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Ireland

WASTE LICENCE
LANDFILL FOR NON-HAZARDOUS WASTE
Recommended Decision

Waste Licence Register Number: W0024-03

Licensee: Donegal County Council

Location of Facility: Ballynacarrick, Ballintra,
County Donegal.

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 purposes of permitting Donegal County Council operate an engineered landfill facility, a public recycling facility, and a small composting unit.

A review of the licence is sought at Ballynacarrick Landfill, Co. Donegal to increase the rate of waste intake from 24,000 tpa to 35,000 tpa, and to implement a modest adjustment of the final contours of the site which add an additional waste capacity of 70,000 m³. The net effect of these changes is that the closure date for the landfill is to be brought forward from 2013 to 2010.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results and a wide range of reports on the operation and management of the facility to the Agency. There are no proposed substantive changes to existing infrastructure provision as a consequence of this review.

The licence does not authorise the extension of the landfill into any additional unlined areas. The entire facility occupies an area of 9 ha which is unchanged as a consequence of this review application. The facility is operated by a contractor on behalf of Donegal County Council.

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

This principal activity subject of this licence falls within the scope of Category 5.4 of Annex I of the IPPC Directive (96/61/EC).

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 to 2007 / Waste Management Acts 1996 to 2008, unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence review application (W0024-03).
Application	The application by the licensee for this licence (W0024-03).
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques as defined in Section 5(2) of the Waste management Acts 1996 - 2008.
BES	Bentonite Enhanced Soils
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
Biodegradable Waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials, or synthetic materials; or other cover material the use of which has been agreed by the Agency.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
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 non-degradable cover is used it is recommended that it be removed at the start of the day and subsequently reused as much as possible.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
DB(A)	Decibels (A weighted).

DO	Dissolved Oxygen.
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.
EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in <i>Schedule B: Emission Limits</i> , of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
Hours of Operation	The hours during which the facility (or elements thereof) is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none">(i) an emergency (e.g. significant spillage, fire, slope failure, etc.);(ii) any emission which does not comply with the requirements of this licence;(iii) any exceedence of the daily duty capacity of the waste handling equipment;(iv) any trigger level specified in this licence which is attained or exceeded;(v) any indication that environmental pollution has, or may have, taken place; and,(vi) cessation of flare operation.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2008.
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.

Initial Development Works	Means such works, actions or constructions as may be specified, which for the purposes of environmental protection and safe construction and operation of the facility, have to be carried out in the initial stages of site development, and in any case in advance of the commencement of construction of the landfill cells.
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.
IPPC	Integrated Pollution Prevention & Control.
Landfill Directive	Council Directive 1999/31/EC.
Landfill Footprint	The area of the facility where waste is placed for burial.
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.
Leq	Equivalent continuous sound level.
Licensee	Donegal County Council, County House, Lifford, Co Donegal.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I / List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Donegal County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.
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	2200 hrs to 0800 hrs.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which for its proper enjoyment requires the absence of noise at nuisance levels.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance.
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	North Western Regional Fisheries Board.

Residual Waste	Is, in the context of landfill, waste that has been subjected to appropriate pre-treatment (including, <i>inter alia</i> , pre-segregation of recyclables, treatment of the biodegradable fraction, MBT, energy recovery, etc.,) to extract, to the maximum practical and available extent having regard to BAT, the recyclable/reusable components and energy benefit, in order to contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive.
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SCADA system	Supervisory Control and Data Acquisition system.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with greater than 2% dry matter.
SOP	Standard Operating Procedure.
Specified Emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule D: Specified Engineering Works</i> , of this licence.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the Water Pollution Acts 1977 and 1990.
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.
Treatment	Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Water Services Authority	Donegal County Council.
WEEE	Waste Electrical and Electronic Equipment.
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
Working Face	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.
WWTP	Waste Water Treatment Plant.

Decision & Reasons For The Decision

On the basis of the information before it, the Environmental Protection Agency (the Agency) is satisfied, for the reasons set out in the following Schedule of Activities Licensed, that the requirements of Section 40(4) of the Waste Management Acts 1996 to 2008 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

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

Part I: Schedule of Activities Licensed

On the basis of the information before it, the Agency, pursuant to its powers under Section 46(2) of the Waste Management Acts 1996 to 2008, hereby grants this Waste Licence to Donegal County Council to carry on the waste activities, that are the subject of Waste Licence Application Register Number W0024-03 listed below at Ballynacarrick Landfill, Ballynacarrick, Ballintra, Co. Donegal subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

For the purposes of Article 48(1) of the Waste Management (Licensing) Regulations, 2004 (SI No. 395 of 2004), this facility is classed as a landfill for non-hazardous waste.

*Licensed Waste Disposal Activities, in accordance with the
Third Schedule of the Waste Management Acts 1996 to 2008*

Class 5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. [Principal Activity]
Class 6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule.
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.

*Licensed Waste Recovery Activities, in accordance with the
Fourth Schedule of the Waste Management Acts 1996 to 2008*

Class 2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
Class 3	Recycling or reclamation of metals and metal compounds.
Class 4	Recycling or reclamation of other inorganic materials.
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.

Part II: Schedule of Activities Refused

None of the classes of activity applied for in the review application have been refused.

Part III Conditions

Condition 1. Scope

- 1.1 Waste activities at this facility shall be restricted to those listed and described in *Part I Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.6 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations*, of this licence.
- 1.3 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.
- 1.4 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in red on **Drawing No. IBL0266/101 'Site Plan'** of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.
- 1.5 Waste Acceptance Hours and Hours of Operation, unless otherwise agreed in writing with the Agency.
- 1.5.1 Landfill
- (i) **Waste shall be accepted at the facility for disposal at the landfill only between the hours of 0830 and 1700 Monday to Friday inclusive and 0900 to 1300 on Saturday;**
 - (ii) **Landfill operations shall be carried out only between the hours of 0800 and 1800 Monday to Friday inclusive, 0800 to 1400 on Saturdays.**
- 1.5.2 Civic Waste Facility (CWF)
- (i) **Waste may be accepted at the Civic Waste Facility only between the hours of 0830 to 1700 Monday to Sunday inclusive;**
 - (ii) **CWF operations shall be carried out only between the hours of 0800 to 1800 daily.**
- 1.6 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in:
- (i) a material change or increase in:
 - The nature or quantity of any emission,
 - The abatement/treatment or recovery systems,
 - The range of processes to be carried out,
 - The fuels, raw materials, intermediates, products or wastes generated, or
 - (ii) any changes in:
 - Site management infrastructure or control with adverse environmental significance,
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.7 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2008 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.8 This licence (Register No: W0024-03) is being granted in substitution for the waste licence granted to the licensee on 10th December 2004 and bearing Waste Licence Register No: W0024-02. The previous waste licence (Register No: W0024-02) is superseded by this licence.

