Lawrence Landfill and Recycling LTD

Odour Management Plan

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1.0 INTRODUCTION

The Environmental Permit covering the site activities allows Lawrence Landfill Ltd to accept 125,000 tonnes of waste per annum. Such operations will inevitably lead to the generation of some odour due to the nature of material and the processes. Effective operation and management of such facilities is therefore required to minimise the odour emissions from routine operations and minimise the risk of abnormal operational conditions resulting in increased risk of odour generation at the site.

This Odour Management Plan (OMP) has been produced in accordance with Natural Resources Wales guidance on OMPs and EA EPR H4 Odour Management. This OMP is aimed at assisting the operator in effectively managing potential odour releases associated with the operations at Lawrence Landfill and minimisation of the risk of abnormal operational conditions, which could result in increased risk of odour generation at the site.

1.1 Structure of Odour Management Plan

The OMP structure is in accordance with the NRW guidance and considers:

- Feedstock Inventory;
- Process Management;
- Evaporation;
- Containment and abatement;
- Dispersion;
- Sensitive Receptors; and
- Incidents and Emergencies.

1.2 Material Recovery Operations

The Waste Transfer Station is able to process up to <125,000 tonnes per annum of non-hazardous waste from mixed sources.

The recovery of inert wastes is unlikely to generate significant odours or malodours on site. Other input wastes may have the potential to generate odours from site operations. This odour management plan makes an assessment of likely sources of odour generation and sets out the good site practice and mitigation that is employed to minimise where reasonably practicable any odour emitted from site.

The likelihood and frequency of exposure to odour arising from the facility is determined by a combination of the magnitude of release, the prevailing meteorological conditions, and the

distance and direction of receptors in relation to the facility. Each of these factors are discussed in the following sections.

2.0 FEEDSTOCK INVENTORY

The site will operate a waste recovery operation through the sorting and segregation of a number of different non-hazardous and inert wastes. In order to understand the odour potential of the different waste streams that enter these processes, a feedstock inventory has been provided for the various waste types. Table 1 below provides an assessment of each waste type by source of material, identifying the typical and abnormal compositions of those waste types and providing and overall odour potential of that feedstock based upon the likelihood of abnormal compositions being encountered at site.

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Table 1 - Assessment of Odour Potential from Feedstock Inventory

Waste Type	Waste Source	Typical Composition	Abnormal Composition	Likelihood	Odour Potential
Inert Wastes	Commercial and industrial.	Soils, gravel, bricks, breeze blocks (or similar) concrete blocks, rubble, tiles (internal and external) and other ceramics.	Construction and demolition wastes may contain plastics and metals, packaging. Occasional organic wastes.	Low-Med.	**Low –** inert wastes are unlikely to generate odours.
	Domestic	Soils, gravel, bricks, breeze blocks (or similar) concrete blocks, rubble, tiles (internal and external) and other ceramics.	Domestic construction wastes may contain plastics and metals, packaging. Occasional organic wastes.	Low	**Low –** inert wastes are unlikely to generate odours.
Green Waste	Landscape Contractors	Fresh woody plant material and grass clippings / turf	Large bulky tree stumps / logs. Large load of grass / turf	Material is usually delivered to site shortly after being collected.	**MED** – Material is typically fresh and mainly dry woody plant material

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Wood Wastes	Commercial and industrial.	Wood, bark, sawdust, wooden packaging.	Contaminated with decomposing materials and packaging materials.	Med	**MED** – wood wastes are unlikely to generate odours if stored for short periods.
Glass	Commercial and industrial.	Glass (panes, chips, shards) bottles, containers and	Contaminated with organic contraries.	Low	**LOW** – glass wastes are unlikely to generate odours.
	Domestic	Glass (panes, chips, shards) bottles, containers and	Contaminated with organic contraries.	Low	**LOW** – glass wastes are unlikely to generate odours.
Hardcore and Aggregats	Commercial and industrial	Inert materials, aggregate gravels, sand, building rubble	Contaminated with contraries.	Low	**LOW** – hardcore and aggregate materials are unlikely to generate odours.
	Domestic	Inert materials, aggregate gravels, sand, building rubble	Contaminated with contraries.	Low	**LOW** – hardcore and aggregate materials are unlikely to generate odours.
Road Sweepings and Gully Waste	Commercial Industrial	Aggregate, Compost like material,leaf litter	Contamianted with Hydrocarbon,Metals, Organics	**MEDIUM**	**MEDIUM**-Waste is mainly aggregate and CLO is unliley to cause an odour.

