

Headquarters,  
P.O. Box 3000,  
Johnstown Castle Estate  
County Wexford, Ireland

**WASTE LICENCE  
PROPOSED DECISION**

<b>Waste Licence</b>	2-1
<b>Register Number:</b>	
<b>Applicant:</b>	Cork County Council
<b>Location of Facility:</b>	Ballyguyroe Landfill Site, Ballyguyroe North, Mallow, Co Cork

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## Reasons for the Proposed Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence any emissions from the activity will comply with and not contravene any of the requirements of Section 40(4) of the Waste Management Act, 1996.

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, all submissions received from other parties and the report of its inspector.

### ***Part I: Activities Licensed***

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Cork County Council to carry on the waste activities listed below at Ballyguyroe Landfill Site, Ballyguyroe North, Mallow, Co Cork subject to 11 No. 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 Act, 1996*

- Class 1: Deposit on, in or under land (including landfill).
- Class 4: Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
- Class 5: Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
- Class 13: 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.

# INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Application</b>	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>Article 16 Notice</b>	The notice served on the licensee by the Agency under Article 16 of the Waste Management (Licensing) Regulations 1997 and dated 16 June 1998.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Cell</b>	Cells 1-7 as shown on Drawing B.2.1 entitled "Site Plan" dated April 1997 and as revised in March 1998.
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Condition</b>	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is to be made to.
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Cover Material</b>	<ul style="list-style-type: none"><li>• Bricks, crushed concrete, tarmac, earth, soil, subsoil, stone, rock or other similar natural materials;</li><li>• the artificial sheeting used at the time of the application; or</li><li>• other cover material the use of which has been subject to a proposal made by the licensee for the Agency's agreement.</li></ul>
<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>	Unless otherwise specified in this licence, any reference to a drawing or drawing number in this licence means a drawing or drawing number contained in the application.
<b>Emission</b>	As defined in Section 5(1) of the Act.
<b>Emission Limit Value</b>	Those limits, including concentration limits and deposition levels established in Schedule G.
<b>Environmental Pollution</b>	As defined in Section 5(1) of the Act.

<b>Facility</b>	That area or areas defined under Condition 1.2.
<b>Hazardous Waste</b>	As defined in Section 4(2) of the Act.
<b>Household Waste</b>	As defined in Section 5(1) of the Act.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Industrial waste</b>	As defined in Section 5(1) of the Act.
<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 or groundwater.
<b>Landfill</b>	As defined in Section 5(1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5(1) of the Act.
<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>	Cork 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 20% dry matter.
<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>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5(1) of the Act.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Non-hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>North Drain</b>	The North Drain shown on Drawing No W002/1A "Site Plan (September 1998)" and dated October 1998.

<b>Other Appropriate Facility</b>	A waste management facility, duly authorised under relevant law and technically suitable, other than the facility subject to this licence.
<b>Quarterly</b>	A period of three calendar months, the first period of which commences on the date of grant of this licence.
<b>Recovery</b>	As defined in Section 4(4) of the Act.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>Silt pond(s)</b>	The silt ponds shown on drawing W002/1A entitled "Site Plan (September 1998) and dated October 1998 and any improvement thereto required by the conditions of this licence.
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
<b>Specified Emissions</b>	Those emissions listed in Schedule G of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in Schedule E of this licence.
<b>South Stream</b>	The South Stream shown on Drawing No W002/1A "Site Plan (September 1998)" and dated October 1998.
<b>Submit</b>	Unless the context of this licence indicates otherwise, submit to the Agency in writing for agreement.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
<b>Working Day</b>	9.00 am to 5.00 pm Monday to Friday inclusive and 8.00 am to 4.00 pm on Saturdays.
<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 II CONDITIONS**

### **CONDITION 1 SCOPE**

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Schedule A and required by this licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. B.2.1, entitled "Site Plan" (dated April 1997 and as revised March 1998) of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. Every plan, programme or proposal submitted to the Agency for 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. Every 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.
- 1.4. This licence is for the purposes of waste licensing under the Waste Management Act 1996 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.5. Where the Agency considers that a non-compliance with the conditions of this licence has occurred, it may serve a notice on the licensee specifying:
  - a) that only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice;
  - b) that the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice; and,
  - c) that the licensee shall carry out any other requirement specified in the notice.

When the notice has been complied with, the licensee shall provide written confirmation that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written confirmation is received from the Agency that the notice is withdrawn.

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

## **CONDITION 2    MANAGEMENT OF THE ACTIVITY**

### **2.1    Environmental Management System**

2.1.1    The licensee shall within twelve months from the date of grant of this licence, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for agreement.

2.1.2    The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.8 below:

### **2.2    Schedule of Environmental Objectives and Targets**

2.2.1    The licensee shall, within six months from the date of grant of this licence, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.

2.2.2    The Schedule shall address a five year period as a minimum and shall be reviewed and submitted annually to the Agency for its agreement.

### **2.3    Environmental Management Programme**

2.3.1    The licensee shall, within six months from the date of grant of this licence, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.

2.3.2    The EMP shall include, as a minimum, the information specified in Schedule B: Content of the Environmental Management Programme. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

### **2.4    Corrective Action**

2.4.1    Within six months of the date of grant of this licence, the licensee shall establish and maintain written Corrective Action Procedures to ensure that corrective action is taken should specified requirements to this licence not be fulfilled.

### **2.5    Awareness and Training**

2.5.1    Within six months of the date of grant of this licence, the licensee shall establish and maintain Awareness and Training Procedures for identifying training needs and for providing appropriate training, for personnel whose work is related to the licensed facility. Written records of training shall be maintained.

### **2.6    Management Structure**

2.6.1    Within six months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement.



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;
- b) details of the responsibilities for each individual named under a) above;
- c) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- d) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

2.7.1 Within six months from the date of grant of this licence, the licensee shall submit for agreement to the Agency a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

## 2.8 Annual Environmental Report

2.8.1 The licensee shall submit to the Agency for its agreement, within thirteen months from the date of grant of this licence, and within one month of the end of the year thereafter, an Annual Environmental Report (AER).

