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WASTE LICENCE
PROPOSED DECISION

Waste Licence	67-1
Register Number:	
Applicant:	Mayo County Council
Location of Facility:	Rathroeen Landfill, Rathroeen, Ballina, Co. Mayo

INTRODUCTION

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

This licence is for the operation and development of an existing non-hazardous landfill at Rathroeen, Ballina, Co. Mayo. The existing landfill area will continue to receive waste for twelve months from the date of grant of this licence. During this period a new lined cell is to be constructed on top of the existing waste. The construction of this cell will incorporate the capping of the existing waste body and include the collection of landfill gas and leachate from the existing waste body and subsequently two more such cells shall be developed at the facility, each of which will have a capacity of between 137,000m³ and 232,000m³.

A Civic Waste Facility and other related infrastructure are to be located on the facility. The extensive reed bed area located in the northern section of the facility will remain undeveloped. The volume of waste to be deposited is limited to 45,000 tonnes per annum and the life span of the facility will be determined by the available void space in the lined cells and a maximum final height of 45mO.D Malin.

The licensee shall manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee has to carry out regular environmental monitoring and submit all monitoring results and reports on the development, operation and management of the facility, to the Agency. The conditions of this licence set out in detail the legal constraints under which Mayo County Council is allowed to operate and manage Rathroeen Landfill.

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DECISION & REASONS FOR THE DECISION

The Environmental Protection Agency (The Agency) is satisfied, on the basis of the information available, that the waste activity, or activities, licensed hereunder will comply with 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 Mayo County Council to carry on the waste activities listed below at Rathroeen Landfill, Rathroeen, Ballina, Co. Mayo, subject to twelve 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): This activity is limited to the disposal of waste into the existing landfill area
Class 5.	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. This activity is limited to the disposal of wastes into lined cells
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. This activity is limited to the provision of a civic waste facility.

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Act 1996

Class 3.	Recycling or reclamation of metals and metal compounds: This activity is limited to the collection of metals at the civic waste facility.
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the collection of inorganic wastes at the civic waste facility.
Class 13.	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: This activity is limited to the collection and storage of recyclable materials at the civic waste facility.

INTERPRETATION

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

Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Animal by-products	Any carcass or part of any animal or fish or any product of animal origin not intended for direct human consumption with the exception of animal excreta and catering waste (S.I. No. 257 of 1994).
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
Condition	A condition of this licence.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
Cover material	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 with the Agency.
Daily Cover	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
Daytime	8.00 a.m. to 10.00 p.m.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emission Limits	Those limits, including concentration limits and deposition levels established in Schedule C.
European Waste Catalogue (EWC)	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.

Hours of Operation	The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works, such as the removal and laying of daily cover. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Inert waste	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.
Intermediate Cover	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.
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	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.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	Mayo County Council
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Mobile Plant	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	10.00 p.m. to 8.00 a.m.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled
Quarterly	At approximately three monthly intervals.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2%

and 14% dry matter.

Specified Emissions	Those emissions listed in Schedule C: Emission Limits of this licence.
Specified Engineering Works	Those engineering works listed in Schedule B: Specified Engineering Works of this licence.
Treated Sludge	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.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	Refers to the following hours; 9.00 a.m. to 5.30 p.m. Monday to Friday inclusive.
Working Face	The area of the facility in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

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 is the area of land outlined in red on *Drawing No. 002045/01/601* of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red.
- 1.3. 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.
- 1.4. Household Waste, Commercial Waste, Non-Hazardous Industrial Waste, Construction and Demolition Waste, Sewage Sludge and Public Cleansing and Park waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in Schedule A.
- 1.5. No hazardous wastes, liquid wastes or animal by-products shall be disposed of at the facility.
- 1.6. Within twelve months of the date of grant of this licence, wastes shall only be disposed of into engineered lined cells which are constructed in accordance with the requirements of Condition 3.11.
- 1.7. Waste Acceptance Hours and Hours of Operation
 - 1.7.1. Landfill
 - 1.7.1.1. Waste shall only be accepted at the facility for disposal at the landfill between the hours of 9.00am to 6.00pm Monday to Friday inclusive and 9.00am to 3.00pm on Saturdays.
 - 1.7.1.2. The landfill at the facility shall only be operated during the hours of 8:30am to 6.30pm Monday to Friday inclusive and between 8.30am to 4.00pm on Saturdays.
 - 1.7.1.3. Waste shall not be accepted at the landfill on Bank Holidays or on Sundays.
 - 1.7.2. Civic Waste Facility
 - 1.7.2.1. Waste shall only be accepted at the Civic Waste Facility between the hours of 9.00am to 6.00pm Monday to Friday inclusive and 9.00am to 3.00pm on Saturdays.
- 1.8. The following shall constitute an incident for the purposes of this licence:
 - a) an emergency;
 - b) any emission which does not comply with the requirements of this licence;
 - c) any trigger level specified in this licence which is attained or exceeded; and
 - d) any indication that environmental pollution has, or may have, taken place.
- 1.9. Where the Agency considers that a non-compliance with any condition of this licence has occurred, it may serve a notice on the licensee specifying:

