



ENVIRONMENTAL RISK ASSESSMENT

Environmental and sustainability solutions provided to
RESOURCE RECYCLING SOLUTIONS LTD

WRM-LTD.CO.UK



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REVISION LOG

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0.2	Internal review	26/02/2024
0.3	Internal review	18/03/2024
0.4	Amendments following review	21/03/2024
1.0	First Issue	28/03/2024

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1.0 INTRODUCTION

Walker Resource Management Limited (WRM) are acting consultants for Resource Recycling Solutions Ltd (hereon 'RRS') who have commissioned WRM to produce an Environmental Risk Assessment in line with operational activities associated with an Open Windrow Composting (OWC) and In-Vessel Composting (IVC) facility at their site in Out Rawcliffe, Lancashire.

The RRS facility currently comprises a non-hazardous green waste composting site with an annual processing capacity of 75,000tpa. However, a permit variation application has been submitted to the Environment Agency, requesting permission to process green waste, comingled food and green waste and food only waste through a new In-Vessel Composting facility on the site. The application also seeks to add the currently exempt activities of treating waste wood, aggregates and soil as permitted activities. The table below presents the identified risks on site, the potential linkages from source, pathway and receptor, and provides an assessment of the residual risk following the proposed risk management strategy. Note that bioaerosols are not included within this section as they are assessed separately within the Site Specific Bioaerosol Risk Assessment (document reference: SSBRA-RRS08a).

Table 1 – Details of the Operator

Operator	Resource Recycling Solutions Ltd
Operational Site	Iron House Farm Lancaster Road Preston Lancashire PR3 6BP
Assessment Date	26/02/2024
Completed by	Joel Pimm Walker Resource Management Ltd
Approved by	Martin Ropka (WRM)

1.1 Assessment Process

The guidance Risk Assessments for your Environmental Permit produced by the Environment Agency and DEFRA gives a five-step process for assessing the site activity and the risk to local amenity to successfully produce an Environmental Risk Assessment:

1. Identify and consider risks for your site, and the sources of the risks.

2. Identify the receptors (people, animals, property, and anything else that could be affected by the hazard) at risk from your site.
3. Identify the possible pathways from the sources of the risks to the receptors.
4. Assess risks relevant to your specific activity and check they're acceptable and can be screened out.
5. State what you'll do to control risks if they're too high.

This risk assessment will identify people or parts of the environment that could be harmed by the activity and carry out risk assessments for these potential sources. Assessment of potential accidents at the facility and the consequential effects on sensitive receptors have been accounted for in a separate Accident Management Plan (see RRS09).