2.8.2 The AER shall include as a minimum the information specified in Schedule C: Content of Annual Environmental Report and shall be prepared in accordance with any relevant written guidance issued by the Agency.

2.9 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 suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

2.10 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required and shall be aware of the requirements of this licence.

**Reason:** *To make provision for 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 NOTIFICATION AND RECORD KEEPING

3.1 The licensee shall make written records of the following incidents:

- a) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
- b) any emission which does not comply with the requirements of this licence;

- c) any trigger level specified in this licence or in the Environmental Management System which is attained or exceeded;
  - d) any malfunction of any environmental control system;
  - e) any indication that contamination has, or may have, taken place;
  - f) the cessation of waste activities at the facility for a period in excess of 28 days, and their recommencement;
  - g) any occurrence with the potential for environmental pollution; and,
  - h) any emergency.
- 3.2 The written record shall include all aspects described in Condition 10.7.
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency by telephone, and by facsimile if available, as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident; and
  - b) submit the written record required by this condition to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident.
- 3.4 Should any further actions be taken after the date of written notification, 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.
- 3.5 Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
  - (b) comprise one original and three copies;
  - (c) be formatted in accordance with any written instruction or guidance issued by the Agency;
  - (d) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
  - (e) be submitted in accordance to the relevant reporting frequencies specified by this licence;
  - (f) be certified as accurate and representative by the licensee; and
  - (g) in the case of results of any environmental monitoring, be accompanied by a written interpretation setting out their significance.
- 3.6 Copies of all environmental monitoring data obtained by the licensee which relates to the facility shall be forwarded to the Agency at the frequencies set out in Schedule D to this licence.
- 3.7 In the event of any incident which relates to discharges to surface water, the licensee shall notify the Southern Regional Fisheries Board as soon as practicable by telephone and in writing (by facsimile if available) and in any case not later than 10:00am on the following working day after such an incident.

- 3.8 Unless otherwise agreed in writing with the Agency, all documentation required to be maintained under this licence, shall be retained by the licensee.
- 3.9 Unless otherwise agreed in advance in writing with the Agency, the licensee must give at least fourteen days notice to the Agency of the following events:
- a) the cessation of waste disposal activities at the facility for a period in excess of twenty-eight days;
  - b) the re-commencement of waste disposal activities at the facility following a period of cessation referred to at a) above.
- 3.10 The licensee shall provide additional copies of any documentation referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.11 The licensee shall keep the following documents at the facility office referred to in Condition 4:
- a) the current waste licence relating to the facility;
  - b) the current environmental management system for the facility;
  - c) the previous year's annual environmental report for the facility;
  - d) all written procedures produced by the licensee which relate to the licensed activities.
- 3.12 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:
- a) the name of the carrier;
  - b) the vehicle registration number;
  - c) the name of the producer(s)/collector(s) of the waste as appropriate;
  - d) a description of the waste;
  - e) the quantity of the waste, recorded in tonnes;
  - f) the name of the person checking the load; and,
  - g) 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.
- 3.13 A written record shall be kept of each consignment of leachate or contaminated water 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 or contaminated water 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 or other facility to which the leachate was transported;
  - e) any incidents or spillages of leachate or contaminated water during its removal or transportation.
- 3.14 The licensee shall maintain a written record of all complaints relating to the operation of the activity. 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.

**Reason :** *To provide for the notification of incidents, to update information on the activity and to provide for the keeping of records.*

## CONDITION 4 SITE INFRASTRUCTURE

### 4.1 Site Notice Board

4.1.1 Within three months of the date of grant of this licence, a site notice board shall be provided and maintained by the licensee on the facility, so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.

4.1.2 The board shall clearly show:

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name, address and telephone number of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the name, address and telephone number of the operator of the facility;
- f) the licence reference number;
- g) where and when environmental monitoring information relating to the facility can be obtained.

### 4.2 Site Security

4.2.1 Within four months of the date of grant of this licence, all fencing and gates shall be installed and maintained as shown on Drawing W002/1A entitled "Site Plan (September 1998)" and which is dated October 1998.

4.2.2 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 or as otherwise agreed in writing with the Agency.

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

### 4.3 Site Roads

4.3.1 The site road(s) shall be maintained at the location shown on Drawing No. B.2.1 (entitled "Site Plan" dated April 1997 and as revised March 1998) and Drawing No W002/1A (entitled "Site Plan (September 1998)" and dated October 1998).

The road(s) shall be to the specification set out in attachment D.6 (as revised 2 April 1998)

