

**This licence was amended on 15<sup>th</sup> January 2013 under Section 42B(1)(c) of the Waste Management Acts, 1996 to 2011. The details of Amendment A must be read in conjunction with this licence. The amendment document is entitled “Technical Amendment A”**



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

## WASTE LICENCE

<b>Licence Register Number:</b>	W0075-02
<b>Licensee:</b>	Waterford County Council
<b>Location of Facility:</b>	Tramore Waste Management Site, Tramore Intake & Burrows, Tramore, County Waterford.

# ***INTRODUCTION***

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

A licence review is sought in order to authorise the composting of up to 1,000 tonnes per annum of green waste at Tramore Waste Management Site. Landfilling operations ceased at the facility on 31<sup>st</sup> December 2005. Current waste activities on-site are focused on the landfill capping and restoration works and the operation of the civic waste facility.

The licence requires the restoration and remediation of the closed landfill with ongoing leachate and landfill gas management. The composting operation will involve pre-treatment to shred and mix the green waste, composting in aerated static piles, followed by screening and maturation. The finished product will be suitable for horticultural use as a soil conditioner, subject to meeting specified compost quality standards.

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 range of reports on the operation and management of the facility, to the Agency.

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

# Table of Contents

	Page No.
Glossary of Terms	1
Decision & Reasons for the Decision	6
Part I Schedule of Activities Licensed	6
Part II Schedule of Activities Refused	7
Part III Conditions	8
Condition 1.    Scope	8
Condition 2.    Management of the Facility	9
Condition 3.    Infrastructure and Operation	11
Condition 4.    Interpretation	15
Condition 5.    Emissions	16
Condition 6.    Control and Monitoring	17
Condition 7.    Resource Use and Energy Efficiency	21
Condition 8.    Materials Handling	21
Condition 9.    Accident Prevention and Emergency Response	22
Condition 10.   Closure, Restoration and Aftercare	23
Condition 11.   Notifications, Records and Reports	25
Condition 12.   Financial Charges and Provisions	28
SCHEDULE A:    Limitations	30
SCHEDULE B:    Emission Limits	31
SCHEDULE C:    Control & Monitoring	33
SCHEDULE D:    Specified Engineering Works	40
SCHEDULE E:    Reporting	41
SCHEDULE F:    Standards for Compost Quality	42
SCHEDULE G:    Annual Environmental Report	44

## *Glossary of Terms*

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 and 2003 / Waste Management Acts 1996 to 2005, unless otherwise defined in this section.

<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>AER</b>	Annual Environmental Report.
<b>Agreement</b>	Agreement in writing.
<b>Annually</b>	At approximately twelve monthly intervals.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
<b>Application</b>	The application by the licensee for this licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>BAT</b>	Best Available Techniques.
<b>Bi-annually</b>	All or part of a period of six consecutive months.
<b>Biennially</b>	Once every two years.
<b>Bioaerosol</b>	An aerosol of biological particles.
<b>Biodegradable Waste</b>	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
<b>BOD</b>	5 day Biochemical Oxygen Demand.
<b>COD</b>	Chemical Oxygen Demand.
<b>Compost</b>	Stable, sanitised and humus like material rich in organic matter and free from offensive odours resulting from composting of separately collected biowaste which complies with the environmental quality classes outlined in <i>Schedule F: Standards for Compost Quality</i> of this licence.
<b>Composting</b>	The autothermic and thermophilic biological decomposition of separately collected biowaste in the presence of oxygen and under controlled conditions by the action of micro-organisms and macro-organisms in order to produce compost.
<b>Condition</b>	A condition of this licence.
<b>Construction and Demolition Waste</b>	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
<b>Containment boom</b>	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.

<b>Cover Material</b>	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or  Other cover material the use of which has been agreed by the Agency.
<b>Curing</b>	Also known as maturing, the latter stages of the composting process which involves the stabilisation of the composted material under conditions of reduced microbial activity. The curing stage occurs after the most intensive thermophilic/mesophilic composting stage and does not typically require active management for composting purposes (e.g. by aeration, turning, moisture control, etc.). It is typically characterised by the storage of composted material over a prolonged period (e.g. prior to its use) where the autothermic temperature of the material gradually decreases over time and until maturity standards have been achieved.
<b>Daily</b>	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.
<b>Day</b>	Any 24 hour period.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>dB(A)</b>	Decibels (A weighted).
<b>DO</b>	Dissolved Oxygen.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>Emergency</b>	Those occurrences defined in Condition 9.4.
<b>EMP</b>	Environmental Management Programme.
<b>Emission Limits</b>	Those limits, including concentration limits and deposition rates established in <i>Schedule B: Emission Limits</i> of this licence.
<b>Environmental Damage</b>	Has the meaning given it in Directive 2004/35/EC.
<b>EPA</b>	Environmental Protection Agency.
<b>European Waste Catalogue (EWC)</b>	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.
<b>Facility</b>	Any site or premises used for the purposes of the recovery or disposal of waste.
<b>Forced Aeration</b>	The supply of air to a compost pile by pumping (positive pressure) or by sucking air through the composting material (negative pressure).
<b>Fortnightly</b>	A minimum of 24 times per year, at approximately two week intervals.
<b>Green waste</b>	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.

