



Environmental Risk Assessment

TeleCycle Europe Ltd



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SITE DETAILS

TeleCycle Europe Ltd
Unit 15 Drome Road,
Deeside Industrial Park,
Sealand Garden City,
Flintshire,
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OPERATOR DETAILS

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K419.1~20~001	Permit Boundary Plan
K419.1~20~002	Sensitive Receptor Plan (1km)
K419.1~20~003	Site Setting Plan (2km)
K419.1~20~004	Site Layout Plan

APPENDICES

APPENDIX	REFERENCE	TITLE
Appendix A	GS-8636276	Enviro+ Geo Insight Report

1 INTRODUCTION & BACKGROUND

This document is the Environmental Risk Assessment (ERA) that accompanies the application for a Bespoke Environmental Permit (PAN-018509) for a Waste Operation being made by TeleCycle Europe Ltd relating to the activities at Unit 15 Drome Road, Deeside Industrial Park, Sealand Garden City, Flintshire, CH5 2NY. The site location is shown on drawing (K419.1~20~001) Permit Boundary Plan.

This Environmental Risk Assessment (ERA) has been produced on behalf of TeleCycle Europe Ltd (the operator and applicant), in line with current Environment Agency guidance, 'Risk assessment for your environmental permit' (updated August 2022) available on Gov.uk, to support an application for a Bespoke Environmental Permit (PAN-018509) for a Waste Operation.

1.1 Scope

This Risk Assessment is based on the source-pathway-receptor approach. All potential sources of pollution associated with the acceptance, storage and disposal of waste activities have been assessed against the principal receptor types identified within the site's vicinity. Details of accepted wastes, infrastructure and equipment are discussed in greater detail elsewhere in the application pack (see Sections 06 & 09).

The requirement for risk management measures is then dependent on a viable pathway being present between the source and the receptor. Where such pathway exists, management measures are required to reduce risk.

1.2 Aims

This assessment aims to consider potential environmental hazards associated with the activity, to identify sensitive receptors which these may impact, and determine the influence management practice has on reducing risk.

2 SITE SETTING

2.1 Location

The site is operated by TeleCycle Europe Ltd relating to the activities at Unit 15 Drome Road, Deeside Industrial Park, Sealand Garden City, Flintshire, CH5 2NY. The location is shown on the Permit Boundary Plan (K419.1~20~001) and the National Grid Reference (NGR) for the site is SJ 33521 70505 (Easting 333521, Northing 370505). The site covers approximately 0.07 ha and is situated in the Deeside Industrial Park and is surrounded by business properties. The closest residential properties are along Green Lane, Sealand approx. 895 m southeast of the site.

2.2 Humans and Property

The nearest residential dwelling (ID 1) is approximately 895 m south-east of the permit boundary shown on the Site Setting Plan (2 km) (K419.1~20~003). Other residential areas are located in the same direction whilst the village of Shotwick is located approximately 1.2 km north of site.

Sealand Garden City represents the closest urban area located approximately 1.3 km south-southwest of site. Immediately to the north of site lies the remainder of the industrial estate and the A548 (70 m, East). Further north is dominated by agricultural land use interweaved with small residential buildings and the village of Shotwick. The A5117 lies to the east approximately 95 m.

2.3 Designated Environmental Receptors

No statutory designated sites are identified within 2 km of site. Non-designated sites such as priority habitats and designated ancient woodland have been identified and are included within the Site Setting Plan (2km) and Sensitive Receptors Table (K419.1~20~003; K419.1~09~006; Table ERA2).

2.4 Geology

2.4.1 Artificial ground and made ground

Three instances of made ground were identified within 500 m of site all described as undivided made ground made up of artificial deposit. Two locations lie north/northeast of site approximately 170 m whilst the third lies approximately 430 m south.

2.4.2 Superficial and Drift Geology

The superficial geology of site is made up of tidal flat deposits described as clay, silt and sand. These deposits originate from the Quaternary period, the youngest geological deposits.

2.4.3 Bedrock and Solid Geology

The bedrock geology on site is Kinnerton Sandstone Formation formed during the early Triassic epoch. This is the only bedrock detailed within 500 m of site.