- 4.4 The licensee shall maintain an office at the facility, at the location shown in Drawing No. W002/1A "Site Plan (September 1998)" and dated October 1998, which shall be maintained in a manner suitable for the processing and storing of documentation.
- 4.5 The licensee shall maintain a working telephone and facsimile machine in the office specified in Condition 4.4.
- 4.6 A waste inspection gantry shall be maintained in proximity to the weighbridge shown in Drawing No. W002/1A entitled "Site Plan (September 1998)" and in accordance with the details provided in the undated drawing by Vanhalen Ltd, Mechanical and Structural Engineers and Fabricators, which is enclosed in Part 1 of the response to the Agency's Article 16 notice. The licensee shall ensure that this gantry is maintained and used for the inspection of waste.
- 4.7 Within six months of the date of grant of this licence a proposal shall be submitted to the Agency for its agreement in respect of the location and specification of a waste quarantine area. The design of this area shall be such that it is constructed of concrete, is located at a suitable distance from Cell 7 and the site offices, is arranged in a manner which ensures that contaminated water will not cause pollution of the surrounding ground or any watercourse and shall be suitable for the temporary storage of wastes delivered at the facility which are rejected under Condition 5 as being unauthorised by this licence.
- 4.8 The licensee shall maintain a weighbridge at the facility at the location of the shown on Drawing No. W002/1A "Site Plan (September 1998)" dated October 1998.
- 4.9 The licensee shall maintain a wheelwash at the facility in accordance with the procedures contained in Response D.6.9 which is enclosed in Part 1 of the response to the Agency's Article 16 notice and dated 14 August 1998. The specification shall be in accordance with attached unscaled and undated drawing thereto. Within six months of the date of grant of this licence, a proposal for a replacement wheelwash shall be submitted to the Agency for its agreement. This proposal shall set out a detailed specification in accordance with the following:
  - (a) the design life shall cover at least the period of time up to when site restoration is complete;
  - (b) the construction shall be concrete and shall utilise shaker bars or other appropriate method for the effective removal of debris from vehicle wheels;
  - (c) the manner of the drainage of waters contaminated by suspended solids shall be set out, as shall the measures necessary for the interception of such materials to prevent environmental pollution; and
  - (d) information shall be provided as to maintenance, cleaning and the removal of settled materials.
- 4.10 The wheelwash shall be inspected on a daily basis and drained as required.
- 4.11 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 4.12 The licensee shall maintain the arrangements for the collection of sewage arising on-site at the location set out in drawing W002/1A entitled "Site Plan (September 1998)" and dated October 1998. The arrangements for emptying will be as set out in the response to Question D6 - Infrastructure "Septic Tank Facility" as submitted in response to the Agency's notice under Article 14 of the Waste Management (Licensing) Regulations 1997 on 3 October 1997. Unless otherwise agreed by the Agency, the contents shall be removed off-site in accordance to the procedures set out by the applicant which are referred to in this condition.
- 4.13 Fuel Storage

- 4.13.1 The licensee shall provide a proposal for a bunded fuel storage area at a location to be agreed with the Agency within three months of date of grant of this licence. Once installed, fuels shall only be stored at this agreed location and mobile tankers shall be kept in this bunded area at any time outside the hours of operation of the facility under this licence. Prior to the obtaining of the agreement referred to in this condition, no fuel other than that contained in mechanically propelled vehicles shall be stored within 30 metres of any watercourse.
- 4.13.2 The bunded fuel storage area required by this Condition shall be rendered impervious to the materials stored therein. It shall be constructed using bunds encompassing a volume of 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.
- 4.13.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 4.13.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 4.13.5 The integrity and water tightness of all the bunds, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency within three months of the date of completion of the fuel storage area required by this condition. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels on site. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 4.13.6 All tanks and containers shall be labelled to clearly indicate their contents.
- 4.14 Within three months of the date of grant of this licence, a drawing shall be submitted to the Agency showing the locations of all leachate pumping chambers, leachate monitoring points, gas vents and monitoring points, rodding points and services (etc) in Cell 7.
- 4.15 Specified Engineering Works
- 4.15.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in Schedule E: Specified Engineering Works, to the Agency for its agreement prior to any such works being carried out. No such works shall be carried out without the prior agreement of the Agency.
- 4.15.2 All specified engineering works shall be supervised by a competent person(s) agreed in writing in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 4.15.3 Following the completion of all specified engineering works, the licensee shall submit a construction quality assurance validation report to the Agency. The validation report shall include the following information:
- 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) where relevant a drawing and sections showing the location of all samples and tests carried out;

- e) daily records sheets/diary;
- f) name(s) of contractor(s)/individual(s) responsible for undertaking the 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; and
- i) any other information requested in writing by the Agency.

#### 4.16 Landfill Lining.

4.16.1 The landfill liner in Cell 7 shall be installed and maintained in accordance with:

- (a) drawing 9700406.02 dated 14/11/97 and entitled "Proposed Ultimate Layout of Cell No 7"; and
- (b) the letter from Fehily Timoney & Company dated 10 August 1998 (and the attached drawings thereto) as contained in the report enclosed in Part 1 of the response to the Agency's Article 16 notice. The permeability of the liner shall be no less than  $1 \times 10^{-9}$  m/s.
- (c) The side walls shall be designed and constructed to achieve an equivalent protection and shall be in accordance with the drawing No 98/004/07.Fig.01, entitled "Figure 1, Ballyguyroe Landfill Detail of Liner" dated 10/8/98 as supplied in the response dated 14 August 1998 to the Agency's Article 16 notice.

#### 4.17 Leachate Management

4.17.1 Within six months of the date of grant of this licence a proposal shall be made to the Agency for its agreement in respect of the following:

- (a) the permanent underground siting of all leachate collection pipes. Such a proposal shall have regard to the requirement to re-site the leachate lagoon as referred to below;
- (b) the installation and automation of permanent leachate pumps at each of Cells 1-7;
- (c) a method of accurately quantifying leachate removed from each of the Cells 1-7; and
- (d) the re-siting of the leachate lagoon shown on Drawing W002/1A "Site Plan (September 1998)" to a location in proximity to the site entrance. The proposal shall contain details of the selected location and the design of the re-sited lagoon, having regard to the proximity of local watercourses. It shall include information on the manner by which leachate is to pass to it and also in respect of off-loading of leachate into a collection tanker.

4.17.2 Within one month of the date of grant of this licence, no leachate whatsoever shall be pumped from one cell and discharged into any other cell.

4.17.3 Leachate levels in Cells 6 and 7 shall not exceed a level of 1.0m over the HDPE liner at any point. In respect of Cells 1 to 5 and unless otherwise instructed by the Agency, a leachate level in excess of three metres above the depth of base of the cell at any monitoring point shall be regarded as an incident and notified to the Agency in the manner set out in Condition 3.

4.17.4 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a scheme to minimise the quantity and level of leachate in Cells 1 to 5.

