

WARD

Dust and Emissions Management Plan Nottingham_V1 March 2026

Harrimans Lane

Dunkirk

Nottingham

NG7 2SD

Record of Revisions

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1. Introduction

The Dust and Emissions Management Plan (DEMP) relates to the activities undertaken by Donald Ward Limited at Harrimans Lane, Nottingham. The site is located at Harrimans Lane, Nottingham, NG7 2SD. This DEMP has been produced in accordance with the Environment Agency's Guidance 'Control and Monitor emissions for your environmental permit'. It identifies potential sources, pathways and receptors of dust emissions, and details the required control measures to minimise any adverse environmental impacts.

1.1 Aims

The aims of this DEMP are to:

- Identify activities with the potential for dust generation;
- Develop and implement an effective dust management strategy;
- Minimise the likelihood of fugitive dust emissions from site and reduce potential environmental impact;
- Ensure compliance with the environmental permit.

1.2 Roles and Responsibilities

A copy of the DEMP will be held on site in the Site Office. An electronic copy will also be held on the company Sharepoint. A copy of the plan will be made available to the Emergency Services upon request.

Environment Manager - The Environment Manager is responsible for updating and maintaining the Dust Management Plan.

Site/Senior Management - Site and Senior Management are responsible for communicating to the Environmental Manager, any changes to the site or activities undertaken which may affect the Dust Management Plan and implementing appropriate control measures to minimise dust pollution on site.

1.3 Reviewing the Plan and Staff Training

The DEMP is a live working document and will be reviewed annually or if there are any significant changes to activities on site or associated infrastructure.

The DEMP will be communicated to staff/contractors. Training staff on the DEMP is crucial to ensure effective implementation and compliance. An initial internal training session for all relevant staff members will be conducted and this will cover all aspects of the dust management plan. Internal refresher training will be provided to reinforce the dust management procedures and keep staff updated on any changes to the plan.

All relevant Ward employees and relevant contractors are aware of the details of the procedure for dust management and control.

Tool Box Talks are used to communicate the policies & plans and are a record of training.

All employees have comprehensive training in respect of the use of the plant and machinery associated with the loading and handling activities.

Operatives are trained to identify and report any issues. Designated employees have radios to communicate to the Site Supervisor or Site Manager in the event of identifying any issues. This would trigger an investigation and response as required. Examples of actions that could be taken in response to such reports include increasing the water on the mill or turning on suppression at additional locations, moving a mobile water supply to an area, repairing damage to a control measure.

1.4 Relevant Sector Guidance on Which This DEMP is Based

Other information relevant to the DEMP has been prepared in accordance with guidance on best practice, and in particular the following specific regulations and guidance (where applicable) contained in:

- Environmental Permitting (England and Wales) Regulations 2016;
- Environmental Permitting Core Guidance (DEFRA, Updated March 2020);
- Best Available Techniques (BAT) Reference Document (BREF) for Waste Treatment (August 2018);
- Establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council, Commission Implementing Decision (EU) 2018/1147;
- Treating metal waste in shredders: appropriate measures for permitted facilities;
- Waste electrical and electronic equipment (WEEE): appropriate measures for permitted facilities;
- End of life vehicles (ELVs): appropriate measures for permitted facilities;
- Environment Agency's 'Control and Monitor emissions for your environmental permit'.

2. Operations at Nottingham

2.1 Site Location

The site is located at National Grid Reference SK 54931 37599. The site has a frontage to Harrimans Lane and the rear boundary of the site, as viewed from Harrimans lane, adjoins the railway. The surrounding area is predominantly of industrial use. The site is approximately 6 acres. It is secured by a mixture of high security chain link fencing, brick and sleeper walls, and steel panelling and is accessed from Harrimans Lane via security gates. Access also exists from the adjacent railway line.

Figure 1 – Map of site location and human sensitive receptors (see Appendix 1a)

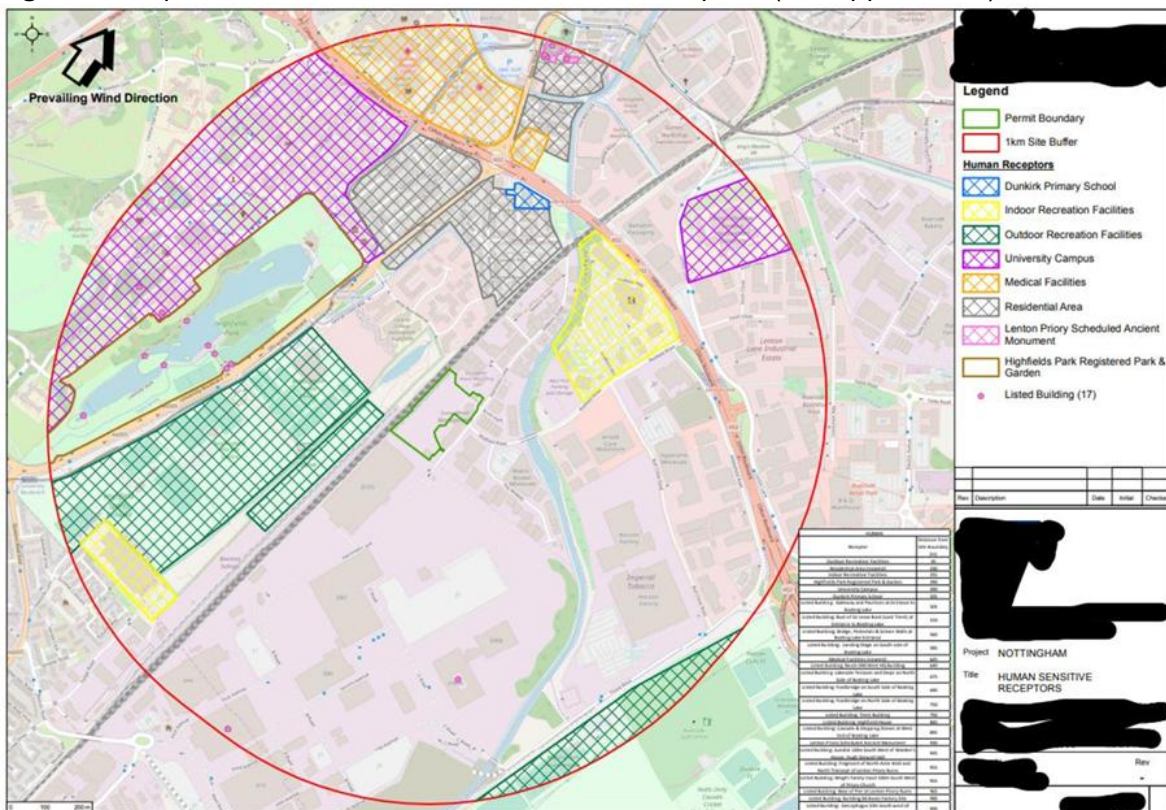


Figure 2 – Map of site location and ecological sensitive receptors (see Appendix 1b)



2.2 Sensitive Receptors

Surrounding land use is predominantly for business/industrial purposes.

