - 3	Holding bays for non-hazardous hard plastic (containers) - acting as mainly overflow storage from Unit 11	Unprocessed plastic containers, bales and packaging	As above	3.2	9	9	2.2	81	1	178	<8 weeks	These bays act as holding areas prior to the waste being processed if all other bays on Unit 11 are full
AREA 4	As above	Unprocessed plastic containers/drums	As above	3.2	20	5.4	2.2	108	1	238	<8 weeks	As above
AREA 5	Holding bays for hazardous hard plastic	Unprocessed plastic containers/drums	As above	3.2	20	5.4	2.2	108	1	238	<4 weeks	The waste in this area would be removed to alternative site every 4 weeks or sooner if full or potential pollution
AREA 6	Shredded untreated and non-hazardous wood	Processed / shredded	Free-standing Interlocking block fire wall	4	7.4	10	3	74	0.75	167	<4 weeks	This bay acts as a holding area prior to being shredded for use into the biomass boiler or pelleting plant
AREAS 7 & 8	Reception and storage area for non-hazardous PET & HD plastic storage or whole end-of-life tyres	Unprocessed / sorted	Free-standing Interlocking block fire wall	4	7.4	8.5	3	62.9	0.75	142	<4 weeks	Areas act as holding and sorting areas prior to being fed into the relevant treatment plant
AREA 9	Whole end-of-life tyres	Unprocessed	Free-standing Interlocking block fire wall	4	7.4	8.5	3	62.9	1	189	<1 week	Pile continuously moving throughout the working day
AREA 10	Scrap metal	Sorted via overband magnet	8-cubic yard skip	N/A	1.68	3.66	1.2	6.1488	1	7	<1 week	Skip removed sooner if full
AREA 11	Shredded end-of-life tyres or plastic	Processed / shredded	Bagged	3.2	1.2	1.2	1.2	1.2	1	1	1 - 2 hours	Comprises outfeed/bagging area, bags removed to AREA 12 once full
AREA 12	Shredded end-of-life tyres or plastic (non-waste)	Processed / shredded & bagged	Free-standing Interlocking block fire wall	4	2.4	5	2	40	1	80	1 - 2 hours	Pile continuously moving throughout the working day. Pile clear one hour before shutdown
AREAS 13 - 15	Reception and storage areas for non-hazardous PET & HD plastic storage	Unprocessed plastic containers, bales and packaging	As above	4	7.4	8.5	3	62.9	1	189	<4 weeks	These bays act as holding areas prior to the waste being processed.
AREAS 16 - 17	Overflow storage areas for non-hazardous PET & HD plastic storage	Unprocessed plastic containers, bales and packaging	As above	4	7.4	8.5	3	62.9	1	189	<4 weeks	These bays act as holding areas prior to the waste being processed.
AREAS 18 - 19	Granulated plastic agglomerate plastic prior to final wash in Unit 9	Processed / shredded	40 foot sealed container	N/A	12	2.5	2.62	30	1	79	<4 weeks	Pile continuously moving throughout the working day. Pile clear one hour before a site shutdown.