4.18 Landfill Gas Management:

4.18.1 Within six months of the date of grant of this licence, a proposal shall be submitted to the Agency for:

- (a) active collection and utilisation of landfill gas as an energy resource; and
- (b) the active collection and flaring of landfill gas.

4.18.2 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.

4.19 Surface Water Management

4.19.1 The surface water ditches shown on Drawing No W002/1A entitled "Site Plan (September 1998)" and dated October 1998 which are captioned "North Drain" and "South Stream" shall drain into the silts ponds shown on that drawing.

4.19.2 Unless otherwise agreed by the Agency, the silt pond on the South Stream shall be constructed and maintained in accordance with (a) the details contained in Response H.4.2 of the applicant's response dated 14 August 1998 to the Agency's Article 16 notice and (b) the un-numbered and undated drawing entitled "Grit Traps on South Stream" which was included in that response.

4.19.3 Within three months of the date of grant of this licence, a drawing and a specification shall be submitted to the Agency of the silt pond on the North Drain.

4.20 Firewater Retention Pond

4.20.1 Within six months of the date of grant of this licence, a proposal shall be made to the Agency for its agreement in respect of the improvement and/or re-location of the firewater retention pond shown on drawing W002/1A entitled "Site Plan (September 1998)" and dated October 1998. This proposal shall contain information for the lining of the pond to prevent leakage and shall also include measures to ensure the stability of all associated earthworks. In the event that it is proposed to relocate the pond, the proposal shall contain information on the intended location.

4.21 Capping

4.21.1 Cells 5, 6 and 7 shall be subject to capping as set out in drawing No 9800407 02 rev A, dated 7/6/98, entitled "Cross Section through Final Restored Cap" as contained in documentation supplied in the response dated 14 August 1998 to the Agency's Article 16 notice. Within three months of the date of grant of this licence, a proposal shall be made to the Agency for its agreement on a timetable for the final capping of the Cells referred to in this condition and for any additional capping works required for Cells 1-4.

**Reason:** *To provide for the protection of the environment.*



## CONDITION 5 WASTE ACCEPTANCE AND HANDLING

- 5.1. No hazardous wastes or liquid wastes shall be disposed of at the landfill. Excepting inert wastes for the purposes of construction of site roads or for specified engineering works, no wastes shall be deposited other than in Cell 7 as shown on drawing W002/1A entitled "Site Plan (September 1998)" and dated October 1998. Only construction and demolition waste can be recovered at this facility.
- 5.2. Subject to Condition 5.1, and any requirements of Condition 5.3, only those waste types and quantities listed in Schedule H shall be disposed of in the landfill unless the prior written agreement of the Agency has been obtained.
- 5.3. The requirements on waste acceptance are that (a) the wastes types listed in Table F-1 "Waste Types to be Accepted" are subject to any restrictions set out therein, (b) those wastes listed in Response F.1.1 of the response dated 14 August 1998 to the Agency's Article 16 notice are as set out in that Response and (c) any wastes which are oil/water mixtures or vegetable oil shall only be accepted when they are contained in other household waste.
- 5.4. The checking of types of wastes accepted at the facility shall be carried out in accordance with the procedures set out in items 1 to 4 and 6 of Attachment F.2 "Waste Acceptance Procedures" of the application and dated April 29 1997. Within three months of the date of grant of this licence and subject to any proposal submitted to the Agency for agreement, all wastes accepted at the facility shall be documented in accordance with the forms entitled "Loads Information Form", "Load Inspection" and "Waste Transfer Document" as contained in the attachment referred to in this condition.
- 5.5. All loads shall be checked either in proximity to the site office or at the working face. Within three months of the date of grant of this licence a proposal shall be submitted to the Agency for its agreement on the manner by which wastes are checked when deposited at the working face.
- 5.6. Any wastes deemed to be in contravention of this licence and/or unsuitable for disposal at this facility shall be removed for disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only and may be stored for a maximum of twenty-four hours.
- 5.7. The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 30,000 tonnes per annum, unless otherwise agreed by the Agency.
- 5.8. Waste shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.9. Scavenging shall not be permitted at the facility.
- 5.10. Waste shall only be accepted at the facility between the hours of 9.00 am to 5.00 pm Monday to Friday inclusive and 8.00 am to 4.00 pm on Saturdays unless otherwise agreed by the Agency.
- 5.11. Unless the prior agreement of the Agency has been granted, the following procedures 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 for waste being used as cover, as restoration materials or for the purposes of the construction of other specified engineering works;

- 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; and,
  - c) all waste deposited at the working face shall be compacted as soon as is practicable and at any rate prior to the end of the working day.
- 5.12. The working face of the operational cell shall, at the end of each day, be covered with cover material suitable to minimise any nuisances occurring. 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.
  - 5.13. A steel wheeled compactor or other such vehicle as agreed with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
  - 5.14. In order to prevent the formation of voids, all hollow objects and large articles deposited on the site shall be crushed, broken up, flattened or otherwise treated.
  - 5.15. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without prior agreement from the Agency.
  - 5.16. No smoking shall be allowed on the facility other than in the site office and canteen as shown on Drawing number W002/1A "Site Plan (September 1998)" and dated October 1998.

**Reason:** *To provide for the acceptance and management of wastes authorised under this waste licence.*

## CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2. 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.
- 6.3. The measures described in Attachment E.5 "Litter Control" of the waste licence application dated April 29 1997 shall be applied to control litter at the facility.
- 6.4. All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed and appropriately disposed of on a daily basis.
- 6.5. Any waste placed on or in the vicinity of the facility other than in accordance with the requirements of this licence, shall be removed by the licensee immediately and in any event by 10:00am of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriately authorised facility.
- 6.6. The licensee shall ensure that all waste being delivered to the facility is appropriately covered.
- 6.7. 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.

- 6.8. 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.
- 6.9. The licensee shall ensure that birds, vermin, flies and dust do not give rise to nuisance at the facility or the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution or contravene any national statutory protection granted in respect of protected species.