- 1.9.1. 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;
 - 1.9.2. 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
 - 1.9.3. That the licensee shall carry out any other requirement specified in the notice.
 - 1.9.4. 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 permission is received from the Agency.
- 1.10 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

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 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times while waste may be accepted.
- 2.1.3 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 with the Agency) and associated on site assessment appraisal within twelve months of appointment.
- 2.1.4 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 Within three months of the date of grant of this licence, the licensee shall submit written details of the management structure of the facility to the Agency. Any proposed replacement in the management structure 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 establish and maintain an EMS. Within eighteen months of the date of grant of this licence, the licensee shall 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 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:

- (i) the items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;
- (ii) methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets;
- (iii) 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 establish and maintain a 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. This shall be established within six months of the date of grant of this licence.

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 infrastructure referred to in this licence as required by the conditions of this licence.
- 3.2 Specified Engineering Works
- 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in Schedule B: Specified Engineering Works, 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.
- 3.2.2 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.
- 3.2.3 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 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) 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.
- 3.3 Facility Notice Board
- 3.3.1 Within three months of the date of grant of this licence, 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.
- 3.3.2 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.

3.4 Facility Security

- 3.4.1 Within three months of the date of grant of the licence the licensee shall install CCTV camera's at all entrances to the facility. The CCTV camera system shall be operated 24 hours per day 7 days per week.
- 3.4.2 Within six months of the date of grant of this licence, security and stockproof fencing and gates shall be installed and maintained as described in *Section 4.9.6, Vol. II of the EIS*, and all fencing at the facility entrance(s) and the southern boundary of the facility shall be palisade type. The base of the fencing shall be set in the ground.
- 3.4.3 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

3.5 Facility Roads and Hardstanding

- 3.5.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.
- 3.5.2 The facility entrance area, the access road to the Civic Waste Facility, the Civic Waste Facility itself and any Recycling Areas shall be impermeable reinforced concrete slabs.

3.6 Facility Office

- 3.6.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
- 3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

3.7 Waste Inspection and Quarantine Areas

- 3.7.1 Within six months of the date of grant of this licence, a Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.7.2 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.
- 3.7.3 Drainage from these areas shall be directed to the leachate collection system.

3.8 Weighbridge

- 3.8.1 The licensee shall provide and maintain a weighbridge at the facility.

3.9 Wheel Cleaning

- 3.9.1 Within six months of the date of grant of this licence, the licensee shall establish and maintain a wheel cleaning facilities at the facility.

3.10 Tank and Drum Storage Areas

- 3.10.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.

- 3.10.2 All tank and drum storage areas shall, as a minimum, be banded, 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 banded area; or
 - (b) 25% of the total volume of substance which could be stored within the banded area.
- 3.10.3 All drainage from banded areas shall be diverted for collection and safe disposal.
- 3.10.4 All inlets, outlets, vent pipes, valves and gauges must be within the banded area.
- 3.10.5 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 following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion

3.11 Landfill Lining:

- 3.11.1 The landfill liner shall be installed in conjunction with the capping of the existing waste body.
- 3.11.2 The capping of the existing waste onto which new cells are to be constructed and the construction of the landfill liner shall comprise the following:
- (i) a gas collection layer consisting of a 0.5m layer of natural material with the addition of a horizontal gas collection system. The gas collection drains shall be HDPE and shall be surrounded by gravel.
 - (ii) a composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s, (or equivalent to be agreed with the Agency) overlain by a 2mm thick linear low density polyethylene (LLDPE) layer;
 - (iii) a geotextile protection layer placed over the LLDPE layer;
 - (iv) a 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains;
 - (v) the side walls shall be designed and constructed to achieve an equivalent protection.

