



Environmental Risk Assessment

for

KCM Waste Management Ltd

Wash Plant And Recovery Facility

at
land off
Aldwarke Lane,
Rotherham
S65 3SR

VERSION 2 DOCUMENT D1

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Licensed Waste Management and Recycling Facility – Scrap Metal Merchants – Skip Hire – Trade Waste
Aggregates & Tipper Hire – Hazardous Waste Disposal – Confidential Waste Disposal – WEEE Disposal

VAT NO 173 445 405– COMPANY NO 08180835



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1. Introduction

1.1 Report Context

The Site operates under a Recycling Permit, Permit EPR/QP3422MQ/A001.

The report assesses the risks of the proposed changes and has been prepared following guidance available on the gov.uk website, particularly:

- Risk Assessment for your Environmental Permit
- Non-hazardous and inert waste: Appropriate measures for permitted facilities
- Control & Monitor Emissions for your Environmental Permit

Risks identified in Sections 3 and 4 will be controlled through mitigation, as detailed in Section 5. Mitigation is incorporated into the Environmental Management System.

All drawings referenced are contained in Appendix A.

1.2 Site Location and Surrounding Area

The Site lies within the centre of an industrial area, characterised by heavy industry and has a major railway line just the north of the site.

The area is surrounded by various residential areas to the north and west of the site, although none are in the immediate vicinity. There are the River Don and various ponds within 1km of the surrounding area of the site highlighted on the Sensitive Receptor Plan Appendix 2.

The Site is centred on an approximate National Grid Reference of SK 45149582.

The Site is accessed via an existing gated access road off Aldwarke Lane S65 3SR. Fences are installed around the site. A notice board will be displayed on the site gate with the permit details and the Agency's contact details.

Incoming waste is weighed at the weighbridge and then directed to the correct location for processing.

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The site benefits drainage that has an interceptor to catch all the silt to prevent water contamination.

2. Activities

A wide range of waste types are permitted for acceptance, including commercial, construction and demolition wastes.

Waste is imported to site and deposited in the relevant bay before it is treated, either manually or through the Wash Plant.

Treatment consists of manual sorting and separation, crushing, screening, and blending. Hardcore is crushed and then either sold as 6F5 or screened for further processing to produced graded stone products.

The annual permitted throughput for the site is currently 450,000 tonnes.

2.1 Soil Washing

Proposed waste types that will be subject to soil washing are listed in Table 1 below. This list mirrors the waste types allowed under the end of waste protocol. The predominant waste types will be concrete, bricks, soil and stones from construction, demolition, and excavation.

Table 1 Permitted Waste Types

Maximum quantity	The total quantity of waste accepted at the site for the above activity shall be less than 450,000 tonnes a year.
Waste code	Description
01	WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS
01 01	Waste from mineral excavation
01 01 01	Wastes from mineral metalliferous excavation
01 01 02	Wastes from mineral non-metalliferous excavation
01 04	Wastes from physical and chemical processing of non-metalliferous minerals
01 04 08	Waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	Waste sand and clays
01 04 13	Waste from stone cutting/sawing other than those mentioned in 01 04 07
10	WASTES FROM THERMAL PROCESSES
10 01	Wastes from power stations and other combustion plants (except 19)
10 01 01	Bottom ash, slag and boiler dust
10 01 15	Bottom ash, slag and boiler dust from co-incineration
10 11	Waste from manufacture of glass and glass products
10 11 12	Waste that a glass waste other than those mentioned in 10 11 11
10 12	Wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
10 13	Wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 14	Waste concrete and concrete sludge

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17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)
17 01	Concrete, bricks, tiles and ceramics
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	Wood, Glass and Plastic
17 02 01	Wood
17 02 02	Glass
17 03	Bituminous mixtures, coal tar and tarred products
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 05 06	Dredging spoil other than those mentioned in 17 05 05
17 05 08	Track ballast other than those mentioned in 17 05 07
17 09	Other construction and demolition wastes
17 09 04	Mixed construction and demolition waste other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTEWATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE
19 01	Wastes from incineration or pyrolysis of waste
19 01 12	Bottom ash and slag other than those mentioned in 19 01 11
19 01 14	Fly ash other than those mentioned in 19 01 13
19 01 16	Boiler dust other than those mentioned in 19 01 15
19 08	Wastes from wastewater treatment plants not otherwise specified
19 08 01	screenings
19 08 02	Waste from desanding
19 08 05	Sludges from treatment of urban wastewater
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 07	Wood other than those mentioned in 19 12 06
19 12 09	Minerals (for example sand, stones)
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13	Wastes from soil and groundwater remediation
19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	Sludges from soil remediation other than those mentioned in 19 13 03
19 13 06	Sludges from groundwater remediation other than those mentioned in 19 13 05

