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WASTE LICENCE  
LANDFILL FOR NON-HAZARDOUS WASTE  
PROPOSED DECISION OF A REVIEW OF A  
LICENCE

<b>Waste Licence</b>	1-3
<b>Application</b>	
<b>Register Number:</b>	
<b>Applicant:</b>	Kerry County Council
<b>Location of Facility:</b>	Muingnaminnane, Tralee, County Kerry

# INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

Kerry County Council (KCC) have applied for a review of their existing waste licence, in order to extend their existing site of 17.5 hectares (ha) into an adjacent 14.6 ha site at the northern boundary. The land is currently commercial forestry owned by Coillte. KCC proposes to accept 77,000 tonnes per annum (tpa); this will consist of household waste 34,500tpa, commercial waste 28,500tpa, construction & demolition waste 2,500tpa, industrial non-hazardous solids 9,500tpa and biodegradable waste 2,000tpa. Composting facilities for biodegradable waste will be located at the facility and a Civic Waste Facility providing receptacles for textiles, drink cans, plastic, paper, metals, wood/timber and litter.

The licence sets out in detail the conditions under which Kerry County Council will operate and manage this facility.

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# DECISION & REASONS FOR THE DECISION

## *Reasons for the Decision*

On the basis of the information before it, the Environmental Protection Agency (the Agency) is satisfied, for the reasons set out in the following Schedule of Activities Licensed, that the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, the submission received from a third party and the report of its inspector.

## INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise defined in this section.

<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Annually</b>	At approximately twelve monthly intervals.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application submitted to the Agency on the 8 <sup>th</sup> September 2003.
<b>Application</b>	The application by the licensee for this waste licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>BAT</b>	Best Available Techniques as defined in Number 27 of 2003 Protection of the Environment Act, 2003.
<b>Biodegradable waste</b>	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
<b>CEN</b>	Comité Européen De Normalisation – European Committee for Standardisation.
<b>Condition</b>	A condition of this licence.
<b>Construction and Demolition Waste</b>	All wastes which arise from construction, renovation and demolition activities.
<b>Containment boom</b>	A boom, which can contain spillages and prevent them from entering drains or watercourses.
<b>Cover material</b>	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed by the Agency.

<b>Daily Cover</b>	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>EIS</b>	Environmental Impact Statement submitted as part of this waste licence application submitted to the Agency on the 8 <sup>th</sup> September 2003..
<b>Emergency</b>	Those occurrences defined in Condition 9.5.
<b>Emission Limits</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.
<b>European Waste Catalogue (EWC)</b>	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
<b>Fortnightly</b>	A minimum of 24 times per year, at approximately two week intervals.
<b>Green waste</b>	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
<b>Hours of Operation</b>	The hours during which the facility is authorised to be operational.
<b>Hours of Waste Acceptance</b>	The hours during which the facility is authorised to accept waste.
<b>Incident</b>	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none"> <li>a) an emergency;</li> <li>b) any emission which does not comply with the requirements of this licence;</li> <li>c) any exceedance of the daily duty capacity of the waste handling equipment</li> <li>d) any trigger level specified in this licence which is attained or exceeded; and,</li> <li>e) any indication that environmental pollution has, or may have, taken place.</li> </ul>
<b>Inert waste</b>	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

<b>Intermediate Cover</b>	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
<b>Landfill</b>	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>LEL (Lower Explosive Limit)</b>	The lowest percentage concentration by volume of a mixture of flammable gas with air, which will propagate a flame at 25°C and atmospheric pressure.
<b>Licence</b>	A waste licence issued in accordance with the Act.
<b>Licensee</b>	Kerry County Council.
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Mobile Plant</b>	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
<b>Monthly</b>	A minimum of 12 times per year, at approximately monthly intervals.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Noise Sensitive Location</b>	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which for its proper enjoyment requires the absence of noise at nuisance levels.
<b>Non-hazardous Asbestos Waste</b>	Includes bonded asbestos, such as tiles, which are not classified as hazardous waste and which are authorised for disposal at the facility.
<b>Recyclable Materials</b>	Those waste types, such as cardboard, batteries, gas cylinders, etc which may be recycled.
<b>Quarterly</b>	At approximately three monthly intervals.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>SCADA system</b>	Supervisory Control and Data Acquisition system.
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
<b>SOP</b>	Standard Operating Procedure.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , of this licence.

<b>TOC</b>	Total Organic Carbon.
<b>Treated Sludge</b>	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
<b>Treatment</b>	Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate it's handling or enhance recovery.
<b>Trigger Level</b>	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
<b>Wastewater</b>	Contaminated water including water that has been used for washing and/or flushing (including sanitary effluent).
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>EPA Working Day</b>	Refers to the following hours: 0900 hrs to 1730 hrs Monday to Friday inclusive.
<b>Working Face</b>	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

## ***Part I: Schedule of Activities Licensed***

On the basis of the information before it, the Agency, pursuant to its powers under Section 46(2) of the Waste Management Acts 1996 to 2003, proposes, to grant this Waste Licence to Kerry County Council to carry on the waste activities, that are the subject of Waste Licence Application Register Number 1-3, listed below at Muingnaminnane, Tralee, County Kerry subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

### *Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003*

<b>Class 2</b>	Land treatment, including biodegradation of liquid or sludge discards in soils:
<b>Class 4</b>	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:
<b>Class 5</b>	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment:
<b>Class 6</b>	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule:
<b>Class 7</b>	Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule:
<b>Class 11</b>	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule:
<b>Class 12</b>	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule:
<b>Class 13</b>	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced:



*Licensed Waste Recovery Activities, in accordance with the  
Fourth Schedule of the Waste Management Acts 1996 to 2003*

<b>Class 2</b>	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):
<b>Class 3</b>	Recycling or reclamation of metals and metal compounds:
<b>Class 4</b>	Recycling or reclamation of other inorganic materials:
<b>Class 10</b>	The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:
<b>Class 11</b>	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:
<b>Class 13</b>	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:

## ***Part II: Schedule of Activities Refused***

On the basis of the information before it, the Agency, pursuant to its powers under Section 40(1) of the Waste Management Acts 1996 to 2003, proposes to refuse the following classes of activity that are the subject of Waste Licence Application Register No. 1-3.