<b>Heavy Metals</b>	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.
<b>Hours of Operation</b>	The hours during which the facility is authorised to be operational.
<b>Hours of Waste Acceptance</b>	The hours during which the facility is authorised to accept waste.
<b>Incident</b>	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none"><li>(i) an emergency;</li><li>(ii) any emission which does not comply with the requirements of this licence;</li><li>(iii) any exceedence of the daily duty capacity of the waste handling equipment;</li><li>(iv) any trigger level specified in this licence which is attained or exceeded; and,</li><li>(v) any indication that environmental pollution has, or may have, taken place.</li></ul>
<b>Industrial Waste</b>	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.
<b>Inert Waste</b>	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
<b>IPPC</b>	Integrated Pollution Prevention & Control.
<b>Landfill Directive</b>	Council Directive 1999/31/EC.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>LEL (Lower Explosive Limit)</b>	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
<b>Leq</b>	Equivalent continuous sound level.
<b>Licence</b>	A Waste Licence issued in accordance with the Acts.
<b>Licensee</b>	Waterford County Council, Civic Offices, Dungarvan, County Waterford.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter.
<b>List I</b>	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
<b>List II</b>	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
<b>Local Authority</b>	Waterford County Council.
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.

<b>Monthly</b>	A minimum of 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	As defined in Section 5(1) of the Waste Management Acts, 1996 to 2005.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Noise Sensitive Location (NSL)</b>	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity, which for its proper enjoyment requires the absence of noise at nuisance levels.
<b>PRTR</b>	Pollutant Release and Transfer Register.
<b>Quarterly</b>	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
<b>Recyclable Materials</b>	Those waste types, such as cardboard, batteries, gas cylinders, etc., which may be recycled.
<b>Regional Fisheries Board</b>	Southern Regional Fisheries Board.
<b>Sanitary Authority</b>	Waterford County Council.
<b>Sanitary Effluent</b>	Waste water from facility toilet, washroom and canteen facilities.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>SOP</b>	Standard Operating Procedure.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule B: Emission Limits</i> of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in <i>Schedule D: Specified Engineering Works</i> of this licence.
<b>Stabilised Biowaste</b>	Waste resulting from the mechanical/biological treatment of unsorted waste or residual municipal waste including treated biowaste, which does not comply with the environmental quality classes outlined in <i>Schedule F: Standards for Compost Quality</i> of this licence.
<b>Standard Method</b>	A National, European or internationally recognised procedure (e.g., I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of “Standard Methods for the Examination of Water and Wastewater”, (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
<b>Storm Water</b>	Rain water run-off from roof and non-process areas.
<b>The Agency</b>	Environmental Protection Agency.
<b>TOC</b>	Total Organic Carbon.

<b>Trade Effluent</b>	Trade Effluent has the meaning given in the Water Pollution Acts 1977 and 1990.
<b>Trigger Level</b>	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
<b>WEEE</b>	As defined in S.I. No. 340 of 2005.
<b>Weekly</b>	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.
<b>WWTP</b>	Waste Water Treatment Plant.

## ***Decision & Reasons for the Decision***

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

In reaching this decision the Environmental Protection Agency has considered the application, supporting documentation and objection received from the applicant, a submission from a third party and the reports of its inspectors.

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

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005, the Environmental Protection Agency (the Agency) under Section 46(8)(a) of the said Acts hereby grants this Waste Licence to Waterford County Council, Civic Offices, Dungarvan, County Waterford to carry on the waste activities listed below at Tramore Intake & Burrows, Tramore, County Waterford subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purposes of Article 48 of the Waste Management Licensing Regulations 2004 (S.I. No. 395 of 2004) the landfill component of this facility is classed as a non-hazardous waste landfill.

#### ***Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005***

<b>Class 12.</b>	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
<b>Class 13.</b>	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

#### ***Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2005***

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

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

On the basis of the information before it, the Environmental Protection Agency (the Agency), pursuant to its powers under Section 46(8) of the Waste Management Acts 1996 to 2005, hereby refuses the following classes of activities.

### ***Refused waste disposal activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005***

<b>Class 4.</b>	<b>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:</b> Reason: This class of activity is not required for the on-site collection and temporary storage of leachate generated at the facility. Leachate is an emission from the site and not a waste imported for disposal.
-----------------	--

### ***Refused waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2005***

<b>Class 9.</b>	<b>Use of any waste principally as a fuel or other means to generate energy:</b> Reason: This class of activity is not required for the flaring or utilisation as an energy source of landfill gas generated at the facility. Landfill gas is an emission from the site and not a waste imported for recovery/disposal.
<b>Class 12.</b>	<b>Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule:</b> Reason: This class of activity is not considered necessary having regard to the nature of the current and proposed waste activities at the facility. Civic waste facility operations are adequately authorised under the classes listed in <i>Part I Schedule of Activities Licensed</i> .

## ***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 1.5 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. DG0302 (Rev. F01) *Site Layout 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 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.
- 1.6 Waste Acceptance Hours and Hours of Operation
- 1.6.1 Waste may only be accepted at the Civic Waste Facility and Composting Facility between 09.00 and 18.00 hours Monday to Saturday inclusive, and 10.00 and 18.00 hours on Sundays, unless otherwise agreed by the Agency.
- 1.6.2 Inert waste or compost, for landfill remediation, may only be accepted and handled at the landfill between 09.00 and 17.00 hours Monday to Friday inclusive and 10.00 and 13.00 hours on Saturdays.
- 1.6.3 The facility shall be operated (excluding construction activities) only between 0800 and 1900 hours Monday to Saturday, and 0900 and 1400 hours Sunday, unless otherwise agreed with the Agency.
- 1.6.4 Construction activities shall be carried out only between 0730 and 2000 hours Monday to Saturday, unless otherwise agreed with the Agency.
- 1.7 This licence is for the purpose of waste licensing under the Waste Management Acts 1996 to 2005 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 is being granted in substitution for the waste licence granted to the licensee on 25<sup>th</sup> September 2001 and bearing Waste Licence Register No: W0075-01. The previous waste licence (Register No: W0075-01) 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 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 successfully complete FAS waste management training programme or equivalent agreed by the Agency.