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3.0 PROCES MANAGEMENT

The following section outlines the waste recovery processes operated. The monitoring parameters, process controls and records at each stage within the recovery process for the minimisation of the production of odours are provided herein.

3.1 Waste Reception

The following assumes full pre-acceptance and acceptance procedures are followed. On arrival, vehicles are weighed on the site weighbridge and directed to the waste facility waste reception area where they unload into the specified area or bay.

Process => <u>Waste Reception</u>			
Potential Odour Issue	**Critical Limits**	**Process Controls**	**Records**
Release of odours during delivery of waste materials.	Presence of odorous materials.	Monitor weather conditions, specifically wind direction and wind speed. Ensure suitable staffing, sorting/storage area and equipment in place for dealing with waste input. Odorous waste removed and quaratined.	CAR System

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3.2 Sorting and segregation

Following the waste acceptance and identification, active sorting and segregation begins including both mechanical and manual sorting.

WRRF Process => Sorting and Segregation			
Potential Odour Issue	**Critical Limits**	**Process Controls**	**Records**
Release of odours during sorting and segregation of waste materials (internal operations).	Odour detected during sorting.	Likely odorous wastes are segrtegated and quaratined.	CAR System

3.3 Contrary and Non-conforming waste

Contrary, non-conforming wastes are immediately segregated to specific containment. Where odorous or wastes likely to become odorous are discovered they shall be segregated to sealed, leak-proof, labelled containers (skips, or similar).

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Process => Contrary Materials			
Potential Odour Issue	**Critical Limits**	**Process Controls**	**Records**
Release from odorous materials.	Odour detected during sorting.	Offending materials moved to storage within sealed container for disposal from site in accordance with EMS	CAR System

3.4 Sorted Wastes

Stockpiled inert wastes should not present an odour source. Odorous wastes or wastes likely to cause odour because of biodegradation are to be immediately segregated to sealed, leak-proof containers, or where appropriate diverted off site to a licensed facility.

Process => Processed Waste Storage			
Potential Odour Issue	**Critical Limits**	**Process Controls**	**Records**
Release from odorous biodegradable materials.	Odour detected following sorting.	Materials diverted from site to other suitably licensed facility and within 72hrs of identification.	CAR System

3.5 Contingency Plans

Should the above process controls fail at any point within the processing of wastes through either of the operational processes, acceptance of waste into the site will cease and the odorous material taken off site for disposal at a suitably Permitted waste management facility. Receipt of feedstock materials shall not recommence until a full review of this Odour Management Plan has been conducted and process controls amended as required.

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3.6 Internal Odour Assessment and Monitoring

Lawrence Landfill will carry out an odour check once a day as part of the daily site monitoring that is conducted by the Site Manager. All findings are recorded on the Daily Site Checklist forms and if necessary actions are taken and recorded in line with our Non-Conformance, Corrective and Preventive Action Procedure.

The odour assessor may not be subject to significant odour in the 30 minutes prior to the assessment. This is to ensure that the assessor is not suffering from odour fatigue and will be sensitive to any abnormal odours. Any odours found to be present onsite will be recorded and their source investigated and steps will be taken to mitigate the sources of odours using the strategies to control odour as outlined above. The internal monitoring procedure, including a survey of odour reports will be re-assessed annually as part of the Management Review process undertaken in line with our Management Systems or as and when warranted due to the occurrence of odour related incidents.

3.7 Passive Odour Management

Site housekeeping and cleanliness, including end of working day litter picking and sweep of reception area, scraping up remaining areas to minimise, where reasonably practicable, any materials that are left on edges or corners of the site are undertaken daily. We also perform regular internal audits and site inspections, which helps us to identify any problems at the earliest opportunity.

4.0 CONTAINMENT AND ABATEMENT

The site currently does not employ either containment or abatement systems for the control of odours at the facility.

4.1 Containment System

The process is carried outside, with exception of the delivery of waste through the site. The nature of the materials accepted does not warrant negatively aerated systems. Should odour issues arise on site from the activities.

4.2 Abatement System

It is considered unnecessary to install or operate any additional abatement system for the facility. The efficacy of such systems will vary according to the meteorological conditions and would only ever be used as a back-up to the operational techniques to minimise odour

generation as considered necessary by the operator. Should odour issues arise on site from the activities, the utilisation of such abatement systems will be carefully analysed.

5.0 DISPERSION

Weather conditions (including wind speed and direction) shall be visually assessed and recorded at regular intervals as outlined in Section 3.6. All operational staff will be responsible for reporting any odour problems immediately to the Site Manager (or designated responsible person).