*Refused waste disposal activities, in accordance with the  
Fourth Schedule of the Waste Management Acts 1996 to 2003*

<b>Class 9</b>	<b>Use of any waste principally as a fuel or other means to generate energy:</b>  Reason: This is not an appropriate Class for the activity. The burning of landfill gas is not covered by the fourth schedule of the Waste Management Acts 1996 to 2003.
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## ***PART III CONDITIONS***

### **CONDITION 1 SCOPE OF THE LICENCE**

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility comprises the areas of land outlined in red and blue on Drawing No. 1940-2401 of the application. Any reference in this licence to “facility” shall mean the areas thus outlined in red and in blue.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2003 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.4. Municipal Waste, Commercial Waste and Industrial Waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in *Schedule A: Waste Acceptance*, of this licence.
- 1.5. Waste Acceptance Hours and Hours of Operation
  - 1.5.1. Landfill
    - 1.5.1.1. Waste may be accepted at the facility for disposal at the landfill only between the hours of 0830 to 1700 Monday to Friday inclusive and 0900 to 1300 on Saturdays and 0900 to 1600 on bank holiday weekends.
    - 1.5.1.2. The landfill at the facility may be operated only during the hours of 0830 to 1730 Monday to Friday inclusive and 0900 to 1400 on Saturdays and 0900 to 1700 on bank holiday weekends.
    - 1.5.1.3. Waste shall not be accepted at the landfill on Sundays and Bank Holidays.
  - 1.5.2. Civic Waste Facility
    - 1.5.2.1. Waste shall be accepted at the Civic Waste Facility only between the hours of 0830 to 1700 Monday to Friday inclusive and 0900 to 1300 on Saturdays and 0900 to 1600 on bank holiday weekends.
- 1.6. Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.
- 1.7. This licence is being granted in substitution for the waste licence granted to the licensee on 29<sup>th</sup> November 2000 and bearing Waste Licence Register No: 1-2. The previous waste licence, (Register No: 1-2) is superseded by this licence.

*REASON: To clarify the scope of this licence.*

## CONDITION 2 MANAGEMENT OF THE FACILITY

### 2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
- 2.1.2 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS Waste Management Training Programme (or equivalent agreed by the Agency) and associated on site assessment appraisal within twelve months of appointment.
- 2.1.3 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

### 2.2 Management Structure

- 2.2.1 The licensee shall maintain written details of the management structure of the facility. Any proposed replacement in the management structure from that submitted in the application shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information: -
  - a) The names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
  - b) Details of the responsibilities for each individual named under a) above; and
  - c) Details of the relevant education, training and experience held by each of the persons nominated under a) above.

### 2.3 Environmental Management System (EMS)

- 2.3.1 The licensee shall maintain its EMS as agreed with the Agency. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.
- 2.3.2 The EMS shall include as a minimum the following elements.

#### 2.3.2.1 Schedule of Environmental Objectives and Targets

The objectives should be specific and the targets measurable. The schedule shall address a five-year period as a minimum. The schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

#### 2.3.2.2 Environmental Management Plan (EMP)

The EMP shall include, as a minimum, the following: -

- a) The items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;

- b) Methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets; and
- c) Any other items required by written guidance issued by the Agency.

2.3.2.3 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should any of the procedures detailed in the EMS not be followed.

2.3.2.4 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

2.4 Communications Programme

- 2.4.1 The licensee shall maintain its Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

*REASON: To make provision for the proper management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

### **CONDITION 3 FACILITY INFRASTRUCTURE**

- 3.1 The licensee shall establish all infrastructures referred to in this licence as required by the conditions of this licence.

3.2 Phased Construction Plan

- 3.2.1 Three months prior to the commencement of any site development, the licensee shall submit to the Agency for its agreement a construction schedule, sequence and timescale (Construction Plan) incorporating the requirements of this licence. This Plan shall have regard to the following development phases: (i) Initial Development Works (ii) Main infrastructure development works (pre acceptance of waste for disposal), and (iii) Future/planned works (in parallel with waste disposal, e.g. future cell development/phasing). The Construction Plan for cell development shall have regard to the sequencing necessary to provide medium and long term screening of the completed cells.

3.3 Specified Engineering Works

- 3.3.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.3.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.3.3 Following the completion of all specified engineering works; the licensee shall complete a construction quality assurance validation. The validation report shall be made available to

the Agency on request. The report shall as appropriate include the following information:

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- a) A description of the works;
- b) As-built drawings of the works;
- c) Records and results of all tests carried out (including failures);
- d) Drawings and sections showing the location of all samples and tests carried out;
- e) Daily record sheets/diary;
- f) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
- g) Name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
- h) Records of any problems and the remedial works carried out to resolve those problems; and
- i) Any other information requested in writing by the Agency.

### 3.4 Facility Notice Board

3.4.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.

3.4.2 The board shall clearly show: -

- a) The name and telephone number of the facility;
- b) The normal hours of opening;
- c) The name of the licence holder;
- d) An emergency out of hours contact telephone number;
- e) The licence reference number; and
- f) Where environmental information relating to the facility can be obtained.

### 3.5 Facility Security

3.5.1 Security and stockproof fencing and gates shall be maintained as shown in Drawing No. 2000-017-08-01 – *Existing General Site Layout* of the application submitted to Agency of the 18<sup>th</sup> August 1999. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

3.5.2 At least one month prior to commencement of the construction plan referred to in condition 3.2 the licensee shall install and maintain the security and stockproof fencing and gates as described in Section D.1.a, and Drawing No. 1940-2427 of the application. The security fence and gates shall be at the locations shown on Drawing No. 1940-2406. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

3.5.3 The licensee shall remedy any defect in the gates and/or fencing as follows: -

- a) A temporary repair shall be made by the end of the working day; and
- b) A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

### 3.6 Facility Roads and Hardstanding

3.6.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.6.2 The access roads and internal site haul roads at the facility shall be provided and maintained to the specification described and referred to in-

- (i) Attachment D.1 (b) – *Specification for Access Roads* and Attachment D.1(c) – *Site Haul Roads* of the application submitted to the Agency on the 18<sup>th</sup> August 1999; and
- (ii) Attachment D.1.b of the application and Drawing No.'s 1940-2406 and 1940-2422 unless otherwise agreed by the Agency.

3.6.3 Hardstanding areas shall be provided at the waste inspection and quarantine areas, the leachate storage area and fuel storage area and shall be to the specification and detail shown in Drawing No. 1940-2422 unless otherwise agreed by the Agency.

### 3.7 Facility Office

3.7.1 The licensee shall maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

3.7.2 The licensee shall maintain a working telephone and a method for electronic transfer of information at the facility.

### 3.8 Waste Inspection and Quarantine Areas

3.8.1 A Waste Inspection Area and a Waste Quarantine Area shall be maintained at the facility.

3.8.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.

3.8.3 Drainage from these areas shall be directed to an on-site leachate lagoon.

3.8.4 The outlet from the waste inspection/quarantine areas shall be fitted with a control valve, which shall be closed during all times when waste is being inspected and /or stored prior to disposal or removal offsite.

### 3.9 Weighbridge and Wheel Cleaner

3.9.1 The licensee shall provide and maintain a weighbridge and a wheel cleaner at the facility.

3.9.2 The wheel cleaner shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate lagoon.

### 3.10 Waste Water Treatment Plant

3.10.1 The licensee shall maintain the existing wastewater treatment system in accordance with SR6 Septic tank Systems (NSAI 1991), (or any replacement standard) at the facility for the treatment of sewage arising on site.

3.10.2 The licensee shall, in accordance with development works (Phase (ii) of the construction plan) referred to in condition 3.2, provide and maintain a Wastewater

Treatment System at the location shown in Drawing number 1940-2212, for the treatment of wastewater arising on-site. Any percolation area shall satisfy the criteria set out in the *Wastewater Treatment Manual, Treatment Systems for Single Houses*, published by the Environmental Protection Agency.