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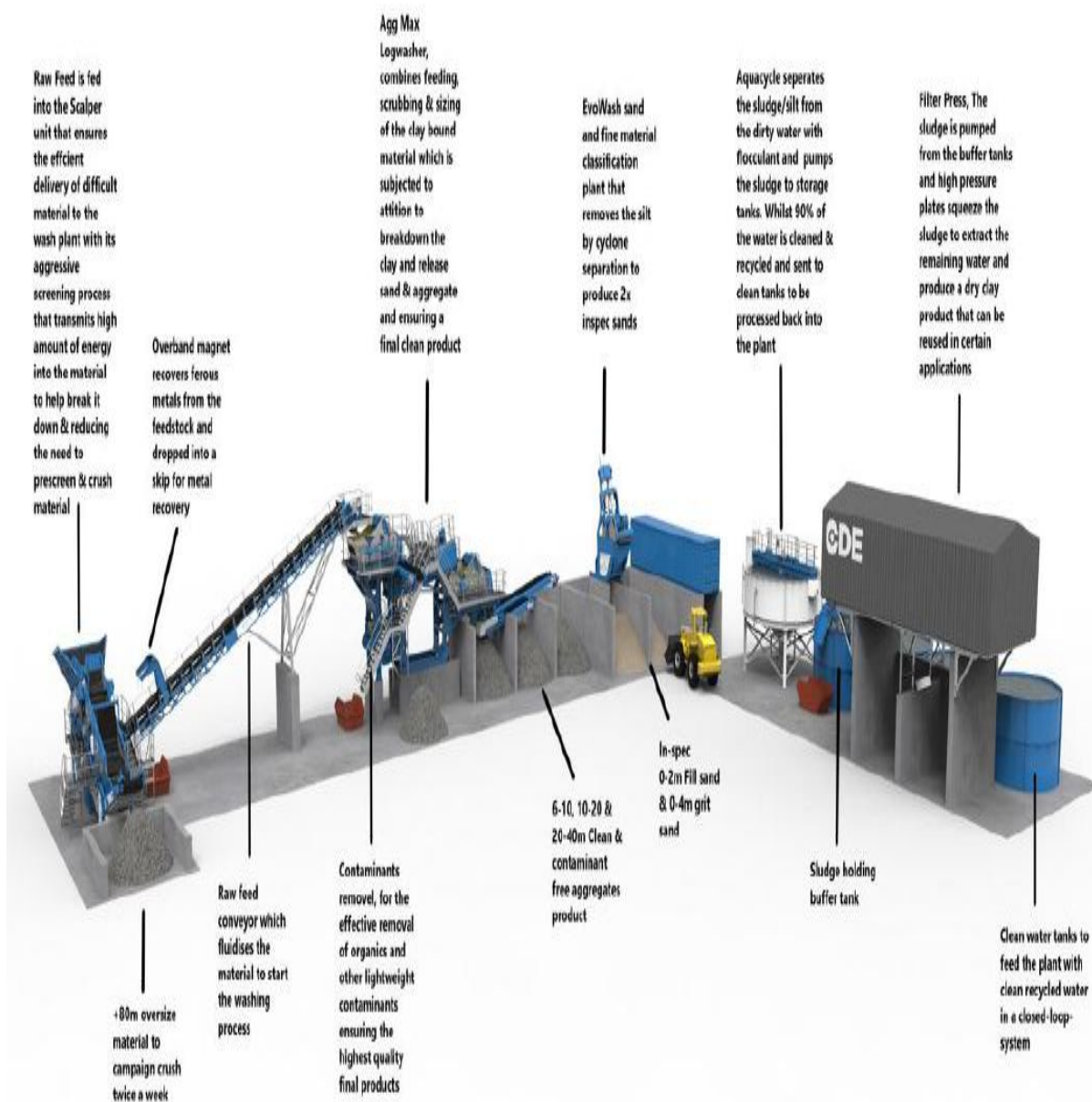
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20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01	Separately collected fractions (except 15 01)
20 01 38	Wood other than those mentioned in 20 01 37
20 02	Garden and park wastes (including cemetery waste)
20 02 02	Soil and stones
20 03	Other municipal wastes
20 03 03	Street-cleaning residues (mud, dust and stone residues only)
20 03 06	Waste from sewage cleaning