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

Condition 2. Management of the Facility

2.1 Facility Management

2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.

2.1.2 The Civic Waste Facility shall be supervised by a competent person at all times while waste is being accepted.

2.1.3 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence. In addition, the facility manager and his/her deputy shall have successfully completed the FAS waste management training programme or equivalent agreed by the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee **operate and maintain** an Environmental Management System (EMS) at the activity. The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include as a minimum the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall operate and maintain a Schedule of Environmental Objectives and Targets. The schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction/diversion targets (as per Condition 8.1). The schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall maintain an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. It shall include:

- (i) designation of responsibility for targets;
- (ii) the means by which they may be achieved;
- (iii) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER) (Condition 11.11).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period

of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

- (i) The licensee shall **operate and maintain** an environmental management documentation system which shall be to the satisfaction of the Agency;
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall **operate and maintain** procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall **operate and maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall **operate and maintain** a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

2.2.2.8 Maintenance Programme

The licensee shall **operate and maintain** a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall **operate and maintain** a programme to ensure there is adequate control of waste processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

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. Infrastructure and Operation

- 3.1 The licensee shall establish all infrastructure referred to in this licence, to the design set out in the Application documentation or as may be otherwise specified or varied by the conditions of this licence. Infrastructure specified in the application which relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.
- 3.2 Wastes shall not be deposited in any cell or part of the facility without the prior agreement of the Agency.
- 3.3 **Phased Construction Plan.**
- Three months in advance of the commencement of any site development, the licensee shall submit to the Agency for its agreement a construction schedule, sequence and timescale (Construction Plan) incorporating the requirements of this licence and to give effect to the commitments in the application documentation. This Plan shall have regard to the following development phases: (i) Initial Development Works (ii) Main infrastructure development works (pre acceptance of waste for disposal), and (iii) Future/planned works (in parallel with waste disposal, e.g. future cell development/phasing). The Construction Plan for cell development shall have regard to the sequencing necessary to provide short, medium and long term screening of the operational areas.
- 3.4 **Surface Water Protection**
- 3.4.1 The licensee shall carry out development and construction works having regard to the Eastern Regional Fisheries Board guidance document 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites'.
- 3.4.2 All in-stream and riparian works at the site shall be as approved by the North Western Regional Fisheries Board (NWRFB) prior to implementation. The NWRFB must be informed at least 3 weeks prior to the commencement of any works.
- 3.4.3 A leave-strip of at least 10 metres shall be maintained along remaining local watercourses (except in the case of the section of watercourse that is to be removed).
- 3.5 **Specified Engineering Works**
- 3.5.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months in advance of the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.5.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.5.3 Following the completion of any specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:-
- (i) a description of the works;
 - (ii) as-built drawings of the works;
 - (iii) records and results of all tests carried out (including failures);

- (iv) drawings and sections showing the location of all samples and tests carried out;
- (v) name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
- (vi) records of any problems and the remedial works carried out to resolve those problems; and
- (vii) any other information requested in writing by the Agency.

3.6 Landfill Lining

3.6.1 Unless otherwise agreed in writing, the landfill lining system shall comprise:-

- (i) A 300mm thick groundwater drainage layer placed at the base of the composite liner, with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating groundwater collection drains;
- (ii) a composite liner consisting of a 0.5m layer of BES with a hydraulic conductivity of less than or equal to 1×10^{-10} m³/m²/s (or equivalent approved), overlain by a 2mm thick high density polyethylene (HDPE) layer;
- (iii) a geotextile protection layer placed over the HDPE layer (the choice of geotextile is to be proven by cylinder testing – submitted as part of the Specified Engineering Works identified in Condition 3.6);
- (iv) a 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m³/m²/s, of pre-washed, uncrushed, granular, rounded stone (16-32mm grain size) incorporating leachate collection drains;
- (v) the lining system on the base of the facility shall be laid to a minimum slope of 1:50, and
- (vi) the side walls shall be designed and constructed to achieve an equivalent protection.

3.7 The liner detailed design and its construction shall have regard to the guidelines provided in the Agency's *Landfill Manual – Landfill Site Design*.

3.8 Facility Security

3.8.1 Security and stockproof fencing and gates shall be installed and maintained. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

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

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

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

3.9 Facility Roads and Hardstanding

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

- 3.9.2 The facility entrance, hardstanding areas, and Civic Waste Facility shall be appropriately paved and maintained in a fit and clean condition.
- 3.10 Facility Office
- 3.10.1 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.
- 3.10.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.11 Construction and Demolition Waste Recovery/Storage Area
- Any construction and demolition waste recovery and storage infrastructure provision shall at a minimum comprise the following:-
- (i) an impermeable concrete slab; and
 - (ii) collection and disposal/abatement infrastructure for all run-off.
- 3.12 Waste Inspection and Quarantine Areas
- 3.12.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.12.2 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.
- 3.12.3 Drainage from these areas shall be directed to the leachate management system.
- 3.13 Weighbridge and Wheel Cleaner
- 3.13.1 The licensee shall operate and maintain a weighbridge and wheel cleaner at the facility.
- 3.13.2 The wheel cleaners shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.
- 3.14 Leachate Management Infrastructure
- 3.14.1 Leachate management infrastructure shall be provided and maintained at the facility as described in the application documentation **for this and previous licences as relevant**, or as may be varied by a licence condition.
- 3.14.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.
- 3.15 Landfill Gas Management
- 3.15.1 Landfill Gas management infrastructure shall be provided and maintained at the facility as described in the application documentation **for this and previous licences as relevant**, or as may be varied by a licence condition.

