

Risk Assessment for Lawrence Landfill Recycling PERMIT VARIATION

Facility: Lawrence Landfill Waste Transfer Station

Location: Applies to all potential locations.

Location of environmentally sensitive sites (km / m): Greater than 200m (see below)

Risk assessment carried out by: Jonathan Young

Date: 10/04/2014

| Data and information | | | | Judgement | | | | Action (by permitting) | |
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| 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 | Airborne asbestos fibres | Respiratory illness i.e. lung cancer and mesothelioma | Air transport then inhalation. | Low | High | Medium | Potential for exposure is low because of separate health and safety controls to protect employees | Good site management. Emissions of substances not controlled by emission limits. Site EMS will control emissions. | Low |
| 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 | Medium | Medium | Apart from asbestos, permitted waste types do not include dusts, powders or loose fibres so only a medium magnitude risk is estimated. There is potential for exposure if anyone is living or working close to the site (apart from the operator and employees). | Good site management. Emissions of substances not controlled by emission limits. Site EMS will control emissions. | Low |
| Local human population | As above | Nuisance - dust on cars, clothing etc. | Air transport then deposition | Medium | Low | low | Local residents often sensitive to dust. | As above | Low |

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| 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. | As above. Appropriate measures could include clearing litter arising from the activities from affected areas outside the site. | Low |
| Local human population | Waste, litter and mud on local roads | Nuisance, loss of amenity, road traffic accidents. | Vehicles entering and leaving site. | Medium | Medium | Medium | Road safety, local residents often sensitive to mud on roads. | As above. Appropriate measures could include clearing waste, litter and mud arising from the activities from affected areas outside the site. | Low |
| Local human population | Odour | Nuisance, loss of amenity | Air transport then inhalation. | Medium | Medium | Medium | Local residents often sensitive to odour. | Good site management. Emissions shall be free from odour. The EMS Includes an odour management plan. | 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 | Good site management. Emissions shall be free from noise and vibration.(if required) - noise and vibration management plan (to be prepared if <u>issue identified</u>). | 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 wastes may attract scavenging animals and birds. Wastes may become nesting / breeding sites. | Good site management. Emissions of substances not controlled by emission limits (including those from scavenging animals, scavenging birds and other pests) shall not cause pollution....Effects will be reduced by site EMS procedures. NO Access to hazardous waste. | Low |
| Local human population | Pests (e.g. flies) | Harm to human health, nuisance, loss of amenity | Air transport and over land | Medium | Medium | Medium | Insect pests can multiply on permitted wastes, particularly in summer months | As above | Low |

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| 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 | Low | Non hazardous wastes are not stored in buildings or inside secure containers so they could be washed off-site, which will add to the volume of the post-flood clean up workload, rather than the hazard. | The site is not in an area of Flood Risk. | 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 | Apart from asbestos, permitted waste types are non-hazardous therefore only a medium magnitude risk is estimated. | Activities shall be managed and operated in accordance with a management system (will include site security measures to prevent unauthorised access). Access to hazardous waste restricted by SR (asbestos). Good site management. | 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 do not include sludges or liquids and, apart from asbestos and battery storage, are non hazardous therefore only a medium magnitude risk is estimated. | Good site management. Environmental Management System (EMS) (will include fire and spillages). No hazardous waste on Site. | 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. | Medium | Medium | Medium | Risk of accidental combustion of waste is moderate. | As above. Permitted activities do not include the burning of waste. | Low |

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| 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 waste types do not include sludges or liquids so only a medium magnitude risk is estimated. There is potential for contaminated rainwater run-off from wastes stored outside buildings especially during heavy rain. | Good site management. All liquids shall be provided with secondary containment.... (applies to non- wastes such as fuels). Run-off restricted, Storage & treatment on an impermeable surface with sealed drainage; only specified low risk wastes can be stored & treated outside on hard standing. | 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 | Waste types are non-hazardous so harm is likely to be temporary and reversible. | 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 potential for contaminated rainwater run-off or leachate from permitted waste types. | Good site management. The activity shall not be carried out within 50m of any well, spring or borehole used for the supply of water for human consumption. | Low |
| Local human population | Contaminated waters used for recreational purposes | Harm to human health - skin damage or gastro-intestinal illness. | Direct contact or ingestion | Low | Medium | Low | Unlikely to occur, but might restrict recreational use. | Good site management. Emissions of substances not controlled by emission limits shall not cause pollution. Site drainage is connect to 3 stage interceptor and discharges to Foul Sewer. | Very low |

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| Protected sites - European sites and SSSIs | Any | Harm to protected site through toxic contamination, nutrient enrichment, smothering, disturbance, predation etc. | Any | Low | Medium | Low | Waste operations may cause harm to and deterioration of nature conservation sites. | Good site management. Activities shall not be carried out within 200m of a European Site or SSSI. (Distance criteria as agreed with NRW (formerly CCW)). | Low |
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