3.12 Buffer Zone

- 3.12.1 A Buffer Zone, in which no waste shall be landfilled, shall be provided and maintained within the facility. No wastes shall be deposited within 10 meters of the southern, eastern and western boundaries and within 200 meters of the northern boundary of the facility.

3.13 Leachate Management Infrastructure

- 3.13.1 Leachate management infrastructure shall be provided and maintained at the facility as described in Section 4.5, Vol. II of the EIS, and as specified in Drawing No. 002045/01/607. The licensee shall also provide any additional infrastructure in accordance with Condition 3.15.1 (c).
- 3.13.2 Within eighteen months of the date of grant of this licence, the licensee shall install a sewer connecting the facility to the Ballina Wastewater Treatment Works in order to discharge the leachate from the facility to the Works.

- 3.13.3 Within nine months of the date of grant of this licence, the licensee shall install a leachate interception drain around the perimeter of the existing landfill area.
- 3.13.4 Within twelve months of the date of grant of this licence, the licensee shall provide a lined leachate storage lagoon at the facility, the lagoon shall be of a size appropriate for the collection and temporary storage of leachate.
- 3.13.5 The leachate storage lagoon shall be lined with a composite liner consisting of a basal mineral layer of at least 1m in thickness with a permeability of less than or equal to 1×10^{-9} m/s overlain by a 2 mm thick high density polyethylene (HDPE) layer (or equivalent protection as agreed by the Agency). The side walls shall be designed and constructed to achieve an equivalent protection.
- 3.13.6 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

3.14 Landfill Gas Management

- 3.14.1 Landfill gas management infrastructure shall be provided and maintained at the facility as described in Section 4.6.3, Vol. II of the E.I.S.
- 3.14.2 The landfill gas flare shall be installed within twelve months of the date of grant of this licence and shall be of an enclosed type design. Flare unit efficiency shall be tested once it is installed and once every three years thereafter.
- 3.14.3 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.

3.15 Surface Water Management

- 3.15.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:
 - a) the prevention of contaminated water and leachate discharges into surface water drains and courses; and
 - b) the collection/diversion of run off arising from capped and restored areas.
 - c) the diversion of clean surface waters so as to prevent the ingress of clean water into the existing waste body.

3.16 Groundwater Management

- 3.16.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. 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.

3.17 Civic Waste Facility

- 3.17.1 Within nine months of the date of grant of the licence, the licensee shall establish and maintain the Civic Waste Facility infrastructure referred to in Section 4.10, Vol. II of the EIS.

3.17.2 The licensee shall provide and maintain the receptacles at the Civic Waste Facility as shown in Drawing No. 002045/01/618 unless otherwise agreed with the Agency.

3.18 Monitoring Infrastructure

3.18.1 Landfill Gas

- (i) Within six months of the date of grant of this licence, the licensee shall install monitoring points at locations around the perimeter of the facility for monitoring the potential off-site migration of landfill gas.
- (ii) On completion of the construction the licensee shall install an effective permanent gas monitoring system in the new facility office and any other enclosed structures at the facility.

3.18.2 Groundwater

- (i) Within six months of the date of grant of this licence the licensee shall install one monitoring point in the bedrock downgradient of the facility and two monitoring points in the overburden to the north and east of the facility to allow for the sampling and analyses of groundwater.

3.18.3 Restoration

- (i) The licensee shall, within twelve months of date of grant of this licence, install a secure fixed benchmark at or in the immediate vicinity of the facility. This shall be referenced to Malin Head Ordnance Datum.

3.18.4 Replacement of infrastructure

- (i) Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.

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

CONDITION 4 RESTORATION AND AFTERCARE

- 4.1. The licensee shall restore the facility on a phased basis. The Restoration and Aftercare Plans for the facility shall be submitted for agreement to the Agency within twelve months of the date of grant of the licence.
- 4.2. The restoration of the facility as per Condition 4.1 shall be subject to a maximum elevation of 45 metres above Ordnance Datum (Malin Head).
- 4.3. Within three months of the date of grant of this licence all areas of previously deposited waste shall be covered. All areas of the existing waste body which do not form part of the new lined cells shall be permanently capped within nine months of the date of grant of this licence.
- 4.4. Final Capping
 - 4.4.1. 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 1×10^{-4} m/s;
 - d) compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-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. Soil Storage
- 4.7.1. All soils shall be stored to preserve the soil structure for future use.