- 3.15.2 The licensee shall **operate** and maintain a permanent landfill gas flare at the facility. The flare shall be of an enclosed type design unless otherwise agreed by the Agency.
- 3.15.3 Gas Flare unit efficiency shall be tested once every three years.**
- 3.15.4 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.
- 3.16 Surface Water Management
- 3.16.1 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 pollution by stormwater and leachate discharges into surface water drains and courses; and
 - b) The collection/diversion to safe discharge, of run off arising from capped and restored areas.
- 3.16.2 The surface water management infrastructure at the landfill extension including diversion of stream and installation of the perimeter cut-off drain shall be operated and maintained at the facility.
- 3.16.3 The groundwater underdrainage layer at the base of the composite liner shall discharge to the surface water cut-off drain on the west side of the landfill.**
- 3.17 Groundwater
- 3.17.1 All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines 'Decommissioning Redundant Boreholes and Wells' (or as otherwise may be agreed by the Agency).
- 3.17.2 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".
- 3.18 Facility Notice Board
- 3.18.1 The licensee shall 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 1200mm by 750mm.
- 3.18.2 The board shall clearly show:-
- (i) the name and telephone number of the facility;
 - (ii) the normal hours of opening and operation;
 - (iii) the name of the licence holder;
 - (iv) an emergency out of hours contact telephone number;
 - (v) the licence reference number; and
 - (vi) where environmental information relating to the facility can be obtained.
- 3.18.3 A plan of the facility clearly identifying the location of each storage and treatment area shall be displayed as close as is possible to the entrance to the facility. The plan shall be displayed on a durable material such that it is legible at all times. The plan shall be replaced as material changes to the facility are made.

- 3.19 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 3.20 In the case of composite sampling of aqueous emissions from the operation of the facility, a separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be refrigerated immediately after collection and retained as required for EPA use.
- 3.21 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points as required by the Agency.
- 3.22 Tank, Container and Drum Storage Areas
- 3.22.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds should be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).
- 3.22.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance which could be stored within the bunded area.
- 3.22.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.
- 3.22.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.22.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.
- 3.23 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.
- 3.24 Silt Traps and Oil Separators
- The licensee shall install and maintain silt traps and oil separators at the facility to ensure that all storm water discharges from the facility pass through a silt trap, and oil separator (**yard areas only**), in advance of discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 858-2:2003 (separator systems for light liquids).
- 3.25 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate).
- 3.26 The provision of a catchment system to collect any leaks from flanges and valves of all over ground pipes used to transport **non-gaseous** material other than water shall be examined. This shall be incorporated into a schedule of objectives and targets set out in Condition 2.2.2.2 of this licence for the reduction in fugitive emissions.
- 3.27 All wellheads shall be adequately protected to prevent contamination or physical damage.

- 3.28 The licensee shall maintain in a prominent location on the site, a wind sock or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.29 The licensee shall provide and maintain a Wastewater Treatment plant at the facility/installation for the treatment of sanitary effluent, as well as drainage from the truck wash, ramp and weighbridge areas. Any percolation area shall satisfy the criteria set out in the *Wastewater Treatment Manual, Treatment Systems for Single Houses*, published by the Environmental Protection Agency.
- 3.30 Civic Waste Facility
The licensee shall operate and maintain the Civic Amenity Facility infrastructure referred to in Attachment D1 and Drawing No. 5234.08/218, and labelled 'proposed recycling area', as included in Waste Licence Application documentation for W0024-02.
- 3.31 The licensee shall establish all infrastructure referred to in this licence as required by the conditions of this licence.
- 3.32 Composting Unit
- 3.32.1 Any proposal to install a Composting Unit shall be subject to the provisions of Condition 3.5**
- 3.32.2 Composting operations may not commence without pre-notification to, and the written approval of, the Agency.**
- 3.32.3 All trade effluent, leachate and/or storm water from composting operations shall drain to the leachate collection/treatment system.**

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

Condition 4. Interpretation

- 4.1 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 :-
- 4.1.1 In the case of landfill gas flare:
temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
- 4.1.2 In the case of landfill gas combustion plant:
temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 4.2 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.2.1 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.
- 4.2.2 For Non-Continuous Monitoring

- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
 - (ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value;
 - (iii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- 4.3 Emission limit values for emissions to sewer/waters in this licence shall be interpreted in the following way:-
- 4.3.1 Continuous monitoring
- (i) No flow value shall exceed the specified limit;
 - (ii) No pH value shall deviate from the specified range;
 - (iii) No temperature value shall exceed the specified limit value;
 - (iv) No other continuously monitored parameter shall exceed the specified limit value.
- 4.3.2 Composite Sampling
- (i) No pH value shall deviate from the specified range;
 - (ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.
- 4.3.3 Discrete Sampling
- For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.
- 4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.
- 4.5 Noise
- Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at noise sensitive locations of the facility which exceed the limit values.
- 4.6 Dust
- Dust from the activity shall not give rise to deposition levels which exceed the specified limit value.

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule B: Emission Limits* of this licence.
- 5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.

- 5.3 No raw or treated leachate from the lined area of the facility, or contaminated surface water shall be discharged to the stream to west of the landfill.
- 5.4 No substance shall be discharged in a manner, or at a concentration that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 The licensee shall ensure that all or any of the following:-
- vermin
 - birds
 - flies
 - mud
 - dust
 - litter,

associated with the activity do not result in an impairment of, or an interference with amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

- 5.5 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.

Reason: To provide for the protection of the environment by way of control and limitation of emissions

Condition 6. Control and Monitoring

6.1 Telemetry

6.1.1 The licensee shall operate and maintain a telemetry system (or equivalent approved) at the facility. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.

6.1.2 This system shall include for:-

- (i) recording of leachate levels in the lined cells and lagoon;
- (ii) recording of levels in the surface water lagoon and flows to the perimeter stream(s);
- (iii) quality of the surface water at the inlet to the surface water management system and being discharged to the perimeter streams; and
- (iv) permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility;
- (v) flare operation.

6.2 Leachate Management

6.2.1 Leachate levels in the waste shall not exceed a level of 1.0 metre over the top of the liner at the base of the landfill.

