

Project details	Environmental Permit Variation Application – EPR XP3602PF Sharpsmart Limited – Normanton Waste Transfer and Treatment Facility
Applicant details	Sharpsmart Limited Unit 1 Enterprise City Meadowfield Avenue Spennymoor County Durham DL16 6JF
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1 Introduction

Sharpsmart Ltd (the 'applicant') has requested that Reva Environmental Ltd (the 'agent') prepares an Environmental Permit (EP) variation application, for its Normanton Waste Transfer and Treatment Facility at Unit 1 Loscoe Close, Normanton Industrial Estate, Normanton, WF6 1TW.

The site currently houses two autoclave units that thermally treat (by steam sterilisation) the incoming soft clinical waste. It was formerly operated by HES, until the EP was transferred to the applicant in August 2019.

The EP allows the pre-shredding, autoclaving, and compaction of waste and the associated temporary storage of waste pending that process. The EP includes two directly associated activities (DAAs) which are the operation of a steam boiler and the washing of bins. Additionally, the EP allows the storage and repackaging of non-hazardous and hazardous waste as a Waste Operation. The operator supplies re-usable sharps containers to the healthcare sector and provides a collection service to its customers whereby the used containers are taken to one of the applicant transfer facilities, emptied and cleaned and sent back to the customer. The contents are emptied into UN approved wheeled carts under air extraction. Once the cart is full, the heavy duty liner is sealed and the cart lid locked. The wheeled carts are weighed and placed into storage on site prior to transfer off site or treatment, either off site or in one of its own treatment facilities, in this case they would be transferred to Normanton for treatment.

The facility is currently authorised by EP ref. EPR/XP3602PF which was originally issued in April 2011 (as EPR/VP3137TV), and most recently varied (V005) in March 2014. It was transferred to Sharpsmart Limited in August 2019.

The objective of this 2022 application is to obtain a varied EP which enables:

- Treatment of decanted sharps waste through the existing autoclave plants. This waste stream would be subject to pre-treatment shredding and subsequent compaction. The proposed acceptance of sharps waste for treatment in the autoclave will not affect the existing Listed Activity (A1) and the addition of the sharps waste code 18 01 03* (with or without 18 01 09) can be achieved through the amendment of Table S2.2 of the permit.
- Operation of a larger natural gas fuelled steam-raising boiler. The existing EP specifies the operation of the existing boiler as DAA A3. The applicant intends to install a new boiler to better meet the steam demand of the two autoclaves running in parallel. Whilst the input capacity of the boiler (2.5 MW) is below the threshold for a listed activity the applicant does recognise that as the input capacity will exceed 1 MWth the Medium Combustion Plant Directive (MCPD) is applicable and that emission limits will be imposed on this exhaust via permit conditions.
- Treatment of offensive waste (18 01 04) in two ways as follows:
 - Shredding through the existing shredders. For this short to medium term option, the waste stream would not be subject to autoclaving but would be subject to compaction. The shredded offensive waste can be compacted and can be transferred off site as RDF under EWC 19 12 10 / 19 12 12. It is proposed that this is achieved through the addition of a new Waste Operation (A6) for D9/R12 shredding of these non-hazardous wastes (<50 tonnes per day). **It is considered that the shredding of offensive waste in the existing plant would add a new waste operation (A6) to the EP so represents a normal variation.**
 - Shredding and autoclaving. For this medium to long term option, the waste stream would be shredded and autoclaved (not compacted) in order enable the recovery of plastic film from the waste. The uncompacted treated floc would be transferred off site via a national contractor under EWC 19 02 codes or suitable 19 12 codes. It is very unlikely that the autoclaving of offensive waste in the existing plant would exceed 50 tonnes per day (the

threshold for 5.4 Part A(1)(a); it is therefore proposed that this is achieved through the addition of a new Waste Operation (A7) for D9/R5. **It is considered that the autoclaving of offensive waste in the existing plant would represent a normal variation.**

- Increase in the storage limit for non-hazardous floc (treated waste) from 40 tonnes to 80 tonnes at any one time.

Question 6 of EA application form Part C2 requires the provision of an environmental risk assessment (ERA). A qualitative risk assessment has been generated for the facility as a whole and the risk assessment methodology follows a source-pathway-receptor model. It also includes consideration of the habitat sites that have been identified in the Air Quality Impact Assessment (a copy of which is provided in Appendix J of this 2022 application). The H1 environmental assessment screening tool (quantitative risk assessment) has been completed for the proposed replacement natural gas-fired steam-raising boiler, and is provided alongside the AQIA in **Appendix J**. The qualitative risk assessment is presented in Table ERA1.