**Reason:** *To provide for the control of nuisance.*

## **CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS**

- 7.1. Subject to condition 7.2, no specified emission from the facility shall exceed the emission limit values set out in Schedule G: Emissions Limits of this licence. There shall be no other emissions of environmental significance.
- 7.2. Within six months of the date of grant of this licence, the suspended solids discharges from the North Drain and South Stream shall not exceed the emission limit value referred to in Schedule G.
- 7.3. 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.
- 7.4. 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.
- 7.5. There shall be no clearly audible tonal or impulsive component in the noise emissions from the activity at the facility boundary.
- 7.6. The following are the trigger levels for landfill gas emissions from the facility measured in any service on 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; and
  - b) Carbon dioxide, greater than or equal to 1.5% v/v.
  - c) There shall be no direct emissions to groundwater.
- 7.7. No leachate or contaminated water shall be disposed of at the facility without the agreement of the Agency.
- 7.8. Any leachate or other contaminated water or sewage removed from the facility shall be transported to a wastewater treatment plant or other facility whose name and location has been subject to the agreement of the Agency. Permission for the disposal of such materials at that wastewater treatment plant shall be obtained from the Sanitary Authority on an annual basis. Disposal procedures for the leachate at the waste water 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 8 RESTORATION AND AFTERCARE

- 8.1. The final profile of the facility shall be in accordance to Drawing W002/3 "North-South Cross Sections" (dated October 1998), Drawing W002/4 "East-West Longitudinal Sections" (dated October 1998) and Drawing W002/2, "Proposed Post-Closure Contours" (dated October 1998).
- 8.2. Within nine months of the date of grant of this licence a detailed landscaping plan shall be submitted to the Agency for its agreement for the establishment of the nature reserve referred to in Attachment G.1 of the application and dated April 29 1997. The plan shall contain proposals for the planting of trees and shrubs, seeding of other areas, details of leachate and gas management/monitoring points (including method of access), site security measures and any other matter notified in writing by the Agency. It shall include a timetable for the commencement and completion of such works, which shall ensure that that the commencement of the landscaping of Cells 1 to 4 shall start within eighteen months of the date of grant of this licence.
- 8.3. Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 8.4. No material or object that is incompatible with the proposed restoration of the site shall be present within one metre of the final soil surface levels.
- 8.5. Where tree planting is proposed to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance in writing with the Agency.

**Reason:** *To provide for the restoration and aftercare of the facility.*

## CONDITION 9 ENVIRONMENTAL MONITORING

- 9.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in Schedule F: Monitoring and as specified in the Conditions of this licence.
- 9.2. Within six months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement monitoring proposals to detect off-site migration of landfill gas with particular regard to the possible increase in migration following the placement of the capping layer. This shall include the location and specification of landfill gas monitoring points in respect of the north and west boundaries to the facility.
- 9.3. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement details of the permanent gas monitoring system to be installed in the site office, canteen and other site structures.
- 9.4. Within three months of the date of grant of this licence, a proposal for the inclusion of all private wells within 500m of the facility in the monitoring programme set out in Schedule F shall be submitted to the Agency for its agreement.
- 9.5. Within three months of the date of grant of this licence a definitive drawing of all leachate level monitoring points (including those in Cell 7) shall be submitted to the Agency for agreement. Until subject to that agreement, leachate monitoring shall be carried out at the points identified in Schedule F to this licence which are located on:

- (a) drawing W002/1A entitled "Site Plan (September 1998)" and dated October 1998 for Cells 1-4;
  - (b) the undated and unnumbered drawing entitled "Clarification of locations of New Gas Vents installed in September 1998" for Cells 5 and 6; and
  - (c) at least five points in Cell 7.
- 9.6. Within six months of the date of grant of this licence, a report shall be submitted to the Agency for agreement on the installation of permanent and automated leachate level monitors in the leachate level monitoring points in Cells 1 to 7.
- 9.7. Within three months of the date of grant of this licence:
- (a) a proposal shall be submitted to the Agency for its agreement on the location and construction of permanent sampling points for discharges from the North Drain and South Stream at a location between the silt ponds and the River Farahy; and
  - (b) the 12-digit grid references indicated as "to be submitted" in Schedule F of this licence shall be submitted.
- 9.8. Unless otherwise specified by this licence or agreed by the Agency, all environmental monitoring required by this licence shall commence no later than two months after the date of grant of this licence.
- 9.9. In the event that any monitoring borehole at the facility is damaged or proves to be otherwise unusable for its purpose on the date of grant of this licence or at any time thereafter, the damage or unusability shall be regarded as an incident and reported to the Agency in accordance to Condition 3 of this licence. Any affected monitoring point shall be replaced within three months of the date of notification to the Agency.
- 9.10. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency.
- 9.11. 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 or discharge or environmental parameter.
- 9.12. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations 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.
- 9.13. Unless otherwise agreed in writing with the Agency, a written record shall be kept of the names, qualifications and a summary of relevant experience 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.
- 9.14. The licensee shall maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 9.15. A topographical survey including the void space shall be carried out within six months of the date of grant of this licence. It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

**Reason:** *To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions.*

## CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1. The licensee shall, within six months of the date of grant of this licence, submit a written emergency response procedures (ERP) to the Agency for its agreement. 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.
- 10.2. Until the emergency response procedure required by this condition has been agreed by the Agency, contingency arrangements for the facility shall be as detailed in Attachment K.1 "Contingency Arrangements" of the application as dated 29 April 1997, as clarified by Responses K1 and K2 in the section entitled "Contingency Arrangements" which was submitted to the Agency on 14 August 1998 in response to the Agency's Article 16 notice.
- 10.3. 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.
- 10.4. 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.
- 10.5. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 10.6. In the event that monitoring of the private wells referred to in Condition 9.4 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 incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency proposals for the provision of an alternative supply of water to those affected.
- 10.7. In the event that any monitoring, sampling or observations indicate that an incident has, or may have, taken place, 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;
  - c) isolate the source of the 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;
  - f) provide a proposal to the Agency for its agreement within month of notification to the Agency to
    - identify and put in place measures to avoid reoccurrence of the incident; and
    - identify and put in place any other appropriate remedial action.