- 6.2.2 The level of leachate in the pump sumps shall be monitored as outlined in *Schedule C: Control & Monitoring*, of this licence.
- 6.2.3 Unless otherwise agreed in writing, leachate treatment control shall be as specified in *Schedule C.1.5 Control of Leachate Treatment*.
- 6.2.4 The frequency of leachate removal from the leachate holding tank shall be such that a minimum freeboard of **0.75m** shall be maintained in the tank at all times. The required freeboard shall be clearly indicated in the tank.
- 6.2.5 Unless discharged to sewer for further off-site treatment, primary leachate stored in the leachate holding tank shall be disposed of by tankering off-site in fully enclosed road tankers to an appropriate treatment plant.
- 6.2.6 Recirculation of leachate or other contaminated water shall only be undertaken within cells which have been lined to the satisfaction of the Agency.
- 6.3 The licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements specified in *Schedule C.5 Meteorological Monitoring*, of this licence. Records shall be maintained on site and shall be available for inspection by Agency personnel at all reasonable times.
- 6.4 Landfill Gas
- 6.4.1 The licensee shall operate and maintain an effective permanent landfill gas monitoring system.
- 6.4.2 At least two rounds of landfill gas sampling (one during falling atmospheric pressure) in locations external to the disposal cells should be completed in advance of commencement of filling of any new area.
- 6.4.3 Flares shall be operated to ensure a burn chamber residence time of minimum 0.3 sec and burn temperature of minimum 1000°C.
- 6.4.4 In order to minimise release of untreated landfill gas, the landfill gas flare shall be capable of operating with a gas support fuel (e.g. natural gas) to allow effective treatment of landfill gas in the event that the landfill gas itself cannot support combustion. Alternative appropriate techniques may be employed with the written prior approval of the Agency.
- 6.4.5 In relation to landfill derived gases the following shall constitute a trigger level:
- (i) methane greater than 1% v/v; or,
 - (ii) carbon Dioxide greater than 1.5% v/v,
- measured in any monitoring borehole, service duct, manhole or other point as may be specified, located external to the body of waste.
- 6.5 Litter Control
- 6.5.1 A Standard Operating Procedure for litter management shall be developed and operated at the facility. This should include a form for recording details of litter patrols. These records should be maintained on site and be available for inspection by the Agency at all reasonable times.
- 6.5.2 Litter fencing should be maintained around the perimeter of the active tipping area.
- 6.5.3 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:-

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

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

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

6.6 Odour Control

6.6.1 Unless otherwise agreed in writing, leachate holding tanks/lagoons/sumps shall be effectively sealed, and headspace gases from the treatment/holding tanks shall be vented to an appropriate odour abatement system prior to release to atmosphere.

6.6.2 All odorous or odour forming wastes shall be covered as soon as practicable and in any case at the end of the working day.

6.6.3 Where it is proposed to take biological sludges at the facility, these must be subject to pre-treatment (e.g. lime stabilisation) in advance of acceptance at the facility.

6.6.4 When siting and operating landfill gas infrastructure regard shall be had to the potential for, and mitigation of, odour nuisance. This matter is to be addressed in the relevant Specified Engineering Works proposals as required by Condition 3.5.

6.6.5 The licensee shall operate and maintain a comprehensive odour management procedure for minimisation of odour generation at the site, including procedures for:

- (i) acceptance and management of odorous waste deliveries;
- (ii) acceptance and management of pretreated biological sludges;
- (iii) minimisation of odour from the leachate collection and treatment system, including during maintenance work;
- (iv) investigation of odour complaints;
- (v) day-to-day operational practices to minimise odorous emissions;
- (vi) operator training in relation to odour management;
- (vii) minimisation of odour from the gas collection and flaring/utilisation system, including measures to be taken and potential impacts in the event of equipment failure;
- (viii) minimisation of odour due to excavation of waste.

A copy of this procedure is to be available on site for inspection.

6.7 Dust Control In dry weather,

- (i) site roads and any other areas used by vehicles; and
- (ii) soil stockpiles,

shall be sprayed with water as and when required to minimise or prevent airborne dust nuisance.

- 6.8 In advance of exiting the facility, all waste and construction vehicles shall use the wheelwash.
- 6.9 **Bird Control**
Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place 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.
- 6.10 **Operational Controls**
- 6.10.1 Only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials.
- 6.10.2 The working face of the landfill shall be no more than 2.5 meters in height after compaction, no more than 25 meters wide, with a total maximum area of 625m³ and have a slope of no greater than 1 in 3.
- 6.10.3 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 in advance of the end of the working day.
- 6.10.4 The working face, or faces, shall each day at the end of the day, be covered with suitable material.
- 6.10.5 Operational procedures shall be developed to minimise the potential for development of low permeability horizons within the waste body due to the use of low permeability daily and intermediate cover.
- 6.10.6 No waste placed in the landfill shall, unless uncovered via specific engineering works or at the working face, be exposed.
- 6.10.7 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 6.10.8 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 necessary infrastructure or otherwise only with the prior agreement from the Agency.
- 6.10.9 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.
- 6.10.10 Scavenging shall not be permitted at the facility.
- 6.10.11 Unless otherwise agreed by the Agency, all sludges shall be covered immediately with other waste.
- 6.10.12 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 6.10.13 No smoking shall be allowed at the facility.
- 6.11 **Stability Assessment**
The licensee shall carry out a stability assessment of the side slopes of the facility annually. The results of this assessment shall be reported as part of the AER.

- 6.12 Groundwater
- 6.12.1 The licensee shall operate and maintain groundwater monitoring points specified *Schedule C: Control & Monitoring* the licence application or as otherwise may be specified by the Agency.
- 6.12.2 The licensee shall establish groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC, these to be reported annually as part of the AER.
- 6.12.3 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.
- 6.12.4 The trigger levels as specified in Condition 6.12.2 for groundwater shall be measured at all external (to fill) groundwater monitoring boreholes and other locations as may be required by the Agency.
- 6.12.5 The licensee shall within 9 months of date of grant of this licence install 5 additional groundwater monitoring locations external to the placed waste. Three of these monitoring points are to be located along the northern flank of the facility between GW5 and GW1; the fourth and fifth wells are to be located east of GW 2. The licensee shall have regard to the Agency guidance in relation to the construction of these wells. These wells are to be included in the groundwater monitoring programme detailed in *Schedule C: Control & Monitoring*.
- 6.13 Historical fill and hydrological/hydrogeological assessment
- 6.13.1 The licensee shall within 18 months of date of grant of this licence submit to the Agency a comprehensive hydrogeological assessment of the groundwater regime (including surface water interactions) under and adjacent to the landfill facility. To include, *inter alia*, a conceptual model, a flow net, recharge areas and rates, discharge areas, drift-rock groundwater relationship, aquifer classification, vulnerability assessment, water quality, contour plots (V & H) for any contaminant plumes.
- 6.13.2 This study shall in particular document and evaluate the:-
- (i) Source, nature, modes, extent and impact of any groundwater/surface water contamination (to include *inter alia* a source-pathway-receptor analysis);
 - (ii) Remedial strategies and implementation timeframes necessary to address groundwater/surface water contamination;
 - (iii) Compliance of the facility against the requirements of the EU Groundwater Directive (80/68/EEC).
- 6.14 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control and Monitoring* of this licence:
- 6.14.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.
- 6.14.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.
- 6.14.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.14.4 Where analysis is sub-contracted it shall be to a competent laboratory.
- 6.15 Sampling and analysis of all pollutants as well as reference measurement methods to calibrate automated measurement systems shall be carried out in accordance with CEN-

standards. If CEN standards are not available, ISO, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply.