Immediately to the west of the site is a rail line and beyond that are the Nottingham Hockey and Tennis Centres. The Beeston Canal runs approximately 105m east of the site. The River Trent runs approximately 1.5km south east from the site at its closest point. The nearest residential receptor is located approximately 230m from the site. Part of the site is located on a Source Protection Zone (SPZ) 3.

There are no Sites of Special Scientific Interest (SSSI), Ramsar sites, Special Areas of Conservation (SAC), Special Protection Areas (SPA) and National Nature Reserves (NNR) within 2000m of the site. There is a single Local Nature Reserves (LNR), within 250m: Beeston Siding 35m to the north-west of the site.

Table 1 - Distance to selected, representative sensitive receptors

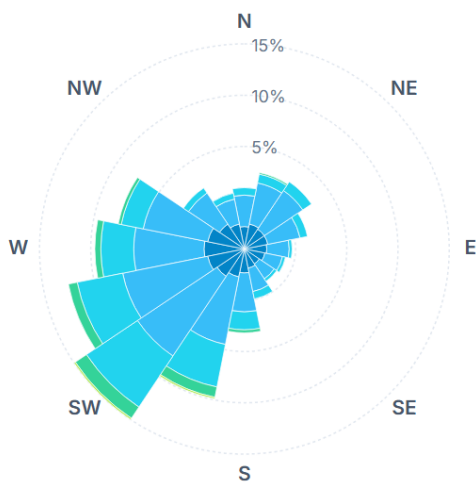
Human Receptor	Distance from Site Boundary (m)
Outdoor Recreation Facilities	45
Residential Area (nearest)	230
Indoor Recreation Facilities	255
Highfields Park Registered Park & Garden	390
University Campus	390
Dunkirk Primary School	505
Listed Building: Gateway and Pavilions at Entrance to Boating Lake	505
Listed Building: Bust of Sir Jesse Boot (Lord Trent) at Entrance to Boating Lake	510
Listed Building: Bridge, Pedestals & Screen Walls at Boating Lake Entrance	560
Listed Building: Landing Stage on South side of Boating Lake	585
Medical Facilities (nearest)	625
Listed Building: Boots D90 West HQ Building	640
Listed Building: Lakeside Terraces and Steps on North Side of Boating Lake	675
Listed Building: Footbridge on South Side of Boating Lake	690
Listed Building: Footbridge on North Side of Boating Lake	750
Listed Building: Trent Building	750
Listed Building: Highfield House	845
Listed Building: Cascade & Stepping Stones at West End of Boating Lake	895
Lenton Priory Scheduled Ancient Monument	940
Listed Building: Sundial 120m South West of Warden's House, Hugh Stewart Hall	945
Listed Building: Fragment of North Aisle Wall and North Transept of Lenton Priory Ruins	955
Listed Building: Wright Family Vault 100m South West of Priory Church	955
Listed Building: Base of Pier at Lenton Priory Ruins	965
Listed Building: Building D6 Boots Factory Site	980
Listed Building: Sarcophagus 50m South west of Priory Church	990
Ecological Receptor	Distance from Site Boundary (m)
Water Abstraction	0
SPZ Total Catchment	0
Water Monitoring Well (Nearest)	20
Beeston Sidings LNR	35
Beeston Canal	105
Tottle Brook	455
Highfields Park Lake	485
SPZ Outer Zone	605
SPZ Inner Zone	715
River Leen	840
Green Belt	890

2.3 Wind Direction

Long-term wind data for the Nottingham area (using nearby meteorological stations like Watnall / East Midlands Airport) shows the dominant winds come from the south-west. In practice this indicates that wind most often blows from the south-west towards the north-east.

Figure 3: Wind Direction Chart

Average Wind Direction in Nottingham, United Kingdom



2.4 Site Activities

General

The principal activities at the site are processing of ferrous and non-ferrous metal scrap for supply as feedstock to the steel making industry in the UK and abroad.

The facility is a shredder site, designed for the specialist recovery of ferrous metals; these may be light or heavy off-cut from manufacturing, obsolete machinery or other equipment from industry, bulky metal-based discards from commercial sector or depolluted scrap vehicles and white goods etc. from scrap suppliers or members of the public.

Mixed non-ferrous metals that form a part of the shredder (aka fragmentiser) feed are separated from the fragmented flow by a combination of air extraction, magnetic, and eddy current separation.

Recovered secondary metals are similarly sold for re-smelting into new materials.

Residual mixed metals / residues from the fragmentation process are transported to another Ward authorised facility for specialist treatment to recover the individual secondary metals.

Wastes from the process that are currently incapable of further viable treatment for metals recovery ('shredder waste / frag waste') are transported from site to another Ward authorized facility for further recovery or to appropriately authorised external facilities for recovery or disposal.

Non-ferrous metals are received at the site for sorting, separation, grading, shearing, screening, baling, compacting, crushing, bulking and storage prior to being sold on as feed material for smelting. This process includes both manual sorting and sorting with the aid of mechanical plant. The facility also permits the shredding of non-ferrous materials.

The site is an Authorised Treatment Facility (ATF) for the depollution of End of Life Vehicles. End of Life Vehicles are depolluted in accordance with ELV Regulations and applicable legislation. Relevant site operatives are trained in Ward internal Safe Working Procedures for the depollution of ELVs.

End of Life Vehicles are processed through the fragmentiser if they have been depolluted in accordance with ELV Regulations and applicable legislation.

Tyres may be accepted on site for storage prior to removal for processing at a suitably authorised facility.

Batteries are accepted on site for storage prior to removal for processing at a suitably authorised facility. Lead acid batteries are stored in leak proof battery boxes.

WEEE wastes are managed in accordance with the WEEE Directive and relevant legislative requirements.

Waste Refrigeration units and CRT/ Monitors are stored separately for specialist treatment and recovery elsewhere.

Treatment Activities

Pre Shredder

The site has a pre-shredder, Lindemann pre-shredder ETARIP, 250KW electric operated, continuous operation, 110 tonnes per hr (1540 tonnes per day based on 14 hr operation) capacity for treating non-hazardous waste in advance of (5.4 A (1) b (iv)) installation activity.

Shredder

Consists of one dry process (with water injection) hammer mill fragmentiser, Texas 98/104 NG 4000HP electric operated, continuous operation, 125 tonnes per hr (3000 tonnes per day based on 24 hr operation) capacity for treating non-hazardous (5.4 A (1) b (iv)) & hazardous wastes for recovery (5.3 A (1) a (ii)). See Appendix 3: Shredder Process Routing and Appendix 4: Fragmentiser (aka metal shredder) Process Description.

End of Life Vehicle Depollution

The site is an Authorised Treatment Facility (ATF).

The site's End of Life Vehicle (ELV) depollution treatment consists of two ELV prep stands and two treatment rigs, with a maximum daily treatment capacity of 100 tonnes.

Small Mixed WEEE Treatment

SMW is stored and manually pre-treated on site to remove components that require removal prior to mechanical treatment. Manual pre-treatment of SMW takes place undercover. Storage of pre-treated WEEE is separate to other waste types.

