



Biffa Waste Services Ltd (Syracuse Waste Limited)

**Milton Keynes Waste Transfer, Treatment
& Recycling Facility**

Environmental Risk Assessment

February 2023

ENVIRONMENTAL RISK ASSESSMENT

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1.0 INTRODUCTION

1.1 Scope

- 1.1.1 A risk assessment has been undertaken to determine if the fugitive emissions anticipated from the operational activities at Milton Keynes Waste Transfer, Treatment and Recycling Facility (the Site) may have an effect on any sensitive receptors located close to the site.
- 1.1.2 Table EARA1 detailed under Section 2.2 includes a list of sensitive receptors that have been identified through a desk top assessment of the area as shown below.



- 1.1.3 The assessment of risks from the Site have been considered with reference to EA guidance entitled “Risk assessments for your environmental permit” (Dated 10th January 2019).

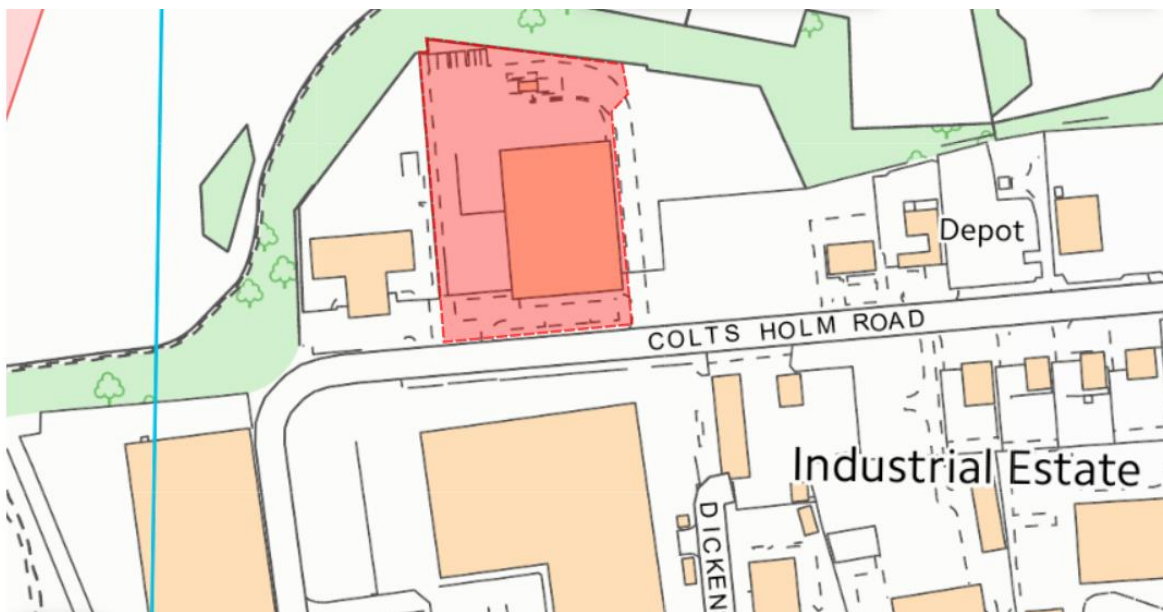
2.0 SITE SETTING

2.1 Location

The Site is located at 53 Colts Holm Road, Old Wolverton, Milton Keynes, Buckinghamshire, MK12 5QD, National Grid Reference SP 81213 41851. Access to the site is direct from Colts Holm Road.

The Site is approximately 5km to the north- west of Milton Keynes and approximately 9km west of junction 14 of the M1 motorway.

The surrounding land use is a combination of industrial/commercial properties and open parks and green spaces as shown on the drawing below, the Site is detailed in red:



Source: Historic England

2.2 Receptors

The Site sits within an industrial estate and is surrounded by commercial/industrial properties. The receptors identified as potentially sensitive are summarised below in Table ERA1. These have then been assessed for their potential sensitivity to fugitive emissions which may result from the activities and operations from the Site.

Table ERA1: Sensitive Receptors within 500m of the Site Boundary

<i>Receptor Name</i>	<i>Receptor Type</i>	<i>Direction from Site</i>	<i>Approximate distance from Permit Boundary (m) (at nearest point)</i>
Arriva UK (Bus Depot)	Commercial	W	88m
SERCO (Waste Collection Depot)	Commercial	E	106m
Milton Keynes Waste Recovery Park	Commercial	SW	134m
Jewsons (Building Materials Supplier)	Commercial	E	144m
Eggertons Fleet Services (Vehicle Repair Shop)	Commercial	E	198m
C&C Maintenance (Mechanic)	Commercial	SW	212m
Scott Parnell Ltd (Building Materials Supplier)	Commercial	E	229m
Keynes Roofing Centre	Commercial	E	262m
Ryder Ltd (Truck Rental)	Commercial	E	295m

The site does not lie within 500m of a European Site, Ramsar Site, Special Areas of Conservation (SACs), Special Protected Areas (SPAs) or Site of Special Scientific Interest (SSSI).