- 6.16 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.
- 6.17 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.
- 6.18 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.19 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.20 The licensee shall operate a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.
- 6.21 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use. This testing shall be carried out by the licensee at least once every three years thereafter (excluding lined active or closed landfill cells) and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 6.22 The drainage system (i.e., gullies, manholes, any visible drainage conduits and such other aspects as may be agreed) and bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.
- 6.23 An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water and gas shall be carried out weekly.
- 6.24 Storm water
- 6.24.1 A visual examination of the storm water discharge shall be carried out daily. A log of such inspections shall be maintained .
- 6.24.2 In the event of the breach of a trigger level for storm water emissions the storm water discharge shall be diverted to the leachate collection system .
- 6.24.3 Procedures shall be put in place to ensure that maintenance of the storm water attenuation system shall not result in the release of any significant levels of contaminants to the receiving waters .
- 6.25 Noise
- The licensee shall carry out a noise survey of the site operations as specified in *Schedule C.4 Noise Monitoring*. The survey programme shall be undertaken in accordance with the methodology specified in the '*Environmental Noise Survey Guidance Document*' as published by the Agency.
- 6.26 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substances and/or waste to be included in the PRTR shall be agreed by the Agency each year by reference to EC Regulation No.166/2006 concerning the establishment of the European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.27 The licensee shall operate a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

6.28 Topographical Survey

Unless otherwise agreed by the Agency, a topographical survey shall be carried out annually until the facility is capped, and reported as part of the AER. 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.

6.29 Compost Processes & Quality

6.29.1 In the event of development of the composting unit the licensee shall prior to operation of the composting plant submit to the Agency for agreement a specification for the control and monitoring of the composting processes.

6.29.2 Compost quality monitoring shall be undertaken as set out in *Schedule F: Standards for Compost Quality*.

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions.

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall within twelve months of date of grant of this licence report on the progress towards implementation of the recommendations of the Energy Efficiency report submitted as part of this licence review application (RPS Nov 2007, report ref: IBL0266), and thereafter as part of the AER.

7.2 The licensee shall carry out a review audit of the energy efficiency of the site every three years and report on outcome as part of the AER. The audit shall be carried out in accordance with the guidance published by the Agency; 'Guidance Note on Energy Efficiency Auditing'.

7.3 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2.2.2 above.

7.4 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets under Condition 2.2.2.2 above.

7.5 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2.2.2 above.

Reason: To provide for the efficient use of resources and energy in all site operations.

Condition 8: Materials Handling

- 8.1 Waste Acceptance and Characterisation Procedures
- 8.1.1 Only waste that has been subject to adequate pre-treatment is permitted to be accepted for disposal at the landfill facility after 16th July 2009.
- (i) Treatment shall, as a minimum, reflect any published EPA guidance.
- (ii) This requirement may, subject to the agreement of the Agency, not apply to:
- inert wastes for which treatment is not technically feasible;
 - other waste for which such treatment does not contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.
- 8.1.2 For Biodegradable Municipal Waste (BMW) the following pre-treatment requirements must be demonstrated:-
- (i) By 1st January 2010 a minimum of 50% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).
- (ii) By 1st January 2013 a minimum of 70% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).
- (iii) By 1st January 2016 a minimum of 90% of all BMW accepted at the facility shall be biologically pre-treated (including diversion).
- 8.1.3 The licensee is required to maintain on-site as part of their waste acceptance procedures and associated documentation, evidence to demonstrate compliance with these obligations, which shall be available for inspection on request by Agency personnel.
- 8.1.4 The licensee shall as part of the Annual Environmental Report for the site submit a statement on the achievement of the waste acceptance and pre-treatment obligations articulated in Conditions 8.1.1 and 8.1.2, and as otherwise may be specified in national or EU policy.
- 8.1.5 Measures taken to divert waste from or reduce waste to landfill shall be reported annually as part of the Waste Recovery Report (Condition 11.4). Targets for increasing diversion of waste from/reduction of waste to landfill should also be developed and included in the Schedule of Environmental Objectives and Targets (Condition 2.2.2.2).
- 8.1.6 Waste shall be accepted at the facility only, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2007, or as may be amended.
- 8.1.7 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility.
- 8.1.8 No hazardous wastes or liquid wastes shall be disposed of at the landfill component of the facility.
- 8.1.9 The licensee shall operate and maintain written procedures for the acceptance and handling of all wastes. These procedures shall include details of the pre-

- treatment of all waste to be carried out in advance, of acceptance at the facility and shall also include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. The procedures shall have regard to the EU Decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste.
- 8.1.10 Bulk gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste.
- 8.1.11 In addition to the characterisation required under the Waste Acceptance Procedures, the licensee shall carry out analyses on a minimum of one sample per annum for each industrial sludge source being accepted at the facility. The results of these analyses shall be presented in the Annual Environmental Report (AER).
- 8.1.12 Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/22/EC).
- 8.2 With the exception of use of recovered fuels as may be approved for this site by the Agency, no waste shall be burnt at the facility.
- 8.4 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.5 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.6 The licensee shall ensure that waste in advance of transfer to another person shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.7 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 8.8 Any waste for off-site disposal/recovery shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.
- 8.9 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery without the agreement of the Agency.
- 8.10 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.
- 8.11 Civic Waste Facility
- 8.11.1 All waste accepted at the Civic Waste Facility shall be deposited either:-
- (i) into a skip;
 - (ii) into a receptacle for recovery; or
 - (iii) in the case where inspection is required, into a designated inspection area.
- 8.11.2 The licensee shall assign and clearly label each container/bay at the Civic Waste Facility to indicate their contents.
- 8.11.3 At the end of the working day the area in the immediate vicinity of waste containers/bays at the Civic Waste Facility shall be cleared of waste.
- 8.12 Construction and Demolition Waste Recovery Area

- 8.12.1 Only Construction and Demolition waste shall be accepted at this area. Wastes which are capable of being recovered shall be separated and shall be stored temporarily in this area prior to being subjected to other recovery activities at the facility or transport off the facility.
- 8.12.2 All stockpiles shall be maintained so as to minimise dust generation.
- 8.13 Compost Unit
- 8.13.1 In order not to be considered a waste, compost produced by the facility shall, unless otherwise agreed by the Agency, comply with the quality standards established in *Schedule F: Standards for Compost Quality* of this licence. Analysis of the compost shall be in accordance with the requirements of that Schedule.
- 8.13.2 Any compost not meeting any standard as per *Schedule F: Standards for Compost Quality* may be reused in the process or handled as a waste and details recorded as per Waste Records condition.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9: Accident Prevention and Emergency Response

- 9.1 The licensee shall ensure that a documented Accident Prevention Procedure is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.2 The licensee shall ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.
- 9.3 Incidents
- 9.3.1 In the event of an incident the licensee shall immediately:-
- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
 - (ii) isolate the source of any such emission;
 - (iii) evaluate the environmental pollution, if any, caused by the incident;
 - (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - (v) identify the date, time and place of the incident;
 - (vi) notify the Agency and other relevant authorities.
- 9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency 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.