### **2.2 Environmental Management System (EMS)**

2.2.1 The licensee shall maintain an Environmental Management System (EMS). 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 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 targets. 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) (Condition 11.7).

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. Once agreed the EMP shall be established and maintained by the licensee. 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).

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 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 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 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 maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

#### 2.2.2.8 Maintenance Programme

The licensee shall establish and maintain within six months of date of grant of this licence a structured programme for maintenance and service of vehicles and equipment. This programme shall be supported by appropriate record keeping systems and diagnostic testing. 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 maintain a programme to ensure there is adequate control of 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 as required by the conditions of this licence.
- 3.2 Facility Notice Board
- 3.2.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
- 3.2.2 The board shall clearly show:-
- (i) The name and telephone number of the facility;
  - (ii) The normal hours of opening;
  - (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.
- 3.2.3 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.
- 3.3 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.
- 3.4 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.
- 3.5 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 3.6 Tank, Container and Drum Storage Areas
- 3.6.1 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).
- 3.6.2 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.

- 3.6.3 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.
- 3.6.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 3.6.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.
- 3.7 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.
- 3.8 All pump sumps and storage tanks from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment, shall be fitted with high liquid level alarms (or oil detectors as appropriate) within six months from the date of grant of this licence.
- 3.9 The licensee shall have regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities in the provision of firewater retention facilities on-site.
- 3.10 The licensee shall, within three months of the date of grant of this licence, install or 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.
- 3.11 Specified Engineering Works
- 3.11.1 The licensee shall submit proposals for all 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.
- 3.11.2 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.
- 3.11.3 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.

- 3.12 Facility Security
- 3.12.1 Security and stockproof fencing and gates shall be maintained around the facility boundary. The base of the fencing shall be set in the ground. Subject to the implementation of the Closure, Restoration and Aftercare Management Plan to the satisfaction of and with the written agreement of the Agency, the requirement for such site security may be removed where no longer required.
- 3.12.2 Gates shall be locked shut when the facility is unsupervised.
- 3.12.3 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.
- 3.13 Facility Roads and Site Surfaces
- 3.13.1 Effective site roads shall be provided and maintained to ensure the safe and nuisance free movement of vehicles within the facility.
- 3.13.2 The facility entrance and hardstanding areas shall be appropriately paved and maintained in a fit and clean condition.
- 3.13.3 The licensee shall provide and maintain an impermeable concrete surface (or equivalent approved) at the civic waste facility and green waste composting facility. The surfaces shall be concreted and constructed to British Standard 8110 or an alternative standard as agreed by the Agency.
- 3.13.4 Traffic awaiting access to the facility shall queue along the facility access road only.
- 3.14 Facility Office
- 3.14.1 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.
- 3.14.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.15 Waste Inspection and Quarantine Areas
- 3.15.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.15.2 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.
- 3.15.3 Drainage from these areas shall be directed to the leachate management system.

- 3.16 Weighbridge and Wheel Cleaner
- 3.16.1 The licensee shall provide and maintain a weighbridge and access to appropriate wheel cleaning equipment for Heavy Goods Vehicles (HGVs) at the facility.
- 3.16.2 The wheel cleaner shall be used by all HGVs leaving the facility as required to ensure that no waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.
- 3.16.3 The wheel-cleaner shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-cleaner and disposed of appropriately.
- 3.17 Compost Facility
- 3.17.1 Appropriate infrastructure for the composting of waste shall be established and maintained at the facility in advance of any waste being composted. The licensee shall provide a green waste composting area and associated infrastructure at the location shown on Drawing No. LRA-01-*Site Plan* of the application. The infrastructure shall at a minimum comprise the following:
- (i) Waste acceptance/inspection and storage areas;
  - (ii) Curing and storage areas;
  - (iii) Waste quarantine area;
  - (iv) Air handling / odour abatement equipment.
- 3.17.2 A biofiltration system shall be provided and maintained at the compost facility, as outlined in the application documentation.
- 3.17.3 Items of plant deemed critical to the efficient and adequate processing of waste at the composting facility shall be provided on the following basis:-
- (i) 100% duty capacity;
  - (ii) 20% standby capacity available on routine basis; and
  - (iii) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.
- 3.18 Leachate Management Infrastructure
- 3.18.1 Leachate management infrastructure shall be provided and maintained at the facility. The infrastructure shall provide for the abstraction/collection and storage of leachate from the waste in areas not subject to saline intrusion. Leachate shall be removed from the site for treatment at an appropriate wastewater treatment plant, subject to Condition 5.8 of this licence.
- 3.18.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.
- 3.19 Landfill Gas Management
- 3.19.1 Infrastructure for the active collection and flaring of landfill gas shall be provided and maintained at the facility.

- 3.19.2 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.
- 3.20 Surface Water Management
- 3.20.1 Effective surface water management infrastructure shall be provided and maintained at the facility. As a minimum, the infrastructure shall be capable of the following:
- (i) the prevention of contaminated water and leachate discharges into surface water drains and courses; and
  - (ii) the collection/diversion of run-off arising from capped and restored areas.
- 3.21 Groundwater Management
- 3.21.1 Effective groundwater management infrastructure shall be provided and maintained at the facility to prevent environmental pollution.
- 3.21.2 The licensee shall, within two months of the date of grant of this licence, install one up-gradient and two down-gradient groundwater monitoring wells outside the waste body at the landfill facility.
- 3.21.3 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency’s landfill manual “Landfill Monitoring”.
- 3.21.4 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).
- 3.22 Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.
- 3.23 The septic tank treatment system on-site shall be inspected quarterly and shall be maintained, cleaned and de-sludged as necessary. The percolation area shall satisfy the criteria set out in the *Wastewater Treatment Manual, Treat Treatment Systems for Single Houses*, published by the Environmental Protection Agency.