2.5 Hydrogeology

Site is covered by a Secondary undifferentiated superficial aquifer. Another is identified approximately 490 m south of site. These are described as:

“Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.”

The entire site is covered by a bedrock Principal aquifer. Another Principal aquifer is identified approximately 490 m south. These are described as:

“Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers”

2.6 Hydrology

A number of inland rivers are identified within 500 m of site and are detailed within the table below. Locations are marked within the Groundsure report which is appendicised to this assessment (Appendix A, pg52).

DESCRIPTION	NEAREST LOCATION FROM SITE (APPROX.)	DIRECTION FROM SITE
Inland River	69 m	E
Inland River (underground)	83 m	W
Inland River	83 km	W
Inland River	101 m	W
Inland River (underground)	102 m	SE
Inland River (underground)	103 m	NW
Inland River	111 m	NW
Inland River	235 m	S

2.7 Flood Risk

The site is located within a “Low” risk flood zone in accordance with the Risk of Flooding from Rivers and Sea (RoFRaS) and the Flood Risk Assessment Wales (FRAW) models. The assigned “Low” risk category for rivers is detailed as a *“less than 1 in 100 but greater than or equal to 1 in 1000 chance”*. For sea this changes to *“less than 1 in 200 but greater than or equal to 1 in 1000 chance”*.

The risk from surface water flooding has been described as negligible with the highest risk within 50 m assessed as a 1 in 30-year event (0.3 m – 1.0 m).

The majority of site is located within a moderate – high risk zone of groundwater flooding based on a 1 in 100-year return period.

2.8 Air Quality

The site does not lie within an Air Quality Management Area (AQMA).

2.9 Nature of Risk Assessment

This document provides a broad and general assessment of the risk factors considered to be of significance for the site, and an evaluation of the impact from the principal risk factors to receptors within the site vicinity.

3 PERMITTED OPERATIONS

A *Management System Summary* (K419.1~09~004) is included in Section 06 of the application pack.

Site operations are presented on the Site Layout Plan (K419.1~20~004).

3.1 Waste Acceptance

On arrival, vehicle details will be recorded in the site diary or similar document. The driver must also present copies of the waste carrier's license appertaining to the transport company concerned and the relevant Waste Transfer/Consignment Note.

All loads are inspected for non-permitted wastes, quality and conformance with Environmental Permit requirements. Non-conforming loads are refused entry and details are recorded.

All drivers must be wearing appropriate PPE, prior to commencing the unloading process.

Waste loads will be unloaded using a forklift truck or pallet truck. Smaller packaged items may be unloaded manually.

Wastes are stored in individual storage containers. All wastes are accepted as pre-booked orders and are allocated a job number specific to the client and instruction. All wastes are stored and processed as batches, passing through the processes consecutively, which removes the risk of long-term waste storage and ensures turnover of waste.

3.2 Waste Processing

3.2.1 Shearing of catalytic converters

The catalytic converters are received already separated from the rest of the exhaust system. Catalytic converters are subject to a hydraulic shearing process to open up the metal casing and extract the ceramic monolith (containing the precious metal catalyst) and the metal or RCF matting which provides thermal insulation and physical support to the ceramic monolith. The equipment is connected to a filtered LEV system to extract and collect any dust/fibres released.

Throughout the hydraulic shearing process, the metal casings, ceramic monolith and RCF matting are retained within the enclosed system with LEV extraction, with direct connection to sealed containers where the components are dropped without the need for any transfer between containers.

Metal casings, ceramic monolith and RCF matting are segregated and stored in appropriate containers in designated areas within the enclosed building (see Site Layout Plan

K419.1~20~004). Only clean, uncontaminated ferrous metals may be stored outside in a enclosed and locked 8 yard skip during the working day.

3.2.2 Removal of Refractory Ceramic Fibre (RCF) matting

RCF is now classified as a Category 1B carcinogen and has properties akin to asbestos, this is the primary reason why mixed or unsorted catalytic converters are now classed as hazardous waste.

The RCF matting is removed by hand during the shearing process and stored in labelled, sealed rigid containers in a designated area (see Site Layout Plan K419.1~20~004), prior to disposal to a suitably licensed landfill. All employees potentially exposed to this material are suitably trained and wear the required PPE and/or operate under a LEV system fitted with a filter.