Reason: To provide for the protection of the environment.

Condition 10: Closure, Restoration and Aftercare

- 10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.
- 10.2 The licensee shall restore the facility on a phased basis. Unless otherwise agreed, filled cells shall be permanently capped within twenty-four months of the cells having been filled to the required level.
- 10.3 Finished Levels/Profile
- 10.3.1 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.
- 10.3.2 Final contours and landscaping should be such that the finished slopes of the facility are structurally stable, resistant to erosion, and protective of pollution control and monitoring infrastructure.
- 10.4 Final Capping
- Unless otherwise agreed by the Agency, the final capping shall consist of the following:-
- (i) top soil (150 - 300mm);
 - (ii) subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - (iii) drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s or a geosynthetic material that provides equivalent transmissivity;
 - (iv) 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
 - (v) gas collection layer of natural material (minimum 0.3m) or an equivalent performing geosynthetic layer.
- 10.5 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.
- 10.6 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.
- 10.7 All soils shall be stored to preserve the soil structure for future use. The location of any stockpiles should take account of sensitive receptors and be situated away from drains.
- 10.8 Closure, Restoration & Aftercare Management Plan (CRAMP):
- 10.8.1 The licensee shall maintain a fully detailed and costed plan for the closure, restoration and long-term aftercare of the site or part thereof.
- 10.8.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the prior agreement of the Agency.
- 10.9 The CRAMP shall include as a minimum, the following:-
- 10.9.1 A scope statement for the plan.
- 10.9.2 The criteria, including those specified in this licence, which define the successful closure & restoration of the facility or part thereof, and which ensures minimum impact to the environment.

- 10.9.3 A programme to achieve the stated criteria.
 - 10.9.4 Where relevant, a test programme to demonstrate the successful implementation of the plan.
 - 10.9.5 Details of the long-term supervision, monitoring, control, maintenance and reporting requirements for the restored facility,
 - 10.9.6 Details of the costings for the plan and the financial provisions to underwrite those costs.
- 10.10 A final validation report to include a certificate of completion for the CRAMP, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11: Notifications, Records and Reports

- 11.1 The licensee shall notify the Agency, in writing, one month in advance of the intended date of cessation of waste disposal in the landfill component of the facility.
- 11.2 In relation to landfilling activities, the licensee shall notify the Agency of any wastes presented at but not accepted to the facility.
- 11.3 In advance of the development of any undisturbed area, the advice of the Heritage Section of the Department of the Environment, Heritage and Local Government shall be sought.

11.4 Waste Recovery Reports

The licensee shall as part of the Annual Environmental Report for the site submit a report on the contribution by this facility to the achievement of the waste recovery objectives stated in Condition 2.2.2.2 and as otherwise may be stated in National and European Union waste policies and shall, as a minimum, include the following:-

- (i) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill as specified in the Landfill Directive;
 - (ii) the separation of recyclable materials from the waste;
 - (iii) the recovery of Construction and Demolition Waste;
 - (iv) the recovery of metal waste;
 - (v) inert waste to be used for cover/restoration material at the facility;
 - (vi) the recovery of energy through landfill gas combustion.
- 11.5 The licensee shall notify the Agency by both telephone and facsimile, if available, to the EPA Regional Inspectorate, Office of Environmental Enforcement, John Moore Road, Castlebar, Co Mayo or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- (i) any release of environmental significance to atmosphere from any potential emission point including bypasses;
 - (ii) any emission, which does not comply with the requirements of this licence;
 - (iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring*, of this licence which is likely to lead to loss of control of the abatement system;

- (iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

- 11.6 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the North Western Regional Fisheries Board as soon as practicable after such an incident.
- 11.7 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to: manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.
- 11.8 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant, (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.
- 11.9 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.
- 11.10 The licensee shall as a minimum keep the following documents at the site:-
 - (i) the licences relating to the facility;
 - (ii) the current EMS for the facility;
 - (iii) the previous year's AER for the facility;
 - (iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
 - (v) a register of complaints received & subsequent actions/outcomes;
 - (vi) relevant correspondence with the Agency;
 - (vii) up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;
 - (viii) up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;
 - (ix) Odour management procedure;
 - (x) any elements of licence application or EIS documentation referenced in this licence;and this documentation shall be available to the Agency for inspection at all reasonable times.
- 11.11 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule G: Annual Environmental Report* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

- 11.12 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:
- (i) the tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery;
 - (ii) the names of the agent and carrier of the waste and their waste collection permit details, if required (to include issuing authority and vehicle registration number) (Civic Amenity Facility excepted);
 - (iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;
 - (iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;
 - (v) details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record;
 - (vi) details of any rejected consignments;
 - (vii) details of any approved waste mixing;
 - (viii) the tonnages and EWC Code for the waste materials recovered/disposed on-site.
- 11.13 A written record shall be kept of each consignment of leachate removed from the facility. The record shall include the following:-
- (i) The name of the carrier;
 - (ii) The date and time of removal of leachate from the facility;
 - (iii) The volume of leachate, in cubic metres, removed from the facility on each occasion;
 - (iv) The name and address of the Waste Water Treatment Plant to which the leachate was transported; and
 - (v) Any incidents or spillages of leachate during its removal or transportation.
- 11.14 The licensee shall submit report(s) as required by the conditions of this licence to the EPA Regional Inspectorate, Office of Environmental Enforcement, John Moore Road, Castlebar, Co Mayo, or to such other Agency office as may be specified by the Agency.
- 11.15 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:-
- (i) Comprise one original and two copies unless additional copies are required;
 - (ii) Be formatted in accordance with any written instruction or guidance issued by the Agency;
 - (iii) Include whatever information as is specified in writing by the Agency;
 - (iv) Be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
 - (v) Be submitted in accordance to the relevant reporting frequencies specified by this licence;
 - (vi) Be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
 - (vii) Be transferred electronically to the Agency's computer system if required by the Agency.

