1. Environmental Risk Assessment

Receptor	Source	Harm	Pathway	Probability of occurring	Consequence	Magnitude of risk	Justification for magnitude	Risk Management	Residual risk
Local human population. The site is located on an industrial estate. Therefore, adjacent to other local businesses (The nearest being Tower Escort located 10m south of the site). The nearest residential dwelling is located c.130m west of the site. This is the only residential area within 500m of the site.	Releases of dusts and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Low	Low	Low	The waste processed on site is not considered to generate significant levels of dust. The change in permit boundary means the site is closer to some residential receptors. However, the treatment activities are located furthest away from the Residential Area. The Residential Area is actually located 190m from the treatment activities. The shredding of the additional waste codes is not likely to emit more dust than the shredding of whole tyres, which is already	The Operator will operate the site in accordance with a Dust Management Plan. The Dust Management Plan will be implemented by a dust procedure in the Environmental Management System (EMS). The Dust Management Plan has been updated to account for the change to the permit boundary, additional waste codes and additional treatment activities. Strict waste acceptance procedures will be implemented to ensure that excessively dusty loads are not accepted on site. A number of mitigation measures are in	Very Low

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							an activity on the Site. The addition of the treatment activities may have an impact of the level of dust emissions emitted from the Site. Treatment activities that are at risk of producing dust emissions are undertaken in a building.	effect to reduce the risk of dust nuisance. Vehicles entering and exiting the site are sheeted in order to reduce the likelihood of dust emissions. Strict waste acceptance procedures will be implemented to ensure that excessively dusty loads are not accepted on Site. Water sprays are used to minimise dust emissions from the movement and treatment of the waste. The Site boundary will be inspected regularly to identify any dust emissions leaving the Site. Monitoring of dust emissions will take place at 3 fixed dust monitoring locations across the Site, see	

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								monitoring in the Dust Management Plan.	
		Nuisance - dust on cars, clothing etc.	Air transport then deposition.	Low	Low	Low	As above.	As above.	Very Low
Local human population. The site is located on an industrial estate. Therefore, adjacent to other local businesses (The nearest being Tower Escort located 10m south of the site). The nearest residential dwelling is located c.130m west of the site. This is the only residential area within 500m of the site.	Waste, litter, and mud on local roads.	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving the site.	Low	Low	Low	The site boundary extension will not cause any further mud or litter as there will be no increase in vehicles or waste. The acceptance and shredding of the additional waste codes may cause mud to fall onto the Site during processing because there may be mud on the surface of the rubber tracks. However, this is not likely to be any more than when whole tyres are sorted / treated. It is considered unlikely that the additional	The concrete surface of the site and wheel cleaning facilities significantly reduce the risk of mud being tracked out on to road in the industrial estate. Any litter found will be collected and disposed of regularly to keep the Site tidy. Strict waste acceptance criteria will be applied within the site's Environmental Management System (EMS) to ensure incoming loads of waste that	Very Low

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							treatment activities will impact the level of mud.	have a high litter content are rejected. A road sweeper shall be deployed, and vehicle wheel cleaning shall take place if there is significant mud and debris on the access road.	
	Odour	Nuisance, loss of amenity.	Air transport then inhalation.	Low	Very Low	Very Low	The site does not accept food waste. All other wastes have low odour potential.	Waste imported onto the Site will be checked to ensure that it does not contain malodourous materials.	Very low
Local human population. The site is located on an industrial estate. Therefore, adjacent to other local businesses (The nearest being Tower Escort located 10m south of the site).	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Medium	Low	Low	The operating hours for the treatment activities are 7am – 6pm Mon to Fri and 8am – 3pm Sat. Closed on Sundays. Residents often sensitive to noise and vibration. Local environment is not considered sensitive to noise – noise as a	All plant and equipment will be maintained in accordance with the manufacturers' recommendations to minimise noise generation. Mobile plant will only be in operation when strictly necessary and in response to incoming loads. Drop heights are also reduced as	Very Low

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The nearest residential dwelling is located c.130m west of the site. This is the only residential area within 500m of the site.							result of vehicle movements already likely as a result of surrounding businesses within the industrial estate. The acceptance of the additional waste codes are not likely to increase the level of noise emitted from the Site. The additional treatment activities may increase the level of noise emitted from the Site. Although these are undertaken in a building. The waste treatment activities and the plant and equipment associated with each have been included below. Sorting/ separation- Any sorting is	far as reasonably practicable in order to reduce noise. The presence of stockpiles and bays on site will act as a bund to minimise noise emissions from the site. The existing screening bunds to the north and west of the Site will act as a noise screen to receptors in these directions, including the residential area. Additionally, the treatment activities that considered most likely to create noise, are in a building, 190m away from the residential area.	

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							done manually as each tyre has to be inspected. When tyres are not inspected, they are pushed up for processing by a JCB Telehandler. Sidewall cutting- OTR Sidewall Cutter. Pressure testing- CoToN Standard tyre testing machine. Baling- Gradeall International Limited MKII Tyre Baler. Shearing- CAT Mobile Scrap and Demolition Shears. The shearing system is		

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							attached to a 360-degree machine which runs it. Rim-removal-HPA Tyre Changer. All the above equipment is only used for a fraction of the operating hours. Since this will be highly variable, it would be difficult to provide an estimate of this at this stage. None of the equipment listed above has a sound pressure level of 80db. With the exception of the baling machine, all of the above equipment is operated in an area in the Site, surrounded by three sides by three-metre-high walls. This will significantly reduce the impact from noise on the identified		