6.0 SENSITIVE RECEPTORS

The site is located near the A4076. The nearest residential housing is situated approximately 0.3km North of the site.

6.1 Dispersal Control

All tipping, sorting and storage of waste is unlikely that there will ever be an odour issue that could be exacerbated by strong winds blowing in the direction of these residencies.

6.2 Responsibilities

The overall responsibility for the site shall remain with the Managing Director. Day to day operational responsibility for the facility is maintained by the site's competent persons or COTC holders (Certificate of Technical Competence holders).

6.3 Procedures when Odours Arise

In the event of an odour incident, the CAR procedure will be followed to initially deal with the incident, the causes and consequences of the incident, and then look to mitigate any potential odour issues which may have resulted from the incident.

6.4 External Complaints

Any complaints relating to the odour of the site will be taken seriously and channeled through a senior member of staff. Staff taking note of the complaint will record all details and conduct an investigation in accordance with the company CAR procedure. When undertaking an investigation into the complaint the External Odour Complaint Investigation Record (Annex A) should be completed and attached to the original CAR. All complaints are analysed as part of the Management Review process undertaken in line with our Management Systems.

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6.5 Detection of Odour during Olfactory Surveys

Detection of a “distinct odour” will initiate a more extensive olfactory survey to determine the extent of the odour plume. The Site Manger or designated responsible person will be notified immediately and an olfactory survey will be undertaken utilizing the Internal Odour Complaint Investigation Record (Annex B) in order to attempt to determine the scope and extent of the odour plume. If the complaint is upheld then the responsible person will raise a CAR and attach the Internal Odour Complaint Investigation Record to evidence the findings.

6.6 Corrective Actions

If deemed necessary corrective actions will be agreed and implemented. If appropriate Natural Resources Wales will be informed of the results of the investigations and of the actions that are to be taken in line with the requirements of our Environmental permit.

6.7 Review of Control Mechanisms

All instances of odour complaints are reviewed as part of our Management Review procedures. Where necessary this odour management plan will be reviewed for effectiveness and updated accordingly.

7.0 Incidents And Emergencies

In accordance with the requirements of Environment Agency’s Technical Guidance Note H4, types of failure or abnormal events considered to have the potential to result in an odour impact have been considered. These have been identified as abnormal meteorological conditions and failure of aspects of the activities during any of the stages previously described. Failure and abnormal event scenarios with response requirements are summarised below.

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7.1 Machinery Breakdown

Breakdown of equipment, which may result in a delay in processing the material received or processing of air. Magnitude of impacts will depend on the length of the breakdown, the type and volume of waste received and the prevailing meteorological conditions but could potentially result in elevated odour concentrations at receptor locations.

A- Machinery Breakdown	
Mitigation Measure	The potential failure would be minimised through routine maintenance of equipment, servicing in accordance with manufactures guidelines, provision of adequate spares, and a service level agreements to replace plant (or source hire plant) within 48 hours.

7.2 Staff Absence

Short-term staff shortages (such as a few days illness) will not affect the ability of the site to operate effectively as other staff members can be reassigned to critical operations. Magnitude of impacts will depend on the length of the absence, the number of staff absent at any one time, and the seniority of the staff member, but could potentially result in elevated odour concentrations at receptor locations should process controls not be managed effectively.

B - Staff Absence	
Mitigation Measure	In the event of prolonged absence of staff members, temporary staff will be recruited and appropriately trained to fulfil non-critical roles whilst other more experienced staff members are reassigned. If widespread illness occurs amongst staff members (such as food poisoning), the delivery of waste to the site will be suspended until sufficient staff are present to operate the site. If prolonged, widespread absence occurs, the operators would contact alternative operators, such as other site operators for emergency assistance.

7.3 Flooding

If the site becomes flooded, this will inhibit effective control over deliveries of the waste

material.

C – Flooding	
Mitigation Measure	In a flooding situation no further waste would be able to access the site and priority would be given to ensuring the on-going effective processing of waste.

7.4 Fire

Fire at the facility is considered to be a potential given the varied materials accepted to the site. As with all fires the immediate response would be the responsibility of the Fire Brigade and odour would not be the primary concern.

D – Fire	
Mitigation Measure	Depending on the severity of the fire, site critical equipment may have been damaged and no further reception or processing of waste would be undertaken until agreed with NRW. If equipment will be inoperable for extended periods of time, consideration will be given to the removal of material from site until repairs are effectuated.

7.5 Site at Full Capacity

There is the potential that should new contracts be won for processing wastes that the site will be operating close to full capacity which could lead to stretching of the sites resources during busy periods. The site could generate odours during this period if material is not processed as soon as is required within the process controls.