Figure 1 Wash Plant Flow Chart

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The plant will be located within the Site shown on the Site Layout, Appendix 1. A process flow chart for the operation is shown in Figure 1.

Washing of soil/stone mixtures will be carried out to produce a clean stone product. Waste will be loaded into a hopper which feeds a rinsing screen and then a log wash. Following this stone and sand is screened into separate sizes of stone (e.g.

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Wash water will be returned into a thickening tank where it is separated into water/sludge by flocculation. Water brims over the top of the flocculation tank and is returned to the water feed tank for reuse.

Sludge settles to the bottom of the tank and is drawn off into a sludge storage tank and sent to a filter press. Filter cake will be stored beneath the press housing in a concrete block storage bay. The filtrate is returned to the water feed tank.

The plant will be a closed loop system; there will be no discharge of water. Water is lost as moisture in the filter cake and the system will be topped up with clean water. The water source will be harvested water from the lagoon and mains water.

Incoming wastes will be stored in the yard. Products will be stored in bays in the yard as shown on the site layout plan.

The daily capacity of the plant is around 1600 tonnes.

2.2 Throughput

It is requested that the Environmental permits throughput is at 450,000 tonnes per annum. The permanent wash plant will have the capacity to process up to 1,600 tonnes per day, which over a 5-day week and 48 weeks of the year equates to 384,000 tonnes. In addition, some material will be dry screened and not processed through the wash plant.

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3. Identification of Risks

3.1 Receptors

The location of the site in relation to the potential receptors are listed in Table 1 below.

Table 2. Potential Receptors within 1km

Number	Receptor name	Receptor type	Distance from site	Direction from site
1	Rawmarsh Sandhill Primary School	Public School	850m	N
2	Roundwood Cottage	Residential properties	250m	N
3	Roundwood Grove	Residential properties	550m	W
4	St Josephs Primary School	Public School	750m	W
5	Netherfield Lane	Residential properties	800m	W
6	Kilnhurst Hall Farm	Farm and Residence	750m	NE
7	Granby House Nursery	Children's Nursery	1000m	SW
8	Rawmarsh Health Centre	Doctors' surgery/pharmacy	900m	W
9	Beechwood House	Residential properties	950m	NNE
10-11	Roundwood Golf Club	Golf course	200m	SW
12	Playing fields	Public recreation sports fields	550m	NNW
13	Lowbridge Business Park	Industrial area	1000m	NNE
14	Thrybergh Bar Mill	Heavy industry	900m	SSE
15	Aldwarke Business Centre	Industrial area	850m	S
16	Liberty Steels	Heavy Industry	200m	E
17	Aldwarke Business Park	Industrial area	900m	SSW
18	Minteq UK Ltd	Industrial area	850m	SW
19	Owen Springs	Industrial area	850m	SW
20	J-Motion Gym	Fitness centre	1000m	SW
21	Station Hotel	Public House	1000m	SW
22	Rawmarsh Nursery and Children's Centre	Children's Nursery	800m	W
23	Bright Bar Rotherham	Heavy industry	100m	W
24	Roundwood Brook	Watercourse	250m	NE
25	River Don	Watercourse	300m	E
28	Ponds	Watercourse	100m	NE
29	Ponds	Watercourse	900m	S
30	Electric Pylon	Electricity	200m	E
31	Thrybergh Hydropower Station	Power	1000m	ENE
32	Railway Line	Heavy Industry	50m	W
33	Aldwarke Junction	Heavy Industry	300m	SW
34	Railway Line	Heavy Industry	50m	W
35	A6123	Public highway	800m	SSW
36	Secondary Aquifer – Bedrock Geology	Heavy Industry	0m	
37	Secondary Aquifer – Superficial Geology	Heavy Industry	0m	
38`	Ancient woodland	Forestry	1000m	E