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €20,294.00, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2008. The first payment shall be a pro-rata amount for the period from the date of commencement of enforcement to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2008, and all such payments shall be made within one month of the date upon which demanded by the Agency.

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 in regard to items not covered by the said annual contribution.

12.2 Environmental Liabilities

12.2.1 The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events including closure and aftercare, or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA), which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the CRAMP. A report on this assessment shall be submitted to the Agency for agreement within twenty-four months of date of grant of this licence. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement: review results are to be notified as part of the AER.

12.2.3 The licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities identified in Condition 12.2.2. The amount of indemnity held or guaranteed shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'statement of measures' report identified in Condition 12.2.1.

12.2.4 Unless otherwise agreed, any revision to that part of the indemnity dealing with restoration and aftercare liabilities (refer Condition 10.9.6), 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.

The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.2.2 and 12.2.3 above.

12.3 Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2008, the licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility. The statement required under Section 53A(5) of said Acts is to be included as part of the AER.

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

SCHEDULE A: Limitations

A.1 Waste Processes

The following waste related processes are authorised:

- i. Landfilling
- ii. Management of leachate and surface water at the facility
- iii. Use of compost and inert waste in landfill operation
- iv. Utilisation of landfill gas collected at the facility
- v. Storage of waste, including temporary storage of unacceptable waste in the quarantine area
- vi. Storage of metals and metal compounds, including WEEE
- vii. Composting
- viii. Packaging, sorting and transfer of waste (public recycling facility)

No addition to these processes are permitted unless agreed in advance with the Agency.

A.2 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPE ^{Note 1}	MAXIMUM (TONNES PER ANNUM) ^{Note 4, 5}
Residual Non-hazardous Household, Commercial and Industrial Waste ^{Note 2}	34,950
Residual Non-Hazardous Construction & Demolition waste	
Composting of Biodegradable waste (<1000m ³ capacity)	
Household Hazardous Waste deposited at the Civic Waste Facility for off-site recovery or disposal ^{Note 3}	<50 t per annum
TOTAL	35,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within that specified.

Note 2: Includes non-hazardous WEEE deposited at the Civic Waste Facility for off-site disposal/recovery.

Note 3: Includes hazardous WEEE deposited at the Civic Waste Facility for off-site disposal/recovery.

Note 4: Construction & demolition or Inert or compost waste imported to the site for use in the construction/closure are not included in these limitations. A detailed statement (with mass balance) of waste used in construction should be included as part of the AER.

Note 5: Quantities of waste types may be altered, subject to the agreement of the Agency, provided the total quantity for disposal does not exceed 35,000 tonnes per annum.

SCHEDULE B: Emission Limits

B.1 Noise Emissions: (Measured at the facility boundary monitoring points indicated in *Table C.0 Monitoring Locations*), or other locations agreed or instructed by the Agency.

Day dB(A) L _{Aeq} (30 minutes)	Night dB(A) L _{Aeq} (30 minutes)
55	45

B.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

B.3 Dust Deposition Limits: (Measured at the monitoring points indicated in *Table C.0 Monitoring Locations*).

Level (mg/m ² /day) ^{Note 1}
350

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

B.4 Emission Limits Values for Landfill Gas Plant

Emission Point Reference Nos.: (to be agreed by the Agency)
 Location: Landfill Gas Combustion Plant and Flare Stacks
 Minimum discharge height: 5m

Parameter	Flare (enclosed) Emission Limit Value ^{Note 1}	Utilisation Plant Emission Limit Value ^{Note 1}
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
Particulates	Not applicable	130 mg/m ³

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



B.5 Emissions to Surface water

No trade effluent or leachate emissions from this facility to local water courses are authorised by this licence

B.6 Emissions to Groundwater

No trade effluent or leachate emissions from this facility to groundwater are authorised by this licence



SCHEDULE C: Control & Monitoring

C.0 Monitoring Locations

Monitoring locations shall be those as set out in Table C.0 as shown in *Drawing No. IBL 0266/110 Monitoring Locations* (dated Nov '07) of the application unless otherwise indicated or agreed by the Agency.

LANDFILL GAS	DUST	NOISE	SURFACE WATER	GROUND WATER	LEACHATE
STATIONS	STATIONS	STATIONS	STATIONS	STATIONS Note 1	STATIONS
LG1 To LG17 Incl.	DG1	N1	SW1	GW1	L1
	DG2	N2	SW2	GW2	L3
	DG3	N3	SW3	GW4	L6
	DG4		SW4	GW5	
	DG5			Underdrainage interceptor discharge point Note 2	

Note 1: And locations arising out of Conditions 6.12 and 6.13

Note 2: Location to be agreed in writing with the EPA

C.1.1 Control of Emissions to Air

Emission Point Reference No.: Flare Stacks & Generation Plant

Description of Treatment: Gas Extraction & Combustion

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Continuous burn	Continuous with alarm/call-out	Flame detector or equivalent approved
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2 Monitoring of Emissions to Air

Emission Point Reference No.: Flare Stacks & Generation Plant

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method ^{Note 1} /Technique
Inlet			
Methane (CH ₄) % v/v	Continuous	Continuous	Infrared analyser or equivalent approved
Carbon dioxide (CO ₂) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Oxygen (O ₂) % v/v	Continuous	Weekly	Electrochemical or equivalent approved
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Residence Time	Quarterly	Quarterly	To be agreed.
Outlet			
Volumetric Flow Rate	Continuous	Continuous	Standard Method
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (NO _x , as NO ₂)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO ₂)	Biannually	Biannually	Flue gas analyser or equivalent approved
Total Organic Carbon	Biannually	Biannually	Flame Ionisation Detector
Particulates	Not applicable	Annually	Isokinetic/Gravimetric or equivalent approved

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

C.1.3 Monitoring of Landfill Gas Emissions

Location: LG1 to LG9
 And
 At least two monitoring points per cell (to be Agreed)
 And
 Other selected locations as may be specified

Parameter	Monitoring Frequency ^{Note 1}		Analysis Method/Technique ^{Note 3}
	Boreholes ^{Note 2} vents and wells	Facility Office	
Methane (CH ₄)	Monthly	Continuous	Standard method
Carbon Dioxide (CO ₂)	Monthly	Continuous	Standard method
Oxygen (O ₂)	Monthly	Continuous	Standard method
Atmospheric Pressure and Trend	Monthly	Continuous	Standard method
Temperature	Monthly	Continuous	Standard method

Note 1: Subject to amendment in post-closure phase by agreement with the Agency.
Note 2: All perimeter monitoring boreholes must be installed to the standards specified in the Agency Guidance on Landfill Monitoring.
Note 3: Or other method agreed by the Agency.