The site is located within the Olney Air Quality Management Area (AQMA). Declared pollutants are limited to Nitrogen Dioxide (NO₂) - Annual Mean.

Predominant wind direction at site are shown to prevail from between west and south-west. Any receptors situated to the north-east and east of the site would be most at risk from fugitive emissions.

There are two watercourses are shown within 500m of the site boundary, the nearest watercourse is the Great River Ouse approximately 40m to the north-west of the site boundary and the Grand Union Canal approximately 410m to the south of the site.

The southern area of the site is underlain by a bedrock geology of the Rutland Formation – Mudstone. This is a Secondary B designated aquifer. These aquifers are mainly lower permeability layers that may store and yield limited amounts of groundwater through characteristics like thin fissures and openings or eroded layers. The northern area of the site is underlain by bedrock geology of the Whitby Mudstone Formation – Mudstone, this is designated as unproductive strata whereby it is largely unable to provide usable water supplies and is unlikely to have surface water and wetland ecosystems dependant on it. The site in its entirety is underlain by superficial deposits of River Terrace Deposits, 2 – Sand and Gravel, this is designated as a Secondary A aquifer. These aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers. The site is within an area with low-medium groundwater vulnerability. The site does not lie within a Source Protection Zone (SPZ).

3.0 RISK ASSESSMENT

3.1 Risk Assessment Criteria

3.1.1 The risk assessments will be prepared using the widely-accepted source-pathway-receptor methodology, and is the preferred method specified in the EA guidance. Where any complete source-pathway-receptor linkage exists the magnitude of any such risk is qualified by the probability and consequence of any such risk occurring. The criteria to be adopted for the risk assessment are present in **Table ERA2**.

Table ERA1: Risk Assessment Criteria

Probability ⇒ Consequence ↓	Very Low	Low	Moderate	High
Very Low	Negligible	Very Low	Low	Low-Moderate
Low	Very Low	Low	Low-Moderate	Moderate
Moderate	Low	Low-Moderate	Moderate	High

3.2 Hazard Identification and Risk Assessment

3.2.1 **Table ERA3** provides an assessment of the potential fugitive emissions arising from site operations and an outline of the management procedures in place to control the risks to an acceptable level.

3.2.2 The assessment covers the following potential risks:

- Fugitive emissions to air;
- Mud and Debris on the road
- Bird, Vermins and Insects
- Noise & Vibration;
- Odour;
- Fugitive emissions to water.

Table ERA3: Environmental Risk Assessment Matrix at Milton Keynes Waste Transfer, Treatment and Recycling Facility

RISK LINKAGE				ASSESSMENT				ACTION (BY PERMITTING)	
Receptor	Source	Harm	Pathway	Probability	Consequence	Magnitude of Risk	Justification for Likelihood	Risk Management	Residual Magnitude of Risk
Local human population	Release of particulate matter (dusts) and micro-organisms (bioaerosols)	Harm to human health – respiratory irritation and illness.	Air transport then inhalation	Low	High	Moderate	All treatment operations carried out within the building Commercial properties and green open spaces are situated adjacent to the site. Green and food waste has the potential to produce bioaerosols.	<ul style="list-style-type: none"> Dust and Emissions Management Plan included within the site's Environmental Management System (EMS). All deposition and processing of waste will be undertaken internally. Ceiling-mounted dust atomisers are installed within the building to further reduce risk. Frequent visual monitoring to be undertaken by trained operatives and daily by the TCM (or nominated deputy) to identify any dust generated as a consequence of the waste operations. Water sprays (bowser), will be utilised where required to dampen surfaces and reduce dust emissions. All loads will arrive at site in covered or enclosed vehicles. 	Low
Local human population	As above	Nuisance dust on cars, clothing etc.	Air transport then deposition.	Low	Moderate	Low-Moderate	There is potential for increased dust generation from permitted activities during prolonged dry periods e.g. summer months.	<ul style="list-style-type: none"> Frequent visual monitoring to be undertaken by trained operatives and daily by the TCM (or nominated deputy) to identify any dust generated as a consequence of the waste operations. Water sprays (bowser), will be utilised where required to dampen surfaces and reduce dust emissions. All loads will arrive at site in covered or enclosed vehicles. 	Low
Local human population, livestock and wildlife	Litter	Nuisance, loss of amenity and harm to animal health	Air transport then deposition	Moderate	Moderate	Moderate	Treatment operations to be carried out in a building. Local properties, open spaces often sensitive to litter. Commercial properties and green open spaces are situated adjacent to the site. Variety of wastes to be accepted at the site that can generate litter	<ul style="list-style-type: none"> Amenity/Pest Management in accordance with the site's EMS. Paper, card and any other easily windblown waste will be stored internally. Only baled and wrapped, and dense/heavy wastes (e.g. wood, bulky wastes, glass) will be stored externally All loads will arrive at site in covered or enclosed vehicles. Daily visual inspections will be carried out to ensure litter does not accumulate within and beyond site boundary. Remedial action such as litter picking will be carried out. Good housekeeping measures will be employed on site to ensure cleanliness. An End of Shift Daily Check sheet will be completed at the end of the operational day. 	Low