3.2.3 Manual dismantling of WEEE

The manual dismantling of WEEE on site is a small-scale, simple operation to complement the export of PCB's, operating on a ad-hoc basis. Typical materials for dismantling include:

- Servers, PC's, laptops
- Set top boxes, routers, hubs
- Mobile and fixed telecoms infrastructure

The annual tonnage of the manual dismantling is unlikely to exceed 100 tonnes, to be conducted on two workbenches with separated materials divided into storage bins. All dismantling will be done with hand tools or battery-charged drivers. The small scale of the WEEE dismantling area is shown in Figure 1, which shows the small scale of the operation.

Figure 1. Pictures of the WEEE dismantling area



3.3 Site Management

The site shall be overseen and managed by a Technically Competent Manager (TCM) holding the relevant Operator Competence Certificate qualification. A TCM will be available at all required times during site operation. The TCM will be responsible for the day-to-day operations at the site, and to ensure that site personnel operate the site in compliance with the Environmental Permit. They will be responsible for ensuring adequate training of staff has been undertaken.

The TCM will report any problem, or potential problem, to Senior Management as well as the Natural Resources Wales.

The TCM will attend site in accordance with the attendance criteria specified within 'Environmental Management – Guidance: Legal operator and competence requirements: environmental permits' (updated 11th June 2019)¹.

¹ <https://www.gov.uk/guidance/legal-operator-and-competence-requirements-environmental-permits>

4 RISK ASSESSMENT METHODOLOGY

4.1 Hazard Identification

A hazard is something with potential to cause harm to something else. Table ERA1 below identifies the principal hazard types which may be associated with the proposed activity; and indicates where hazards are identified and determined to be of significant potential risk to determine further assessment. Potential hazards from this activity are as follows:

ERA 1: IDENTIFIED HAZARD TYPES

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
Odour	N/A	Waste delivery Storage Treatment Process Material dispatch	No risk of odour	Not required.
Point Source Emissions to Air	None	None	None	No
Fugitive Emissions to Air	Dust and Particulate Matter	Waste delivery Treatment process Material dispatch	Dust and particulate matter liberated from external areas only during dry conditions.	✓ ERA8 below
	Litter and Debris	None	Limited risk owing to nature of waste accepted.	✓ ERA9 below.
Fugitive Emissions - Pests	Pests, vermin, scavengers	Waste delivery	No risk of pests	Not required.
Fugitive Emissions – Mud and Debris	Litter and Debris	Waste delivery Treatment process Material dispatch	Potential from areas external to site.	✓ ERA10 below
Fugitive Emissions – to Water	Contaminated runoff	Run off from stored waste pre-treatment. Run off from stored waste post treatment. Surface water run off Fire waters	Contaminants leaving building sealed system and mixing with surface water.	✓ ERA11 below
Accidents	Transferring substances	Waste delivery Treatment process Material Dispatch	Loss of waste from vehicle Spillage of coarse material during screening	✓ ERA12 below
	Plant or equipment failure	Waste delivery Failure of process machinery Failure of tanks	Spillages from vehicles bringing waste to site Damage to elements of process Leakage from tanks	
	Flooding	Flood Risk from Rivers or the Sea Surface water flooding	Flood Zone 2 (when the presence of flood defences are ignored).	
	Vandalism	Unauthorised access	Risk of damage to machinery vital for process or storage containment.	
	Fire	Stored waste Mobile plant / process equipment	Uncontrolled emissions of smoke and fire water	

PRINCIPAL HAZARD TYPE	SUB-HAZARD TYPE	POTENTIAL SOURCE	RISK	REQUIRES FURTHER ASSESSMENT
Noise and Vibration	Transferring substances	Delivery of waste Treatment processes Material Dispatch	Site located within industrial area, treatment process takes place within building.	✓ ERA13 below

4.2 Receptors

A receptor is the object (e.g. person, organism, resource or property) impacted by a hazard. For example, odour may cause offence to a human (the receptor). When identifying receptors which may be at risk from the site, the following have been considered:

- Locations used to grow food or to farm animals or fish
- Drain and sewer systems
- Factories and other businesses
- Fields and allotments used to grow food
- Footpaths
- Roads and railways
- Groundwater beneath the site
- Homes, or groups of homes
- Playing fields and playgrounds
- Private drinking water supplies
- Regionally important geological sites
- Schools, hospitals and other public buildings
- Water
- Conservation and habitats protected areas and areas of scientific interest

Based on the assessment of the site setting presented in Section 2 of this ERA, the following principal receptors have been identified for assessment and are displayed in ERA 2: Receptors and K419.1~20~002 Sensitive Receptors Plan (1km) and K419.1~20~003 Site Setting Plan (2km).

ERA 2: RECEPTORS

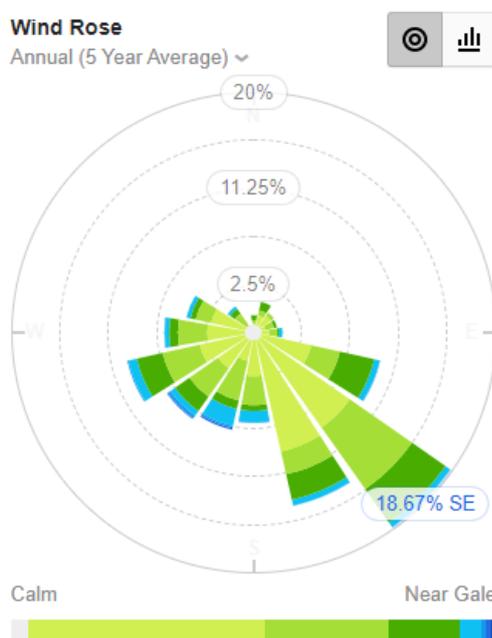
RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE (M)	DIRECTION
HUMANS AND PROPERTY		Site Workers	On site	-
		Site Visitors	On site	-
	INHABITANTS OF RESIDENTIAL PROPERTIES			
	1	Residential Area off Green Lane	895 m	SE
	2	Residential Area off B5441	902 m	SW
	3	Residential Area off of B5441	1.0 km	SSW

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE (M)	DIRECTION	
	4	Shotwick Residential Area	1.2 km	N	
	5	Residential Area off of A548	1.3 km	S	
	6	Residential Area of Sealand Garden City	1.3 km	SSW	
	7	Residential Area off of Manor Rd	1.6 km	S	
	8	Residential Area off of Lodge Lane	1.9 km	NE	
	SENSITIVE PUBLIC USE				
	1	St Michael's Church, Shotwick	1.2 km	N	
	2	St Andrews Church	1.5 km	SW	
	3	Sealand Post Office	1.5 km	SSW	
	4	Sealand Primary School	1.8 km	SW	
	COMMERCIAL USE				
	1	Deeside Industrial Area	0 m	W	
	2	Industrial Area off of A548	140 m	SE	
	3	Amazon Warehouse	600 m	SW	
	4	Deeside Industrial Area	1.0 km	W	
	5	Industrial Park off of Sealand Rd	1.1 km	S	
	6	Garden City Industrial Estate	1.2 km	SW	
	7	Deeside Industrial Park	1.4 km	W	
	8	Caravan Storage Park	1.5 km	S	
	9	Birchwood Kennels and Cattery	1.6 km	SE	
	10	Commercial Area off of B5441	1.8 km	SSW	
	PUBLIC RIGHTS OF WAY				
	-	Footpath along England/Wales border	650 m	NE	
	-	Footpath from Hawarden Bridge Station to England/Wales border	2 km	SW	
	RECREATIONAL AREAS				
	1	Sealand Youth Centre	1.3 km	SSW	
	WATER	SURFACE WATER			
		-	Ditch beside B5441	80 m	W
		-	Lakes adjacent to Industrial Area	1.2 km	W
		-	River Dee	2.1 km	S
ENVIRONMENT ALLY SENSITIVE SITES	DESIGNATED SITES				
	-				
	NON-DESIGNATED SITES				
	1	Traditional Orchard off Green Lane	480 m	E	
	2	Ancient Semi Natural Woodland	575 m	S	
	3	Traditional Orchard off of A548	610 m	S	
	4	Scheduled Monuments - Shotwick Castle	1.3 km	E	
	5	Scheduled Monuments - Shotwick Hall	1.4 km	N	
6	Ancient Woodland - Shotwick Dale	1.8 km	NNE		
LISTED BUILDINGS AND PARKS					