SMW treatment consists of one treatment plant line, with a continuous mode of operation. The maximum daily treatment capacity is 500 tonnes.

The SMW treatment plant consists of a feed hopper, infeed conveyor, picking conveyor with output storage containers for items manually removed, output conveyor and output storage.

Pre-Treatment involves the manual removal and separate storage of the following required items:

- SMW/ components containing fluids,
- Toner cartridges,
- CFCs, HFCs, HFCs and HCs,
- TVs and monitors,

- Fluorescent Lamps and switches containing mercury,
- Hazardous batteries,
- Asbestos,
- Refractory ceramic fibres,
- Radioactive substances, and
- Other non WEEE hazardous items (e.g. gas cylinders).

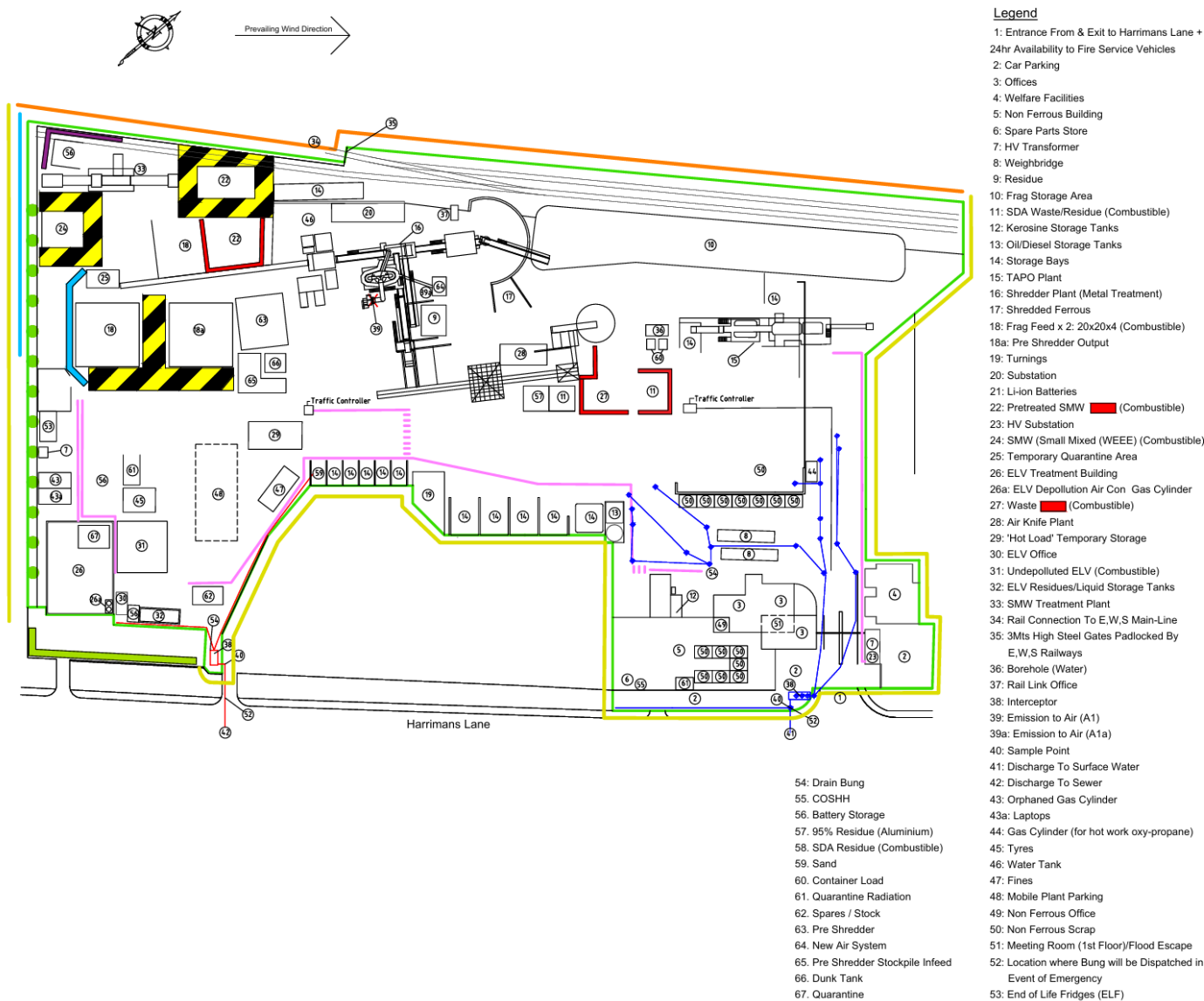
These items are stored in appropriate sealed and/ or leak proof containers, with cover where appropriate, prior to removal to suitably authorised facility.

There is a final visual inspection of pre-treated SMW prior to it being treated through the shredder. Any items requiring further pre-treatment are removed to the pre-treatment area.

TAPO Plant

Fragmentised scrap from the treatment of pre-treated WEEE is processed in the TAPO Plant. The plant consists of an infeed hopper, conveyors, overband magnet and output bays. The capacity is 150 tonnes per day, based on current treatment throughput of circa 15 tonnes per hour over a 10hr day.

Figure 3 - Site Layout/ Infrastructure Plan (Appendix 2)



2.5 Overview of Waste Processing, Dust and Other Emissions Controls

When waste arrives on site, it will arrive via road. If it is being delivered to site internally, it will be delivered via Ward articulated lorries which have an emission rating of Euro VI. All Ward lorries have a secure netting that is placed on top to secure loads and ensure no debris escapes.

At site, all waste will be subject to Ward waste acceptance procedures and checks and inspection by the Weighbridge Operator, furthermore, the Duty of Care documentation will be reviewed. When material arrives the Weighbridge Operative will inspect the material and take

overhead photos, which will be stored in the internal waste tracking system (ENWIS). The Weighbridge Operative will then instruct the driver to the appropriate tipping area.

Acceptance procedures for waste is subject to strict acceptance procedures in accordance with an internal Environmental Management System.

Any non-conforming wastes discovered will be isolated and stored in the appropriate quarantine area. Efforts will be made to trace back to the supplier where possible. If the source cannot be determined then the wastes will be suitably quarantined under the direction of the SM until they can be removed and treated at an appropriately permitted facility. Records of all non-confirming waste will be stored in the internal waste tracking system (ENWIS), suppliers will be recharged accordingly and reviewed by the Ward Quality Manager. The non-conforming list will be reviewed at the monthly metal commercial meetings.

The site consists of a concreted surface, which provides an impermeable surface.

Fixed Plant

The shredder system has water injection in the form of water injection / spray suppression on top of the mill. Each waste stream has its own tailored rate of internal water suppression. This system is active when the shredder is operational. It can be adjusted as required, and in response to visual observations made during operations.

Rubber flaps are fitted to the inlet and outlet of the shredder mill. The shredding activity is carried out using partially enclosed equipment to minimise the escape of dusts in windy conditions. Details are provided below.