RISK LINKAGE				ASSESSMENT				ACTION (BY PERMITTING)	
Receptor	Source	Harm	Pathway	Probability	Consequence	Magnitude of Risk	Justification for Likelihood	Risk Management	Residual Magnitude of Risk
Local human population	Waste, litter and mud on local roads.	Nuisance, loss of amenity, road and traffic accidents.	Vehicles entering and leaving site.	Low	Moderate	Low-Moderate	Road safety, local residents often sensitive to mud on roads.	<ul style="list-style-type: none"> Amenity/Pest Management in accordance with the site's EMS. All loads will be sheeted or kept in enclosed containers where appropriate, whilst in transit. All areas of site which vehicles move over are engineered hardstanding. All vehicles will be checked before leaving the site to ensure that vehicles are clean and free from debris. Water supplies are available on site for wheel washing purposes. Road networks in the vicinity of the sites access point will be mechanically swept as required. 	Low
Local human population	Odour	Nuisance, loss of amenity	Air transport then inhalation	Moderate	Moderate	Moderate	<p>Biodegradable waste has the potential to generate odour if stored for excessive periods.</p> <p>Commercial properties and green open spaces are situated adjacent to the site.</p>	<ul style="list-style-type: none"> Odour Management Plan included within the site's EMS. All reception and processing of putrescible waste is carried out internally; The inspection of all wastes as they arrive on site will be adequate to identify malodorous wastes prior to off-loading and deposit; Bio-degradable wastes will be processed and removed from the site within in accordance with the storage times in the EMS and FPP. Storage areas and processing plant and equipment will be regularly cleaned to prevent the build-up of odorous residues Good housekeeping measures will be employed on site to ensure cleanliness. 	Low
Local human population	Noise and vibration	Nuisance loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Low	Moderate	Low-Moderate	<p>Noise has the potential to be generated through processing operations and movement of mobile plant and HGVs.</p> <p>Treatment operations are carried out internally.</p> <p>Commercial properties and green open spaces are situated adjacent to the site.</p>	<ul style="list-style-type: none"> Processing of waste will only take place between the operational hours detailed in the EMS. All relevant plant and equipment will be equipped with silencers which will be maintained to the manufacturer's specifications. All treatment operations will be carried out internally All haul routes will be maintained to an appropriate standard that prevents body slap. Close-board fencing located along northern boundary of the site will be maintained. 	Low