E - Site at Full Capacity	
Mitigation Measure	The site will not accept more waste that it can process effectively at any one time and not above the permitted tonnage per annum. In the event that the site reaches its maximum capacity, the Site Mmanager will divert any further incoming waste from the sites to neighbouring facilities that are able to process the same types of waste until such a time when the site can resume operations within its normal operating capacity.

7.6 OdourIncident Management

Procedures are in place as identified in Table 2 below for the management of odour incidents. The identified incidents, potential for occurrence and anticipated consequences have been discussed. A set of actions to be taken in order of priority is presented to be carried out by the site operatives and management.

Table 2 - Odour Incident Management Plan

Accident Type	Potential Occurrence	Consequences	Actions
Plant or Equipment failure	Seldom. Stringent preventative maintenance procedures in place to ensure all machinery remains functioning	• If waste is not processed or a long period compaction reduces the available oxygen which will lead to odours once the machinery is fixed.	• Inform management • Establish time frame for repairs to be undertaken • Maintain supply of spare parts • Hire or source an alternative piece of equipment. • If no replacements are available divert waste to another site. • If diversion is not available cease accepting waste • Inform NRW if necessary • Record and review the incident
Fire / Flood - contaminated water and polluting smoke	Extremely rarely.	• Potentially polluting liquids flowing onto hard standing and leachate collection area where they will have the potential to generate odours. • Polluting smoke. • Exploding of fuel containers. • Wind dispersal of pollutants.	• Raise alarm on-site • Ensure personnel evacuated and accounted for from danger area. • Ensure all staff are alerted. • Call fire service and other emergency services as required. • Inform site management. • If necessary inform NRW. • Post member of staff at entrance to site to direct emergency services. • Liaise and follow instructions of emergency team making them aware of any hazards on-site. • Consult site register for COSHH if appropriate. • Prevent fire waters causing pollution on-site. • Excess water should be removed from site to prevent odours • Record and review incident.

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Appendix A - External Odour Complaint Investigation Record

Odour Complaint Report Form	
Time and date of complaint:	Name and address of complainant:
Telephone number of complainant:	

Date of odour:	
Time of odour:	
Location of odour, if not at above address:	
Weather conditions (i.e., dry, rain, fog, snow):	
Temperature (very warm, warm, mild, cold or degrees if known):	
Wind strength (none, light, steady, strong, gusting):	
Wind direction (eg from NE):	
Complainant's description of odour: o What does it smell like?	
o Intensity (see below):	
o Duration (time):	
o Constant or intermittent in this period:	
o Does the complainant have any other comments about the odour?	
Are there any other complaints relating to the installation, or to that location? (either previously or relating to the same exposure):	
Any other relevant information:	
Do you accept that odour likely to be from your activities?	
What was happening on site at the time the odour occurred?	
Operating conditions at time the odour occurred (eg flow rate, pressure at inlet and pressure at outlet):	
Actions taken:	

Form completed by:	Date	Signed

Intensity (Detectability)
1 No detectable odour
2 Faint odour (barely detectable, need to stand still and inhale facing into the wind)
3 Moderate odour (odour easily detected while walking & breathing normally)
4 Strong odour
5 Very strong odour (possibly causing nausea depending on the type of odour)

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Appendix B - Internal Odour Complaint Investigation Record

Test Undertaken by:			**Date:**		
Time of test					
Location of test e.g. street name etc					
Weather conditions (dry, rain, fog, snow etc):					
Temperature (very warm, warm, mild, cold, or degrees if known)					
Wind strength (none, light, steady, strong, gusting)					
Wind direction (e.g. from NE)					
Intensity (see below)					
Duration (of test)					
Constant or intermittent in this period					
What does it smell like?					
Location sensitivity (see below)					
Is the source evident?					
Any other comments or observations					

Sketch a plan of where the tests were taken, the potential source(s).

North

Intensity (Detectability)	**Location sensitivity where odour detected**
1 No detectable odour 2 Faint odour (barely detectable, need to stand still and inhale facing into the wind) 3 Moderate odour (odour easily detected while walking & breathing normally) 4 Strong odour 5 Very strong odour (possibly causing nausea depending on the type of odour	0 not detectable 1 Remote (no housing, commercial/industrial premises or public area within 250m) 2 Low sensitivity (no housing, etc. within 100m of area affected by odour) 3 Moderate sensitivity (housing, etc. within 100m of area affected by odour) 4 High sensitivity (housing, etc. within area affected by odour) 5 Extra sensitive (complaints arising from residents within area affected by odour)