RECEPTOR TYPE	ID	DESCRIPTION	DISTANCE (M)	DIRECTION
HERITAGE SITES	1	No 2. Grade II Listed Aircraft Hangars	255 m	S
	2	Grade II Listed Aircraft Hangar	424 m	SW
	3	Old Marsh Farm Grade II Listed	729 m	S
	4	Series of Grade II Listed outbuildings of church	1.2 km	N
	5	Ferry Bank Farm Grade II Listed	1.8 km	S
	6	No. 2 Grade II Listed Farm Outbuildings	1.8 km	NE

4.3 Prevailing Wind

Figure 1: Wind Rose indicating prevailing wind direction (Shotwick)



4.4 Pathways

The pathway is the means by which the hazard reaches the receptor and forms the link between the two. For example, a dust hazard may reach a receptor by travelling through air, with the air therefore being the pathway.

The source-pathway-receptor link must be present for there to be a risk. Management measures applied at the site act to minimise the overall risk by impeding or removing the pathway.

ERA3: PATHWAYS

RECEPTOR	HAZARD	PATHWAY
Humans and Property	Odour	Transmitted through the air.
	Dust and Particulate Matter	Transmitted through the air.
	Noise	Transmitted through the air.
	Birds, Vermin & Insects	Physical travel.
	Fire	Physical contact and spread.
Groundwater	Contaminated runoff	Infiltration through the ground.
Surface Water	Contaminated runoff	Direct discharge from site.
Protected Nature Conservation Sites	Dust and Particulate Matter	Transmitted through the air.
	Noise	Transmitted through the air.
	Fire	Physical contact and spread.
Atmosphere	Dust and Particulate Matter	Transmitted through the air.

4.5 Risk

Assessment of risk is based on the probability of receptor exposure to the identified hazards and the consequences of such exposure. The initial assessment of risk is made assuming no risk management practices are applied.

A matrix is used to determine overall risk and uses the following definitions:

ERA4: PROBABILITY OF EXPOSURE

PROBABILITY OF EXPOSURE
HIGH – <i>exposure is probable</i> : direct exposure likely with no / few barriers between hazard, source and receptor.
MEDIUM – <i>exposure is fairly probable</i> : feasible exposure possible, barriers to exposure less controllable.
LOW – <i>exposure is unlikely</i> : several barriers exist between hazards source and receptors to mitigate against exposure.
VERY LOW – <i>exposure is very unlikely</i> , effective, multiple barriers in place to mitigate against exposure.

ERA5: CONSEQUENCES OF EXPOSURE

CONSEQUENCES OF EXPOSURE
HIGH – <i>the consequences are severe</i> : sufficient evidence that short or long term exposure may result in serious damage.
MEDIUM – <i>consequences are significant</i> ; sufficient evidence that exposure to hazard may result in damage that is not severe in nature and reversible once exposure ceases (e.g. irritant).
LOW – <i>consequences are minor</i> ; damage not apparent though reversible adverse changes may occur.
VERY LOW – <i>consequences are negligible</i> ; no evidence of adverse changes following exposure.

Comparison between probability and consequence provides the overall risk which is reached as follows:

ERA6: ASSESSING OVERALL RISK

		CONSEQUENCES			
		Very Low	Low	Medium	High
LIKELIHOOD	High	Low	Medium	High	High
	Medium	Low	Medium	Medium	High
	Low	Low	Low	Medium	Medium
	Very Low	Very Low	Low	Low	Low

4.6 Risk Management

Risk management practices for the key hazards identified above are summarised in Section 4 of this ERA. The information presented below is supported by various documents and this is clearly indicated within each table presented. In addition, risk management measures have been developed with reference to relevant guidance documents, the following being of particular note:

- Environmental Management – Guidance: Risk assessment for your environmental permit.²
- Guidance: Noise and vibration management: environmental permits ³
- Guidance: Control and monitor emissions for your environmental permit⁴
- Sector Guidance Note S5.06: Recovery and disposal of hazardous and non-hazardous waste.