RISK LINKAGE				ASSESSMENT				ACTION (BY PERMITTING)	
Receptor	Source	Harm	Pathway	Probability	Consequence	Magnitude of Risk	Justification for Likelihood	Risk Management	Residual Magnitude of Risk
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	Moderate	Moderate	Moderate	Scavengers may be attracted to biodegradable waste. Commercial properties and green open spaces are situated adjacent to the site.	<ul style="list-style-type: none"> • Amenity/Pest Management in accordance with the site's EMS. • The inspection of all wastes as they arrive on site will be used to identify wastes that are likely to attract scavengers, insect and other pests prior to off-loading and deposit. • Infested waste will be stored in quarantine pending transfer off site. • Any biodegradable fractions of waste will be stored internally prior to transfer off-site. • Daily visual inspection will be carried out for evidence of scavengers accessing the site. • Litter picking will be undertaken daily. 	Low
Local human population	Pests (e.g. flies)	Harm to human health, nuisance loss of amenity.	Air transport and over land	Moderate	Moderate	Moderate	As above.	<ul style="list-style-type: none"> • Amenity/Pest Management in accordance with the site's EMS. • Given the intended wastes to be accepted at site, pests are not anticipated. • The inspection of all wastes as they arrive on site will be used to identify infested wastes. Infested loads will be refused. • Daily visual inspection will be carried out to identify potential infestations. • Any biodegradable fractions of waste will be stored internally prior to transfer off-site. • Waste that becomes infested whilst on site will be stored in quarantine pending transfer off site. 	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	Very Low	Low	Low	Two water courses or water bodies are shown within 500m of the site boundary. Environment Agency classifications so not place any part of the site boundary within a flood risk area. Appropriately design surface water drainage systems installed at the site	<ul style="list-style-type: none"> • Site flooding is unlikely to be the result of natural processes. • The site drained system will be regularly inspected and maintained for evidence of blockages. • Any equipment with a water supply should be maintained as appropriate to ensure it does malfunction and cause a leak. 	Negligible
Local human population and/or livestock after gaining unauthorised access to the waste operation.	All on site hazards: wastes machinery and vehicle,	Bodily injury	Direct physical contact	Low	Moderate	Low-Moderate	Site will be secure out-of-hours and all machinery is located / stored internally.	<ul style="list-style-type: none"> • Site is surrounded by a continuous perimeter fence. • Lockable gates provide security to the only access point to site. • Remotely-accessible CCTV is installed on site. 	Very Low

RISK LINKAGE				ASSESSMENT				ACTION (BY PERMITTING)	
Receptor	Source	Harm	Pathway	Probability	Consequence	Magnitude of Risk	Justification for Likelihood	Risk Management	Residual Magnitude of Risk
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, fire fighters 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	Moderate	Low-Moderate	Commercial properties and green open spaces are situated adjacent to the site. Public highways located adjacent to the site	<ul style="list-style-type: none"> All flammable substances (e.g. fuels) are kept in banded / double skinned tanks and secured. Site is surrounded by a continuous perimeter fence. The site will be gated and locked outside operational hours. The waste transfer, treatment and recycling building will be locked outside operational hours. All firefighting equipment at the site will be clearly marked and tested, at appropriate intervals, to confirm their suitability and functionality. Site personnel will be made aware of the locations of all firefighting equipment and will be trained in their correct use. A Fire Prevention Plan has been prepared for the site and details the procedures in place to prevent and manage a fire. Ignition sources will be kept at least 6m from flammable and combustible material. 	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 fire fighters. Pollution of water or land.	As above.	Low	Moderate	Low-Moderate			Low
All surface water in the vicinity of and downstream of site and associated habitats and end users	Spillage of liquids, leachate from waste, contaminated rainwater run off from waste and firewater.	Acute effects: oxygen depletion, fish kill and algal blooms	Direct run off from site across ground surface, via surface water drains, ditches etc.	Low	Moderate	Low-Moderate	Only roof waters and run-off from non-operational areas of the site drain to surface-water sewer. Waste processing and storage area water will drain to an enclosed holding tank and tankered off site for disposal.		<ul style="list-style-type: none"> Waste acceptance procedures in place to fully characterise and inspect waste before and during delivery to the facility Spillages will be cleaned as a matter of urgency. All waste to be stored on engineered hardstanding. Any spillages within the site are cleaned up as a matter of priority. Spill kits will be available on site. The integrity of the engineered containment systems will be inspected regularly and maintained accordingly
		Chronic effects: deterioration of water quality.	As above. Indirect run off via the soil layer	Low	Moderate	Low-Moderate		Very Low	

RISK LINKAGE				ASSESSMENT				ACTION (BY PERMITTING)	
Receptor	Source	Harm	Pathway	Probability	Consequence	Magnitude of Risk	Justification for Likelihood	Risk Management	Residual Magnitude of Risk
Groundwater		Chronic effects: contamination of groundwater, requiring treatment of water or closure of borehole.	Transport through soil / groundwater then extraction at borehole.	Low	High	Moderate	All waste will be processed and stored on areas of impermeable concrete pavement that drains to the foul sewer The site does not lie within a Groundwater Source Protection Zone.		Very Low
Protected species and habitats (None present within 2km)	Any	Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc.	Any	-	-	-	No protected habitats or species located within 2km of the site as confirmed within the Habitats Risk Assessment.	-	-
Nature Conservation Areas within 500m of site Deciduous Woodland, Manor Farm LWS, River Greater Ouse, Main Line Railway.	Please refer to Habitats Risk Assessment report reference BF5076/02.R0 December 2022.								

4.0 CONCLUSION

- 4.1.1 It is concluded after this review that the Site activities and associated risks are unlikely to have any adverse effects on the receptors within the vicinity of the waste facility boundary.