REASON: To provide for the restoration of the facility

CONDITION 5 FACILITY OPERATIONS

- 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 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. These procedures shall include methods, such as sludge, eluate and toxicity testing, for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes.
- 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 one month.
- 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 25 meters length 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, or faces, 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 Within three months of the date of grant of this licence, 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 Landscaping

5.6.1 Landscaping of the facility as described in Section 5.1, Vol. II of the EIS shall be carried out within twelve months of the date of grant of this licence subject to the agreement of landowners where necessary.

5.6.2 The existing hedgerow network which forms the boundary of the facility shall be retained by the licensee.

5.7 Operational Controls

5.7.1 The new lined cells at the facility shall be filled in accordance with the sequence outlined in Section 4.3, Vol. II of the EIS.

5.7.2 No future developments shall occur on any undisturbed areas within the facility without prior agreement of the Agency.

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

5.7.4 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 gas collection system only with the prior agreement from the Agency.

5.7.5 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

5.7.6 Filled cells shall be permanently capped within twelve months of the cells having been filled to the required level.

5.7.7 Scavenging shall not be permitted at the facility.

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

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

5.7.10 Fuels shall only be stored at appropriately banded locations on the facility.

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

5.7.12 No smoking shall be allowed on the facility (other than in a designated area to be agreed in advance with the Agency).

5.8 Waste Handling

5.8.1 Sludges

5.8.1.1 Untreated sludges shall only be accepted at the facility following the installation of lined cells and then only until 31st December 2003.

5.8.1.2 From January 1st 2004 only treated sludges shall be accepted at the facility.

5.8.1.3 No treated sludges shall be accepted at the facility from January 1st 2006.

5.8.1.4 Within three months of the date of grant of the licence the licensee shall submit to the Agency for agreement, handling procedures for sludges.

5.9 Off-site Disposal and Recovery

5.9.1 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency;

5.9.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency;

5.9.3 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.

5.10 Civic Waste Facility

5.10.1 The Civic Waste Facility shall only be used by private vehicles. The facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.

5.10.2 All waste deposited in the Civic Waste Facility shall be either:

- a) into a skip;
- b) into the hopper of a compactor for disposal;
- c) into a receptacle for recovery; or
- d) in the case where inspection is required, into a designated inspection area.

5.10.3 The licensee shall assign and clearly label each container at the Civic Waste Facility to indicate their contents.

5.10.4 At the end of the working day the floor of the Civic Waste Facility shall be cleaned and all skips/containers containing wastes shall be emptied or suitably covered.

5.11 Leachate Management

5.11.1 Prior to the installation of a sewer line from the facility, leachate collected at the facility shall be tankered off-site. Once the sewer line has been installed, methane shall be removed from the leachate prior to its discharge to sewer.

5.11.2 Leachate which is collected at the facility shall be tankered/discharged to Ballina Wastewater Treatment Plant.

- 5.11.3 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.
- 5.11.4 The frequency of leachate removal/discharge from the leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.
- 5.11.5 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and , in any case, shall only be undertaken within cells which have been lined to the satisfaction of the Agency.

5.12 Maintenance

- 5.12.1 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.
- 5.12.2 All lagoon structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.
- 5.12.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.12.4 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 or to a skip.

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; and
 - 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 (where relevant):

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

6.3.3. Emission limits for landfill gas emissions to atmosphere in this licence shall be interpreted in the following way:-

6.3.3.1. Continuous monitoring

(i) No 24 hour mean value shall exceed the emission limit value.

(ii) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.

(iii) No 30 minute mean value shall exceed twice the emission limit value.

6.3.3.2 Non-Continuous Monitoring

(i) For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.

(ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.

(iii) For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Emissions to Surface Water

6.4.1. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

6.4.2. The licensee shall agree in advance with the Agency a surface water discharge point following the completion of works as required by Condition 3.15.1(c) above.

6.5. Disposal of Leachate

6.5.1. No leachate shall be discharged to surface water.

6.6. Emissions to Sewer

6.6.1. Unless otherwise agreed in advance with the Agency, the conditions outlined below shall apply for the discharge of leachate, which shall be via the proposed leachate discharge line. There shall be no other discharge or emission to sewer of environmental significance.