1.1 Site Setting

The facility is located in the Normanton Industrial Estate to the north-east of Normanton and is bounded to the north by the M62 motorway and to the west and south by the A655, Pontefract Road. The area around the facility is predominantly industrial units, with the closest human receptors being 0.425 km west-northwest. The facility is approximately 40 m from a small watercourse, Wain Dyke Beck (to the east) and, within 20 m of the site land is within a (very low) designated flood risk area associated with that watercourse.

Access to the site is off Loscoe Close which runs along the western boundary. The estate is accessed from the M62 motorway (to the north) and the A655 (to the west).

The site setting is shown on **Drawing SHSMT-NMT-EP03 Site Sensitivity Plan** and summarised in Table ERA1.

Table ERA1: Site Setting

Direction	Local Setting
Northern Boundary	<p>The site is immediately bounded to the north by neighbouring buildings in the Normanton Industrial estate. Beyond these the M62 motorway runs in an east to west direction and intersects the A655 (Pontefract Road).</p> <p>The closest residential area is approximately 425 m to the west-northwest, beyond the A655 and the western portion of the industrial estate.</p>
Eastern Boundary	<p>The site is immediately bounded to the east by neighbouring buildings in the industrial estate, beyond which lies the Wain Dyke Beck which separates this portion of the industrial estate from the eastern portion which extends significantly to the east.</p> <p>Ackton Pasture Wood, an Ancient Woodland, lies approximately 1 km to the east-northeast of the site.</p>
Southern Boundary	<p>The site is immediately bounded to the south by neighbouring buildings in the industrial estate, and the end of Loscoe Close.</p> <p>The A655 runs in a north to south direction to the west of the site. Farmland and a sewage works lies beyond the A655 intersection with the A6539 to the south.</p>

Western Boundary	The site is immediately bounded to the west by neighbouring buildings in the industrial estate, beyond which lies the A655 (Pontefract Road). Beyond the A655 is more of the industrial estate, beyond which is the residential area Normanton Common, at approximately 600 m to the west.
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The site geology (source: BGS) comprises sandstone at bedrock level. The superficial geology is defined as clay, silt sand and gravel. The site is not located on an aquifer. It is not within a nitrate vulnerable zone (NVZ); the closest is approximately 2.5 km to the northeast at its closest.

A site check (www.magic.defra.gov.uk) has confirmed that the site is not in a groundwater source protection zone (SPZ). It does however classify the site as being within an area of high groundwater vulnerability.

The site is not within a flood zone with respect to surface water, as detailed by the EA flood maps for planning. The defined worst case risk in the immediate area (within 20 m radius) is ‘very low’ which means that each year the area has a chance of flooding of less than 0.1%.

The site is within the Wakefield Metropolitan District Council. This local authority has an Air Quality Management Area (AQMA) which was declared for NOx on 9 March 2006. It covers an area along the entire M1 motorway within the Metropolitan District of Wakefield.

1.2 Sensitive Receptors

1.2.1 General

Key sensitive receptors are considered to be those within 1 km of the site; the potential impact to these from certain sources will depend on the weather conditions. Figure ERA1 presents the wind rose for the area, for 2021, sourced from a station located at Sheffield Doncaster Airport.

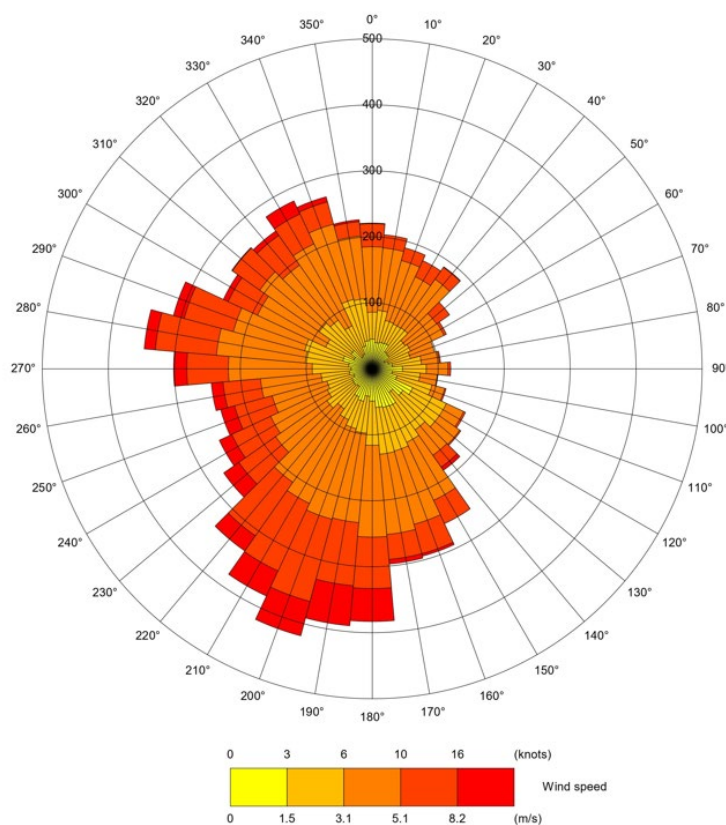


Figure ERA1: Wind Rose

The perceived impact at receptors located down-wind are likely to be more than at those located cross or up-wind for certain sources like dust, litter, odour, noise. Some receptors are more sensitive than others, for example a residential area is likely to be more sensitive than an industrial estate.