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

## Condition 4. Interpretation

- 4.1 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:
- 4.1.1 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.
- 4.2 The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of :-
- (i) In the case of landfill gas flare:  
Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen;  
and
- (ii) In the case of landfill gas combustion plant:  
Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 4.3 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.
- 4.4 Noise from the facility shall not give rise to sound pressure levels (Leq, T) measured at the boundary of the facility which exceed the limit value(s).
- 4.5 Dust and particulate matter from the activity shall not give rise to deposition levels which exceed the limit value(s).

*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. There shall be no other emissions of environmental significance.
- 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 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,

which are 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.
- 5.6 No trade effluent, leachate or contaminated storm water shall be discharged to surface water drains and courses.
- 5.7 There shall be no direct emissions to groundwater.
- 5.8 Leachate Removal and Treatment
- 5.8.1 Within three months of date of grant of this licence, the licensee shall submit to the Agency for approval, an agreement with a waste-water treatment plant operator regarding leachate treatment.
- 5.8.2 In the event of a proposal to install a sewer connection at the facility for the direct discharge of leachate to a local sewerage network, the licensee shall notify and obtain the agreement of the Agency in advance of the connection being established.
- 5.8.3 Any such agreement under Condition 5.8.2 of this licence shall be without prejudice to the Agency's powers under Section 46 of the Waste Management Acts 1996 to 2005.
- 5.8.4 The written notification under Condition 5.8.2 of this licence shall be accompanied by a detailed evaluation of the acceptability of the leachate and capacity for treatment at the recipient treatment plant.

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

## **Condition 6. Control and Monitoring**

- 6.1 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 & Monitoring* of this licence:
- 6.1.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.
- 6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.
- 6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.1.4 Where analysis is sub-contracted it shall be to a competent laboratory.
- 6.2 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.

- 6.3 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.
- 6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge. 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.
- 6.5 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.6 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.
- 6.7 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions. This programme shall be included in the Environmental Management Programme.
- 6.8 All tanks and pipelines shall be maintained impervious to the materials carried by or stored therein. 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. This testing shall be carried out by the licensee at least once every three years 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.
- 6.9 The drainage system, bunds and silt traps 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.
- 6.10 A visual examination of storm water discharges shall be carried out daily. A log of such inspections shall be maintained.
- 6.11 The licensee shall carry out a noise survey of the site operations annually. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.
- 6.12 The licensee shall prepare and report a Pollutant Release and Transfer Register (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 Regulations 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.
- 6.13 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

- 6.14 Operational Controls
  - 6.14.1 The material used for landfill capping and restoration works shall consist of inert waste and compost only.
  - 6.14.2 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over only with the prior agreement from the Agency.
  - 6.14.3 Scavenging shall not be permitted at the facility.
  - 6.14.4 No smoking shall be allowed at the facility.
  - 6.14.5 Gates shall be locked shut when the facility is unsupervised.
  - 6.14.6 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
  - 6.14.7 Fuels shall only be stored at appropriately bunded locations on the facility.
  - 6.14.8 All waste handling/processing plant shall be cleared of all waste and washed down on a weekly basis.
- 6.15 Civic Waste Facility
  - 6.15.1 The licensee shall provide and maintain appropriate receptacles at the Civic Waste Facility for the storage of various waste types.
  - 6.15.2 All waste deposited in the Civic Waste Facility shall be either:-
    - (i) Into a skip;
    - (ii) Into the hopper of the compactor for disposal;
    - (iii) Into a receptacle for recovery; or
    - (iv) In the case where inspection is required, into a designated inspection area.
  - 6.15.3 The licensee shall assign and clearly label each container/bay at the Civic Waste Facility to indicate their contents.
  - 6.15.4 At the end of the working day the floor of the Civic Waste Facility, the hopper and the compactor shall be cleared of waste.
- 6.16 Compost Facility
  - 6.16.1 Only green waste shall be composted at the facility, unless otherwise agreed by the Agency.
  - 6.16.2 The quantity of green waste to be accepted for composting shall be limited to 1,000 tonnes per annum, unless otherwise agreed by the Agency.
  - 6.16.3 All leachate from the composting operation shall drain to a leachate collection tank. The collected leachate shall be recirculated over the compost piles or tankered off-site for treatment, subject to Condition 5.8 of this licence.
  - 6.16.4 The green waste shredder shall not be operated between 18.00 and 09.00 hours.
  - 6.16.5 To provide for aerobic composting, the licensee shall provide the composting material with: a 5% minimum concentration of oxygen within the pore spaces, appropriate moisture levels, pH 6.0-9.0 and appropriate C:N ratio.
  - 6.16.6 While awaiting collection, mature compost shall be stored in areas protected against uncontrolled run-off and nuisance formation.