### 3.11 Tank and Drum Storage Areas

- 3.11.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.11.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following: -
  - (a) 110% of the capacity of the largest tank or drum within the bunded area; or
  - (b) 25% of the total volume of substance, which could be stored within the bunded area.
- 3.11.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.11.5 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency in the annual AER for the facility. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.

### 3.12 Landfill Lining

- 3.12.1 Unless otherwise agreed by the Agency the landfill liner, leachate storage lagoons and surface water/groundwater retention ponds shall comprise: -
  - a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to  $1 \times 10^{-9}$  m/s, (or equivalent to be agreed by the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer;
  - b) A geotextile protection layer placed over the HDPE layer;
  - c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of  $1 \times 10^{-3}$  m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains; and
  - d) The sidewalls shall be designed and constructed to achieve an equivalent protection.
  - e) In areas where excavation to establish the formation layer is into bedrock the ground shall be lowered an additional 500mm and replaced with 500mm of re-engineered and compacted clay.
- 3.12.2 The liner detailed design and its construction shall be in accordance with the guidelines provided in the Agency's *Landfill Manual- Landfill Site Design*.
- 3.12.3 Formation levels of the cells shall be as shown on Drawing No. 1940-2409(A) of the application.
- 3.12.4 Following the placement of the liner system in all cells, proposed leachate storage lagoon and proposed surface water/groundwater retention ponds, the licensee shall commission an independent leak detection survey of the liner system. The results of this survey and the description of any remediation measures necessary including follow-up testing shall be maintained at the facility. Any remediation measures

necessary and follow-up testing must be completed prior to the placement of any waste, leachate, surface water and/or groundwater within the lined structures.

### 3.13 Buffer Zone

3.13.1 A Buffer Zone, of 50m in which no waste shall be landfilled, shall be provided and maintained as shown on Drawing No. 1940-2406 of the application from date of grant of this licence.

3.13.2 A 20m screen of tree planting shall also be provided as shown on Drawing No. 1940-2406 of the application.

### 3.14 Leachate Management Infrastructure

3.14.1 Leachate management infrastructure shall be provided and maintained as described in Section 3.7 of the EIS and Section D.4 of the Article 14 response received by the Agency on the 3<sup>rd</sup> August 2004 and specified in Drawing No 1940-2411 unless otherwise agreed by the Agency.

3.14.2 Leachate management shall be as described in Attachment D4 – *Leachate Management* and specified in Drawing No. 2000-017-08-08 – *Leachate collection Systems* of the application submitted to the Agency on the 18<sup>th</sup> August 1999 unless otherwise agreed by the Agency.

3.14.3 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

### 3.15 Landfill Gas Management

3.15.1 Landfill gas management shall be carried out, unless otherwise agreed with the Agency, as described in the following documents;

(i) Attachment D.5 *Landfill Gas Management* and Appendix 2 *Landfill Gas Management Plan* of the application submitted to the Agency on the 18<sup>th</sup> August 1999,

(ii) Information submitted to the Agency dated 24 May 2000 in D.5 *Landfill Gas Management*, and specified in Drawing No. 2000-017-08-04 – *Phase 5 Detail Layout*.

3.15.2 Landfill gas management infrastructure shall be provided and maintained as described in Section 3.8 of the EIS and Section D.5 of the Article 14 response received by the Agency on the 3<sup>rd</sup> August 2004 and specified in Drawings No's. 1940-2414(A) and 1940-2415 unless otherwise agreed by the Agency.

3.15.3 Within six months of the date of grant of this licence a proposal for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.

3.15.4 Any vents installed to facilitate the passive venting of landfill gas shall be fitted and maintained with an effective activated carbon filter.

3.15.5 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

### 3.16 Surface Water Management

3.16.1 The surface water/groundwater retention ponds as shown on Drawing No. 2000-017-08-02 - *Proposed Final Site Layout* of the application submitted to the Agency on



the 18<sup>th</sup> August 1999 shall be provided and maintained at the facility unless otherwise agreed with the Agency.

3.16.2 The surface water management infrastructure described in Section 3.3.11 and specified in Drawing No. 1940-2412 of the application shall be provided and maintained at the extension facility.

3.16.3 Notwithstanding conditions 3.16.1 and 3.16.2 the licensee shall within six months of the date of grant of this licence calculate the capacity of the surface water/groundwater lagoons necessary to provide three days retention at maximum rainfall (one in five year storm event). The surface water/groundwater retention ponds shall be capable of containing the greater capacity.

### 3.17 Groundwater Management

3.17.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the site. As a minimum, the infrastructure shall be capable of the following: -

- a) the protection of the groundwater resources from pollution by the waste activities; and
- b) the protection of other infrastructure, such as the liner, from any adverse effects caused by the groundwater.

### 3.18 Civic Waste Facility

3.18.1 The licensee shall establish and maintain the Civic Waste Facility infrastructure referred to in Section D.1 (2) of the Article 14 response submitted to the Agency on the 3<sup>rd</sup> August 2004.

3.18.2 The licensee shall provide and maintain the receptacles at the Civic Waste Facility as shown in Drawing No. 1940-2420(A) unless otherwise agreed by the Agency.

### 3.19 Compost facility

3.19.1 Appropriate infrastructure for the composting of waste shall be maintained at the facility as described in Section D.1 (3) of the Article 14 response received by the Agency on the 3<sup>rd</sup> August 2004 unless otherwise agreed by the Agency.

3.20 The perimeter embankment shall be constructed at the facility between the landfill footprint and the nearest residence as described in Section 4.1.1 of the EIS.

### 3.21 Telemetry

3.21.1 A telemetry system shall be installed and maintained at the extension facility prior to the commencement of waste activities in this area. This system shall include for: -

- a) Recording of leachate levels in the lined cells and lagoon;
- b) Recording of levels in the surface water lagoon and flows to the perimeter streams;
- c) Quality of the surface water at the inlet to the surface water lagoons and being discharged to the perimeter streams; and
- d) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

### 3.22 Monitoring Infrastructure

### 3.22.1 Landfill Gas

- a) The licensee shall install/maintain the monitoring points listed in Table D.1.1 *Schedule D: Monitoring*, of this licence; and
- b) Upon construction of the structures, the licensee shall install an effective permanent gas monitoring system in the site office and any other enclosed structures at the facility.

### 3.22.2 Groundwater

- a) The licensee shall install/maintain the monitoring points listed in Table D.1.1 *Schedule D: Monitoring*, of this licence to allow for the sampling and analyses of groundwater.

### 3.22.3 Leachate

- a) Prior to commencement of waste for disposal in each cell, the licensee shall install/maintain the monitoring points listed in Table D.1.1, *Schedule D: Monitoring*, of this licence to allow for the sampling and analyses of leachate.

### 3.22.4 Replacement of Infrastructure

- a) Monitoring infrastructure, which is damaged or proves to be unsuitable for its purpose shall be replaced within one month of it being damaged or recognised as being unsuitable.

## 3.23 SCADA System

- 3.23.1 The licensee shall maintain its SCADA system on site and extended to the new facility as agreed by the Agency.