2.4 high palisade fencing
Existing offices (will not be in use)
Existing offices (will not be in use)
2.4 high palisade fencing
2.4 high palisade fencing
Workshop
2.4 high palisade fencing
Existing building for spares/maintenance
AREA 1
AREA 2
AREA 3
60m², 120m³ quarantine area
6m
Waste unloading area
AREA 4
AREA 5
Location of 20m long, 0.16m high fire water boom (only used in the event of a fire)
2.4 high palisade fencing
Concrete pad draining to underground 20,000 litre sealed sump
Existing foul drainage from Unit 11 discharges into existing foul sewer connection
Existing surface water drainage from west of Unit 11 discharges into existing surfaces water ewer connection
Site access/egress to/from Unit 9 (lockable gates)
Location of 10m long, 0.16m high fire water boom (only used in the event of a fire)
Site access/egress to/from Unit 11 (lockable gates)
6 no. general storage containers (non-waste)
ACO drainage channel connecting to underground 3,000 litre tank
Sealed underground storage tank (10,000 litres)
Lab
Site office
Three no. 1 m3 storage vessels to store dust from the extraction system
Wood pellets bagging area
Roller shutter 5
Bagging Unit
Access open with industrial flaps into wood pelletising & baling process
Bagging area
Wood pelleting line comprising drying, baling screening, grinding, pelletising, cooling, sifting and bagging processes
Roller shutter 4
Final-wash for HD plastic
Bale outfeed transferred to Unit 11
Pelletising plant process virgin wood materials (non-waste) and does not require regulation from NRW
AREA B
AREA A
UNIT 9
Building partitioned
Control room
Dehydrator
Wood baling, drying and hammermill plant - LAYOUT TO BE CONFIRMED
Roller shutter 3
First sink/float separation system
AREA 3D
Conveyor
Loading area of shredded wood into baling plant
2.4 high palisade fencing
Loading hopper
Automated feed from hopper into pelleting line
Infeed conveyor
Partition
Loading conveyor into Pelleting plant
Roller shutter 1
Loading conveyor into Biomass plant
Biomass boiler with separate authorisation from Local Planning Authority
2.4 high palisade fencing
USE OF PERMITTED AREA TBC
3m high close board wooden fencing with 0.15m high kerb in front (sunk 0.3m into the ground)
Proposed NSFA270 full retention interceptor to treat surface water prior to discharge into surface water sewer
Shut off valve location to block drainage outlet
Out-of-hours plant storage
Staff & visitor parking areas
Penstock valve initiated in fire event
Penstock valve initiated in fire event
Underground 2,000 litre sealed catchment pit
Loading area of plastic agglomerate into hopper
Plant only, no waste material
USE OF BUILDING PERMITTED AREA TBC
Location of 20m long, 0.16m high fire water boom (only used in the event of a fire)
General non-waste storage
Roller shutter 2
Despatch area 10
Storage bay for shredded virgin waste wood to feed pelleting line / biomass boiler in Unit 9
Welfare block
3m high acoustic lego block wall
Despatch area 9
Despatch area 8
Weighbridge
Underground 20,000 litre catchment pit with silt trap
Non-waste fuel and fluids storage
Gatehouse
Plant & vehicle washdown area (separately sealed)
Ramp
AREA E - Walk-in floor for drying source segregated Grade A shredded wood
Biomass boiler to generate heat for drying floor
Conveyors
Dust extraction filters (enclosed)
3m high acoustic lego block wall
Despatch area 7
Despatch area 6
Despatch area 5
Despatch area 4
Despatch area 3
Despatch area 2
Despatch area 1
Roller shutter 6
Roller shutter 5
Roller shutter 4
Roller shutter 3
Roller shutter 2
Roller shutter 1
Switch room
Offices
BAGS OF NON-WASTE RECYCLED PRODUCT
BAGS OF NON-WASTE RECYCLED PRODUCT
BAGS OF NON-WASTE RECYCLED PRODUCT
100m², 100m³ quarantine area
6m
Storage bay for shredded virgin waste wood to feed pelleting line / biomass boiler in Unit 9
Indicative shredding location waste and non-waste wood
AREA 6
Walk-in floor bays for drying non-waste virgin timber shred
2.4 high palisade fencing
2.4 high palisade fencing
Biomass boiler to generate heat for drying floor
Partition to separate processing plant from product storage
Biomass boiler to generate heat for drying floor
Biomass boiler to generate heat for drying floor
Biomass boiler to generate heat for drying floor
Biomass boiler to generate heat for drying floor
3m high acoustic lego block wall
AREA 13
Underground 20,000 litre catchment pit with silt trap
Pre-wash for HD plastic - LAYOUT TO BE CONFIRMED
Hot wash plant for PET plastic - LAYOUT TO BE CONFIRMED
Roller shutter 6
Roller shutter 5
Roller shutter 4
Roller shutter 3
Roller shutter 2
Roller shutter 1
AREA 14
AREA 15
AREA 7
AREA 16
AREA 8
AREA D
19m
AREA 19
AREA 18
Underground 20,000 litre catchment pit with silt trap
Storage containers of recycled product
Underground silt trap (2,000 litres) and interceptor (2,000 litres)
AREA 17
AREA 9
Underground 3,500 litre catchment pit
Underground 20,000 litre catchment pit with silt trap
USE OF AREA TBC
AREA 12
Three no. 1 m3 storage vessels to store dust from the extraction system
Roller shutter door
Roller shutter door
AREA 11
Loading area of tyres into the plant
Plant only, no waste material
7m
Conveyor outfeed
Incline conveyor
Conveyor
AREA 10
Secondary conveyor
Rasper shredder
Magnet separator
Double shaft shredder
Dust extraction system
2.4 high palisade fencing
PROPOSED TYRE RECYCLING BUILDING
3m high acoustic lego block wall