6.6.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the fabric of the sewer, or as would interfere with the biological functioning of a downstream wastewater treatment works.

6.6.3. The licensee shall permit authorised persons of the Agency to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.

6.6.4. No discharge or emission to sewer shall take place which might give rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.

- 6.6.5. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including chlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.
- 6.6.6. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.

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.

7.2 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.

7.3 Litter Control

7.3.1 Within 3 months of the date of grant of this licence litter fencing shall be installed and maintained around the perimeter of the active tipping area. The netting shall meet the guidance given in the Agency's Manual on "Landfill Operational Practices" and shall be kept tidy. Litter trapped in the netting shall be removed as soon as practicable and in accordance with Condition 7.3.3 below.

7.3.2 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.

7.3.3 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licences, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day.

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

7.4 Pest Control

7.4.1 Within three months of the date of grant of the licence the licensee shall submit to the Agency for its agreement a programme for the control and eradication of insect and rodent infestations at the facility. The programme should include as a minimum the following:

- (a) Details on the insecticide(s) and redenticide(s) to be used

- (b) Operator training; and
- (c) Mode and frequency of application and measures to contain sprays at the facility boundary

7.5 Dust Control

- 7.5.1 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.

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

7.7 Bird Control

- 7.7.1 Birds shall be prevented from gathering on and feeding at the landfill 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 landfill within three months of the date of grant of the licence 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.
- 7.7.2 The licensee shall ensure that bird control measures at the landfill area do not have an adverse impact on non-scavenging bird populations located in the reed/marshy area within the facility.

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 and as specified in this licence. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of 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.
- 8.5. Landfill Gas
 - 8.5.1. Within six months of the date of grant of this licence the licensee shall commence a programme of monitoring for migration of landfill gas from the facility.
 - 8.5.2. All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.

8.6. Leachate Monitoring

8.6.1. Leachate levels within the new lined cells shall be monitored at two locations per cell.

8.7. Surface Water Monitoring

8.7.1. Prior to the commencement of the surface water monitoring programme the licensee shall provide an additional surface water monitoring point immediately downstream of the facility.

8.7.2. Within three months of the date of grant of this licence, the licensee shall initiate a monitoring programme for the surface water discharged from the facility. The programme shall, at minimum, fulfil the requirements of Schedule D.5.1: Surface Water Monitoring.

8.8. Meteorological Monitoring

8.8.1. The licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements of Schedule D.6: Meteorological Monitoring.

8.9. Topographical Survey

8.9.1. Within 3 months of the date of grant of this licence and on an annual basis thereafter the licensee shall complete a topographical survey. Following the completion of this survey the licensee shall submit any revised plans for the size and scale of future cells planned for the facility. The survey shall include a measurement of the remaining available void space and shall be in accordance with any written instructions issued by the Agency.

8.10. Nuisance Monitoring

8.10.1. 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.

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

CONDITION 9 CONTINGENCY ARRANGEMENTS

9.1. 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;
 - f) provide a proposal to the Agency for its agreement within one month of the incident occurring to:
 - i) identify and put in place measures to avoid reoccurrence of the incident; and
 - ii) identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall within nine months of the date of grant of this licence, submit a written Emergency Response Procedure (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. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.
- 9.3. 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.
- 9.4. Emergencies
- 9.4.1. 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;
 - 9.4.2. 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;
 - 9.4.3. 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;
 - 9.4.4. 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 10 RECORDS

- 10.1 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;
 - d) all written procedures produced by the licensee which relate to the licensed activities.
- 10.2 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.

10.3 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.

10.4 A written record shall be kept of the volume of leachate discharged/removed from the facility on a daily basis.

10.5 The licensee shall maintain a record of all CCTV footage at the facility for one month after it has been recorded.

10.6 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.

10.7 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.
- 10.8 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 11 REPORTS AND NOTIFICATIONS

- 11.1 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
 - (b) comprise one original and three 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;
 - (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.
- 11.2 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 10.00 am the following working day after the occurrence of any incident;
 - b) submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and

- c) in the event of any incident which relates to discharges to surface water, notify North Western Regional Fisheries Board as soon as practicable and in any case not later than 10:00am on the following working day after such an incident.
- 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.