**Reason:** *To provide for the protection of the environment.*

## CONDITION 11 CHARGES AND FINANCIAL PROVISIONS

### 11.1 Agency Charges

- 11.1.1 The licensee shall pay to the Agency an annual contribution of £14,432 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2000 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 1999, the licensee shall pay a pro rata amount from the date of this licence to 31st December 1999. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 11.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased due to an incident occurring on or adjacent to the facility and associated with the facility, the licensee shall contribute such sums as determined by the Agency to defraying its costs.

### 11.2 Financial Provision for Closure, Restoration and Aftercare

- 11.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or other form of approved security, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Decommissioning and Aftercare Plan required by Condition 8.1. The type of fund and means of its release/recovery shall be agreed in writing by the Agency prior to its establishment.
- 11.2.2 The fund shall be maintained in an amount always sufficient to underwrite the current Decommissioning and Aftercare Plan.
- 11.2.3 The licensee shall revise the cost of decommission, restoration and aftercare annually and any details of the necessary adjustments to the fund must, within two weeks of the revision, be forwarded to the Agency for agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.
- 11.2.4 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 decommission, restoration and aftercare cost
- ECOST = Existing decommission 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.

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



# SCHEDULE A : Waste Activities

Activities authorised by the licence shall be restricted to those described below.

Waste Management Act, 1996: Third Schedule <sup>Note 1</sup>	
<b>Class 1.</b>	<b>Deposit on, in or under land (including landfill):</b> This activity is limited to the deposit of waste in Cell 7 and the maintenance and restoration of the facility in accordance with this licence.
<b>Class 4.</b>	<b>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:</b> This activity is limited to the collection of leachate and contaminated water pending its disposal at another appropriate facility.
<b>Class 5.</b>	<b>Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.</b> This activity is limited to the deposit of waste in Cell 7 and the maintenance and restoration of the facility in accordance with this licence.
<b>Class 13.</b>	<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.</b> This activity is limited to the temporary storage of waste which is unsuitable for deposit at this facility and which has been duly notified to the Agency under Condition 3 pending its removal to another appropriate facility.

Note 1: Any reference to an activity Class is to be taken as being from the Third Schedule of the Waste Management Act, 1996, unless otherwise stated.

# SCHEDULE B :Content of the Environmental Management Programme

Environmental Management Programme
Items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency, or otherwise as agreed with the Agency.
Timescale for achieving the objectives and targets listed in the Schedule of Objectives and Targets.
Designation of Responsibility for Achieving Targets and Objectives.
Schedule of Drawings.
Other items specified by the Agency.

# SCHEDULE C :Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>NOTE 1</sup>

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 interpretations of environmental monitoring, including plans of all monitoring locations including 12 digit grid references.

Resource and energy consumption summary.

Proposed development of the site 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 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 site.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Meteorological Report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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.

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

Any other items specified by the Agency.

**NOTE 1 Content to be revised subject to the written agreement of the Agency after cessation of waste acceptance at the facility.**

# SCHEDULE D : Recording and Reporting to the Agency

**Table D.1 Recurring Reports**

Report	Reporting Frequency <sup>Note1</sup>	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Monitoring	Annually	One month after end of the year being reported on.
Noise Monitoring	Annually	One month after end of the year being reported on.
Site Topographic Survey	Annually	Within six months of the date of grant of this licence and one month after the end of each year thereafter.

**Note 1: Unless otherwise required by this licence or altered at the request of the Agency**

**Table D.2 Once-off Reports**

<b>Report and Contents</b>	<b>Condition Number</b>	<b>Report Submission Date (Number of months within which to submit, from date of granting of licence, unless otherwise specified)</b>
<b>Environmental Management System</b>		
(i) EMS Proposals	2.1	12
(ii) Schedule of Objectives and Targets	2.2	6
(iii) Environmental Management Programme	2.3	6
(iv) Management Structure	2.6	6
(v) Communication Programme	2.7	6
(vi) Annual Environmental Report	2.8	13
<b>Infrastructure</b>		
(i) Quarantine area	4.7	6
(ii) Proposals for improved wheelwash	4.9	6
(iii) Bunded fuel storage area	4.13	3
(iv) Infrastructure Cell 7	4.14	3
(v) leachate management	4.17	6
(vi) landfill gas management	4.18	6
(vii) Specification of silt pond on North Drain	4.19	3
(viii) Proposal for up-grading/re-location of firewater retention pond	4.20	6
(ix) Proposal on capping	4.21	3
<b>Waste Acceptance Procedures</b>		
(i) Method for load checking at the working face	5.5	3
<b>Restoration and Aftercare</b>		
(i) Landscaping Plan	8.2	9
<b>Environmental Monitoring</b>		
(i) Monitoring proposals to detect off-site migration of landfill gas	9.2	6
(ii) A proposal for a permanent gas monitoring system to be installed <b>in site structures</b> .	9.3	3
(iii) A proposal to include all private wells within 500m of the facility in the monitoring programme	9.4	3
(iv) A drawing showing all leachate level monitoring points	9.5	3
(v) A proposal for installation of automatic leachate level monitoring	9.6	6
(vi) Other monitoring point information	9.7	3
<b>Contingency Arrangements</b>		
(i) Emergency Response Procedures	10.1	6
(ii) Contingency proposals for alternative supply of water to residents if necessary	10.6	as required by Condition 10.6
<b>Charges &amp; Financial Provision</b>		
(i) Proposal for Financial Provision	11.2	from the date set by the Agency under Condition 11

# SCHEDULE E :Specified Engineering Works

## Specified Engineering Works

Design and construction of side wall lining.

Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control).

Fencing and site security works.

Bunding of fuel and oil storage areas.

Construction/reconstruction of silt ponds and firewater retention pond.

Installation of landfill gas management and monitoring systems.

Installation of leachate management, detection, storage, treatment, pumping, recirculation, monitoring and control systems.

Installation of alternative drinking water supplies.

Installation of groundwater control and/or monitoring systems.

Surface water management works.

Restoration and aftercare works.

Any other works notified in writing by the Agency.

# SCHEDULE F : Monitoring

Monitoring to be carried out as specified below.

## F.1 Landfill Gas

Landfill gas monitoring locations shall be those as set out in Table F.1.1, which are shown on Drawing W002/1A "Site Plan September 1998" (Dated October 1998) of the application, as well as at the additional locations to be agreed by the Agency under Condition 9.

**Table F.1.1 Landfill Gas Monitoring Locations**

STATION	EASTING	NORTHING
Office	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Shed	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Canteen	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
GS1	166123	114438
GS2	166149	114380
GS3	166192	114400
GS4	166306	114444
GS5	166458	114499
GS6	166525	114519
Inside any columns used to supply facility lighting	Not applicable	Not applicable

Note 1: Grid references for these points are to be submitted as required by Condition 9.7.

**Table F.1.2 Landfill Gas Monitoring Frequency and Technique**

Parameter	Monitoring Frequency		Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
	Gas Boreholes/ Vents/Wells	Site Office/ canteen & other site structures	
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	Infrared analyser
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard

Note1: All monitoring equipment used should be intrinsically safe.

Note 2: Or other methods agreed with the Agency.

## F.2 Dust

Dust monitoring locations shall be those as set out in Table F.2.1 which are shown in Drawing W002/1A "Site Plan September 1998" (Dated October 1998) of the application.

**Table F.2.1 Dust Monitoring Locations**

STATION	EASTING	NORTHING
DL1	165929	114522
DL2	166291	114478
DL3	116438	114731

**Table F.2.2 Dust Monitoring Frequency and Technique**

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Annual <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute)

Note 2: During the period May to September, or as otherwise specified in writing by the Agency.

## F.3 Noise

Noise monitoring locations shall be those as set out in Table F.3.1 which are shown in Figure J.2.1 "Proposed Monitoring Locations" (Dated August 1998) of the application.

**Table F.3.1 Noise Monitoring Locations**

STATION	EASTING	NORTHING
N1	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
N4	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
N7	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
N8	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>

Note 1: Grid references for these points are to be submitted as required by Condition 9.7.

**Table F.3.2 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."

## **F.4 Surface Water, Groundwater and Leachate**

### **River Farahy Monitoring**

Monitoring locations shall be those as set out in Table F.4.1 which are shown in respect of points RS2A and RS4 on Figure J.2.2 "River Farahy Monitoring Stations" (dated August 1998) of the application and for points RS1 and RS2 on the drawing entitled "Site Plan Sept 1998" (dated October 1998).

**Table F.4.1 River Farahy Monitoring Locations**

<b>STATION</b>	<b>EASTING</b>	<b>NORTHING</b>
RS1	166675	114844
RS2	166694	114566
RS2A	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
RS4	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>

Note 1: Grid references for these points are to be submitted as required by Condition 9.7.

### **Surface Water - Landfill Site Monitoring**

Monitoring locations at the facility shall be those as set out in Table F.4.2 which are shown in the drawing entitled "Site Plan Sept 1998" (dated October 1998).

**Table F.4.2 Landfill Site Monitoring Locations**

<b>STATION</b>	<b>EASTING</b>	<b>NORTHING</b>
FS1	166675	114807
SS1	166006	114708
SS1A	166116	114424
SS2 <sup>1</sup>	166675	114799
SS3	166016	114571
SS4	166094	114442
SS5 <sup>1</sup>	166666	114598
V1 <sup>2</sup>	166511	114771
V2 <sup>2</sup>	166584	114579

Note 1: until replaced as set out in condition 9.7.

Note 2: notwithstanding Table F.4.6, these points shall be used for the assessment of water flow only.



**Groundwater Monitoring**

Groundwater monitoring locations shall be those as set out in Table F.4.3 which are shown in the drawing entitled "Site Plan Sept 1998" (dated October 1998).

**Table F.4.3 Groundwater Monitoring Locations**

STATION	EASTING	NORTHING
G18	166120	114493
BH4	166571	114587
96-3s, 96-3d	166580	114531
96-4s, 96-4d	166377	114467
96-5s, 96-5d	166242	114421
96-6s, 96-6d	166485	114408
96-7s, 96-7d	166431	114624
98-1s, 98-1d	166066	114708

**Leachate Monitoring**

Leachate composition monitoring locations shall be those as set out in Table F.4.4, which are shown in Drawing W002/1A "Site Plan September 1998" dated October of the application. Leachate levels shall be those set out in Table F.4.5, Drawing W002/1A "Site Plan September 1998" dated October of the application and at the additional monitoring points in each cell as referred to in Condition 9.5.

**Table F.4.4 Leachate Composition Monitoring Locations**

LEACHATE MONITORING POINTS <sup>1</sup>	EASTING	NORTHING
Sump 1A	166119	114582
Sump 2A	166097	114491
Sump 3A	166079	114535
Sump 4A	166118	114461
Sump 5A	166392	114677
Sump 6A	166422	114563
Sump 7A	166398	114612
Sump 7B	166329	114586
Sump 7C	166274	114590

Note 1: Unless otherwise agreed by the Agency, samples shall be taken from any three of the locations described in this Table at each of the times required by Table F.4.6. Sampling shall be arranged such that, by the end of each calendar year, all monitoring points have been subject to sampling on at least one occasion.