There are misting system/water sprays at various locations on the plant to further assist in minimising the escape of dust in dry/windy conditions. These consist of a spray bar with nozzles on to dispense water in a mist across the general area. The fines bay has mid-length flaps to further contain any airborne particles from the conveyor. This is shown on the plan in appendix 3. The misting system is fed by water tanks that auto-fill and have markers on so operatives can visually check they are full.

Particulates are collected from the transfer conveyor and directed to an appropriate abatement system providing cyclonic filtration removal of dust from cleaning plant airstream and fabric filter / bag house prior to emission to air at A1a.

The drop point from the waste stacker conveyor has flaps to effectively reduce the drop height. The wastes are transported to the bays by conveyors which are either currently covered or will be covered during Phase 1-3 of the site's planned improvement works. The current status of the conveyors on site are shown in Appendix 3.

Pre-treatment of Small Mixed WEEE (SMW) and depollution of End of Life Vehicles (ELVs) is undertaken within a building minimising the potential for any dust emissions.

Material Storage

The shredder non-metallic fractions i.e. shredder waste and residue bays are on impermeable surface with sealed drainage system. The shredder non-metallic fractions i.e. shredder waste and residue bays are enclosed to varying extents to prevent or, where that is not practicable, minimise the potential for windblown emissions.

- The SDA/SMW residue and SDA / SMW waste bays are enclosed on 3 sides and covered.
- Non ferrous light fraction bay is enclosed on 3 sides and covered with netting.
- The shredder waste output bay is not currently covered and the shredder residue bay is enclosed on 3 sides and not currently covered, although these are planned to be covered within the planned site improvement works.

Material Handling

Shredder waste and residue is transported to output bays by conveyors. It is moved from output area to storage bay using a loading shovel. The bucket is not overfilled to minimise risk of dropping material.

Shredder waste and residue loading takes place adjacent to the storage bay to minimise the risk of dust escaping during transport in shovel bucket and to minimise the distance travelled. The bucket is not overfilled to minimise the risk of dropping wastes. A misting system is activated on waste bays when operating. The rate of water dispensed can be adjusted based on meteorological conditions and observations during the loading process.

Drop heights the distance between the grab and the stockpile “the drop” (deliveries and products) are kept to a minimum in line with company best practice (i.e. grab lowers material onto stockpiles or into containers) to prevent the generation of fugitive emissions of dusts.

Distances that material has to travel is kept to a minimum with due care and consideration being given to unloading and loading areas and distance from storage area.

Additional Dust Mitigation Measures

Should temporary storage be required elsewhere on the site for potentially dusty material, sprinkler systems are available to ensure that the escape of dust is minimised. Mobile water misting systems e.g. ‘dust layer’ or equivalent, are available for such purposes.

Visual inspections are undertaken regularly throughout the day, using the windsock to determine wind strength and direction, and by making observations of the plant and equipment. These inspections allow for adequate monitoring of how the dust suppression systems and procedures are performing regarding the presence of any fugitive emissions.

A visual material spillage / leak detection and repair programme is used to promptly identify and mitigate any fugitive emissions from the treatment plant and associated infrastructure. This includes visual inspections of conveyors, covers and enclosures for damage/ holes areas of corrosion of plant and equipment that could lead to fugitive emissions.

Meteorological conditions are checked regularly throughout the day using weather forecasts. This information is used to plan activity in periods of prolonged dry or warm weather.

Operatives are aware that loading lighter grades in certain meteorological conditions, such as windy conditions, may give rise to emissions. Additional monitoring and vigilance are employed during these conditions. In windier conditions, heavier grades of scrap metal e.g. cuttings or iron can be preferentially processed. These materials have lower dust generating potential than some lighter grades.

Waste storage, treatment areas and equipment are regularly inspected and cleaned. Good housekeeping is employed daily to reduce quantities of particulates, dust accumulating on the site, and alleviate any waste leaving the site. This occurs daily after each operational shift and throughout the operation, as required. This is also undertaken as part of the routine maintenance activity. This regular housekeeping avoids the need for large-scale decontamination activities. Residues collected during cleaning are contained so they do not cause emissions.

Dust suppression techniques such as dampening and the use of both manual and mechanical sweeping are employed as necessary to prevent emissions. The sweeper is used when required, and additional sweeping takes place using a Bobcat and brush. Visual monitoring by the site manager or appointed representative in his absence is undertaken throughout the day to determine when such equipment should be utilised.

A hose, IBC or bowser of water is available to suppress dust on site surfacing and roadways. During dry weather spells, it is likely that the frequency of use of both dampening equipment and the sweeper will increase. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency such equipment should be utilised.

The site management team carries out monitoring of site operations and undertakes regular visual inspections (at least once per day) of operations to check that routine dust management practices are being adhered to and to assess the potential for dust emissions. Remedial action is taken if dust/particulates are identified as a potential problem.

Dust is controlled through the on-going monitoring of site operations by the site management team using the management system tools. Daily site observations are conducted by site management and verbal reminders of best practice provided at the time if operational procedures are not in accordance with best practice. Observations with regard to improvements made to the working environment are recorded in the EHS Management Software.

Operational Feedback is communicated to site operatives at morning meetings or regular SHEQ meetings if earlier notice or discussion is not required.

Significant changes to operational practices are subject to discussions and to investigation to assess their potential emissions and the potential impact on the environment. Operational changes are defined as a significant change to plant type, a change to storage/treatment location of waste or a significant change to waste handling procedure.

Table 4 - Typical Waste Types Received at Nottingham

Description	EWC code	Dust Potential	Site Location	Process
Waste Metal from Agriculture	02 01 10	Very Low	Outside	Shredding
Ferrous metal filings and turnings/ swarf	12 01 01	Very Low	Outside	Shredding
Non- Ferrous metal filings and turnings/ swarf	12 01 03			
Ferrous metal filings and turnings/ swarf containing free-flowing machining fluid	12 01 07*/ 12 01 09*/ 12 01 10*/ 12 01 19*	Very Low	Outside	Storage Only
Non- Ferrous metal filings and turnings/ swarf containing free-flowing machining fluid	12 01 07*/ 12 01 09*/ 12 01 10*/ 12 01 19*			
Metallic Packaging	15 01 04	Low	Outside	Shredding
Mixed Packaging	15 01 06			
End of Life Vehicles (undepolluted)	16 01 04*	Very Low	Outside/ in ELV building	ELV Depollution
End of Life Tyres	16 01 03	Very Low	Outside/ in ELV building	Storage only
End of Life Vehicles (depolluted)	16 01 06	Very Low	Outside/ in ELV building	Shredding
Ferrous metal from ELV	16 01 17			
Non-ferrous metal from ELV	16 01 18			
Plastic	16 01 19	Very Low	Outside	Storage only
Glass	16 01 20			