This risk assessment details the key management measures for the risk identified.

4.7 Residual Risk

The application of management practice results in a residual risk which is detailed within Section 4 of this ERA (below).

² <https://www.gov.uk/guidance/risk-assessments-for-your-environmental-permit>
³ <https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits>
⁴ <https://www.gov.uk/guidance/control-and-monitor-emissions-for-your-environmental-permit>

5 RISK ASSESSMENT

The key hazards identified for the activity have been subject to a risk assessment against management practice. Each hazard is assessed in a separate table. The information presented is, as appropriate, supported by other documents and these are referenced.

Many of the hazards identified in the following tables relate to 'Environmental Risk Points (ERP)' identified throughout the processes:

ERA7: ENVIRONMENTAL RISK POINTS

REFERENCE	PROCESS
ERP1	Waste receipt
ERP2	Waste storage pending treatment or recovery/disposal
ERP3	Waste treatment processes
ERP4	Material dispatch for recovery/disposal

ERA8: FUGITIVE EMISSIONS – TO AIR – ODOUR, DUST AND PARTICULATE MATTER

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
<i>What has the potential to cause harm?</i>	<i>What is the risk? What do I wish to protect?</i>	<i>How can the hazard get to the receptor?</i>	<i>How likely is this contact?</i>	<i>What is the harm that can be caused?</i>	<i>What is the risk that still remains</i>	<i>What measures will we take to reduce the risk?</i>	<i>What risk remains following the application of management measures?</i>
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	Humans & Property Protected Nature Conservation Sites Atmosphere Inhalation of particles. Deposition of dust/particles on property and land. Derogation to amenity value	Air	LOW	MEDIUM	LOW	<ul style="list-style-type: none"> All wastes are stored within individual storage containers. All containers are stored internally apart from clean, uncontaminated ferrous metal stored externally in enclosed and locked container during operational hours. Storage tanks will be checked daily for signs of frailty/leakage. Daily maintenance and inspection recorded within site diary. All vehicles and machinery will be operated and maintained in accordance with the manufacturer's specifications or annually, whichever is more frequent. Process equipment regularly cleaned to remove particulates. Equipment is connected to a filtered LEV system to extract/collect dust fibres from the process Treatment processes take place within buildings. 	LOW

ERA 9: FUGITIVE EMISSIONS – TO AIR – LITTER AND DEBRIS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception</p> <p>Vehicle Movements</p> <p>ERP2 Storage</p> <p>ERP3 Treatment processes</p> <p>ERP4 Material Dispatch</p>	<p><i>Humans & Property</i></p> <p><i>Protected Nature Conservation Sites</i></p> <p><i>Litter Nuisance</i></p> <p><i>Amenity issues/Road Safety</i></p>	<p><i>Air; windblown, physical transport and deposition</i></p>	<p>LOW</p>	<p>MEDIUM</p>	<p>LOW</p>	<ul style="list-style-type: none"> All waste is unloaded using a forklift. Smaller loads unloaded by hand. All wastes are containerised. Nature of wastes mean litter/debris unlikely. Daily inspections of site surfaces to remove any litter or debris and prevent spread. An LEV system is allied to equipment to collect/extract any dust or fibres from the process (See MSS for further detail). 	<p>LOW</p>

ERA10: FUGITIVE EMISSIONS – MUD & DEBRIS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
<p>ERP1 Reception</p> <p>Vehicle Movements</p> <p>ERP4 Material Dispatch</p>	<p>Humans & Property</p> <p>Amenity impact</p>	<p><i>Direct deposition</i></p>	<p>LOW</p>	<p>LOW</p>	<p>LOW</p>	<ul style="list-style-type: none"> Daily inspections by site staff and records kept. Vehicles can be cleaned if required. 	<p>LOW</p>