*REASON: To provide appropriate infrastructure for the protection of the environment.*

## **CONDITION 4 RESTORATION AND AFTERCARE**

- 4.1. The licensee shall submit a Restoration and Aftercare plan for the facility within 12 months of date of grant of this licence. The plan shall provide for the restoration of the facility on a phased basis.
- 4.2. The Restoration and Aftercare Plan for the facility shall include the commitments in Section 3.10 and 4.5 of the application. In preparing the plan the licensee shall have regard to the Landfill Directive (1999/31/EC) and the guidance published in the Agency's Landfill Manual: "Landfill Restoration and Aftercare". A schedule detailing the various stages of restoration, including timescales, shall be included in the Plan.
- 4.3. The final profile shall be as shown in Drawing No. 1940-2428 (mOD Malin) and Drawing No. 1940-2417(mOD Malin).
- 4.4. Final Capping
  - 4.4.1. Unless by the Agency the final capping shall consist of the following:-
    - a) Top soil (150 -300mm);
    - b) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
    - c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of  $1 \times 10^{-4}$  m/s;

- d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than  $1 \times 10^{-9}$  m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
  - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.5. No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 4.6. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.
- 4.7. The restoration of the landfill shall be completed within two years of the final cessation of waste being deposited at the landfill in accordance with the conditions of this licence unless otherwise agreed by the Agency.
- 4.8. Soil Storage
- 4.8.1. All soils shall be stored to preserve the soil structure for future use.
- 4.10 The licensee shall maintain its Conditioning Plan for the facility as required by Council Directive 1999/31/EC on the landfill of waste. The Conditioning Plan shall include the particulars listed in Article 8 of the Directive and any corrective measures, which the operator considers, will be needed to comply with the requirements of this Directive with the exception of the requirements in Annex I, point 1.

*REASON: To provide for the restoration of the facility.*

## **CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT**

- 5.1 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.2 Waste Acceptance and Characterisation Procedures
- 5.2.1 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001. Copies of these waste collection permits must be maintained at the facility.
- 5.2.2 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
- 5.2.3 No hazardous wastes or liquid wastes shall be disposed of at the facility.
- 5.2.4 The licensee shall ensure that inert waste accepted at the facility is subject to treatment where technically feasible.
- 5.2.5 Waste acceptance procedures shall be carried out in accordance with EU Decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste and any relevant guidelines issued by the Agency.
- 5.3 All wastes shall be checked at the working face. Any wastes not suitable for acceptance shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored

in the Waste Quarantine Area only. No waste shall be stored in the Waste Quarantine Area for more than three months.

#### 5.4 Working Face

5.4.1 Unless the prior agreement of the Agency is given, the following shall apply at the landfill: -

- a) Only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and
- b) The working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.

5.4.2 All waste deposited at the working face shall be compacted; using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.

5.4.3 The working face, shall each day at the end of the day, be covered with suitable material.

#### 5.5 Daily and Intermediate Cover

5.5.1 Any cover material at any location within the facility, which is eroded, washed off or otherwise removed, shall be replaced by the end of the working day.

5.5.2 Appropriate cover material shall be placed across the whole landfill so that no waste, other than the following is exposed: -

- a) Waste suitable for specified engineering works; and
- b) Waste on the working face during the operational hours of the facility.

#### 5.6 Operational Controls

##### Landfill

5.6.1 The landfill shall be filled in accordance with the five-phase sequence outlined in Section 3.4 – *Phasing of the Landfill* of the EIS or as otherwise agreed with the Agency.

5.6.2 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.

5.6.3 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the landfill gas collection system.

5.6.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. The emplacement of suitable capping or restoration materials shall rectify any depressions arising after profiling.

5.6.5 Filled cells shall be permanently capped within twenty-four months of the cells having been filled to the required level.

5.6.6 Scavenging shall not be permitted at the facility.

5.6.7 Gates shall be locked shut when the facility is unsupervised.

5.6.8 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.

5.6.9 Fuels shall be stored only at appropriately bunded locations on the facility.

5.6.10 All tanks and drums shall be labelled to clearly indicate their contents.

5.6.11 No smoking shall be allowed on the facility.

#### Composting

- 5.6.12 Unless otherwise agreed by the Agency, only source segregated organic (i.e. kitchen and garden) waste, green waste and compost shall be used in the operation of the organic waste composting facility.
- 5.6.13 The bulking agent to facilitate the composting process shall be bark mulch or other such similar bulking material agreed in advance by the Agency.
- 5.6.14 All wastes accepted to the waste composting unit shall be introduced into the compost process within 24 hours of delivery.
- 5.6.15 The compost windrows shall be covered with a suitable geotextile cover at all times except when biodegradable waste including bulking agents are being added to the windrows, when moisture content of the windrow is being supplemented or when the compost is being mixed.
- 5.6.16 No waste shall be left uncovered in the composting area from the close of operation on Saturday until Monday morning opening unless otherwise agreed by the Agency.
- 5.6.17 The licensee shall maintain a daily written record of temperature and turning of the compost.
- 5.6.18 Notwithstanding Conditions 5.6.12 to 5.6.17 inclusive the composting operations shall be in accordance with Section D.1 (3) of the Article 14 response received by the Agency on the 3<sup>rd</sup> August 2004 unless otherwise agreed by the Agency.

#### 5.7 Waste Handling

##### 5.7.1 Compost

- 5.7.1.1 The green waste composting facility shall not process greater than 2000 tonnes of green waste per annum. Written records of the quantities and type of wastes composted must be maintained.
- 5.7.1.2 The licensee shall maintain procedures for the handling/management of the composting process to include operational controls to ensure the quality of the finished product and mitigate emissions as has been agreed with the Agency.
- 5.7.1.3 In order not to be considered a waste, compost produced by the facility shall comply with the quality standards as have been agreed with the Agency. Analysis of the compost shall be at a frequency as has been agreed with the Agency.

##### 5.7.2 Asbestos Waste

- 5.7.2.1 Asbestos waste to be disposed of at the facility shall comply with the requirements of Article 6(c)(iii) of the Landfill Directive (1999/31/EC) and be accepted and managed in accordance with the procedures laid down in Section 2.3.3 of the Annex to Council Directive 2003/33/EC.
- 5.7.2.2 Asbestos based waste must be double wrapped in heavy gauge plastic, which is clearly labelled to indicate the presence of asbestos.
- 5.7.2.3 Disposal of asbestos waste shall be into prepared bays or trenches of at least 2 metres in depth.
- 5.7.2.4 Deposited asbestos waste shall be covered immediately with at least 250mm of suitable material. At the end of the day, the waste shall be covered with a minimum of 500mm of suitable material.
- 5.7.2.5 No asbestos waste shall be present within 2.5 metres of the final surface levels.
- 5.7.2.6 The amount of asbestos containing waste shall be limited to a maximum of 1% of total annual waste intake for the landfill.

#### 5.8 Off-site Disposal and Recovery

- 5.8.1 Waste sent off-site for recovery or disposal, shall be conveyed only by a waste contractor agreed by the Agency.
- 5.8.2 All waste transferred from the facility shall be transferred only to an appropriate facility agreed by the Agency.
- 5.8.3 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner, which will not adversely affect the environment.

