

Environmental Risk Assessment

Bespoke Facility:	Waste Operation: Bespoke Clinical Waste Transfer Station
Location:	Royal Preston Hospital, Sharoe Green Lane, Fulwood, Preston, PR2 9HT.
Location of environmentally sensitive sites (km / m):	Less than 500m (see below)
Risk assessment carried out by:	Lauren Stanger
Date:	01-Jun-22

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	Releases of particulate matter (dusts) and micro-organisms (bioaerosols).	Harm to human health - respiratory irritation and illness.	Air transport then inhalation.	Medium	Low	Low	Permitted waste types do not include dusts, powders or loose fibres but some of the treatment activities may produce particulate matter so a medium magnitude risk is estimated.	Dust suppression is to be used on all plant, vehicles and concrete surfaces via hose as required. All waste will remain enclosed within the sealed bags, containers and 770 litre wheeled bins.	Low
Local human population	As above	Nuisance - dust on cars, clothing etc.	Air transport then deposition	Medium	Low	Low	Local residents mainly comprise of additional hospital buildings. The nearest domestic residences are some 100m distant.	As above	Low
Local human population, livestock and wildlife.	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Low	Low	Low	Local residents mainly comprise of additional hospital buildings. The nearest domestic residences are some 100m distant.	All waste is enclosed within sealed bags, containers, and 770 litre wheeled bins. Procedures in the Site Management Plan detail actions to be taken by staff to inspect the site daily and to deal with litter as it arises.	Low

Local human population	Waste, litter and mud on local roads	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Low	Low	Low	Road safety, local residents mainly comprise of additional hospital buildings. The nearest domestic residences are some 100m distant.	As above. In addition a sweeper will be employed to keep site access roads free from dust/mud as conditions dictate.	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation.	Medium	Low	Low	Permitted waste types have the potential to produce odour. External odour minimal when doors and bins closed. Potential for odour on opening but diminishing rapidly due to each wheeled bin being equipped with an automatic closing and locking mechanism and the indoor storage being refrigerated.	Management of odour is controlled by the Odour Management Plan and Environmental Management System. All waste is enclosed and sealed at all times in bags, containers and 770 litre wheeled bins. The waste considered at a higher risk of producing odour is stored indoors within the refrigerator unit.	Low
Local human population	Noise and vibration	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Low	Low	Local residents mainly comprise of additional hospital buildings. The nearest domestic residences are some 100m distant. The nature of the operations on site will not result in noise nuisance.	There will be no waste treatment activities occurring on site, and therefore no noise will be created from processing machinery. The site will be a transfer station and storage facility only, and will therefore not lead to an adverse impact on surrounding receptors relating to noise. However, the management of noise will be controlled by the Environmental Management System.	Low
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	Medium	Medium	Medium	Permitted waste types do not include food or readily degradable wastes liquids which are likely to provide a home for pests.	Management of pests is controlled by the Environmental Management System. The waste stored on site does not make for a suitable habitat. The use of a specialist pest control sub-contractor if scavenging animals are detected will also mitigate the risk.	Very low
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Medium	Medium	Medium	Permitted waste types do not include food or readily degradable wastes liquids which are likely to provide a home for pests.	As above	Very 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	High	Medium	Low	The site is in a Flood Zone 1. The site has an impermeable concrete surface and the wastes are enclosed in sealed bags, containers and 770 litre wheeled bins at all times. Wastes are not stored directly on the permitted area's surface.	The permitted area is entirely surfaced with impermeable concrete. It is crucial to note that no waste is stored directly on the concrete surface. All waste is stored within a sealed bag or container, within a sealed 770 litre wheeled bin on site. Some infectious waste, waste containing traces of medicines, and anatomical wastes, are stored within the 770 litre wheeled bins within the refrigerator unit which is indoors and	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	Direct physical contact	Medium	Medium	Medium	Permitted waste types consist of both hazardous and non-hazardous wastes, all of which are enclosed, contained and stored appropriately. Every 770 litre wheeled bin is fitted with an automatic locking mechanism and can't be opened without a key.	Activities shall be managed and operated in accordance with the Site Management Plan (which includes site security measures to prevent unauthorised access).	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	Permitted waste types consist of both hazardous and non-hazardous wastes, all of which are enclosed, contained and stored appropriately. Every 770 litre wheeled bin is fitted with an automatic locking mechanism and can't be opened without a key. The refrigerator unit will also be locked out of operational hours and patrolled at the end of each working day.	As above. Activities will be managed in accordance with the Environmental Management System (which includes fire and spillages). The building also has a comprehensive security alarm and fire alarm system.	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.	Low	Low	Low	Risk of accidental combustion of waste is moderate.	As above. Activities will be managed in accordance with the Environmental Management System.	Low
All surface waters close to and downstream of site.	Spillage of liquids, leachate from waste, contaminated rainwater run-off from waste e.g. containing suspended solids.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run-off from site across ground surface, via surface water drains, ditches etc.	Medium	Medium	Medium	Permitted wastes do include hazardous and non-hazardous wastes. All waste streams are enclosed, contained and stored in sealed bags, containers and 770 litre wheeled bins.	All waste streams are sealed in bags, containers, and 770 litre wheeled bins. Some wastes are also stored indoors within the refrigerator unit. A spillage control procedure also forms part of the Environmental Management Plan.	Very low
All surface waters close to and downstream of site.	As above	Chronic effects: deterioration of water quality	As above. Indirect run-off via the soil layer	Medium	Low	Low	The hazardous waste is contained appropriately.	As above	Low
Abstraction from watercourse downstream of facility (for agricultural or potable use).	As above	Acute effects, closure of abstraction intakes.	Direct run-off from site across ground surface, via surface water drains, ditches etc. then abstraction.	Medium	Medium	Medium	Watercourse must have medium / high flow for abstraction to be permitted, which will dilute contaminated run-off.	As above.	Low
Groundwater	As above	Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil/groundwater then extraction at borehole.	Medium	Medium	Medium	There is a potential for contaminated rainwater run-off or leachate from permitted waste types.	As above.	Low

Local human population	Contaminated waters used for recreational purposes	Harm to human health - skin damage or gastrointestinal illness.	Direct contact or ingestion	Low	Medium	Low	Unlikely to occur due to distances involved, but might restrict recreational use in extreme case.	As above, plus procedures in the Environmental Management System will effectively mitigate this risk.	Very low
Protected sites - European sites and SSSIs	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	Very low	Very low	Very Low	The site sits over 2.5km from the nearest nature reserve. There are no SSSI within the vicinity.	The location of the site is situated far enough away from any protected nature reserve and SSSI to not pose an environmental risk.	Very low

Notes: Red triangle indicates comment containing supporting information
Yellow columns contain drop down menus that allow automatic evaluation of risk in green column