ERA11: FUGITIVE EMISSION – TO WATER

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	<i>Protected Nature Conservation Sites</i> <i>Surface Water</i> <i>Groundwater Contamination</i>	<i>Land, water, runoff</i>	<p>LOW</p>	<p>MEDIUM</p>	<p>LOW</p>	<ul style="list-style-type: none"> All waste is stored in containers. Daily inspections and housekeeping maintain the site surface. Site sits on an impermeable surface and all processes take place internally. Sealed drainage system in place. Potentially contaminated water will be retained on site with no discharge to groundwater. Integrity of sealed site surface and drainage system shall be checked as part of daily site inspections. Spill kits located on site and employees trained in their use. 	<p>LOW</p>

ERA12: ACCIDENTS

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Transferring substances							
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	<i>Humans & Property</i> <i>Protected Nature Conservation Sites</i> <i>Surface Water</i> <i>Groundwater</i> <i>Atmosphere</i> <i>Adverse impact</i>	<i>Land, water, runoff</i>	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> • All deliveries are planned. • Waste deliveries overseen by competent individual. • Unloading of waste is not undertaken until appropriate PPE is worn. • All waste is stored within containers. • Appropriate training regarding process and plant operation is given. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Plant or Equipment Failure							
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	<i>Humans & Property</i> <i>Protected Nature Conservation Sites</i> <i>Surface Water</i> <i>Groundwater</i> <i>Atmosphere</i> <i>Adverse impact</i>	<i>Land, air, water</i>	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> Limited vehicle movements on site limits risk of accident. Vehicles and process equipment are maintained in accordance with their maintenance schedules or when applicable. Storage containers are checked as part of daily site inspection for integrity/leakage. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Flooding							
Entire Process	<p>Humans & Property</p> <p>Protected Nature Conservation Sites</p> <p>Surface Water</p> <p>Groundwater</p> <p>Atmosphere</p> <p><i>Adverse impact</i></p>	<p>Water</p> <p><i>(Site within Flood Zone 2 when the presence of flood defences are ignored)</i></p> <p>LOW</p>	LOW	LOW	LOW	<ul style="list-style-type: none"> Housekeeping measures in place as part of daily inspection measures. 	

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Vandalism							
Entire Process	<p>Humans & Property</p> <p>Protected Nature Conservation Sites</p> <p>Surface Water</p> <p>Groundwater</p> <p>Atmosphere</p> <p>Adverse impact</p>	Land, air, water	LOW	MEDIUM	MEDIUM	<ul style="list-style-type: none"> Site is secured with locked roller shutter door. Site is monitored by CCTV, 24 hour security. Site is situated within occupied industrial estate. 	LOW

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
Fire							
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	Humans & Property Protected Nature Conservation Sites Surface Water Groundwater Atmosphere Adverse impact	Spread through physical contact; fanned by winds	LOW	HIGH	MEDIUM	<ul style="list-style-type: none"> Machinery shall be maintained in accordance with the appropriate maintenance schedule or when required. 24 security in place via CCTV. Operational areas of the site are no smoking zones. Daily inspections and housekeeping help maintain site. Fire Prevention Plan details measures to manage and reduce risk. 	LOW

ERA13: NOISE & VIBRATION

Identifying the harm and what could be harmed			Assessing the risk			Managing the risk	
Hazard	Receptor	Pathway	Probability of exposure	Consequence	Overall risk	Risk Management	Residual risk
What has the potential to cause harm?	What is the risk? What do I wish to protect?	How can the hazard get to the receptor?	How likely is this contact?	What is the harm that can be caused?	What is the risk that still remains	What measures will we take to reduce the risk?	What risk remains following the application of management measures?
ERP1 Reception Vehicle Movements ERP2 Storage ERP3 Treatment processes ERP4 Material Dispatch	<i>Noise sensitive locations</i> <i>Protected Nature Conservation Sites</i>	<i>Noise sensitive locations</i> <i>Protected Nature Conservation Sites</i>	<p>LOW</p>	<p>MEDIUM</p>	<p>MEDIUM</p>	<ul style="list-style-type: none"> • Operations are only carried out within permitted hours. • Plant and equipment are inspected and maintained in line with maintenance schedule set out by the manufacturer. • Treatment processes are all conducted internally. 	<p>LOW</p>



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