#### 5.9 Civic Waste Facility

- 5.9.1 Only private vehicles shall use the Civic Waste Facility. Commercial waste disposal contractors or local authority waste collection vehicles shall not use the facility as a transfer station for disposal of waste.
- 5.9.2 All waste deposited in the Civic Waste Facility shall be either: -
  - a) Into a skip;
  - b) Into the hopper of the compactor for disposal;
  - c) Into a receptacle for recovery; and
  - d) In the case where inspection is required, into a designated inspection area.
- 5.9.3 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.
- 5.9.4 The licensee shall only allow the receptacle/skip labelled for household waste to be sent to landfill. All other receptacles/skips shall be sent off-site for recovery unless otherwise agreed by the Agency.
- 5.9.5 At the end of the working day the floor of the Civic Waste Facility shall be cleared of waste.

#### 5.10 Leachate Management

- 5.10.1 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the landfill.
- 5.10.2 The level of leachate in the pump sumps shall be monitored as outlined in *D. 4 Leachate Management* of the EIS.
- 5.10.3 The frequency of leachate removal from the leachate lagoons shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoons at all times.
- 5.10.4 Leachate stored in the leachate storage lagoons shall be disposed of by tankering off-site in fully enclosed road tankers.
- 5.10.5 The licensee shall maintain written procedures for the handling of leachate removal from the lagoon and subsequent removal by tanker from the facility for treatment. These procedures shall be updated to take into account the operation of the new lagoon in the extension area.
- 5.10.6 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and, in any case, shall be undertaken only within cells, which have been lined to the satisfaction of the Agency.

#### 5.11 Maintenance

- 5.11.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or

installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.

- 5.11.2 All leachate collection, pumping, containment structures on-site shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer. Any remedial works recommended in this report must be implemented within a time-scale to be agreed by the Agency. Independent appropriately qualified personnel shall also inspect the tanker(s) used for the transport of leachate offsite once every two years. Records shall be maintained at the facility of the outcome of these inspections.
- 5.11.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.11.4 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of at the working face.

*REASON: To provide for appropriate operation of the facility to ensure protection of the environment.*

## **CONDITION 6 EMISSIONS**

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits*, of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.3. Landfill Gas
  - 6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste: -
    - a) Methane, greater than or equal to 1.0% v/v; or
    - b) Carbon dioxide, greater than or equal to 1.5% v/v.
  - 6.3.2. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of: -
    - a) In the case of landfill gas flare:  
Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
    - b) In the case of landfill gas combustion plant:  
Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
  - 6.3.3. Emission limits for emissions from landfill gas flare to atmosphere in this licence shall be interpreted in the following way.
    - 6.3.3.1. Continuous monitoring
      - a) No 24 hour mean value shall exceed the emission limit value;

- b) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value; and
- c) No 30 minute mean value shall exceed twice the emission limit value.

6.3.2.2. Non-Continuous Monitoring

- a) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
- b) For all other parameters, no 30 minute mean value shall exceed the emission limit value; and
- c) For flow, no hourly or value shall exceed the emission limit value.

6.4. Groundwater

6.4.1 There shall be no direct emissions to groundwater.

6.4.2 Within six months of the date of grant of this licence the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.



6.5. Emissions to Surface Water

- 6.5.1. No raw leachate, treated leachate or contaminated surface water shall be discharged to Lee or Smearlagh River catchments.
- 6.5.2. No substance shall be discharged in a manner, or at a concentration, which, following initial dilution causes tainting of fish or shellfish.
- 6.5.3. The licensee shall carry out continuous monitoring in the surface water/groundwater retention ponds. Such continuous monitoring shall include conductivity, pH and TOC and shall be carried out at the inlet to the ponds. No discharge from these ponds shall take place once the trigger levels agreed by the Agency have been breached.

6.6. Noise Emissions

- 6.6.1. Mobile plant shall be throttled down or turned off when not in use.

6.7. Disposal of Leachate

- 6.7.1. No leachate shall be discharged to surface water.
- 6.7.2. All leachate tankered from the facility shall be transported via tanker to Castleisland or Tralee wastewater treatment plants and disposed of there unless otherwise agreed in advance by the Agency. Permission for the disposal of leachate at the above mentioned wastewater treatment plants shall be obtained from the relevant Sanitary Authority on an annual basis. The quantity of leachate disposed of shall be subject to the prior agreement of the Sanitary Authority. Disposal procedures for the leachate at the treatment plant shall be in accordance with any written requirements of the Sanitary Authority.

*REASON: To control emissions from the facility and provide for the protection of the environment.*

## **CONDITION 7    NUISANCE CONTROL**

7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution. The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.

7.2 Litter Control

7.2.1 The measures and infrastructure as described in *Section 3.14.4 – Litter Control* of the EIS shall be applied to the control of litter at the facility.

7.2.2 Notwithstanding Condition 7.2.1, prior to the disposal of any waste in any cell, litter fencing shall be installed and maintained around the perimeter of the active tipping area to the specifications shown in Figure 2.6.4 *EIS Review Miscellaneous Details – Detail of Litter Fencing* of the EIS accompanying the application submitted to the Agency on the 18<sup>th</sup> August 1999.

7.2.3 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows: -

- a) A temporary repair shall be made by the end of the working day; and
- b) A repair to the standard of the original netting shall be undertaken within three working days.

7.2.4 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed, subject to the

agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.

7.2.5 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

### 7.3 Dust Control

7.3.1 The dust control measures outlined in Section 3.14.6 and 4.1.1 of the EIS shall be implemented to control dust at the facility unless otherwise agreed in advance with the Agency.

7.3.2 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

7.4 Prior to exiting the facility, all waste vehicles shall use the wheelwash.

### 7.5 Odour Control

7.5.1 The licensee shall ensure that the activities shall be carried out in a manner such that odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the facility boundary.

7.5.2 Odour control measures outlined in Table 4.1.3.10 of the EIS shall be implemented to control odour at the facility unless otherwise agreed in advance by the Agency.

7.5.3 Temporary suction wells shall be incorporated into the landfill gas extraction system to maintain the waste cells under slight negative pressure.

### 7.6 Bird Control

7.6.1 Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place on the facility at least two weeks prior to any waste being disposed of and shall maintain their presence every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency.

7.6.2 The use of gas-operated bird scaring devices shall be minimised at the facility, and in any event shall not be used outside the hours of operation of the facility unless agreed in advance by the Agency.

### 7.7 Vermin Control

7.7.1 The licensee shall apply the vermin and fly control measures outlined in *Section 3.14.8 – Vermin Control* of the EIS unless otherwise agreed in advance with the Agency.