- 6.17 Landfill Gas
- 6.17.1 Flares shall be operated to ensure a burn chamber residence time of minimum 0.3 seconds and burn temperature of minimum 1000°C.
- 6.17.2 In relation to landfill gas 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.
- 6.17.3 All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 6.17.4 Flare unit efficiency shall be tested upon installation and once every three years thereafter.
- 6.18 A topographical survey shall be carried out annually, unless otherwise agreed by the Agency.
- 6.19 Biological/Ecological Assessment
- The licensee shall carry out biological and ecological monitoring of the facility and the adjoining habitats (Tramore Back Strand and Dunes). This monitoring shall include as a minimum:
- (i) An annual ecological and biological survey, to include as a minimum an assessment of estuarine water quality and chemical analysis of estuarine sediments and benthic macrofauna adjacent to the facility. This shall also include chemical and microbiological analysis of cockles and mussels from the backstrand within 200m of the landfill to establish fluctuations in heavy metal content and microbiological counts on a seasonal basis;
  - (ii) Annual monitoring of birdlife and habitats within and outside the facility boundary. This monitoring shall be carried out following consultation with The National Parks and Wildlife Service of the Department of the Environment, Heritage and Local Government.
- 6.20 The licensee shall carry out a stability assessment of the side slopes of the facility annually, unless otherwise agreed by the Agency. The results of this assessment shall be reported as part of the AER. This assessment shall include the potential for damage due to tidal inundation and the potential for erosion of the perimeter embankment and recommendations for any remedial measures deemed necessary. The assessment shall be in accordance with any written instructions issued by the Agency. Any remedial measures required shall be carried out within a timescale to be agreed by the Agency.
- 6.21 The licensee shall, at a minimum of one-week intervals, inspect the facility and its immediate surrounds for nuisance caused by litter, vermin, birds, flies, mud and odours. Dust inspections shall be carried out weekly at the facility.
- 6.22 Monitoring Locations
- 6.22.1 The licensee shall, within six months of the date of grant of this licence, review and report on the designation of all monitoring boreholes at the facility. The report shall review the historic monitoring data, indicate which boreholes are representative of groundwater and leachate, and shall include details of the name, depth and response zone of each borehole. The licensee shall submit an updated map of monitoring locations, clearly identifying the nature of each borehole at the facility.

- 6.22.2 The licensee shall, within six months of the date of grant of this licence, submit an updated map of the surface water monitoring and discharge points at the facility.

*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 carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall be carried out in accordance with the guidance published by the Agency; “Guidance Note on Energy Efficiency Auditing”. The energy efficiency audit shall be repeated at intervals as required by the Agency.
- 7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.2.2.2 above.
- 7.3 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.
- 7.4 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 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.
- 8.2 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.3 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.
- 8.4 Waste 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.

- 8.5 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.
- 8.6 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.
- 8.7 Waste Acceptance and Characterisation Procedures
- 8.7.1 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001, or as may be amended.
- 8.7.2 Inert waste accepted at the landfill for restoration purposes shall comply with the standards established in EU Decision (2003/22/EC).
- 8.7.3 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in a designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 8.7.4 A record of all inspections of incoming waste loads shall be maintained.
- 8.8 Compost Quality
- 8.8.1 Compost quality monitoring shall be undertaken as set out in *Schedule F: Standards for Compost Quality* of this licence.
- 8.8.2 Any compost not meeting any standard as per *Schedule F: Standards for Compost Quality* of this licence shall be re-used in the process or regarded as a waste. Records shall be kept of such waste, as per Condition 11.9 of this licence.
- 8.8.3 *Schedule F: Standards for Compost Quality*, of this licence may be amended, subject to the agreement of the Agency, having regard to updated compost quality standards or guidance.

*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, within six months of date of grant of this licence, ensure that a documented Accident Prevention Policy is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. 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) Isolate the source of any such emission;
  - (ii) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
  - (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.
- 9.4 Emergencies
- 9.4.1 All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 9.4.2 No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
- 9.4.3 In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
- 9.4.4 In the event that monitoring of the side slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

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

## **Condition 10. Closure, Restoration and Aftercare**

### 10.1 Landfill Restoration

- 10.1.1 The restoration of the landfill facility shall be completed by 31 December 2008.

- 10.1.2 Unless otherwise agreed in writing by the Agency, the licensee shall restore/rehabilitate the landfill in accordance with the *Restoration and Aftercare Plan 2005* submitted to the Agency on 5/10/2005 and subsequent modifications agreed by the Agency.
- 10.2 Finished levels/Profile
- 10.2.1 Landscaping of the facility shall be as described in *Restoration and Aftercare Plan 2005* submitted to the Agency on 5/10/2005.
- 10.2.2 Unless otherwise agreed by the Agency, the finished (post settlement restored) levels of the landfill shall be as indicated in Drawing No. MDR0349Mi0005F01 showing final restoration contours (dated May 2006 and submitted in relation to Waste Licence Register W0075-01).
- 10.2.3 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
- 10.2.4 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.
- 10.3 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  $1 \times 10^{-4}$  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  $1 \times 10^{-9}$  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 a geosynthetic layer.
- 10.4 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.
- 10.5 All soils shall be stored to preserve the soil structure for future use.
- 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 Closure, Restoration & Aftercare Management Plan (CRAMP):
- 10.7.1 The licensee shall prepare for agreement by the Agency, a fully detailed and costed plan for the closure, restoration and long-term aftercare of the site or part thereof.
- 10.7.2 The plan shall be maintained and 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.
- 10.8 The CRAMP shall include as a minimum, the following:-
- (i) A scope statement for the plan;

- (ii) 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;
  - (iii) A programme to achieve the stated criteria;
  - (iv) Where relevant, a test programme to demonstrate the successful implementation of the plan;
  - (v) Details of the long-term supervision, monitoring, control (including slope stability and erosion control), maintenance and reporting requirements for the restored facility;
  - (vi) Details of the costings for the plan and the financial provisions to underwrite those costs.
- 10.9 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 by both telephone and either facsimile or electronic mail, if available, to the Agency's Office of Environmental Enforcement, EPA, PO Box 3000, Johnstown Castle Estate, County Wexford, 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.
- 11.2 In the case of any incident which relates to discharges to water, the licensee shall notify the Southern Regional Fisheries Board as soon as practicable after such an incident.
- 11.3 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.