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39	Woodland	Forestry	1100m	NE
40	Woodland	Forestry	500m	NE
41	Woodland	Forestry	100m	N
42	Woodland	Forestry	200m	N
43	Woodland	Forestry	550m	W
44	Woodland	Forestry	600m	W
45	Woodland	Forestry	500m	SW
46	Woodland	Forestry	900m	S
47	Woodland	Forestry	1000m	ESE
48	Woodland	Forestry	800m	ESE
49	Woodland	Forestry	700m	E
50	Woodland	Forestry	500m	E

Surface Water

The EA's Data Catchment Explorer website shows the site is not within any water body. The Site is within the Catchment of the Don, River Rother and the River Dearne, which is reported as having moderate ecological status.

Ground Water

In Aldwarke, the bedrock geology features a highly specific and economically historic segment of the Pennine Middle Coal Measures Formation.

Because Aldwarke sits directly within the floor of the Don Valley, it serves as an excellent case study of how the bedrock interacts with the river gravel formations: the Quaternary River terraces and active alluvial floodplain of the River Don sit immediately on top of these Carboniferous strata

The bedrock consists of a cyclothemic sequence of interbedded mudstones, siltstones, and sandstones. Because Aldwarke represents a low point in the local topography, the upper layers of bedrock have been naturally scoured away over millennia by the River Don, leaving the more erosion-resistant sandstones to form the subterranean structural anchors.

3.2 Baseline Conditions

Wind Direction

The long-term average data for the Rotherham region indicates a predominantly windy, maritime-influenced profile

Predominant Wind Direction: West (W) and South-West (SW).

Annual Mean Wind Speed: ~16 mph (~13.9 knots or 7.1 m/s) based on standard weather averages.

Windiest Period: October to April (Peak in January at ~13.5 knots / 19.8 mph average).

Caldest Period: May to September (Low in July at ~12 knots / 13.9 mph average)

Table 3. Monthly Wind Averages Breakdown

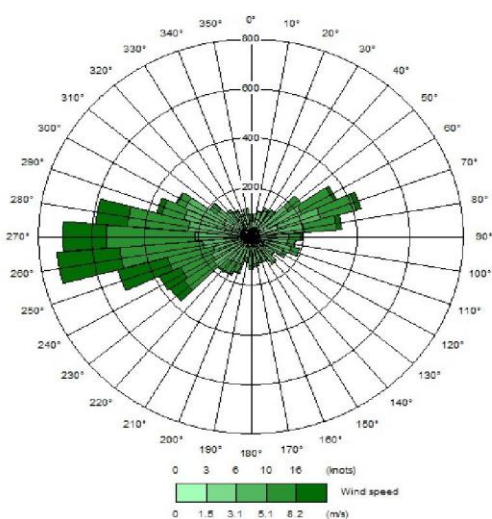
Month	Average wind speed	Wind direction
January	19.8 mph (17.2 knots)	West / South-West
February	20.0 mph (17.4 knots)	West / South-West
March	18.0 mph (15.6 knots)	West / South-West
April	15.0 mph (13.0 knots)	West
May	15.0 mph (13.0 knots)	West

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June	14.0 mph (12.1 knots)	West
July	13.9 mph (12.0 knots)	West
August	14.5 mph (12.6 knots)	West
September	15.0 mph (13.0 knots)	West / South-West
October	17.0 mph (14.7 knots)	West / South-West
November	18.0 mph (15.6 knots)	West / South-West
December	19.8 mph (17.2 knots)	West / South-West

Figure 2. Wind Rose for Rotherham South Yorkshire



Rainfall

Total average annual rainfall calculated for the Rotherham area over a 30-year period was 839mm.

Air Quality

According to the DEFRA interactive map tool the site is located within an Air Quality Management Area (AQMA).

Potential for Flooding

According to the 'Flood Map for planning' tool on the gov.uk website, the site is situated in Flood Zone 2, although the site is classified as having medium probability of flooding, it is situated on a raised area of land. The source of the potential flooding is the River Don that runs along the east of the site.