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Hazardous components	16 01 21*	Very Low	Outside/ in ELV building	Shredding
Non Hazardous components from ELV	16 01 22			
Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	Very Low	Outside	Storage only
Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	Very Low	Outside	Shredding
Non Hazardous WEEE	16 02 14			
Hazardous components removed from discarded equipment	16 02 15*			
Non Hazardous components removed from WEEE	16 02 16			
Lead batteries	16 06 01*	Very Low	Covered containment	Storage only
Ni-Cd batteries	16 06 02*			
Mercury containing batteries	16 06 03*			
Other batteries and accumulators	16 06 05			
Spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)	16 08 01	Very Low	Outside/ in NF Building/ ELV Building	Storage only
Spent catalysts containing hazardous transition metals or hazardous transition metal compounds	16 08 02*			
Copper, Bronze, Brass from construction and demolition waste	17 04 01	Very Low	Outside/ in NF Building	Shredding
Aluminium from construction and demolition	17 04 02			
Lead from construction and demolition	17 04 03			
Zinc from C&D wastes	17 04 04			
Iron & Steel from construction and demolition	17 04 05			
Tin from construction and demolition	17 04 06			
Mixed metal from construction and demolition	17 04 07			
Cables	17 04 10* and 17 04 11			

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Ferrous metal from bottom ash	19 01 02	Low	Outside	Shredding
Premixed wastes composed of at least one hazardous waste	19 02 04*	Very Low	Outside	Shredding/ Tapo Plant
Iron & Steel from Shredding Non-ferrous from Shredding	19 10 01 19 10 02	Very Low	Outside	Shredding
Fluff-light fraction and dust containing dangerous substances Fluff-light fraction and dust other than those mentioned in 19 10 03 Other fractions containing dangerous substances Other fractions other than those mentioned in 19 10 05	19 10 03*(1) 19 10 04(1) 19 10 05*(1) 19 10 06(1)	Medium	Outside	Shredding
Ferrous metal from other waste facilities (mechanical treatment) Non-ferrous metal from other waste facilities (mechanical treatment)	19 12 02 19 12 03	Very Low	Outside	Shredding
Other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances Mixtures of materials (mechanical treatment)	19 12 11* 19 12 12	Medium	Outside	Shredding
Discarded equipment containing chlorofluorocarbons	20 01 23*	Very Low	Outside	Storage only
Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these Batteries	20 01 33*	Very Low	Covered Containment	Storage only

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Hazardous Batteries and accumulators	20 01 34			
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	Very Low	Outside	SMW Treatment/ Shredding
Non Hazardous WEEE	20 01 36	Very Low	Outside	Shredding
Metals	20 01 40	Very Low	Outside	Shredding

2.6 Mobile Plant and Equipment

Nitrogen Dioxide gas is a by-product of internal combustion engines and the site uses several items of plant with internal combustion engines including:

Material Scrap Handlers (MSH) – Grab Attachment

- These MSH all have grab attachments that are used to pick up (grab) scrap metal.
- When loading vehicles (e.g. skips / bulkers), the MSH operatives use the grab to place scrap. The grab is lowered into skip / bulker as far as it can go before scrap released. This minimises drop height and the potential for generating dust. This process is repeated until there is a full layer of scrap in the bulker / skip, known as bedding out the lorry. Process repeated until vehicle is loaded.

Material Scrap Handler (MSH) – Magnet Attachment

- This MSH has a magnet rather than a grab attachment for picking up scrap metal. The magnet itself is a flat plate on chains.
- This plant is used infrequently for loading profile and discs (very low dust potential). When in use, as with the grabs, the MSH operator lowers the magnet with scrap to the bed of the skip before the scrap is released.

Fork Lift Trucks (FLT's) (including Telehandlers and Bob Cats) and Loading Shovels

- FLT's are used only on even surfaces and at low speed.
- Bob Cats are used for cleaning and maintenance around the site.
- Loading Shovels, for moving heavier items and stockpile management.

Distances that material has to travel is kept to a minimum with due care and consideration being given to unloading and loading areas and distance from storage area.

All plant is to 'industrial standard' as used in the materials handling sectors and is inspected and maintained to manufacturers specification.

Revvng of plant and vehicle engines is kept to an operational minimum and idling plant is switched off when not in use, where practicable.

3. Sources of Dust and Other Emissions

3.1 Sources and Control of Fugitive Dust

Potential dust emissions from the site may be generated from activities associated with:

- Waste acceptance;
- Vehicle movements in and out of the site and around the site (site traffic);

- Handling, movement and tipping of waste;
- Stockpiling;
- Wind blowing across waste piles/ storage bays;
- Site surfaces;
- Loading waste materials into vehicles;
- Particulate emissions from the exhaust of vehicles/plant/machinery on site;
- Treatment activities, including End of Life Vehicle depollution, SMW treatment, pre-shredding, shredding and downstream treatment.

Dust production may increase during periods of strong winds or dry weather.

Significant changes to operational practices are subject to discussions and to investigation to assess their potential emissions and the potential impact on the environment. Operational changes are defined as a significant change to plant type, a change to storage/treatment location of waste or a significant change to waste handling procedure.

3.2 Pathway

In order to minimise the dust, potentially generated at the site, the following control measures will be implemented by the SM to mitigate the effects of potential dust emitting activities identified. General measures will also be implemented.

Table 5 - Source Pathway Receptor Model

Activity / Source	Potential Emission / Hazard	Pathway	Receptor	Existing Control Measures (Appropriate Measure / BAT)
Vehicle movements in/out of site	Dust generation from road and yard traffic	Airborne dispersion	Local receptors	<p>Roads maintained and swept; traffic speed, including both vehicles and mobile plant, is limited to 5mph to minimise dust generation by vehicle movement on site.</p> <p>Visible signage informing of the speed limit is displayed on site.</p> <p>Where appropriate (e.g. fragmentiser waste / residues) vehicles are sheeted to minimise the risk of windblown emissions during transport.</p> <p>Vehicles are sheeted before they leave the loading area. Drivers completing the sheeting process check for any debris on the vehicle before leaving this area.</p> <p>Automatic sheeted vehicles are checked at the weighbridge before leaving site.</p>
Handling, movement and tipping of waste	Dust release from material drop heights	Airborne dispersion	Local receptors	<p>Waste tipped in designated areas.</p> <p>Drop heights - the distance between the grab and the stockpile “the drop” (deliveries and products) are kept to a minimum in line with company best practice (i.e. MSH lowers material onto stockpiles or into containers) to prevent the generation of fugitive emissions of dusts.</p> <p>Distances that material has to travel is kept to a minimum with due care and consideration being given to unloading and loading areas and distance from storage area.</p>
Waste acceptance	Dust release during inspection/unloading	Airborne dispersion	Local receptors	<p>Waste pre-acceptance, waste acceptance and site inspection checks and procedures identify and manage wastes that could cause, or are causing, fugitive emissions to air. For example, identifying gas cylinders, or poorly depolluted ELVs minimises the likelihood of deflagrations. The waste materials handled will under normal</p>