Table ERA2: Sensitive Receptors within 1 km

Receptor	Distance at closest point	Direction	Receptor Type	Relative Risk of Impact
Residential Properties on Beckbridge Road	600 m	West	Residential properties – potential all-day presence	Moderate
Residential Properties on Castleford Road	425 m	West-Northwest	Residential properties – potential all-day presence	Moderate
Residential properties on Newlathes Crescent	700 m	Southwest	Residential properties – potential all-day presence	Moderate
Residential properties on Rosemount Drive	850 m	South	Residential properties – potential all-day presence	Moderate
Residential properties on Arnall Street	800 m	North	Residential properties – potential all-day presence	Moderate
Whitwood Common	500 m	North	Public open space, transient use all day	Low
Ancient Woodland – Ackton Pasture Wood	1 km	Northeast	Public open space, transient use all day	Low
Workers in other premises in the Industrial Estate	Immediately adjacent	North, East, South and West	Commercial/industrial workplace, all day presence	Moderate
Wain Dyke Beck	40 m	East	Surface water drain with adjacent footpath	Low

The operator retains a list of the key sensitive receptors and contact details for each (where applicable) so that they can be alerted to an incident.

1.2.2 Nature Conservation Sites

There are no European habitat sites or Sites of Special Scientific Interest (SSSI) within the specified distance criteria from the facility. There are however three Ancient Woodland Inventory sites approximately 1 km from the site, the largest of which has been considered in this ERA (and in the AQIA in Appendix J):

- Ancient Woodland – Ackton Pasture Wood. Ancient Woodland takes hundreds of years to establish and is defined as an irreplaceable habitat. It can be a valuable natural asset, supporting wildlife (including rare and threatened species), but also in terms of soils and carbon capture and storage. Wood pasture is land that has been managed through grazing. It is often made up of a mixture of habitats that support wildlife and is home to veteran and ancient trees.

It is considered that the woodland would be sensitive to dust, litter, odour and fire, although it is noted that the site is not designated as a habitat for wildlife.

The location of this is identified on Drawing 2 in the AQIA provided in Appendix J of this application.

The other sensitive receptors as listed in Table ERA2, are identified on **Drawing SHSMT-NMT-EP03 Site Sensitivity Plan.**