C.1.4 Control & Monitoring of Composting Activities

In the event that such facilities are developed, the terms of this schedule are to be agreed as per Condition 6.29



C.1.5 Control of Leachate Treatment

Emission Point Reference No: Leachate Treatment Tank
Description of Treatment: Aeration

Equipment:

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Effluent Transfer	DO in aeration basin	Lift Pumps
Dissolved Oxygen		Three surface aerators Fixed DO Meter

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



C.2.2 Surface Water, Groundwater and Leachate

Table C.2.2.1 Water and Leachate - Parameters /Frequency

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE ^{Note 5} Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Quarterly
Ammoniacal Nitrogen	Quarterly	Quarterly	Quarterly
BOD	Quarterly	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Annually	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Quarterly
pH	Quarterly	Quarterly	Quarterly
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Cadmium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Not Applicable
Iron	Annually	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances ^{Note 3}	Not Applicable	Annually	Not Applicable
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Nickel	Not Applicable	Annually	Annually
Potassium	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not Applicable
Total Phosphorus / orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Zinc	Annually	Annually	Annually
Phenols	Not Applicable	Annually	Not Applicable
Biological Assessment	Bi-Annually ^{Note 4}	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: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams).

Note 5: Visual Inspection and Leachate Levels for all leachate stations referred to in Table C.0. Sampling and analysis to be carried out for leachate in leachate storage lagoon/tank and two leachate boreholes in waste.



C.3 Dust

Table C.3.1 Dust Monitoring Frequency and Technique

Parameter	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.



C.4 Noise

Table C.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 and 3."



C.5 Meteorological Monitoring

Table C.5.1 Meteorological Monitoring:

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



SCHEDULE D: Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and lining.
Final capping.
Installation of Compost Facility with a maximum capacity of 1000m ³ .
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 E: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
Regional Inspectorate
John Moore Road
Castlebar
Co Mayo

or Any other address as may be specified by the Agency.

Reports are required to be forwarded as required in the licence and as may be set out below:

Report	Reporting Frequency <small>Note 1</small>	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 st March of each year.
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 thereafter submit as part of the AER.
Hydrogeological assessment	Once off	18 months from date of grant of licence
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.
Dust Monitoring	Three times a year	As part of the AER
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F: Standards for Compost Quality

Compost Quality

No sample shall exceed 1.2 times the quality limit values set.

[The following criteria (where they apply to compost) are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH₄-N, NO₃-N, pH and dry matter content should also be measured.]

1. Maturity (Compost)

The state of the curing pile must be conducive to aerobic biological activity.

Compost shall be deemed to be mature if it meets two of the following groups of requirements or other maturity tests as may be agreed with the Agency:

1. Respiration activity after four days AT₄ is ≤10mg/O₂ perg dry matter or dynamic respiration index is ≤1,000mg O₂/kg VS per h.
2. Germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90% of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50% in comparison with the control sample.
3. Compost must be cured for at least 21 days; and Compost will not reheat upon standing to greater than 20°C above ambient temperature.

Or

Compost must be cured for a six month period and offensive odours from the compost shall be minimal for the compost to be deemed mature.

2. Trace Elements (Compost) ^{Notes 1, 2 & 3}

Maximum Trace Element Concentration Limits ^{Note 4}

Parameter (mg/kg, dry mass)	Compost Quality Standards ^{Note 5}		Stabilised Biowaste ^{Note 5}
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5	5
Chromium (Cr)	100	150	600
Copper (Cu)	100	150	600
Mercury (Hg)	0.5	1	5
Nickel (Ni)	50	75	150
Lead (Pb)	100	150	500
Zinc (Zn)	200	400	1500
Polychlorinated Biphenyls (PCB's)	-	-	0.4
Polycyclic Aromatic Hydrocarbons (PAHs)	-	-	3
Impurities >2 mm ^{Note 6}	<0.5%	<0.5%	<3%
Gravel and Stones >5 mm ^{Note 6}	<5%	<5%	-

Note 1: These limits apply to the compost just after the composting phase and prior to mixing with any other materials.

Note 2: Incoming sludges (other than sewage sludges) shall be monitored quarterly (on a client by client basis) for the parameters outlined in this table in addition to selenium (Se) and molybdenum (Mo).

- Note 3:** Monitoring of arsenic (As) is required if waste timber is used in the composting process.
- Note 4:** The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.
- Note 5:** Normalised to 30% organic matter content.
- Note 6:** Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use.

3. Pathogens (Compost)

Pathogenic organism content must not exceed the following limits:

<i>Salmonella spp.</i>	Absent in 50 g	n = 5
<i>Faecal coliforms</i>	≤ 000 Most Probable Number (MPN) in 1g	n = 5

Where: n = Number of samples to be tested.

4. Monitoring (Compost)

The licensee shall submit to the Agency for its agreement, prior to commencement of the composting operations, details of the sampling protocol, methods of analysis and sample numbers.

SCHEDULE G: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}

Reporting Period.
 Waste activities carried out at the facility.
 Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.
 Methods of deposition of waste.
 Report on restoration of completed cells/ phases.
 Emissions from the installation/facility, including summary of results and interpretation of environmental monitoring.
 Flow data for watercourse receiving surface water emissions.
 Estimated annual and cumulative quantities of landfill gas emitted from the facility.
 Volume of leachate produced and volume of leachate transported / discharged off-site.
 Annual water balance calculation and interpretation.
 Waste management record.
 Waste recovery report.
 Topographical survey.
 Slope stability assessment.
 Resource consumption summary.
 Complaints summary.
 Schedule of environmental objectives and targets.
 Environmental management programme – report for previous year.
 Environmental management programme – proposal for current year.
 Pollutant release and transfer register – report for previous year.
 Pollutant release and transfer register – proposal for current year.
 Noise monitoring report summary.
 Meteorological data summary.
 Ambient monitoring summary, including biological assessment.
 Current monitoring location reference drawing.
 Tank and pipeline testing and inspection report.
 Reported incidents summary.
 Energy efficiency implementation progress report
 Energy efficiency review audit report summary.
 Development / Infrastructural works summary (completed in previous year or prepared for current year).
 Report on management and staffing structure of the installation/facility.
 Report on the programme for public information.
 Reports on financial provision made under this licence.
 Statement on the costs of landfill.
 Review of environmental liabilities.
 Any amendments to the CRAMP.
 Detailed statement, with mass balance, of construction & demolition wastes and compost used in construction.

Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.



Signed on behalf of the said Agency _____
 on the xx xx **Authorised Person**

