

## Environmental Risk Assessment for Oakenholt HRC

**Facility:** Oakenholt Recycling Centre, Nr.Flint

**Location:** Flintshire

**Location of environmentally sensitive sites (km / m):** adjacent SSSI

**Risk assessment carried out by:** MG Johnston

**Date:** 01-Dec-17

Data and information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population	Release of micro-organisms (bio aerosols )	Harm to human health - respiratory irritation and illness	Air transport then inhalation	High	High	High	Storage of household wastes may release micro-organisms. There is potential for exposure if anyone living or working close to the site (excluding operator and employees).	Site is located over 250 metres from any residential property. No treatment of waste will be undertaken	Low

Local human population	Releases of particulate matter (dusts).	Harm to human health - respiratory irritation and illness	Air transport then inhalation.	High	Medium	High	Permitted waste types do not include dusts, powders or loose fibres but treatment produces and is likely to release particulates. There is potential for exposure if anyone living or working close to the site (excluding operator and employees).	Site is located over 250 metres from any residential property. No treatment of waste will be undertaken	Low
Local human population	Releases of particulate matter (dusts).	Nuisance - dust on cars, clothing etc.	Air transport then deposition.	High	Low	Medium	Permitted waste types do not include dusts, powders or loose fibres but treatment produces and is likely to release particulates. There is potential for exposure if anyone living or working close to the site (excluding operator and employees).	Activities shall not be carried out within 250 metres of a residential property or workplace.	Low
Local human population	Releases of particulate matter (dusts) and micro-organisms (bio aerosols).	Gastro-intestinal illness	Air transport then deposition on garden fruit/vegetables and then ingestion.	Medium	Medium	Medium	Most dust will be washed off by rain or during food preparation. Illness likely to be mild and short term	Site is located over 250 metres from any residential property. No treatment of waste will be undertaken	Very Low
Local and distant human population	Releases of particulate matter (dusts) and micro-organisms (bio aerosols).	As above. Includes eating crops grown within 250 metres of the site.	Air transport then deposition on commercial/wild fruit/vegetables then ingestion.	Medium	Medium	Medium	Most dust will be washed off by rain or during food preparation. Illness likely to be mild and short term. Proportion of diet from this source will be low.	Hard surfacing of entrance/exit routes and the whole of the site will prevent mud and debris being carried out onto the public highway. Road sweeping will be utilised to limit the emissions of dust during dry weather conditions	Very low

Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Medium	Medium	Medium	Local residents often sensitive to litter.	Litter containment measures will be implemented and measures to clear litter arising from the activities from affected areas inside and outside the site	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation	High	High	High	Biological treatment and heat treatment produce and are likely to release odour. There is potential for exposure if anyone living or working close to the site (excluding operator and employees). Local residents often sensitive to odour.	Wastes likely to give rise to any odour will be removed from site as quickly as possible	Low
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep	Noise through the air and vibration through the ground.	Medium	Medium	Medium	Local residents often sensitive to noise and vibration.	SR - emissions shall be free from noise and vibration. SR (if required) - noise and vibration management plan.	
Local human population	Scavenging animals and scavenging birds.	Harm to human health - from waste carried off site and faeces. Nuisance and loss of amenity.	Air transport and over land	High	Medium	High	Permitted wastes are likely to attract scavenging animals and birds.	Wastes will be stored within containers and biodegradable wastes removed as frequently as possible. Inspection and baiting for scavengers will be carried out. Fly production will be monitored and treatment applied as necessary	Low

As above	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity.	Air transport and over land	High	Medium	High	Insect pests can multiply on permitted wastes, particularly in summer months	Wastes will be stored within containers and biodegradable wastes removed as frequently as possible. Inspection and baiting for scavengers will be carried out. Fly production will be monitored and treatment applied as necessary	Low
Local human population and local environment	Flooding of site	If waste is washed off site it may contaminate buildings / gardens / natural habitats downstream	Flood waters	Low	Medium	Medium	Permitted waste types are non-hazardous so any waste washed off site will add to the volume of the local post-flood clean up workload, rather than the hazard.	Flooding is managed within the Site Accident Management Plan	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	Direct physical contact	Medium	Medium	Medium	Permitted waste types are non-hazardous therefore only a medium magnitude risk is estimated.	A high level of site security will be provided.	Low
Local human population and local environment	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.	Medium	Medium	Medium	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a medium magnitude risk is estimated.	A high level of site security will be provided.	Low
Local human population and local environment.	Accidental 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.	High	Medium	High	As above, however heat treatment increases the probability of fire so overall a high magnitude risk is estimated.	As above. Permitted activities do not include the burning of waste.	Low

All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Low	Medium	Low	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a low magnitude risk is estimated.	Contact between rainwater and waste practically eliminated by containment. All drainage will be collected and disposed of via public sewer	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Chronic effects; deterioration of water quality	As above. Indirect run-off via the soil layer	Low	Medium	Low	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a low magnitude risk is estimated.	Contact between rainwater and waste practically eliminated by containment. All drainage will be collected and disposed of via public sewer	Very low
Abstraction from watercourse downstream of facility (for agricultural or potable use).	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Low	Medium	Low	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a low magnitude risk is estimated. Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contamination so overall magnitude is low.	Contact between rainwater and waste practically eliminated by containment. All drainage will be collected and disposed of via public sewer	Very Low



Groundwater	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste with high organic content.	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Low	Medium	Low	Apart from gully and street cleaning wastes, permitted waste types do not include sludges or liquids and are non-hazardous so only a low magnitude risk is estimated. Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contamination so overall magnitude is low.	Contact between rainwater and waste practically eliminated by containment. All drainage will be collected and disposed of via public sewer	Very Low
Protected sites - European sites and SSSIs	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Medium	Medium	Medium	Waste composting operations may cause harm to and deterioration of nature conservation sites.	Measures to discourage attraction of the site to birds will be introduced to limit the effect on birds on the River Dee SSSI	Low
Local human population and all surface waters close to and downstream of site.	Serious Fire	Nuisance, harm to human health, loss of amenity, deterioration of water quality	Air transport then inhalation or deposition. Direct run off of fire water across site to surface waters.	Low	High	Medium	Waste fires are not common but approximately 300 fires pa linked to waste activities. Impact on health and amenity can be significant for many days or weeks.	Annual tonnage limited to 75,000 tonnes. Fire Avoidance and management plan to be implemented	Low
All surface waters close to and downstream of site.	Serious Fire	Loss of amenity, deterioration of water quality	Direct run off of fire water across site to surface waters.	Low	High	Medium	Waste fires are not common but approximately 300 fires pa linked to waste activities. In event of fire, fire water can be produced for days/ weeks. Contaminated firewater run-off can kill fish and aquatic life.	Annual tonnage limited to 75,000 tonnes. Fire Avoidance and management plan to be implemented	Low