Identification of Hazards

Potential hazards from the proposed activities have been identified as:

- Noise and vibration – from operation of the Wash Plant, plant, and HGVs
- Dust – generated in dry conditions from processing operations, stockpiles, and site roads
- Mud on the road – deposited on the public highway by outgoing vehicles

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- Uncontained run-off – surface water run-off which may contain suspended solids from stockpiled waste and site roads
- Accidents (fire, acceptance of contaminated material, spillage of fuel/oil or escape of water from the washing operations)

The nature of wastes accepted at the site will result in negligible generation of odour due to the proportion of biodegradable and/or odorous materials.

The operation is not considered to pose a risk to air (excepting fugitive dust) due the nature of waste materials that are accepted.

A Dust and Emissions Management Plan has been prepared to assess the risks from dust emissions and present mitigation and control measures

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4. Risk Assessment

4.1 Methodology

Overall risk is a combination of the severity of an event and the likelihood that will occur. Probability of occurrence is designated as:

- Probable – expected to occur based on previous occurrences.
- Likely – expected to occur due to proposed changes
- Possible – this may occur, it may or may not have happened occasionally in the past
- Unlikely – not expected to occur
- Very unlikely – has never and is not expected to occur

The magnitude of risk is determined by the probability of exposure and the severity of the consequences, whereby:

- High – severe and long-lasting environmental effects to the wider locality
- Medium – effects to the local environment and community
- Low – minor, short-lived effects just beyond the site boundary
- Negligible – no discernible effect beyond the site boundary

An event could have a high probability of occurring but have minor environmental consequences; therefore, it will be designated as a low risk. Likewise, a risk with severe consequences could be unlikely to occur and will be designated as a low risk. A high-risk designation would be assigned to an event that has severe consequences and is expected to occur.

4.2 Assessment

The risks associated with the identified hazards have been assessed and are presented in Tables 4 to 9, including mitigation and control measures.

Table 4. Assessment of Risks from Noise and Vibration

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk Management	Mitigated risk
Noise from incoming and outgoing HGVs for additional throughput	Residential properties, with the closest located 250m north of the site	Noise through the air and vibration through the ground	Nuisance, noise from delivery vehicles	Unlikely, the properties are located far enough away that the noise does not have an impact.	Low	• Noise Management Plan in place to control noise emissions. • Site access is concrete surfaced and maintained to prevent potholes, and minimise noise generated by vehicles. • Vehicle drivers to adhere to 10mp speed limit on site. • All machinery and plant are maintained as per manufacturers specifications for efficient running. • Noise only during daytime working hours, no nighttime operations	Low
Noise from aggregate processing (engine noise, reversing warning noise, material handling, crushing, washing & screening)			Nuisance noise detected beyond the site boundary from processing operations during daytime working hours	Unlikely, the properties are located far enough away that the noise does not have an impact. There is no history of noise complaints or issues following operation of external crushing and screening from previous ownership.	Low		Low

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				The site is surrounded by heavy industry			
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Table 5. Assessment of Risks from Mud on the Road

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk management	Mitigated risk
Mud on the road	Roads including A and B roads	Material carried on vehicle wheels and axles on leaving the site.	Mud carried onto roads which could be a skid hazard for motorists	Possible	Medium	- All HGV's leaving the site will do so via the wheel wash system - All vehicles are inspected and cleaned if required before leaving the site. - Concreted site surfaces swept with company owned road sweeper. - Aldwarke Lane also swept with company owned road sweeper	Low

Table 6. Assessment of Risk from Uncontained Run-Off

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk Management	Mitigated risk
Surface water run-off carrying sediment from stockpiled waste, products, and site surface	Habitats	Flow off site and into waterways	Increased sediment load reducing water quality and affecting the marine life	Unlikely as the nearest waterways (ponds, River Don) are 500m from the Wash Plant operation; all surface water is on the concreted hardstanding and will be recycled into the closed loop system of the wash plant	Low	- A programme of sampling and testing of recycled water and filter cake will be undertaken to establish if contaminants are becoming concentrated. - Filter cake will be stored on a concreted surface and in a covered bay beneath the filter press housing to shelter from rainfall. - Spillages will be contained in a sump within the concreted area and returned to the plant	Low
Spillage or leakage of wash plant water. Leaching of contaminants from filter cake		Concentrated contaminants in recycled wash water or filter cake soak into underlying ground	Build-up of contaminants in groundwater, deteriorating water quality affecting the wildlife	Unlikely as there is no pathway to underlying ground	Low		Low