*REASON: To provide for the control of nuisances.*

## **CONDITION 8 MONITORING**

8.1 The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring*, of this licence and as specified in this licence.

8.2 The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.

- 8.3 Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 8.4 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. The licensee shall clearly label and name (including national grid number) all sampling and monitoring locations.
- 8.5 The licensee shall install and maintain a permanent gas monitoring system in the site office and any other enclosed structures at the facility. All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 8.6 The following information shall be maintained on site the: the names, qualifications and a summary of the relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted to the Agency for its agreement.
- 8.7 Meteorological Monitoring
- 8.7.1 The licensee shall maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule D.6: Meteorological Monitoring*, of this licence.
- 8.8 Topographical Survey
- 8.8.1 An updated topographical survey shall be carried out within six months of the date of grant of this licence. The survey shall include a measurement of the remaining available void space. It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.
- 8.9 Biological Assessment
- 8.9.1 A Biological assessment of the Rivers Lee and Smearlagh shall be conducted annually at locations specified in Table D.1.1. This assessment shall include a fisheries assessment (with particular reference to salmonids) and use other appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams.
- 8.10 Archaeological Assessment
- 8.10.1 Prior to the development of any undisturbed area, the advice of The Heritage Section of the Department of The Environment, Heritage and Local Government (formerly Dúchas) shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to The Development Applications Section and to the Agency.
- 8.11 Stability Assessment
- 8.11.1 Within six months of the date of grant of this licence, and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility.
- 8.11.2 Unless otherwise agreed with the Agency, the licensee shall undertake monthly inspections of the landfill for any evidence of slippage or failure of the perimeter embankment of the lined cells. Written records of these inspections shall be maintained at the facility office.
- 8.12 Nuisance Monitoring
- 8.12.1 The licensee shall, at a minimum of one-week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours. Written records shall be maintained for all these inspections.

- 8.13 The licensee shall, prior to the implementation of the construction plan referred to in condition 3.2, update its Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

*REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.*

## **CONDITION 9 ENERGY USE**

- 9.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency; “Guidance Note on Energy Efficiency Auditing”. The energy efficiency audit shall be repeated at intervals as required by the Agency.
- 9.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.3.2.1 above.

*REASON: To provide for the efficient use of energy in all site operations.*

## **CONDITION 10 CONTINGENCY ARRANGEMENTS**

- 10.1. In the event of an incident the licensee shall immediately: -
- a) Identify the date, time and place of the incident;
  - b) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
  - c) Isolate the source of any such emission;
  - d) Evaluate the environmental pollution, if any, caused by the incident;
  - e) Identify and execute measures to minimise the emissions/malfunction and the effects thereof; and
  - f) Provide a proposal to the Agency for its agreement within one month of the incident occurring to: -
    - a) Identify and put in place measures to avoid reoccurrence of the incident;
    - b) Identify and put in place any other appropriate remedial action.
- 10.2. The licensee shall maintain its written Emergency Response Procedure (ERP). The ERP shall address any emergency situations, which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and firewater retention facilities. The licensee shall consult the Fire Authority during this assessment.
- 10.3. The licensee shall, or within six months of date of grant of this licence, ensure that a documented Accident Prevention Policy is in place, which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment.

- 10.4. The policy and procedure referred to in conditions 10.2 and 10.3 shall be reviewed annually and up-dated as necessary. They shall be made available on-site for inspection by the Agency at all reasonable times.
- 10.5. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 10.6. In the event that monitoring should indicate contamination of the water in the surface water/groundwater retention ponds, the outlet from the pond shall be closed and the contaminated water shall be pumped to the leachate lagoon until such time as the source of the contamination has been identified and appropriate measures introduced to prevent further contamination of surface water.
- 10.7. Emergencies
- 10.7.1. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 10.7.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
- 10.7.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
- 10.7.4. In the event that monitoring of the side slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

*REASON: To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.*

## **CONDITION 11 RECORDS**

- 11.1. The licensee shall keep the following documents at the facility office: -
- a) The current waste licence relating to the facility;
  - b) The current EMS for the facility;
  - c) The previous year's AER for the facility; and.
  - d) All written procedures produced by the licensee, which relate to the licensed activities.
- 11.2. The licensee shall maintain a written record for each load of waste arriving at the facility, excluding those arriving at the Civic Waste Facility. The licensee shall record the following: -
- a) The date;
  - b) The name of the carrier (including if appropriate, the waste carrier registration details);
  - c) The vehicle registration number;
  - d) The name of the producer(s)/collector(s) of the waste as appropriate;
  - e) The name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
  - f) A description of the waste including the associated EWC codes;

- g) The quantity of the waste, recorded in tonnes;
- h) The name of the person checking the load; and
- i) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.

### 11.3. Written Records

The following written records shall be maintained by the licensee: -

- a) The types and quantities of waste recovered and disposed of at the facility each year. These records shall include the relevant EWC Codes;
- b) All training undertaken by facility staff;
- c) Results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- d) Details of all nuisance inspections; and
- e) The names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.

### 11.4. The licensee shall maintain a written record of all complaints relating to the operation of the facility. Each such record shall give details of the following: -

- a) Date and time of the complaint;
- b) The name of the complainant;
- c) Details of the nature of the complaint;
- d) Actions taken on foot of the complaint and the results of such actions; and
- e) The response made to each complainant.

### 11.5. A written record shall be kept of each consignment of leachate removed from the facility. The record shall include the following: -

- a) The name of the carrier;
- b) The date and time of removal of leachate from the facility;
- c) The volume of leachate, in cubic metres, removed from the facility on each occasion;
- d) The name and address of the Waste Water Treatment Plant to which the leachate was transported; and
- e) Any incidents or spillages of leachate during its removal or transportation.

### 11.6. A written record shall be kept for each load of waste departing from the Civic Waste Facility. The following shall be recorded: -

- a) The name of the carrier;
- b) The vehicle registration number;
- c) The destination of the waste (facility name and waste licence/permit number as appropriate);
- d) A description of the waste (if recovered or rejected waste, the specific nature of the waste);
- e) The quantity of waste, recorded in tonnes;
- f) The name of the person checking the load; and
- g) The time and date of departure.

- 11.7. A written record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:
- - a) The date and time during which spraying of insecticide is carried out;
  - b) Contractor details;
  - c) Contractor logs and site inspection reports;
  - d) Details of the rodenticide(s) and insecticide(s) used;
  - e) Operator training details;
  - f) Details of any infestations;
  - g) Mode, frequency, location and quantity of application; and
  - h) Measures to contain sprays within the facility boundary.

*REASON: To provide for the keeping of proper records of the operation of the facility.*

## **CONDITION 12 REPORTS AND NOTIFICATIONS**

- 12.1. Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall: -
- a) Be sent to the Office of Environmental Enforcement, Cork Regional Inspectorate, Inniscarra, Co. Cork;
  - b) Comprise one original and two copies unless additional copies are required;
  - c) Be formatted in accordance with any written instruction or guidance issued by the Agency;
  - d) Include whatever information as is specified in writing by the Agency;
  - e) Be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
  - f) Be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: Recording and Reporting to the Agency*, of this licence;
  - g) Be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
  - h) Be transferred electronically to the Agency's computer system if required by the Agency.
- 12.2. In the event of an incident occurring on the facility, the licensee shall: -
- a) Notify the Agency as soon as practicable and in any case not later than 1000 hrs the following working day after the occurrence of any incident;
  - b) Submit a written record of the incident, including all aspects described in Condition 10.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
  - c) In the event of any incident which relates to discharges to surface water, notify South Western Regional Fisheries Board as soon as practicable and in any case not later than 1000 hrs on the following working day after such an incident; and

- d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.