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

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DRAWING TITLE
SITE LAYOUT & FIRE PLAN

CLIENT
New Horizon Biofuel and Animal Beddings Co Ltd

PROJECT/SITE
Units 9, 10 & 11, Vauxhall Industrial Estate, Ruabon, Wrexham LL14 6HA

SCALE @ A0	CLIENT NO	JOB NO
1:200	2704	017
DRAWING NUMBER	**REV**	**STATUS**
VIE/2704/03	M	Issued
DRAWN BY	**CHECKED**	**DATE**
CP	NHB	10.07.24

Key:

- Permit boundary
- Area covered by Part B Authorisation with LPA and area not part of permitted operations
- Combustible waste storage areas
- Combustible waste storage areas (potentially hazardous)
- Temporary storage areas (maximum 1 - 2 hours)
- Product storage non-waste
- Out-of-hours mobile plant storage
- Waste recycling buildings
- Concreted areas
- Other buildings (offices, etc.)
- Stone surface / free draining
- Landscaped/grass areas
- Location of fixed & mobile plant (indicative)
- Interlocking concrete fire walls (minimum 0.6m thick)
- 0.10 - 0.15m high concrete kerbing/seal
- Mains water point
- Spill kit
- Fire fighting equipment (extinguishers, etc.)
- Fire water containment / pollution control equipment i.e. booms, drain mats, drain plugs etc..
- Protective clothing location
- Access routes for emergency vehicles and site plant manouevring areas
- Fire alarm
- Surface water fall direction
- Surface water drainage
- Foul water drainage
- Redundant, collapsed drainage
- ACO drain (foul)
- ACO drain (surface)
- Foul, surface water and redundant manholes
- Gully's
- Plant shut off
- Fire assembly point
- CCTV cameras (indicative)
- Infrared/heat detection cameras
- Emergency services box
- Public Right of Way (PRoW)
- Dust monitoring points