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				<p>circumstances be of be of macro solid form. Compliance with waste acceptance procedures will identify wastes consisting solely of dusts and ensure they are adequately contained. It will identify the presence of wastes with the potential to generate significant quantities of dusts so they can be managed accordingly. Wastes will be inspected at weighbridge and in unloading areas.</p>
<p>Wind blowing across waste piles</p>	<p>Wind-blown dust from stockpiles</p>	<p>Airborne dispersion</p>	<p>Local receptors</p>	<p>The shredder non-metallic fractions i.e. shredder waste and residue bays are on impermeable surface with sealed drainage system.</p> <p>The shredder non-metallic fractions i.e. shredder waste and residue bays are enclosed to varying extents to prevent or, where that is not practicable, minimise the potential for windblown emissions.</p> <p>The SDA/SMW residue and SDA / SMW waste bays are enclosed on 3 sides and covered. Non-ferrous light fraction bay is enclosed on 3 sides and covered with netting.</p> <p>The shredder waste output bay is not currently covered and the shredder residue bay is enclosed on 3 sides and not currently covered, although these are planned to be covered within the planned site improvement works.</p>
<p>Site surfaces and infrastructure</p>	<p>Dust from unsealed or dry surfaces</p>	<p>Airborne dispersion</p>	<p>Local receptors</p>	<p>All treatment activities take place on impermeable surface with sealed drainage system, minimising the risk of generation of dusts from site surfacing.</p> <p>The integrity of the surfacing is maintained.</p> <p>The fence line along the boundary with the rail line is topped with a fine net to minimise risk of emissions. The netting is inspected daily and maintained in a good state of repair.</p> <p>The fence line along the boundary with Boots / the cycle path has been extended in height. This affords some protection from wind (wind barrier) and minimises the potential for windblown debris.</p> <p>Dust suppressing equipment by means of a fixed spray system is installed along the boundary with the rail head.</p>
<p>Loading waste into vehicles/vessels</p>	<p>Dust from tipping and loading</p>	<p>Airborne dispersion</p>	<p>Local receptors</p>	<p>Stockpiles dampened before loading; reduced drop heights; visual monitoring.</p>

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Exhaust emissions from vehicles and plant	Particulate emissions (NOx, PM)	Airborne dispersion	Local receptors	<p>Distances that material has to travel is kept to a minimum with due care and consideration being given to unloading and loading areas and distance from storage area.</p> <p>All plant is to 'industrial standard' as used in the materials handling sectors and is inspected and maintained to manufacturers specification.</p> <p>Revving of plant and vehicle engines is kept to an operational minimum and idling plant is switched off when not in use, where practicable.</p>
Pre-treatment of SMW	Dust from treatment process	Airborne dispersion	Local receptors	Pre-treatment of Small Mixed WEEE (SMW) is undertaken by manual means within a building minimising the potential for dust emissions.
ELV depollution	Dust/ VOC emissions from treatment process	Airborne dispersion	Local receptors	ELV depollution is carried out in a building minimising the potential for dust emissions. Insignificant source of fugitive emissions of VOC. Volumes of petrol are minimal and originate from the depollution of ELV activity. The integrity of fuel tanks and function of gauges are checked regularly. Spillages of petroleum products is unlikely as ELV activities are carried out in the designated area with drip trays and ELV fluid storage tanks. However, spill kits will be available, and any spills of diesel will be attended to immediately. Spill kits will be located at key locations on site and will be mobile so that they may be taken to the site of an incident. Emergency Response Plan will be in place, which will include documented procedures for handling spillages to minimise impacts. Employees have training on emergency response plan and environmental awareness.
Pre-shredding	Dust from treatment process	Airborne dispersion	Local receptors	The pre-shredder operates at low speed and high torque to minimise the generation of dust. The discharge chute is fitted with a water misting system to further suppress dust.
Shredding and downstream separation	Dust from treatment process	Airborne dispersion	Local receptors	<p>The shredder system has water injection in the form of water injection / spray suppression on top of the mill.</p> <p>Each waste stream has its own tailored rate of internal water suppression. This system is active when the shredder is operational. It can be adjusted as required, and in response to visual observations made during operations.</p>

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				<p>Rubber flaps are fitted to the inlet and outlet of the shredder mill.</p> <p>The shredder plant conveyor feed is designed to eliminate dust from feeding the machine and has a hood fitted to help contain dust. Dust suppression sprays are installed along at the processing area and dust suppression techniques, such as dampening, and the use of both manual and mechanical sweeping are employed as necessary to prevent unacceptable emissions. The area benefits also from a netted screen to contain any particulate emissions locally.</p> <p>The shredding activity is carried out using partially enclosed equipment to minimise the escape of dusts in windy conditions. Details are provided below.</p> <p>There are misting system/water sprays at various locations on the plant to further assist in minimising the escape of dust in dry/windy conditions. These consist of a spray bar with nozzles on to dispense water in a mist across the general area.</p> <p>The fines bay has mid-length flaps to further contain any airborne particles from the conveyor.</p> <p>The misting system is fed by water tanks that auto-fill and have markers on so operatives can visually check they are full.</p> <p>Particulates are collected from the transfer conveyor and directed to an appropriate abatement system providing cyclonic filtration removal of dust from cleaning plant airstream and fabric filter / bag house prior to emission to air at A1a. The fine fraction from the process is contained in bags that are sealed to minimise emissions. A skirt is present around the dust bagging plant to prevent windblown material</p> <p>The drop point from the waste stacker conveyor has flaps to effectively reduce the drop height.</p> <p>The wastes are transported to the bays by conveyors which are either currently covered or will be covered during Phase 1-3 of the site's planned improvement works. The current status of the conveyors on site are shown in Appendix 3.</p>
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				<p>Shredder waste and residue is transported to output bays by conveyors. It is moved from output area to storage bay using a loading shovel. The bucket is not overfilled to minimise risk of dropping material.</p> <p>Shredder waste and residue loading takes place adjacent to the storage bay to minimise the risk of dust escaping during transport in shovel bucket and to minimise the distance travelled. The bucket is not overfilled to minimise the risk of dropping wastes.</p> <p>A misting system is activated on waste bays when operating. The rate of water dispensed can be adjusted based on meteorological conditions and observations during the loading process.</p> <p>A portable dust buster will be available / employed to suppress dust in areas not covered by fixed spray systems, if required.</p>
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3.3 Other Considerations

Water usage/ availability:

With regards to dust suppression methods, WARD will use water for dust suppression which is sourced from the mains supply.

The water supply is sufficient to provide capacity for an entire operational day during dry and windy conditions.

In the event of a drought, to reduce consumption of water, the conditions on site will be monitored and systems adjusted accordingly. Specific activities may be ceased should it be proven that they are giving rise to adverse effects.

3.4 Enclosure of Waste Processing & Storage Areas

Pre-treatment of Small Mixed WEEE (SMW) and End of Life Vehicle depollution are undertaken within a building minimising the potential for any dust emissions.

The shredder non-metallic fractions i.e. shredder waste and residue bays are on impermeable surface with sealed drainage system. The shredder non-metallic fractions i.e. shredder waste and residue bays are enclosed to varying extents to prevent or, where that is not practicable, minimise the potential for windblown emissions.