Table 7. Assessment of Risks from Dust

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk Management	Mitigated risk
Dust from operation of the wash plant	Closest residents	Dust generated and carried beyond the site boundary	Annoyance to neighbours, loss of amenity, reduction in air quality and possible health impacts	Unlikely as the washing activity provides inherent dampening	Low	- A Dust and Emissions Management Plan has been prepared to assess the risk from dust and propose mitigation and controls. - Products are stored in bays to minimise wind whipping. - Stockpiles are damped down with a bowser during dry conditions. - Site access road is checked daily, swept with a road	Low
Dust from vehicle movements carrying additional throughput	Railway lines Liberty Steels			Possible – there may be a possibility of airborne dust reaching residential properties, although the distance to the closest property	Medium		Low

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		generated from dusty roads		is 500m to the wash plant operation. There may also be a possibility of airborne dust reaching the railway line and also Liberty Steels		sweeper which provides dampening. • Site surface is dampened with a bowser. • All loads are covered on entering and exiting the site	
Dust from dry processing of additional throughput		Dust generated from crushing of additional waste					Low

Table 8. Assessment of Risk from Accidents

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk Management	Mitigated Risk
Non-compliant waste types, e.g. hazardous dust from importation & processing of contaminated material	Site staff, neighbouring employees, and residents	Air	Inhalation of contaminated dust	Unlikely as hazardous material will not be accepted at the site. Rogue materials are segregated and stored in a sealed container. Waste Pre Acceptance is carried out prior to entering site. Inspection of waste upon entry via the Weighbridge.	Medium	- Hazardous waste not accepted at the site. - Waste acceptance controls and pre-acceptance procedures will prevent acceptance of non-compliant waste types. - In the event that non-conforming waste is unloaded the waste will be consigned to a quarantine area to await re-loading and removal off-site.	Low
	Surface water	Uncontrolled run-off	Contamination of controlled waters				
Spillage or leakage of fuel, oils & coolants Minor (< 5 litres) Major (> 5 litres)	Surface water	Oil or fuel seeps off site into surface water	Contamination of River Contamination to aquatic life	Very unlikely due to topography and distance	Low	- Fuel stored in bunded tanks in concreted yard area. - Vehicles inspected as part of daily checks for leaks. - Tank inspected daily. - Oil stored in bunded area in workshop. - Spillage procedure detailed in Emergency Response Plan	Low
	Underlying ground and groundwater	Percolates through hardstanding	Contamination of groundwater	Unlikely as fuel storage in concreted yard area, not on hardstanding	Low		
Spillage of sludge / wastewater from washplant	Waterways	Spillage or misconnection causes wastewater or sludge to flow off site	Increased sediment load in the river. Reduction in water quality	Unlikely due to distance from site. Topography would keep spillages in the centre of the site. The nearest waterways are 500m from the wash plant processing area.	Low	- The wash plant will be sited on a concrete base which drains to a central sump to contain any spillages. - Water is pumped from the sump back up into the plant.	Low
	Underlying ground and groundwater	Percolates through hardstanding	Contamination of groundwater	Unlikely as the area is concrete so no direct pathway.	Low		
Fire, smoke and firewater	Closest residents	Overland flow of firewater. Increased airborne particulates from smoke	Contained firewater flows off site. Smoke causes nuisance and respiratory effects to local residents	Possible – the risk of fire is low as the material processed is mainly non-combustible with appropriate control procedures in place.	medium	- Permitted activities do not allow flammable materials to be accepted on site and burning of waste is not allowed on site. - Smoking is only permitted in the designated areas away from waste storage areas	Low

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						and vehicle parking areas.	
Flooding		Site floods and waste is washed offsite, adding sediment to the water environment	Waste material may be washed out of the site	Unlikely – the site is in Flood Zone 1 (low probability)	Medium	Topography of the site drains to the centre so water would pond on site and run into the interceptor drainage.	Very low