NOTES
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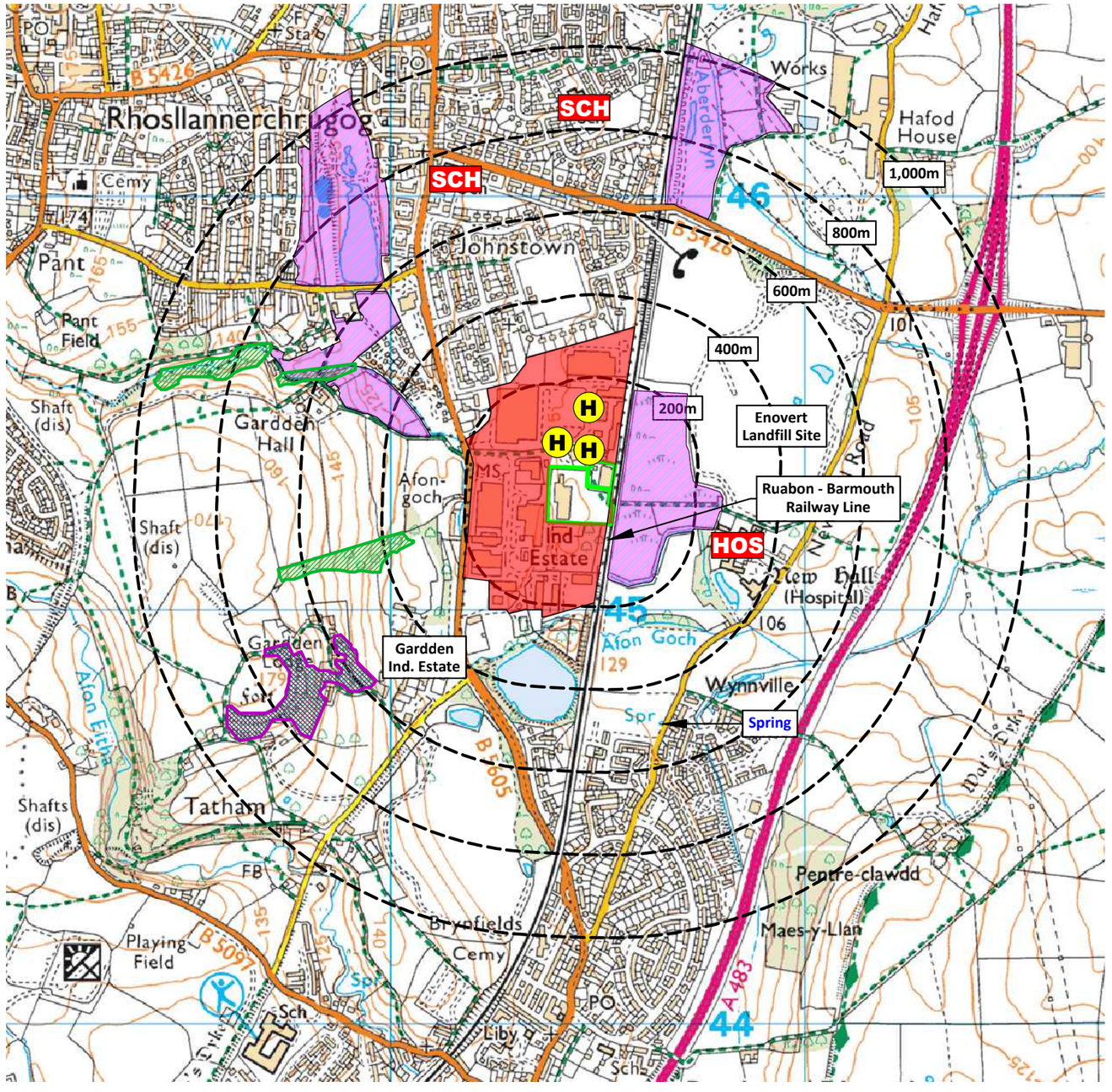
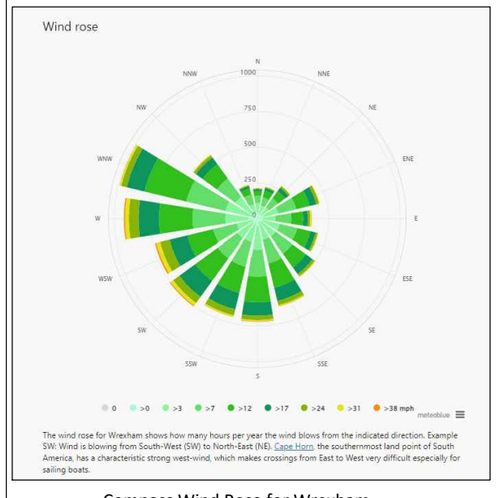
REVISION HISTORY

Rev:	Date:	Init:	Description:
-	02.06.21	CP	Initial drawing
A	09.09.21	CP	Updated layout / client comments
B	11.10.21	CP	Updated layout / client comments
C	21.02.22	CP	Updated layout / NRW comments
D	26.09.22	CP	Updated layout / NRW comments
E	11.11.22	CP	Updated layout / NRW comments
F	15.11.22	CP	Updated layout / NRW comments
G	09.03.23	CP	Draft to remove Unit 10 and add Unit 11
H	27.07.23	CP	Updated for permit variation copy
I	04.10.23	CP	Re-addition of Unit 10
J	08.12.23	CP	Operator comments
K	23.02.24	CP	NRW/Operator comments
L	15.05.24	CP	NRW/Operator comments
M	10.07.24	CP	NRW/Operator comments

KEY:

- Permit boundary
- Surface water (river / stream / beck)
- Surface water (estuary / pond / pool / lake / sea)
- Vauxhall Industrial Estate
- Workplaces (includes agriculture industry, commerce and retail)
- Residential blocks
- Class A roads
- Class B roads
- Class C roads
- Nearest fire hydrant
- Railway line
- Schools/nurseries
- Hospitals/medical centres
- Woodland areas
- Protected sites - Johnstown Newt Sites SAC & Stryd Las a'r Hafod SSSI
- Gardden Fort Wood (LWS)
- Priority Habitats - Areas of Ancient Semi Natural Woodland and Restored Ancient Woodland sites





Compass Wind Rose for Wrexham
Period 1982 - 2022
source: Meteoblue

NOTES

1. Boundaries are shown indicatively.
2. Wind rose data shows the prevailing wind direction from the west/north-west.

REVISION HISTORY

Rev:	Date:	Init:	Description:
-	09.09.21	CP	Initial drawing
A	11.10.21	CP	Updated boundary
B	21.09.22	CP	NRW comments
C	11.11.22	CP	NRW comments
D	15.11.22	CP	NRW comments
E	27.07.23	CP	Variation application copy
F	04.10.23	CP	Update due to re-addition of Unit 10

Oaktree Environmental Ltd
Waste, Planning and Environmental Consultants

DRAWING TITLE
RECEPTOR PLAN

CLIENT
New Horizon Biofuel and Animal Beddings Co Ltd

PROJECT/SITE
Units 9 & 10, Vauxhall Industrial Estate, Ruabon, Wrexham LL14 6HA

SCALE @ A3	JOB NO	CLIENT NO
1:12,500	012	2704

DRAWING NUMBER	REV	STATUS
VIE/2704/04	F	Issued

DRAWN	CHECKED	DATE
CP	--	04.10.23

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Appendix II

Complaints recording form

Complaints Report Form	
Date Recorded	Reference Number
Name and address of caller	
Telephone number of caller	
Time and Date of call	
Nature of complaint (noise, odour, dust, other) (date, time, duration)	
Weather at the time of complaint (rain, snow, fog, etc.)	
Wind (strength, direction)	
Any other complaints relating to this report	
Any other relevant information	
Potential reasons for complaint	
The operations being carried out on site at the time of the complaint	
Follow Up	
Actions taken	
Date of call back to complainant	
Summary of call back conversation	
Recommendations	
Change in procedures	
Changes to Written Management System	
Date changes implemented	
Form completed by	
Signed	
Date completed	

Appendix III

Dust Monitoring Form

WEEK BEGINNING		**COMMENTS BELOW (AS MUCH DETAIL AS POSSIBLE); IF COMMENT IS NO – ADD FURTHER COMMENTS**
DAY/DATE/TIME OF INSPECTION		
SHEET 1 OF		

DAILY RECORDING INFORMATION	**WASTE RECEPTION AREAS**	**SITE SURFACES**	**WASTE LOADING / UNLOADING**	**WASTE STORAGE AREAS / BAYS**	**PROCESSING AREAS**	**SHREDDERS**	**OTHER AREA OF SITE - SPECIFY**
WEATHER CONDITIONS							
WEATHER TEMPERATURE							
WIND SPEED							
WIND DIRECTION							
PERIMETER INFRASTRUCTURE SUITABLE							
DUST EXTRACTION SYSTEMS FUNCTIONING							
DUST SUPPRESSION SYSTEM WORKING							
HOSES FUNCTIONING							
IS WASTE STORAGE BELOW HEIGHT OF BAY							
DUSTY MATERIAL STORAGE VISIBLE FROM LOCATION							
ANY NOTICEABLE DUST / PARTICULATES ON THE GROUND NEAR THE LOCATION							
ANY DUST APPARENT OFF SITE							
EMISSIONS FROM PLANT/EQUIPMENT VISIBLE							
SMOKE FROM PLANT APPEAR TO BE SUITABLE							
HAS SITE MANAGEMENT BEEN INFORED OF THE INSPECTION							
DOES ACTION NEED TO BE TAKEN							
INSPECTION CARRIED OUT BY							
OTHER							

NOTES/ACTION (CONTINUE ON A SEPARATE SHEET IF NECESSARY):

CHECKED BY		**SIGNATURE**	
POSITION		**DATE**	