11.3 Waste Recovery Reports

Within twelve 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) proposals regarding the utilisation of energy from the gas utilisation plant;
- h) the feasibility of using landfill gas as a fuel for on-site vehicles;

11.4 Reports relating to Facility Operations

11.4.1 Leachate Handling/Extraction

11.4.1.1 The licensee shall submit to the Agency for its agreement prior to the use of the leachate storage lagoon Leachate Handling Procedures for the handling of leachate on the facility and during removal from the lagoon and subsequent discharge to the Waste Water Treatment Plant.

11.4.1.2 Within six months of the date of grant of this licence, the licensee shall submit plans to the Agency for the active extraction of leachate from the existing waste body, during and after the construction of the new lined cells.

11.4.2 Landfill Gas Utilisation

11.4.2.1 Within 24 months of the date of grant of this licence, the licensee shall submit an assessment of whether the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with the Agency.

11.4.3 Achievement of Final Profile for the existing waste body

11.4.3.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, proposals for landfilling at the

existing waste body and restoration to achieve the levels required to construct the new lined cells.

11.4.4 Operation in Adverse Wind Conditions

11.4.4.1 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.

11.5 Archaeological Assessment

11.5.1 Within six months of the date of grant of this licence the licensee shall submit a plan to the Agency for the preservation and protection of Crannóg sites located within the facility boundary. The advice of Dúchas shall be sought during the development of any such plans.

11.6 Monitoring Locations

11.6.1 Within three months of the date of grant of this licence, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring point.

11.7 Annual Environmental Report

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

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

REASON: To provide for proper report to and notification of the Agency.

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of £10,857 (€13,785) 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 2002 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2001, the licensee shall pay a pro rata amount from the date of this licence to 31st December. This amount shall be paid to the Agency within one month of the date of grant of this licence.

12.1.2 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.

12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 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.

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

12.2.3 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.

12.2.4 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.

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)
Household	25,600
Commercial	11,000
Sewage Sludge ^{Note 1}	400
Construction and Demolition	950
Non-Hazardous Industrial waste	6,050
Public cleansing & parks	1,000
TOTAL	45,000

Note 1: Only to be accepted in lined cells

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and construction of new lined cells.
Final capping.
Installation of Wheelwash
Installation of Landfill Gas Management Infrastructure
Installation of Leachate Management Infrastructure
Installation of Groundwater Control Infrastructure
Installation of Surface Water Management Infrastructure
Any other works notified in writing by the Agency.

SCHEDULE C :Emission Limits

C.1 Noise Emissions: (Measured at the monitoring points indicated in *Table D.1.1*).

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 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 ² /day) ^{Note 1}
350

Note 1: 30 day composite sample with the results expressed as mg/m² /day.

C.4 Emission Limits Values for Landfill Gas Flare

Emission Point reference nos: (to be agreed with the Agency)

Location: Landfill flarestack(s)

Volume to be emitted: To be agreed with the Agency

Minimum discharge height: To be agreed with the Agency

Parameter	Emission Limit Value
Nitrogen oxides as (NO ₂)	150 mg/m ³
CO	50 mg/m ³
Particulates	130 mg/m ³
TA Luft Organics Class I ^(Note 1)	20 mg/m ³ (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II ^(Note 1)	100 mg/m ³ (at mass flows > 2 kg/hr)
TA Luft Organics Class III ^(Note 1)	150 mg/m ³ (at mass flows > 3kg/hr)
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)

Note 1: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

SCHEDULE D :Monitoring

Monitoring to be carried out as specified below.

D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1

Table D.1.1 Monitoring Locations

LANDFILL GAS ^{Note 1}	DUST ^{Note 2}	NOISE ^{Note 3}	SURFACE WATER ^{Note 4}	GROUND WATER ^{Note 5}	LEACHATE ^{Note 6}
STATIONS	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
G1	D1	N1	SW1	MW1	L1
G2	D2	N4	SW2	MW2	L2
G3	D3	N6	SW3	MW3	
G4	D4	N7	SW4	MW4	
G5			SW5		
G6					
G7					
G8					

Note 1 – G1 to G8 as shown in figure 3.9 of the waste licence application, additional monitoring points to be agreed as per Condition 3.18.1

Note 2 – As per Figure 3.8, Vol. II of the E.I.S.