**TABLE F.4.5 LEACHATE LEVEL MONITORING LOCATIONS**

<b>LEACHATE LEVEL MONITORING POINTS</b>	<b>EASTING</b>	<b>NORTHING</b>
Sump 1A and two other points in Cell1	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 2A and two other points in Cell 2.	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 3A and two other points in Cell 3	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 4A and two other points in Cell 4	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 5A and two other points in Cell 5	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 6A and two other points in Cell 6	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 7A	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 7B	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Sump 7C	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>
Two other sumps in Cell 7C	To be submitted <sup>1</sup>	To be submitted <sup>1</sup>

Note 1: Grid references for these points are to be submitted as required by Condition 9.7.

**Monitoring Parameters and Frequency**

**Table F.4.6 Water and Leachate - Parameters/Frequency**

Subject to any requirement set out in Table F.4.7. below and the conditions of this licence, the environmental monitoring required by this licence shall be in accordance to the following parameters and frequencies.

Parameter <sup>Note 1</sup>	SURFACE WATER	GROUNDWATER	LEACHATE
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour <sup>Note 2</sup>	Quarterly	Quarterly	Annually
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly <sup>Note 3</sup>
Ammoniacal Nitrogen	Quarterly	Monthly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Monthly	Annually
pH	Quarterly	Monthly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Annually
Temperature	Quarterly	Monthly	Annually
Boron	Not Applicable	Quarterly	Annually
Cadmium	Quarterly	Quarterly	Annually
Calcium	Quarterly	Quarterly	Annually
Chromium (Total)	Quarterly	Quarterly	Annually
Copper	Quarterly	Quarterly	Annually
Cyanide (Total)	Not Applicable	Quarterly	Annually
Fluoride	Not Applicable	Quarterly	Annually
Iron	Quarterly	Quarterly	Annually
Lead	Quarterly	Quarterly	Annually
List I/II organic substances <sup>Note 4</sup>	Annually	Quarterly	Once-off
Magnesium	Quarterly	Quarterly	Annually
Manganese	Quarterly	Quarterly	Annually
Mercury	Quarterly	Quarterly	Annually
Potassium	Quarterly	Quarterly	Annually
Sulphate	Quarterly	Quarterly	Annually
Sodium	Quarterly	Quarterly	Annually
Total Alkalinity	Quarterly	Quarterly	not applicable
Total Phosphorus / orthophosphate	Quarterly	Quarterly	Annually
Total Oxidised Nitrogen	Quarterly	Quarterly	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Quarterly	Not Applicable
Zinc	Quarterly	Quarterly	Annually
Faecal Coliforms	Not Applicable	Quarterly <sup>Note 5</sup>	Biannually <sup>Note 5</sup>
Total Coliforms	Not Applicable	Quarterly <sup>Note 5</sup>	Biannually <sup>Note 5</sup>

- Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures. The testing laboratory and the testing procedures shall be agreed in writing with the Agency in advance.
- Note 2: Where there is evident gross contamination of leachate, additional samples should be analysed.
- Note 3: The frequency shall be weekly up to the point that the automatic leachate level recording system has been installed as required by Condition 9.6.
- 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 (US Environmental Protection Agency method 525 or equivalent, and pesticides (US Environmental Protection Agency method 608 or equivalent). Results shall be submitted within 12 months of the date of grant of this licence.
- Note 5: If there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.

**Table F.4.7. Additional environmental monitoring for specified monitoring points**

PARAMETER	STATION	FREQUENCY
Visual inspection	SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	weekly
Suspended solids	SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	weekly
Suspended solids	RS1, RS2, RS2A, RS4	monthly
pH	RS1, RS2, RS2A, RS4, SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	monthly
temperature	RS1, RS2, RS2A, RS4, SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	monthly
conductivity	RS1, RS2, RS2A, RS4, SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	monthly
dissolved oxygen	RS1, RS2, RS2A, RS4, SS2 <sup>Note 1</sup> , SS5 <sup>Note 1</sup>	monthly
Biological monitoring <sup>Note 2</sup>	RS1, RS2, RS2A, RS4	Annually

Note 1: Until replaced by the monitoring points agreed under condition 9.7.

Note 2: biological monitoring shall be in accordance with the methodology contained in the letter dated 13 August 1998 (and the enclosures thereto) entitled "Biological survey at Ballyguyroe" which was submitted by the applicant to the Agency in response to the Agency's Article 16 notice and dated 14 August 1998.

## F.5 Meteorological Monitoring

**Table F.5.1 Meteorological Monitoring:**

To be carried out as specified in Section 7 of Appendix 12 "Proposed environmental Monitoring Programme" as dated 14 August 1998 and submitted in response to the Agency's Article 16 notice .

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

## SCHEDULE G :Emission Limits

**G.1 Noise Emissions:** (Measured at the monitoring points indicated in Table F.3.1).

Day dB(A) LAeq(15 minutes)	Night dB(A) LAeq(15 minutes)
55	45

**G.2 Landfill Gas Concentration Limits:** (Measured in any building, service or other enclosed space on or adjacent to the facility).

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

**G.3 Dust Deposition Limits:** (Measured at the monitoring points indicated in Table F.2.1).

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

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

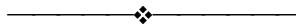
**G.4 Surface Water Discharge Limits:** Measured at the monitoring points SS2 and SS5 as shown on Drawing W002/1A "Site Plan (September 1998)" and dated October 1998 until those points are replaced by the points agreed under Condition 9.7.

Level (Suspended Solids mg/l)
240

## SCHEDULE H : Waste Types

Subject to any requirements of this licence, the following waste types and quantities may be accepted at the facility:

WASTE TYPE	MAXIMUM QUANTITY PER ANNUM (tonnes)
Household	18,000
Commercial	8,100
Industrial	3,900



**Given** by the Agency on the 14<sup>th</sup> day of September 1999.

**Signed on behalf of the said Agency**

on the 14<sup>th</sup> day of September 1999

\_\_\_\_\_ B. Sheehan

**Authorised Person**