- 11.4 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 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.
- 11.5 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.
- 11.6 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) Relevant correspondence with the Agency;
  - (vi) Up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;
  - (vii) 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;
- and this documentation shall be available to the Agency for inspection at all reasonable times.
- 11.7 The licensee shall submit to the Agency, by the 31<sup>st</sup> 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.
- 11.8 The licensee shall maintain a Conditioning Plan for the facility as required by Council Directive 1999/31/EC on the landfill of waste. The Conditioning Plan shall include the particulars listed in Article 8 and any corrective measures which the operator considers will be needed to comply with the requirements of this Directive, with the exception of the requirements in Annex I, Point I.
- 11.9 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);
  - (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 results of any waste analyses required under *Schedule C: Control & Monitoring*, of this licence;
  - (ix) The tonnages and EWC Code for the waste materials recovered/disposed on-site.
- 11.10 A record shall be kept of each consignment of trade effluent, leachate and/or contaminated stormwater 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;
  - (v) Any incidents or spillages of leachate during its removal or transportation.
- 11.11 The following records shall be maintained by the licensee:-
- (i) All training undertaken by facility staff;
  - (ii) Results from all integrity tests of bunds and other structures and any maintenance or remedial works arising from them;
  - (iii) Details of all nuisance inspections; and
  - (iv) The names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 11.12 A record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include, as a minimum, the following:
- (i) The date and time during which spraying of insecticide is carried out;
  - (ii) Contractor details;
  - (iii) Contractor logs and site inspection reports;
  - (iv) Details of the rodenticide(s) and insecticide(s) used;
  - (v) Operator training details;
  - (vi) Details of any infestations;
  - (vii) Mode, frequency, location and quantity of application; and,
  - (viii) Measures to contain sprays within the facility boundary.
- 11.13 Waste Recovery Reports
- The licensee shall, as part of the AER, submit a report on the contribution by this facility to the achievement of the recovery targets and strategy stated in National and European waste policies and shall include the following:-
- (i) Inert waste to be used for cover/restoration material at the facility;

- (ii) The recovery of Construction and Demolition Waste;
  - (iii) The recovery of Waste Electrical and Electronic Equipment (WEEE);
  - (iv) 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.
- 11.14 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Office of Environmental Enforcement, EPA, PO Box 3000, Johnstown Castle Estate, County Wexford or to such other Agency office as may be specified 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 €19,450, 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 2005. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2005, 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.
- 12.1.3. Unless otherwise agreed, any revision to that part of the indemnity dealing with restoration and aftercare liabilities (refer Condition 10.7.1), 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.

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) 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 twelve 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.

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

## SCHEDULE A: Limitations

### A.1

The following waste related processes are authorised:

- i. Storage, shredding & composting of green waste;
- ii. Use of compost and inert waste for landfill restoration;
- iii. Recovery of dry recyclables at the Civic Waste Facility;
- iv. Packaging, handling, bulking, sizing, storage and transfer of waste.

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



### A.2 Waste Acceptance

**Table A.2 Waste Categories and Quantities**

WASTE TYPE <sup>Note 1</sup>	MAXIMUM (TONNES PER ANNUM)
<b>Inert Waste</b> <sup>Note 2</sup>	---
<b>Green Waste</b>	1,000
<b>Non- Hazardous Waste</b> Household Municipal Waste Household Dry Recyclables Construction & Demolition Waste	14,000 <sup>Note 3</sup>
<b>Hazardous Waste</b> 20 01 21 Fluorescent Tubes and other mercury-containing waste 20 01 23 Discarded equipment containing chlorofluorocarbons 20 01 26 Oil and fat other than those mentioned in 20 01 25 20 01 28 Paints, inks, adhesives and resins other than those mentioned in 20 01 27 20 01 32 Medicines other than those mentioned in 20 01 31 20 01 33 Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries 20 01 35 Discarded electrical and electronic equipment other than those mentioned in 20 01 21 & 20 01 23 containing hazardous components 20 01 36 Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	
<b>TOTAL</b>	<b>15,000</b>

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

**Note 2:** Inert waste accepted at the facility for landfill restoration works shall comply with the standards established in the EU decision (2003/33/EC). The quantity of such material is not limited in this schedule.

**Note 3:** Hazardous waste acceptance shall not exceed 1,000 tonnes per annum.



## SCHEDULE B: Emission Limits

### B.1 Emissions to Air

#### Landfill Derived Gas Concentration Limits:

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

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



#### Emission Limits Values for Landfill Gas Flare

Emission Point reference numbers: (to be agreed by the Agency)

Location: Landfill flarestack(s) & Generation Plant

Minimum discharge height: 5m

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

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



#### Dust Deposition Limits:

(Measured at the monitoring points indicated on Drawing DG0301 (Rev. A01) *Monitoring Locations for Proposed Green Waste Composting Facility* of the Application).

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

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



#### Emission Limit Values for Biofilter:

Emission Point reference number: Surface of Biofilter

Parameter	Emission Limit Value
Ammonia	50 ppm (v/v)
Hydrogen sulphide	5 ppm (v/v)
Mercaptans	5 ppm (v/v)



**B.2 Emissions to Water**

There shall be no Emissions to Water of environmental significance.

**B.3 Emission to Sewer**

Any proposal to discharge leachate directly to sewer shall be subject to Condition 5.8.