#### 12.3. Waste Recovery Reports

Within six months of the date of grant of this licence, a report examining waste recovery options shall be submitted to the Agency for its agreement. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following: -

- a) Proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill, going to landfills as specified in the Landfill Directive;
- b) The separation of recyclable materials from the waste;
- c) The recovery of Construction and Demolition Waste;
- d) The recovery of metal waste and white goods including written procedures for the de-gassing of CFC's from refrigerators;
- e) The recovery of commercial waste, including cardboard;
- f) Inert waste to be used for cover/restoration material at the facility;
- g) The feasibility of using landfill gas as a fuel for on-site vehicles; and
- h) Other waste.

#### 12.4. Reports relating to Facility Operations

##### 12.4.1. Operation in Adverse Wind Conditions

12.4.1.1. The precautions and actions in the current version of the precautions and actions for the operations of the facility during adverse wind conditions operating at the facility and agreed by the Agency shall be applied at the facility Annual Environmental Report.

#### 12.5. Annual Environmental Reports

12.5.1. The licensee shall submit to the Agency for its agreement, within one month of the end of each year, an Annual Environmental Report (AER).

12.5.2. The AER shall include as a minimum the information specified in *Schedule G: Content of Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

*REASON: To provide for proper reports to and notifications to the Agency.*

## **CONDITION 13 CHARGES AND FINANCIAL PROVISIONS**

#### 13.1. Agency Charges

13.1.1. The licensee shall pay to the Agency an annual contribution of €21,321, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out



by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.

13.1.2. In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.

13.2. Financial Provision for Closure, Restoration and Aftercare

13.2.1. The licensee shall from a date to be set by the Agency establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 4. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.

13.2.2. The fund established shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.

13.2.3. The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

13.2.4. Unless otherwise agreed any revision to the fund shall be computed using the following formula: -

$$\text{Cost} = (\text{ECOST} \times \text{WPI}) + \text{CiCC}$$

Where:-

Cost = Revised restoration and aftercare cost

ECOST = Existing restoration and aftercare cost

WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

13.3. Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2003, the licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility. The statement required under Section 53A(5) of said Acts is to be included as part of the AER

13.4. The licensee shall provide the sum of fifty thousand six hundred euro per annum, (index linked) for local environmental and community initiatives for each year that the landfill accepts waste

for disposal. A report on the use of this annual fund shall be included in the Annual Environmental Report to the Agency.

*REASON: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.*

## SCHEDULE A : Waste Acceptance

### A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities

Waste Type	Maximum (Tonnes Per Annum) <sup>Note 1</sup>
Household	34,500
Commercial	28,500
Construction & Demolition	2,500
Industrial Non-Hazardous Solids	9,500
Biodegradable Waste for Composting	2,000
<b>TOTAL</b>	<b>77,000</b>

Note 1: The individual tonnages may be varied by agreement with the Agency provided the overall tonnage remains the same.

## SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of all phases and future cells of the facility including preparatory works and lining.
Final capping.
Installation of Compost Facility.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management Infrastructure.
Installation of Surface Water Management Infrastructure.
Installation of Groundwater Control Infrastructure.
Modifications to the Civic Waste Facility.
Any other works notified in writing by the Agency.

# SCHEDULE C : Emission Limits

## C.1 Noise Emissions:

(Measured at the nearest noise sensitive locations to be agreed by Agency).

Day Db(A) $L_{Aeq}$ (15 minutes)	Night dB(A) $L_{Aeq}$ (15 minutes)
55	45

## C.2 Landfill Gas Concentration Limits:

(Measured in any building on or adjacent to the facility).

Methane	Carbon Dioxide
20 % LEL (1% v/v)	1.5 % v/v

## C.3 Dust Deposition Limits:

(Measured at the monitoring points indicated in *Table D.1.1.*)

Level (mg/m <sup>2</sup> /day) <sup>Note 1</sup>
350

**Note 1:** 30 day composite sample with the results expressed as mg/m<sup>2</sup> /day.

## C.4 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: to be agreed by Agency.

Volume to be emitted: 3000m<sup>3</sup>/hr

Minimum discharge height: 5m

Parameter	Flare (enclosed) Emission Limit Value <sup>Note 1</sup>	Utilisation Plant <sup>Note 2</sup> Emission Limit Value <sup>Note 1</sup>
Nitrogen oxides (NO <sub>x</sub> )	150 mg/m <sup>3</sup>	500 mg/m <sup>3</sup>
Particulates	Not applicable	130 mg/m <sup>3</sup>
Total organic carbon (TOC)	10 mg/m <sup>3</sup>	Not applicable

**Note 1:** Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.

**Note 2:** Monitoring location to be agreed with the Agency as part of the proposal required by the Condition 3.15.3.

# SCHEDULE D : Monitoring

## D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and Drawing No's 1940-2430 and 1940-2431 of the application Section 3.15 if the EIS and Appendix J of the Article 14 response received by the Agency on the 3<sup>rd</sup> August 2004.

**Table D.1.1** Monitoring Locations <sup>Note 1</sup>

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/ Utilisation Plant	Dust Deposition & Odour	Noise	Surface Water	Ground Water	Leachate
Stations		Stations	Stations	Stations	Stations	Stations
In Waste LGML-1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.2, 4.3, 4.4, 5.1, 5.2, 5.3, 5.4, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2, 7.3, 7.4, 7.5, 8.1, 8.2, 8.3, 8.4, 9.1, 9.2, 9.3, 10.1, 10.2, 10.3, GG1-E1, E2, E3, E4, E5, E6, E7, E8 GG2-E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 GG3-E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 GG4-E1, E2, E3, E4, E5, E6, E7, E8, E9, E10 GG5-E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11, E12	GF1, GF2 Location to be agreed <sup>Note 3</sup>	D-1, D-2, D-3, D-4, DML -E1, DML-E2, DML-E3	Noise Sensitive Locations to be agreed and N-1, N- 2, N-3, NML-E1 NML-E2, NML-E3	SW1, SW2, SW3	MH1, MH2, MH3, MH4, MH5, MH6, MH7, MH8, MH9, MH10 GWML- E1 GWML- E2 GWML- E3 GWML- E4	Lagoons; LL1, LL2, LL3 LML - E1 <sup>Note 2</sup>
Boundary locations PGDW-1, 2, 3, 4, 5, 6,7, 8,16, PGDW- SO, PGDW-WBO, PGDW-MDO, PGDW-SC, PGDW-E1, E2, E3, E4, E5, E6, E7, E8, E9		Odour to be agreed including 3 fixed locations and 2 locations to be chosen on the day (upwind & downwind))		SWML 1-12 inclusive, SWML-E1, SWML-E2, SWLM -11 <sup>Note 5</sup>		Within Cells LD1, LD2, LD3, leachate collection manhole within each cell as constructed <sup>Note 2</sup>
				TOC -1, TOC -2, TOC-E1, TOC-E2.		