2.0 ENVIRONMENTAL RISK ASSESSMENT

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Airborne dust particulates	Deposition from air.	Human Health	Med	Low	Med	Potential for frequent and long-term exposure for people working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> Waste inputs for composting will have high moisture content so the production of dust will be minimal. The site will be kept clean and dust suppression will be used as and when needed. Material, including aggregates and soils, will be assessed by site prior to processing and water can be added if required to increase the moisture content. Daily site inspections. 	Low
Airborne particulates generated during recovery process and by the	Inhalation and ingestion.	Human Health	Med	Low	Low	Potential for frequent and long-term exposure if anyone is living or working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> Waste inputs for composting will have high moisture content so the production of dust will be minimal. The site will be kept clean and dust suppression will be used as and when needed. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
movement of vehicles onsite.							<ul style="list-style-type: none"> Material, including aggregates and soil, will be assessed by site prior to processing and water can be added if required to increase the moisture content. Site speed limit set at 10mph. Daily site inspections. 	
Airborne particulate generated during movement of product onsite.	Inhalation and ingestion.	Human Health	Med	Low	Med	Potential for frequent and long-term exposure if anyone is living or working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> Compost product leaving site will have high moisture content so the production of dust will be minimal. Soils and aggregates leaving site will be dampened prior to transport if necessary. The site will be kept clean and dust suppression will be used as and when needed. Material will be assessed by site prior to processing and water can be added if required to increase the moisture content. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
							<ul style="list-style-type: none"> Site speed limit set at 10mph. Daily site inspections. 	
Airborne dust particulates generated during shredding of organic material.	Inhalation and ingestion.	Human Health	Med	Low	Med	Potential for frequent and long-term exposure for people working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> The site will be kept clean and dust suppression will be used as and when needed. Material will be assessed by site prior to processing and water can be added if required to increase the moisture content. Food/green waste shredded in IVC building which is under negative aeration. Material will be assessed as part of waste acceptance procedure to ensure excessively dusty material is not accepted on to site. Daily site inspections. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Airborne dust particulates generated during crushing / screening of aggregates / soil.	Inhalation and ingestion.	Human Health	Med	Med	Med	Material can be inherently dusty. Potential for frequent and long-term exposure for people working close to the site (apart from licence holder/operator and employees).	<ul style="list-style-type: none"> Material and wind direction will be assessed by site prior to processing and water can be added if required to increase the moisture content. The site will be kept clean and dust suppression will be used as and when needed. Material will be assessed as part of waste acceptance procedure to ensure excessively dusty material is not accepted on to site. Daily site inspections. 	Low
Noise from machinery.	Air transport.	Human Health	Med	Low	Med	Neighbouring residents and business often sensitive to noise and likely to complain.	<ul style="list-style-type: none"> Noise and Vibration Management Plan in place. Supervision of material unloading. Delivery activities are only undertaken during hours of operation. Shredding, crushing and screening activities are only undertaken during hours of operation. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
							<ul style="list-style-type: none"> • Routine vehicle maintenance and inspection undertaken to ensure minimal noise when in machinery is in operation.. • Bunding and landscaping surrounding the site. • Machinery movements not to occur outside of working hours. • Site speed limit set at 10mph. • Vehicles and machinery switched off when not in use. • Doors remain closed during IVC operations except during the reception of waste materials. • PPE provided to staff. 	
Fugitive releases of litter.	Air transport.	Human Population	Med	Low	Med	Local residents/local farmers/local businesses sensitive to litter and likely to complain.	<ul style="list-style-type: none"> • Waste is inspected on arrival and turned away if contamination levels exceed levels stated in the sites Standard Operating Procedures. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
							<ul style="list-style-type: none"> Daily inspection of site and removal of litter. Litter picks of the site shall take place as required. Picking line to remove plastic at front end of the process. 	
Fugitive releases waste, litter, and mud on local roads.	Vehicles entering and leaving site.	Human Population	Med	Med	Med	Local residents often sensitive to mud on roads and likely to complain.	<ul style="list-style-type: none"> Daily inspection of site roads for debris. A road sweeper will be hired as required to prevent the build-up of dust or mud on the vehicle routes, which could be brought onto the highway. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Odour from recovery operations.	Air transport.	Human Population	Med	Med	Med	Some of the waste accepted on to site will have some level of odour on arrival. Local residents and businesses often sensitive to odour and likely to complain.	<ul style="list-style-type: none"> • Comingled food and green waste and food only waste is processed within 72 hours of receipt. • Highly odorous waste shall be rejected. • IVC building doors remain closed at all times other than for vehicle access. • IVC building under negative aeration. • Odour abatement of air from IVC tunnels and buildings including biofiltration. • Housekeeping and removal of spillages and debris. • Complaints procedure and investigation. • Odour Management Plan in place. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Smoke from a fire.	Air transport.	Human Population	Med	Med	Med	Local residents / businesses often sensitive to odour and likely to complain. Fires can be deliberate or accidental.	<ul style="list-style-type: none"> Licensed activities do not permit burning of waste. Accident Management Plan and Fire Prevention Plan detail consequences and control of fires. Fire extinguishers present on site. Monitoring of any stockpiles. Housekeeping controls. Complaints procedure and investigation. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Scavenging birds and animals.	Air transport and over land	Human Population	Med	Med	Med	Scavenging birds and vermin attracted to site and affecting neighbouring residents and businesses.	<ul style="list-style-type: none"> • Fugitive Emissions Management Plan details process for dealing with source. • Hire of professional pest controllers as required. • Housekeeping controls. • The removal of all waste from the non-stockpiled tipping floor area at the end of each operating day by shovel loader to prevent attraction of birds and animals. • Daily site inspection. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Pests e.g. flies.	Air transport and over land.	Human Population	Med	Med	Med	Insect pests can multiply on some permitted waste types particularly in summer months.	<ul style="list-style-type: none"> Fugitive Emissions Management Plan details process for dealing with source. Control of pests through a pest control contractor as required. Housekeeping controls. The removal of all waste from the non-stockpiled tipping floor area at the end of each operating day by shovel loader to prevent attraction of birds and animals. Daily site inspection. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
All on site hazards particularly relating to waste handling and storage activity.	Direct physical contact.	Human Population	Med	Med	Med	Waste types are non-hazardous therefore present a moderate risk.	<ul style="list-style-type: none"> • Signs outlining onsite risks. • All wastes to be accepted are non-hazardous. • COSHH system implemented on site. • Staff undergo training. • All visitors required to sign in and complete a site induction. • PPE provided to staff and visitors. 	Low risk
Accidental chemical spill from tank containing fuel oil or lubricant.	Surface run off and permeate through the soil	Groundwater	Med	High	Med	A major spill has the potential to cause damage to surrounding landscape.	<ul style="list-style-type: none"> • Spill kits provided. • Double banded fuel tanks. • Banded oil store. • Impermeable concrete surface with sealed drainage system. • COSHH system implemented on site. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Leachate with high organic content.	Direct surface run off from site pad.	Surface Water	Med	Low	Med	Waste types are non-hazardous therefore only moderate risk. Potential leachate spill migrating off site and into low flow watercourse. Harm is temporary and reversible.	<ul style="list-style-type: none"> All material stored on a concrete surface with sealed drainage. No point emissions. Accident Management Plan and emergency procedures outline a methodology for loss of site liquid wastes/leachate to surface waters. Leachate tanks are inspected regularly and emptied as required. Containment assessment carried out recently and recommended improvements undertaken or scheduled. Daily site inspection. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Leachate with high organic content.	Permeate flow through soil.	Ground water	Low	High	High	The site is situated within groundwater source protection Zone III.	<ul style="list-style-type: none"> All material stored on a concrete surface with sealed drainage. No point emissions. Accident Management Plan and emergency procedures outline a methodology for loss of site liquid wastes/leachate to surface waters. Leachate tanks are inspected regularly and emptied as required. Containment assessment carried out recently and recommended improvements undertaken or scheduled. Excess liquid management procedures. Daily site inspection. 	Low risk