**B.4. Noise Emissions**

Daytime dB(A) L <sub>Aeq</sub> (30 minutes)	Night-time dB(A) L <sub>Aeq</sub> (30 minutes)
55 <sup>Note 1</sup>	45 <sup>Note 1</sup>

**Note 1:** There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.



## SCHEDULE C: Control & Monitoring

### 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 <sup>Note 1</sup>
Continuous burn	Continuous with alarm/call-out	Flame detector or equivalent approved Pumps/engines
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines

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



**Description of Treatment:** Composting - Aerated Static Piles

Control Parameter	Monitoring	Key Equipment <sup>Note 1</sup>
Extraction from beneath compost piles	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines/extraction fan
Aeration	Continuous	Oxygen probe Extraction fan
Temperature control of compost	Continuous	Temperature probe Extraction fan

**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 & Monitoring Reference Locations:

Landfill Gas Boreholes & Site Office

Borehole locations BH1, BH2, BH3, BH4A, BH5, BH7A, BH8, BH9, BH10, RC4, RC5, RC6A, as shown on Drawing No. DG0303 (Rev. F01) *Monitoring Locations* of the application.

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

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

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



#### Emission Point Reference No.:

Flare Stacks & Generation Plant

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method <sup>Note1</sup> /Technique
<b>Inlet</b>			
Methane (CH <sub>4</sub> ) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Carbon dioxide (CO <sub>2</sub> ) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Oxygen (O <sub>2</sub> ) % v/v	Continuous	Weekly	Electrochemical or equivalent approved
<b>Process Parameters</b>			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Residence Time	Quarterly	Quarterly	To be agreed.
<b>Outlet</b>			
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (Nox)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO <sub>2</sub> )	Biannually	Biannually	Flue gas analyser or equivalent approved
Particulates	Not applicable	Annually	Isokinetic/Gravimetric or equivalent approved

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



**Emission Point Reference No.:** Biofilter

Parameter	Monitoring Frequency	Analysis Method/Technique <sup>Note 1</sup>
<b><u>Bed Media</u></b>		
Odour assessment <sup>Note 2</sup>	Daily	Subjective Inspection
Condition and depth of biofilter <sup>Note 3</sup>	Daily	Visual Inspection
Moisture content	Bi-annually	Standard laboratory method
pH	Bi-annually	pH probe
Ammonia	Bi-annually	Standard laboratory method
Total viable counts	Bi-annually	Standard laboratory method
<b><u>Inlet and Outlet Gas</u></b>		
Ammonia	Bi-annually	Colourimetric Indicator Tubes
Hydrogen sulphide	Bi-annually	Colourimetric Indicator Tubes
Mercaptans	Bi-annually	Colourimetric Indicator Tubes

**Note 1:** Where appropriate all analyses shall be carried out by a competent laboratory using standard and internationally acceptable techniques. The testing laboratory and the testing technique shall be agreed by the Agency in advance.

**Note 2:** This subjective assessment should be carried out by a staff member immediately upon arriving on-site.

**Note 3:** The biofilter shall be examined to ensure that no channelling is evident, and that moisture content is adequate. Watering, turning, restructuring and the addition of supplementary bed materials, or total bed replacement shall be carried out, as required, subject to bed performance.



**C.2.1 Control of Emissions to Water**

There shall be no Emissions to Water of environmental significance.



**C.2.2 Monitoring of Emissions to Water**

There shall be no Emissions to Water of environmental significance.



### C.2.3 Leachate Monitoring

**Locations:** Monitoring Stations LT1, LT2, LT3A, LT4A, LT5 shown on Drawing No. DG0303 (Rev. F01) *Monitoring Locations* of the application.

Leachate holding tanks & sumps locations to be agreed by the Agency.

Parameter <sup>Notes 1, 2</sup>	Monitoring Frequency
Visual Inspection/Odour	Daily
Leachate Level	Weekly
BOD	Quarterly
COD	Quarterly
Chloride	Quarterly
Ammoniacal Nitrogen	Quarterly
Electrical Conductivity	Quarterly
PH	Quarterly
Total Oxidised Nitrogen	Quarterly
Metals/non metals <sup>Note 3</sup>	Annually
Cyanide (total)	Annually
Fluoride	Annually
List I/II organic substances <sup>Note 4</sup>	Annually
Mercury	Annually
Sulphate	Annually
Total P/orthophosphate	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually
Toxicity <sup>Note 5</sup>	As may be required by the Agency

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

**Note 2:** Visual Inspection and Leachate Levels to be monitored at all leachate monitoring stations, collection sumps and holding tank. Leachate composition to be monitored at the leachate holding tank.

**Note 3:** Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

**Note 4:** Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GM/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent), and pesticides (USEPA method 608 or equivalent).

**Note 5:** The number of toxic units (Tu) = 100/x hour EC/LC<sub>50</sub> in percentage vol/vol so that higher Tu values reflect greater levels of toxicity. For test regimes where species death is not easily detected, immobilisation is considered equivalent to death.

### C.3.1 Control of Emissions to Sewer

Any proposal to discharge leachate directly to sewer shall be subject to Condition 5.8.

### C.3.2 *Monitoring of Emissions to Sewer*

There shall be no Process Effluent Emissions to Sewer.



### C.4 *Waste Monitoring*

Not applicable.



### C.5 *Noise Monitoring*

**Locations:** B1 & B2 (Drawing Ref: DG0303 (Rev. F01) *Monitoring Locations* of the application)

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

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



## C.6 Ambient Monitoring

### C.6.1 Surface Water and Groundwater Monitoring

**Locations:** Surface Water: SW1, SW2, SW3, SW4, SW5, SW6  
Groundwater: BH1, BH2, BH5, BH8, BH9, BH10, RC4, RC5, RC6 plus three additional boreholes as per Condition 3.21.  
(Drawing Ref: DG0303 (Rev. F01) *Monitoring Locations* of the application).