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/ Utilisation Plant	Dust Deposition & Odour	Noise	Surface Water	Ground Water	Leachate
Stations		Stations	Stations	Stations	Stations	Stations
				Invertebrate-W1, W2, E1, E2, G1, G2, N1 Fish Monitoring – W2, G1, G2, E2, N1, <sup>Note 4</sup>		

**Note 1:** Monitoring at extension area locations is from date of commencement of activity/commissioning of lagoon/commissioning of surface water ponds as appropriate unless otherwise agreed by the Agency.

**Note 2:** Leachate monitoring locations LL1, LL2, LL3, LD2, LML-E1 and other cells as they are developed, to be agreed by the Agency, should be analysed for leachate composition. All other locations should be monitored for levels.

**Note 3:** GF1 and GF2 refer to the emissions points from the flare and utilisation plant respectively (as referred to in Condition 3.15.3). Any additional points to be agreed in advance by the Agency.

**Note 4:** Locations as per Appendix 9 - Biological Monitoring of Surface Water Quality in the Vicinity of North Kerry Landfill, September 2002 of the EIS unless otherwise agreed by the Agency.

**Note 5:** Additional surface water points in the drains surrounding the landfill extension facility are required these to be agreed in advance by the Agency.

## D.2 Landfill Gas

**Table D.2.1** Landfill Gas Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
[EU1]	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH <sub>4</sub> ) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> ) % v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O <sub>2</sub> ) % v/v	Monthly	Weekly	Electrochemical cell
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard

**Note 1:** All monitoring equipment used should be intrinsically safe.

**Note 2:** Or other methods agreed in advance by the Agency.

## D.3 Dust/Odour

**Table D.3.1** Dust Monitoring Frequency and Technique

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>
Odour	Quarterly	See <sup>Note 3</sup>

**Note 1:** Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). Any modifications to eliminate interference due to algae growth in the gauge should be reported to the Agency.

**Note 2:** Twice during the period May to September and at least during the construction phase of each cell.

**Note 3:** To be agreed by the Agency.

## D.4 Noise

**Table D.4.1** Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>EQ</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis (1/3 Octave band analysis)	Annual	Standard <sup>Note 1</sup>

**Note 1:** "International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise. Parts 1, 2 and 3."

### *D.5 Surface Water, Groundwater and Leachate*

**Table D.5.1** Water and Leachate - Parameters / Frequency

PARAMETER <sup>Note 1</sup>	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour <sup>Note 2</sup>	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
pH	Quarterly	Quarterly	Annually
Total Suspended Solids	Monthly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Metals / non metals <sup>Note 3</sup>	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances <sup>Note 4</sup>	Once off <sup>Note 5</sup>	Annually <sup>Note 5</sup>	Once off <sup>Note 5</sup>
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually <sup>Note 6</sup>	Not Applicable	Not Applicable

**Note 1:** All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

**Note 2:** Where there is evident gross contamination of leachate, additional samples should be analysed.

- Note 3:** Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
- Note 4:** Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).
- Note 5:** 2 surface water locations, 3 groundwater locations and 2 leachate locations to be agreed by the Agency for these parameters.
- Note 6:** Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.



## D.6 Meteorological Monitoring

**Table D.6.1** Meteorological Monitoring: at a location on the facility

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction	Daily	Standard
Evaporation	Daily	Standard
Evapotranspiration	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure	Daily	Standard

## D.7 Landfill Gas Combustion Plant/Enclosed Flare

Location: Utilisation plant and enclosed flare

**Table D.7.1** Landfill Gas Utilisation Plant/Enclosed Flare Parameters and Monitoring Frequency

Parameter	Flare (enclosed)	Utilisation Plant <sup>Note 1</sup>	Analysis <sup>Note 2</sup> Method/ <sup>Note 3</sup> Technique
	Monitoring Frequency	Monitoring Frequency	
Inlet			
Methane (CH <sub>4</sub> ) % v/v	Continuous	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO <sub>2</sub> ) % v/v	Continuous	Weekly	Infrared analyser/thermal conductivity
Oxygen (O <sub>2</sub> ) % v/v	Continuous	Weekly	Electrochemical/thermal conductivity
Total Sulphur	Annually	Annually	Ion chromatography
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Outlet			
Nox	Annually	Annually	Flue gas analyser
SO <sub>2</sub>	Annually	Annually	Flue gas analyser
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
TOC	Annually	Not applicable	Flame ionisation

**Note 1:** If assessed to be feasible under Condition 3.15.3.

**Note 2:** All monitoring equipment used should be intrinsically safe.

**Note 3:** Or other methods agreed in advance by the Agency.

## SCHEDULE E : Recording and Reporting to the Agency

Report	Reporting Frequency <sup>Note 1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year reported on.
<b>Annual Environment Report (AER)</b>	Annually	One month after the end of each calendar year.
<b>Record of incidents</b>	As they occur	Within five days of the incident.
<b>Waste Recovery Reports</b>	Once -Off	Within six months from the date of grant of licence.
<b>Proposal for Energy Efficiency Audit</b>	Once-off	Within eleven months of the date of grant of this licence and thereafter as may be required by the Agency.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Groundwater Monitoring Trigger Levels</b>	Once -Off	Within six months from the date of grant of licence.
<b>Monitoring of landfill gas</b>	Bi-annually	Ten days after end of the period being reported on.
<b>Monitoring of Surface Water Quality</b>	Bi-annually	Ten days after end of the period being reported on.
<b>Monitoring of Groundwater Quality</b>	Bi-annually	Ten days after end of the period being reported on.
<b>Monitoring of Leachate</b>	Bi-annually	Ten days after end of the period being reported on.
<b>Meteorological Monitoring</b>	As part of AER	One month after end of each calendar year.
<b>Dust Monitoring</b>	As part of AER	One month after end of each calendar year.
<b>Noise Monitoring</b>	As part of AER	One month after end of each calendar year.
<b>Any other monitoring</b>	As they occur	Within ten days of obtaining results.

**Note 1:** Unless altered at the request of the Agency.

## **SCHEDULE F : Content of the Annual Environmental Report**

### **Annual Environmental Report Content**

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.

Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretation of environmental monitoring.

Resource and energy consumption summary.

Energy efficiency audit report summary.

Proposed development of the facility and timescale of such development.

Volume of leachate produced and volume of leachate transported / discharged off-site.

Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.

Report on restoration of completed cells/ phases.

Site survey showing existing levels of the facility at the end of the reporting period.

Estimated annual and cumulative quantities of landfill gas emitted from the facility.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

Full title and a written summary of any procedures developed by the licensee in the year, which relates to the facility operation.

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.

Report on training of staff.

Report on the use of the annual fund for local environmental and community initiatives.

Statement on the costs of Landfill.

Meteorological, Noise and dust monitoring results.

Any other items specified by the Agency.

**Signed on behalf of the said Agency**

on the 3rd day of November, 2004

\_\_\_\_\_  
Kieran O'Brien, **Authorised Person**

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[EU1]This background does not appear on above. Standardise if possible