- The SDA/SMW residue and SDA / SMW waste bays are enclosed on 3 sides and covered.
- Non ferrous light fraction bay is enclosed on 3 sides and covered with netting.
- The shredder waste output bay is not currently covered and the shredder residue bay is enclosed on 3 sides and not currently covered, although these are planned to be covered within the planned site improvement works.

BAT did not specifically require shredder non-metallic fractions to be stored in covered bays or treated under cover. An improvement programme is in place. We will work towards covering all non-metallic fraction storage bays and conveyors. Timescales TBD.

The remainder of the non-metallic fraction process equipment will be covered as follows:

- The 2nd waste (dirt) conveyor. This will be covered in Phase 1 of the improvement plan, along with the shredder waste bay.

- The (M21) non-ferrous conveyor (55) This will be covered in Phase 2 along with non-ferrous residue bay.
- The final 1/3 of the 4th waste belt (DC16) will be covered in phase 3.
- The configuration of equipment on the waste line that consists the DC19 drum magnet / shaker, DC18 overband magnet & DC23 conveyor will be covered in phase 3.
- the DC24 waste (dirt) stacking conveyor will be covered by the waste output bay cover work Phase 1.

Other improvements:

- Trommel (DC6) is predominantly enclosed, but improvements to the enclosure will be implemented during phase 3.

4.0 Monitoring

Visual Dust Monitoring

The Site Manager or appointed representative will conduct visual dust monitoring daily. The monitoring will involve looking for visible dust plumes from operations and transport, deposition on surfaces, and evidence of dust crossing the site boundary. If dust emissions are observed beyond the site boundary, activities contributing to the emissions will be paused, and additional control measures such as damping down will be implemented.

Additional visual inspections are undertaken regularly throughout the day, using the windsock to determine wind strength and direction, and by making observations of the plant and equipment. These inspections allow for adequate monitoring of how the dust suppression systems and procedures are performing regarding the presence of any fugitive emissions.

A visual material spillage / leak detection and repair programme is used to promptly identify and mitigate any fugitive emissions from the treatment plant and associated infrastructure. This includes visual inspections of conveyors, covers and enclosures for damage/ holes areas of corrosion of plant and equipment that could lead to fugitive emissions.

Meteorological conditions are checked regularly throughout the day using weather forecasts. This information is used to plan activity in periods of prolonged dry or warm weather.

Operatives are aware that loading lighter grades in certain meteorological conditions, such as windy conditions, may give rise to emissions. Additional monitoring and vigilance are employed during these conditions. In windier conditions, heavier grades of scrap metal e.g. cuttings or iron can be preferentially processed. These materials have lower dust generating potential than some lighter grades.

Waste storage, treatment areas and equipment are regularly inspected and cleaned. Good housekeeping is employed daily to reduce quantities of particulates, dust accumulating on the site, and alleviate any waste leaving the site. This occurs daily after each operational shift and throughout the operation, as required. This is also undertaken as part of the routine maintenance activity. This regular housekeeping avoids the need for large-scale decontamination activities. Residues collected during cleaning are contained so they do not cause emissions.

Dust suppression techniques such as dampening and the use of both manual and mechanical sweeping are employed as necessary to prevent emissions. The sweeper is used when required, and additional sweeping takes place using a Bobcat and brush. Visual monitoring by the site manager or appointed representative in his absence is undertaken throughout the day to determine when such equipment should be utilised.

A hose, IBC or bowser of water is available to suppress dust on site surfacing and roadways. During dry weather spells, it is likely that the frequency of use of both dampening equipment and the sweeper will increase. Visual monitoring by the site manager or appointed representative in their absence is undertaken throughout the day to determine the frequency such equipment should be utilised.

The site management team carries out monitoring of site operations and undertakes regular visual inspections (at least once per day) of operations to check that routine dust management practices are being adhered to and to assess the potential for dust emissions. Remedial action is taken if dust/particulates are identified as a potential problem.

Dust is controlled through the on-going monitoring of site operations by the site management team using the management system tools. Daily site observations are conducted by site management and verbal reminders of best practice provided at the time if operational procedures are not in accordance with best practice.

Point Source emissions Monitoring

An emission to air from the shredder plant air extraction system is noted as A1a in the Operating Techniques Site Plan. This will be monitored at least every 6 months in accordance with permit conditions (as per below). A 'Point Source Emissions to Air Monitoring Protocol' is included as Appendix 5. All work undertaken will follow the requirements detailed in Guidance for “Monitoring Stack Emissions: Measurement Locations”, formerly called Technical Guidance Note M1 (TGN M1) and a Site Specific Protocol will be provided by the specialist external contractor undertaking the sampling.

Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency (Note 1) (Note 2)	Monitoring standard or method
A1a Emissions control system exhaust from metal shredder	Metal shredder air extraction and abatement system	Dust	5 mg/m ³	Average value of 3 consecutive measurements of at least 30 minutes	6 monthly	EN 13284-1
		Total VOCs	-	Average value of 3 consecutive measurements of at least 30 minutes	6 monthly	EN 12619
		Brominated flame retardants (Note 3)	-	Average value of 3 consecutive measurements of at least 30 minutes	Annually	CEN TS 13649
		Dioxin-like polychlorinated biphenyls (PCBs) (Note 3)	-	One sampling period of at least 6 hours	Annually	EN 1948-1, 2, 4. (Note 4)
		Metals (As, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V) (Note 3)	-	Average value of 3 consecutive measurements of at least 30 minutes	Annually	EN 14385

Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency (Note 1) (Note 2)	Monitoring standard or method
		Dioxins and furans (PCDD/F) (Note 3)	-	One sampling period of at least 6 hours	Annually	EN 1948-1, 2, 3 (Note 4)

Note 1: An alternative monitoring frequency may be agreed in writing with Environment Agency following completion of IC 9 (a) and (b) (IC for emissions inventory).

Note 2: Monitoring frequencies may be reduced with the written agreement of the Environment Agency if emission levels are proven to be sufficiently stable

Note 3: This monitoring requirement and limit only applies when the substance is present in the waste gas stream

Note 4: Instead of EN 1948-1, sampling may also be carried out according to CEN/TS 1948-5.

Ambient Emissions Monitoring

Ambient Emissions to air will be monitored in accordance with an ‘Ambient Emissions Monitoring Protocol’ to be agreed with the EA. The monitoring location will be agreed with the Environment Agency. Monitoring will be undertaken as per permit conditions:

Ambient monitoring requirements				
Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
At a location or locations agreed in writing with the Environment Agency that will obtain reliable and representative data on particulate emissions from the waste management operations.	Total suspended particulates (TSP) unless otherwise agreed in writing with the Environment Agency.	Quarterly unless otherwise agreed in writing with the Environment Agency.	The equipment shall be operated to a procedure agreed in writing with the Environment Agency. The emissions management plan must include action levels and regular review cycles with an overriding aim to reduce particulate emissions from the facility.	Monitoring equipment shall meet the MCERTS Performance Standards for Indicative Ambient Particulate Monitors or similar standard agreed in writing with the Environment Agency. The equipment shall be calibrated in accordance with the manufacturer’s recommendations. The system must be managed and

Ambient monitoring requirements				
Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
				maintained by suitably trained personnel. The system must obtain representative data that must accurately reflect TSP levels produced by the site's activities.