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

**Note 1:** All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.  
Provide details on the tide when sampling.

- 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). Where there is reason to suspect organotin or organophosphorous contamination it is recommended to also scan for these compounds.
- Note 4:** Once off for List I/II organic substances.

### C.6.2 Ambient Air Monitoring

**Location:** Dust monitoring locations D1, D2, D3, D4, D5  
 Bioaerosol monitoring locations Bi1, Bi2, Bi3, Bi4, Bi5  
 (Drawing Ref: DG0301 (Rev. A01) *Monitoring Locations for Proposed Green Waste Composting Facility.*)

Parameter <sup>Note 1</sup>	Monitoring Frequency	Analysis Method/Technique
Dust (mg/m <sup>2</sup> /day)	As required by the Agency	Standard Method <sup>Note 2</sup>
Odour <sup>Note 4</sup>	As required by the Agency <sup>Note 3</sup>	See <sup>Note 3</sup>
PM <sub>10</sub> (µg/m <sup>3</sup> )	As required by the Agency	See <sup>Note 4</sup>
Bacteria	As required by the Agency	Grab sample <sup>Note 5</sup>
<i>Aspergillus fumigatus</i>	As required by the Agency	Grab sample <sup>Note 5</sup>

- Note 1:** Meteorological monitoring to be carried out concurrently with all above monitoring.
- Note 2:** Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute).
- Note 3:** Odour monitoring locations shall be agreed by the Agency. Odour measurements shall be by olfactometric measurement and analysis for mercaptans, hydrogen sulphide, ammonia, and amines.
- Note 4:** As described in prEN12341 "Air Quality - field test procedure to demonstrate reference equivalence of sampling methods for PM<sub>10</sub> fraction of particulate matter" or an alternative agreed in writing by the Agency.
- Note 5:** Enumeration of colonies to be carried out as described in 'Standardised Protocol for the Sampling and Enumeration of Airborne Micro-organisms at composting Facilities' the Composting Association 1999.

## **SCHEDULE D: Specified Engineering Works**

### **Specified Engineering Works**

Development of the facility including installation of waste handling, processing, recycling/recovery infrastructure and installation of increased waste processing capacity as well as any abatement system(s).

Final capping.

Installation of landfill gas management infrastructure.

Installation of leachate management infrastructure.

Installation of groundwater control infrastructure.

Installation of surface water management infrastructure.

Installation of drainage network including silt traps and oil interceptors etc.

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  
Headquarters  
PO Box 3000  
Johnstown Castle Estate  
County Wexford

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 <sup>Note1</sup>	Report Submission Date
Annual Environment Report (AER)	Annually	By 31 <sup>st</sup> March of each year.
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	As part of the AER.
Specified Engineering Works reports	As they arise	In advance of 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.
Noise Monitoring	Annually	As part of the AER.
Leachate Disposal Agreement	-	In advance of commencement of waste disposal.
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, NH<sub>4</sub>-N, NO<sub>3</sub>-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 by the Agency:

1. Respiration activity after four days AT<sub>4</sub> is ≤10mg/O<sub>2</sub>/g dry matter or Dynamic Respiration Index is ≤1,000mgO<sub>2</sub>/kg VS/h.
2. Germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent 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 percent 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.
4. If no other determination of maturity is made, the compost must be cured for a six month period. In addition, offensive odours from the compost shall be minimal for the compost to be deemed mature.

## 2. Trace Elements (Compost) <sup>Notes 1,2</sup>

### Maximum Trace Element Concentration Limits <sup>Note 3</sup>

Parameter (mg/kg, dry mass)	Compost Quality Standards <sup>Note 4</sup>		Stabilised Biowaste <sup>Note 4</sup>
	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 (PAH's)	-	-	3
Impurities >2mm <sup>Note 5</sup>	<0.5%	<0.5%	<3%
Gravel and Stones >5mm <sup>Note 5</sup>	<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:** Monitoring of Arsenic (As) is required if waste timber is used in the composting process.

**Note 3:** 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 4:** Normalised to 30% organic matter content.

**Note 5:** 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 50g	n=5
<i>Faecal Coliforms</i>	≤ 1000 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 analyses and sample numbers.

## SCHEDULE G: Annual Environmental Report

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

Reporting period.  
 Waste activities carried out at the facility.  
 Quantity and Composition of waste recovered, received and disposed of during the reporting period and each previous year (relevant EWC codes to be used).  
 Summary of emissions from the facility.  
 Volume of leachate produced and transported off-site.  
 Waste recovery report.  
 Topographical survey.  
 Restoration works projected completion date.  
 Resource consumption summary.  
 Review of nuisance controls.  
 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.  
 Ambient monitoring summary.  
 Current monitoring location reference drawing.  
 Tank and pipeline testing and inspection report.  
 Reported incidents summary.  
 Energy efficiency audit report summary.  
 Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.  
 Report on progress made and proposals being developed to minimise generation of leachate for disposal.  
 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.  
 Review of environmental liabilities.  
 Statement of financial provisions in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).  
 Any amendments to the CRAMP.  
 Detailed Statement, with mass balance, of C& D 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.

Sealed by the seal of the Agency on this the 31<sup>st</sup> July, 2007.

**PRESENT when the seal of the Agency  
 Was affixed hereto:**

**Dr. Padraic Larkin, Director**