Table 9. Assessment of Risks from Litter, Odour and Pests

Hazard	Receptor	Pathway	Consequence	Probability of exposure	Risk	Risk Management	Mitigated risk
Litter	Closest resident, neighbours, railways, highways, and wider environment	Litter in waste blown beyond site boundary	Litter in the neighbourhood, railway or highway reducing amenity	Unlikely, as litter is collected immediately if seen. All vehicles arrive sheeted to minimise this.	Low	- Waste acceptance procedures are in place to ensure only suitable waste types are accepted. - Permitted waste types are restricted to no putrescible and non-biodegradable waste - Pest Control used throughout the site to ensure there are no cases. - Odour Management Plan in place.	Low
Odour		Dispersion of odours from odorous waste	Build-up of contaminants in groundwater, deteriorating water quality	Unlikely – waste types will not be biodegradable so would not generate odours or attract pests	Low		
Pests		Pest attracted to waste or imported inside loads of waste	Pest dispersed in local area, annoying neighbours, and disturbing habitats				

5. Mitigation and Control

5.1 Noise and Vibration

Noise and vibration risks associated with operations have been determined as low for the closest residential receptors owing to their distance from the source and existing background noise (railway, steel works). This is mitigated further by conducting operation only during the working day.

Noise will be minimised by working to a Noise Management Plan.

5.2 Mud on the Road

Risks associated with mud on the road have been determined as medium.

This is mitigated to low risk, by ensuring vehicles are clean before leaving site (wheel wash). The EMS will include procedures for the removal of accidental deposit by a road sweeper, as well as regular checks and sweeping of the site entrance.

5.3 Control of Run-Off

Surface water run-off from the concreted yard area is directed to the centre to be collected or dried out. Drainage with an interceptor is located around the site to collect run off.

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Water from the wash plant will be stored in an underground storage tank and reused on site for the wash plant.

The area footprint beneath the permanent wash plant will be concreted and laid to a fall with any run-off, drips and spillages drained to a sump in the centre. Contents of the sump will be returned to the wash plant.

The storage areas will be compacted hardstanding and used to store incoming waste and processed material.

5.4 Waste Acceptance

Unsuitable waste will be prevented from being accepted into the site by checks conducted as part of the waste acceptance procedures, summarised below, and contained in the EMS.

Pre-Acceptance waste enquiries shall include information on the origin of the waste and whether it is from a contaminated site. When an enquiry is received, a member of the management team may conduct a site visit to inspect the waste. Photographs of the site and any stockpiles are taken. If the waste consists only of hardcore it will be accepted on the basis of the visual inspection.

For waste classed as EWC 17 05 04, chemical testing and analysis will be conducted to ensure it is not contaminated before being accepted onto site. This assessment is analysed by a member of the management team.

If the waste is accepted as suitable it will be booked into site and undergoes further checks when it arrives.

Waste which is found to be unsuitable after delivery will be rejected.

5.5 Sampling and Testing of Wash Water

A programme of testing will be conducted to establish concentration of contaminants in the wash water and identify whether these are becoming concentrated by recycling the wash water.

It is proposed to take monthly samples of wash water and filter cake, and results will be reviewed after 6 months.

It is proposed to test for the following parameters:

- Arsenic
- Chromium
- Cadmium
- Copper
- Lead
- Nickel
- Tin

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- Zinc
- Total Petroleum Hydrocarbons (TPH)
- PAH 16
- pH Sampling will be conducted by a trained competent technician, and samples will be submitted to an accredited laboratory for analysis. A Testing Schedule will be established to monitor the following:
 - characterise the wash water
 - build up a picture of variation
 - establish if contaminants are becoming concentrated If contaminants are observed to be building up, then an action plan will be proposed to reduce contaminants to an acceptable level.

5.6 Control of Dust

Risks from fugitive dust emissions were assessed as medium and a Dust and Emissions Management Plan has been produced to demonstrate how dust will be managed to reduce the risk to an acceptable level.

The washing activity is inherently dampening so will not raise dust. Crushing will be conducted under dust suppression to prevent dust from being generated. The stockpile of incoming waste and products could become dusty when dry and will be managed by positioning of stockpiles and bays to prevent wind whipping and damping down.

Dust monitoring will be conducted daily, and contingency actions are in place to prevent dust emissions from occurring.

6. Conclusion

The risks to the environment from the proposed activity have been determined and where required mitigation has been proposed to reduce the risks to an acceptably low level.

Noise will be minimised by the maintenance of plant and maintenance of roads and working within the permitted operational hours.

Risks from surface water run-off will be minimised through containment and primary treatment to remove sediment and catch any fuel or oil spillages.