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							sensitive receptors. The Site is located on an industrial estate which has other local businesses, that are constantly moving plant and equipment. The operations at Kingpin Recycling are considered to not be louder than these other businesses.		
Local human population. The site is located on an industrial estate. Therefore, adjacent to other local businesses (The nearest being Tower	Scavenging animals and scavenging birds or pests.	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land.	Low	Medium	Low	The extension of the permit boundary is not considered to pose any greater risk of attractiveness to pests or scavengers.	Implementation of strict waste acceptance procedures ensure that materials that could attract scavenging animals are not accepted on to the site. Housekeeping will minimise the risk	Low

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Escort located 10m south of the site). The nearest residential dwelling is located c.130m west of the site. This is the only residential area within 500m of the site.								from scavenging animals.	
	Flooding from site.	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream.	Floodwaters	Low	Medium	Low	The Site is located in flood zone 1, so it has a very low risk of flooding.	All liquids shall be provided with secondary containment.	Very low
Local human population and / or livestock after gaining unauthorised access to the waste operation.	All on-site hazards: wastes; machinery and vehicles.	Bodily injury Respiratory illness i.e. lung cancer and mesothelioma.	Direct physical contact with machinery.	Low	Low	Low	The same health and safety rules will be in place. Permitted waste types do not pose a risk to human health through direct contact. The structures, equipment, and machinery located on the Site are secured outside of	The site is constantly manned during operational hours. Inspections will be carried out to ensure that the plant on the Site is sufficiently maintained, in order to reduce malfunction and accidents. Records are to be kept of any accidents / incidents on the site to identify any issues.	Low

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							operation / manned hours.		
Local human population and local environment. The site is located on an industrial estate. Therefore, adjacent to other local businesses (The nearest being Tower Escort located 10m south of the site). The nearest residential dwelling is located c.130m west of the site. This is the only residential area within 500m of the site. There is an area of deciduous woodland	Arson and / or vandalism causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff, firefighters or arsonists/vandals. Pollution of water or land.	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches.	Low	Medium	Low	Increase in permit boundary has the potential to increase fire risk as storage capacity has increased. Stockpiles material will be stored in concrete bays.	Site security measures will be in place to help prevent acts of vandalism and arson. Material stored in accordance with the fire prevention plan to reduce the spread and impact of fire. The fire prevention plan contains detailed management strategies implemented to prevent fires and reduce their impact.	Low

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located on the northern boundary of the site. Another area of deciduous woodland is located 355m east of the site.									
Local human population and local environment (as above).	Fire causing the release of polluting materials to air (smoke or fumes), water or land.	Respiratory irritation, illness and nuisance to local population. Injury to staff or firefighters. Pollution of water or land.	As above	Low	Medium	Low	Increase in permit boundary has the potential to increase fire risk as storage capacity has increased. Stockpiles material will be stored in concrete bays.	The EMS contains procedures and forms relating to accidents and incidents on the Site and what actions to take should one occur. The fire prevention plan contains detailed management strategies implemented to prevent fires and reduce their impact.	Low
All surface waters close to and downstream of site. Closest surface water feature is a pond located	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste.	Acute effects: oxygen depletion, fish kill and algal blooms Chronic effects: deterioration of water quality.	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	Low	No point source emissions to surface water. Very few liquids are stored on site, fuel and water are stored in double lined	All liquids shall be provided with secondary containment. Strict waste acceptance procedures ensure that no	Low

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200m north of the site. Other surface water features nearby are drainage and settling ponds within the active quarry to the south and the closed quarry to the east.							containers that are secured and regularly inspected for faults and damage.	contaminated waste will enter the site. Only waste tyres and tyre products stored on site, the nature of the material created no run-off or leachate. All refuelling activities /handling of liquids will be carried out on an impermeable pad with sealed drainage No discharge into surface water, yard run-off is collected in drains and discharged into the sewer.	
Groundwater and surface water.	As above	Chronic effects: contamination of groundwater and surface water, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Low	Low	Low	Waste types are non-hazardous. The additional waste codes are also all non-hazardous. All the additional	Waste is stored on impermeable concrete with sealed drainage.	Very low

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							waste treatment activities will be undertaken on an impermeable surface and therefore will not cause an increased risk of contamination to surface water or groundwater. All water draining from the Site is discharged to sewer. The extension to the permit boundary does not cause any significant change to the risks to surface water and groundwater due to the proposed impermeable surfacing and drainage infrastructure.		

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Protected sites - European sites and SSSIs or nearby habitats and wildlife. There are no protected sites within 1km of the site. There is an area of deciduous woodland located on the northern boundary of the site. Another area of deciduous woodland is located 355m east of the site.	Releases of dusts and micro-organisms (bioaerosols).	Harm to wildlife through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Air transport then deposition.	Low	Low	Low	There is an area of deciduous woodland located on the northern boundary of the site. Treatment activities that are considered to potentially emit dust and noise will be undertaken within the Waste Treatment Building. Treatment activities undertaken outside have been assessed and the risk of these activities producing dust and noise is considered to be low. The Waste Treatment Building is located approximately 40m away from the deciduous woodland and	EMS Dust Management Plan implement mitigation measures to control and limit the release of dust emissions beyond the permit boundary. Dust monitoring is undertaken at three separate points along the site boundary, including on the northern boundary (by the deciduous woodland). Activities may be ceased if significant dust emissions are observed leaving the Sit boundary, in accordance with the Dust Management Plan. There is a three-metre-high acoustic bund located between the Site and the deciduous woodland, which	Low

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							therefore considered to have an impact on this habitat. Due to the nature of the waste (larger particles and heavy) it is considered that loss of containment of the waste and the risk of it entering the deciduous woodland is very low,	will help to minimise noise and dust impacting on the woodland.	