The results of monitoring will be reviewed against UK Air Quality Standards and much shorter, non-statutory action level from IAQM guidance for monitoring PM around Construction sites. There are no limits (statutory or otherwise) for TSP.

4.1 Monitoring Locations

The Ward Nottingham Protocol for Monitoring Point Source Emissions to Air at point A1a summarises the proposals to undertake representative monitoring of the air discharged from metal shredder operations of the emissions to air from point A1a shown on the plan in Schedule 7 including the parameters to be monitored, frequencies of monitoring and methods to be used.

Ambient Emissions to air will be monitored in accordance with an ‘Ambient Emissions Monitoring Protocol’ to be agreed with the Environment Agency. The monitoring location will be agreed with the Environment Agency.

4.2 Operation of the Dust Monitoring Equipment

Point Source Emissions Monitoring Equipment

Point source (aka stack) emissions monitoring will be undertaken by suitably qualified stack emissions monitoring team (the technicians) who hold all the relevant MCERTS accreditation for the emissions monitoring proposed. Sample teams will be led by a Team Leader with an MCERTS Level II qualification and technical endorsements appropriate to the type of monitoring being carried out.

Ward employees will be nominated to liaise with the technicians, to ensure the necessary site inductions have been completed, permits to work issued, arrange safe access to the monitoring locations etc. and to liaise with the technicians and oversee the monitoring. The nominated employee and other relevant employees (supervisors/ managers) will receive instruction and training in respect of this protocol.

The Site Manager will have overall responsible for ensuring that the technicians undertake monitoring in accordance with the protocol and to nominate the employee to liaise with the technicians and oversee the monitoring.

Ambient Emissions Monitoring Equipment

The equipment installed by the previous operator consisted of a MCERTS approved continuous-reading nephelometer, which gave a real-time measurement. Data from the PM monitor was downloaded automatically to a dedicated website.

The instrument operated on the principle of light-scattering by particles, and provided a continuous measurement of the concentrations of the PM fractions.

Subject to approval by the Environment Agency, the same/ similar equipment will be utilized by Ward. The instrument will be calibrated and maintained in accordance with the manufacturer`s recommendations.

The monitor will be housed in a secure and locked container and only suitably qualified air quality professionals will be permitted to open the container to check and maintain the instrument.

4.3 Quality Assurance/Quality Control and Record Keeping

The make, model and serial number of monitoring equipment will be recorded.

Monitoring equipment will be calibrated as per manufacturer recommendations.

If equipment is damaged and/or no longer able to collect reliable data, it will be repaired or replaced as soon as reasonably practicable. Hire equipment will be sourced where available to ensure no breaks in monitoring.

5. Action When an Alarm Is Triggered

Subject to approval of the Ambient Emission Monitoring Protocol, ambient monitoring measurements will be checked regularly remotely via a dedicated website. Email alerts will be sent by the dedicated website to the site so that appropriate action can be taken.

6. Reporting and Complaints Response

Ward contact details are readily available to neighbouring residents. Neighbours are encouraged to contact site directly to discuss any concerns they may have.

The site office contact details (postal address and telephone number) are available on the site identification board at the site entrance, the Ward company website, business listing services, and internet search engines.

Any complaints received direct to site or via the Environment Agency are recorded and responded to.

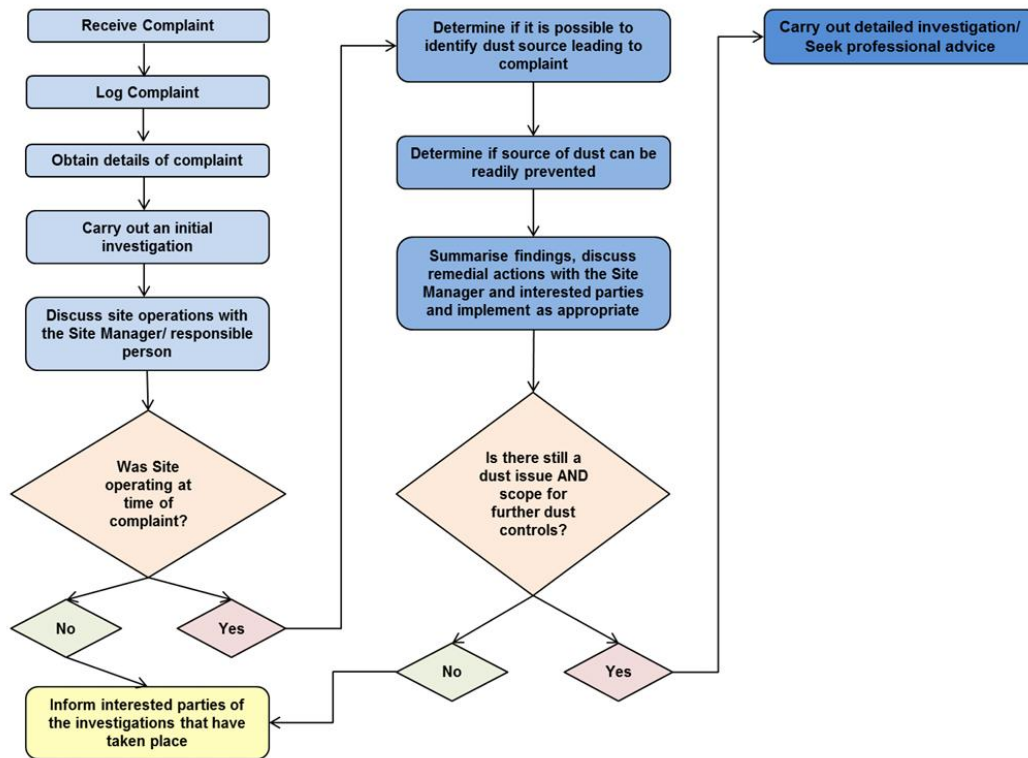
6.1 Engagement with the Community

Engagement with neighbouring properties and the broader community is an essential aspect of establishing and maintaining positive working relationships. Communication will be undertaken to address concerns, reduce barriers to feedback, and promote transparent dialogue. This approach supports more accurate reporting of dust-related impacts and fosters constructive community relations.

6.2 Complaints Procedure

Any complaints related to dust from any stakeholder (regulators, neighbours or other third party) will be thoroughly investigated by the SM and / or the Environmental and Sustainability Dept. all findings, corrective actions, and supporting documentation recorded in the My Compliance Management System. The Site manager is responsible for investigating dust complaints, and is provided with assistance from the Environmental and Sustainability Dept. All complaints and feedback is reviewed at Site SHEQ Meetings.

Dust Complaints Management Procedure:



Appendices 1 – 5 Provided as separate documents
End of Dust and Emissions Management Plan