Risks from accidents will be reduced through effective management of the site through an Environmental Management System, including waste acceptance procedures to prevent importation of contaminated waste.

Risks from mud on the road will be mitigated through regular road sweeping.

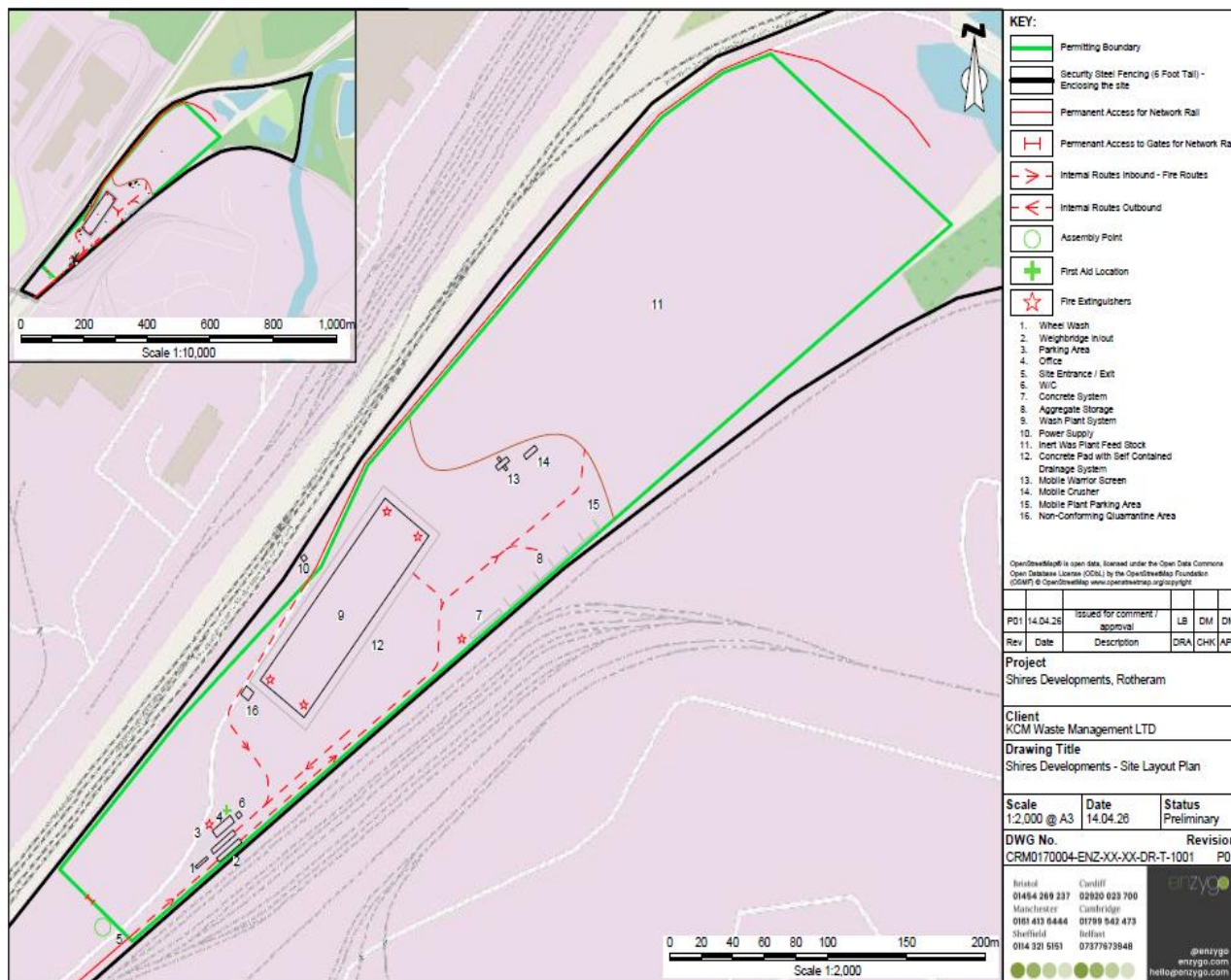
Risk from dust will be controlled by damping down, housekeeping and monitoring.

In conclusion it has been demonstrated that the risks posed by the proposed operation can be mitigated so they will not have a significant impact on the surrounding environment.

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Appendix 1 Site Layout Plan



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