Note 3 – As per Figure 3.3, Vol. II of the E.I.S.

Note 4 – SW1 to SW3 as per Figure 3.16, Vol. II of the E.I.S, SW4 and SW5 to be agreed.

Note 5 – As per Figure 3.9, Vol. II of the E.I.S, additional monitoring points to be agreed as per Condition 3.18.2

Note 6 – To be agreed with the Agency.

D.2 Landfill Gas

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

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

Note1: All monitoring equipment used should be intrinsically safe.

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

D.3 Dust

Table D.3.1 Dust Monitoring Frequency and Technique

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year ^{Note 2}	Standard Method ^{Note 1}

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

Note 2: Twice during the period May to September.

D.4 Noise

Table D.4.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Annual	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Annual	Standard ^{Note 1}
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard ^{Note 1}

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

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters /Frequency

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly ^{Note 6}	Quarterly	Quarterly
BOD	Quarterly ^{Note 6}	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly ^{Note 6}	Quarterly	Quarterly
PH	Quarterly ^{Note 6}	Quarterly	Quarterly
Total Suspended Solids	Quarterly ^{Note 6}	Not Applicable	Not Applicable
Temperature	Quarterly ^{Note 6}	Monthly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances ^{Note 3}	Note 8	Annually	Note 8
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Annually ^{Note 5}
Total Phosphorus / orthophosphate	Annually ^{Note 6}	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Phenols	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms ^{Note 4}	Not Applicable	Quarterly	Annually
Total Coliforms ^{Note 4}	Not Applicable	Quarterly	Annually
Biological Assessment	Annually ^{Note 7}	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: 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).

- Note 4:** In the case where groundwater is extracted for drinking water, 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.
- Note 5:** Only to be analysed in instances of on-site treatment of leachate.
- Note 6:** Discharge of diverted surface water/groundwater shall be monitored on a monthly basis for these parameters unless flow in that month does not allow such monitoring.
- Note 7:** Within six months of the date of grant of the licence and annually thereafter. Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams).
- Note 8:** Once off for List I/II organic substances.

D.6 Meteorological Monitoring

Data to be obtained at a location to be agreed with the Agency.

Table D.6.1 Meteorological Monitoring:

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction ^{Note 1}	Daily	Standard
Evaporation	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure	Daily	Standard

D.7 Landfill Gas Flare

Monitoring to be obtained at locations to be agreed with the Agency prior to the installation of the landfill gas flare.

Table D.7.1 Landfill Gas Flare – Parameters/Frequency

Parameter	Monitoring Frequency	Analysis Method ^{Note1} /Technique ^{Note2}
Inlet		
Methane (CH ₄) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO ₂)% v/v	Weekly	Infrared analyser
Oxygen (O ₂) % v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO ₂	Biannually	Flue gas analyser
NO _x	Biannually	Flue gas analyser
CO	Continuous	Flue gas analyser
Particulates	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Annually	Adsorption/Desorption / GC /GCMS ^(Note 3)
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography
Hydrocarbons	Annually	Impinger / Ion Chromatography

Note1: All monitoring equipment used should be intrinsically safe.

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

Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum.

D.8 Monitoring of Emissions to Sewer

Emission Point Reference No.: To be agreed with the Agency

Location: To be agreed with the Agency

Table D.8.1 Sewer Monitoring - Parameters /Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Flow	Daily	Flow meter / recorder
Biochemical Oxygen Demand	Monthly	Standard Method ^{Note 2}
Chemical Oxygen Demand	Monthly	Standard Method ^{Note 2}
Ammoniacal nitrogen	Monthly	Standard Method ^{Note 2}
Suspended Solids	Monthly	Gravimetric
Sulphates	Monthly	Standard Method ^{Note 2}
pH	Weekly	pH meter/recorder
Temperature	Weekly	
Methane	Weekly	Headspace methane monitor ^{Note 3}

Note 1: Or an equivalent method acceptable to the Agency.

Note 2: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA".

Note 3: Exact details of monitor to be agreed with the Agency.

SCHEDULE E :Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note1}	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	Three times a year	Ten days after the period being reported on
Noise Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring	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 ^{NOTE 1}

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.

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.

Any other items specified by the Agency.

Signed on behalf of the said Agency
on the 16th day of May 2001

A. Bolger **Authorised Person**