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Fire on site leading to run off from polluted firefighting waters.	Direct and indirect run off.	Surface and Ground water	Med	High	Med	Fires can be deliberate or accidental.	<ul style="list-style-type: none"> • Fire Prevention Plan. • All material stored on a concrete surface with sealed drainage. • Accident Management Plan and emergency procedures outline a methodology for loss of site liquid wastes/leachate to surface waters. • Leachate tanks are inspected regularly and emptied as required. • No point emissions. • Excess liquid management procedures. 	Low
Potential accidents from faulty vehicle equipment.	Vehicle / machinery accidents. Direct and indirect run off.	Human population and surrounding area.	Low	High	Low	Faulty vehicle parts could pose danger to site operatives and could potentially cause environmental pollution.	<ul style="list-style-type: none"> • Impermeable surface • Pre-use checks. • Vehicles are serviced regularly. • Maintenance schedule and log maintained. • Service agreements and contracts in place. 	Low

Pollutant Model			Judgement				Action	
Source	Pathway	Receptor	P	C	M	Justification of Magnitude	Risk Management	Residual Risk
Spread of animal or human disease	Spread of pathogens from waste and compost.	Human population, local wildlife.	Low	High	Med	Low probability due to waste acceptance procedures and sanitisation measures.	<ul style="list-style-type: none"> • IVC building divided into a 'clean end' and 'dirty end'. • Disinfection of footwear in footbaths using DEFRA approved disinfectant. • Provision of foot dips between clean and dirty areas. • Disinfectant foot dips at entrance and exit of pedestrian routes are to be kept topped up with DEFRA approved disinfectant by Site Operatives. • An inspection of the foot dips is included on the site weekly check. • All tools and equipment exposed to any ABP materials must be washed immediately after any maintenance activities. • APHA HACCP Plan. 	Low
P = Possibility C = Consequence M = Magnitude								