Table ERA3: Risk Assessment

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
Releases of particulate matter (dusts)	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	Nuisance - dust on cars, clothing etc.	Transportation through air then inhalation or deposition	Very Low	Low	Low	Permitted wastes are not dusty, and all waste arrives in UN containers (sealed) however receptors are sensitive to dust deposition and inhalation, proximity of closest residential receptors	Wastes are delivered in closed UN containers. Containers are subject to visual inspection. No raw materials used are dusty. Boiler is subject to scheduled maintenance and service. Air extraction operates at all times and LEVs (at the shredder, bin-to-bin tipper, autoclave doors, and sharps floc compactor) filtered for particulates. Filters subject to regular maintenance and service and replaced regularly. Doors to the building remain closed outside of loading/offloading times.	VL
		Harm to human health - respiratory irritation and illness; harm to ecological features through toxic contamination or smothering		VL	M	L			L
Releases of infectious micro-organisms (bioaerosols) from	Workers and visitors within the building; local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest	Harm to human health - respiratory irritation and illness; harm to ecological receptors	Transportation through air then inhalation	L	H	M	Whilst waste is infectious it is all contained within the UN approved containers in which it is transferred	Waste is only accepted in UN containers. Reusable containers (carts) are disinfected before leaving site. Housekeeping procedures include regular disinfection. Treatment is within the building and the shredders and autoclave door areas are	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
waste containers	commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site							under LEV which is filtered prior to release. Waste treatment achieves STAATT Level III.	
Fire from storage and/or processing of waste	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists / vandals. Pollution of water or land from run-off of contaminated fire water. Harm to ecological features	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches	L	H	M	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation. Boiler is subject to scheduled maintenance and service	Wastes are delivered in sealed containers. Containers are subject to visual inspection. The waste is not hugely combustible. Waste turnaround is high (<2 weeks), storage of untreated waste is all within the building. Regular inspections and maintenance of key process plant and equipment (following planned preventative maintenance programme). Thermal cut outs on applicable equipment (e.g. electrical drives and inverters). All reasonable precautions will be taken to prevent the outbreak of fire. In the first instance site staff will	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
		through toxic contamination or smothering						extinguish the fire where possible, if required the fire brigade will be contacted. Pollution control measures including impermeable hardstanding and surface water management infrastructure provides protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	
Litter	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	Nuisance, loss of amenity and harm to wildlife (disturbance)	Air transport then deposition	L	M	M	It is acknowledged that local residents and habitat receptors are often sensitive to litter emissions however permitted wastes are not litter-generating. Waste that could generate litter will be limited to office and welfare facilities so small scale and	Wastes are delivered in sealed containers. Containers are subject to visual inspection. Doors to the building remain closed outside of loading/offloading times.	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
							managed in standard bins.		
Waste and mud on local roads	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate. Access to the site is off Loscoe Close which runs along the western boundary; this joins Foxbridge way which in turn joins the A655 Pontefract Road at approximately 250 m from the estate entrance	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving the site	L	M	M	Road safety, local residents often sensitive to mud on roads.	During wet weather, daily inspection will identify if there are any areas of build-up of mud on internal and local roads and any issues will be cleared as soon as practicable; the facility and site roads are constructed of concrete; all vehicles entering and leaving the site are fully enclosed; any complaints will be recorded and an investigation will be undertaken and findings acted upon.	L
Odour	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors	Nuisance, loss of amenity	Air transport then inhalation	M	M	M	Local residents and public area users are often sensitive to odour, permitted waste types are potentially odorous	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed outside of	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
	are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site						but the raw materials are not	loading/offloading times. Air extraction operates at all times and extract filtered for VOCs.	
Noise and vibration	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	Nuisance, loss of amenity; harm to ecological features through disturbance	Noise through the air and vibration through the ground	M	M	M	Local residents often sensitive to noise and vibration, closest residents are 425 m from the site and the site is within an existing 24/7 operational industrial area.	The noise design specification for the plant is such that employees are protected; plant does not exceed 80 dBA at 1 m from the noise source. Operations are within a fully enclosed building. Any complaints will be recorded, and an investigation will be undertaken and finding acted upon. Audible high-level alarms on process plant are within the confines of the building. Noise assessment completed for planning and no significant impact identified.	L
Scavenging animals (e.g. rats)	Local human population/presence- the closest residential	Harm to human health - from waste	Air and over land	L	M	M	Permitted wastes and raw materials are unlikely to	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
and scavenging birds	receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	carried off site and faeces. Nuisance and loss of amenity. Harm to ecological features through predation					attract scavenging animals and birds	vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	
Pests (e.g. flies)	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	Harm to human health, nuisance and loss of amenity; Harm to ecological features through predation	Air and over land	L	M	M	Permitted wastes and raw materials are unlikely to attract pests	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
Spillage of liquids	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate	Harm to human health and animal health	Via drains	L	M	M	Permitted wastes do not include liquids	Visual inspection of autoclave sump and drainage integrity, accessed only by trained personnel; any spillage would be contained within the building on the impermeable hardstanding	L
Flooding of site	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on the estate	Waste and/or raw materials washed off site may contaminate downstream receptors	Flood waters flowing over land and soaking into the ground	M	M	M	Permitted waste types include hazardous; site is not within a flood plain	Waste is fully contained at all stages and stored in mobile containers when not being treated so can be easily removed in a flood event.	L
Arson and / or vandalism causing the release of polluting materials	Local human population/presence- the closest residential receptors are at some 425 m to the northwest of the site; the closest commercial receptors are the other units on	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface	M	H	H	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation	Site is secure by palisade fencing and lockable gates; there is a fire alarm and CCTV. During operational hours access is only granted to authorised vehicles and visitors; pollution control measures including impermeable hardstanding and	L

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure; Consequence; Magnitude of Risk			Justification of Magnitude	Control Measures	Residual Risk
to air (smoke or fumes), water or land	the estate; ecological sites – the closest is Ackton Pasture Wood (Ancient Woodland) at 1 km to the northeast of the site	arsonists/vandals. Pollution of water or land. Harm to ecological features through toxic contamination or smothering	water drains and ditches.					surface water management infrastructure provide protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	

2 Conclusion

Further details on the control measures are provided in the BAT Assessment completed for the variation application (Appendix H of the variation application, ref. SHSMT_2022.01/05). These include details on:

- Waste pre-acceptance
- Waste acceptance
- Waste storage, handling and dispatch
- Use of raw materials (chemicals, water)
- Treatment validation
- Emissions monitoring

On the basis of this and the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures that are either already in place at the site for the current permitted activities or are proposed to be implemented for the new activities are appropriate.

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.