



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

WASTE LICENCE
RECOMMENDED DECISION
LANDFILL FOR NON-HAZARDOUS WASTE

Waste Licence	W0178-02
Register No:	
Licensee:	Greenstar Recycling Holdings Limited
Location of Facility:	Killagh More, Ballybaun (E.D. Killaan), Ballintober (E.D. Killaan), Ballinasloe, County Galway

INTRODUCTION

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

This licence is for the development and operation of a landfill at Killagh More, near Kilconnell in East Galway. The facility covers an area of approximately 60 hectares and the landfill footprint will occupy approximately 15 hectares to be developed on a phased basis. The landfill is permitted to accept residual non-hazardous household, commercial and industrial waste. No hazardous wastes, with the exception of certain types of asbestos waste, liquid wastes or sludges may be disposed of at the facility.

The facility is designed to accept a total of 100,000 tonnes of waste per annum for disposal and 27,320 tonnes of waste per annum for recovery. It is estimated that the facility will remain in operation for another 5 years. The licence requires that a buffer zone of 40 metres, within which no waste is deposited, be maintained between the landfill footprint and the eastern boundary of the facility. The licensee is required to undertake a landscaping programme.

The licensee is required to continue to develop all necessary infrastructure and to manage and operate the facility so that activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility to the Agency.

The licence sets out in detail the conditions under which Greenstar Recycling Holdings Limited will operate and manage this facility.

Table of Contents

	Page No.
INTERPRETATION	1
<i>PART I ACTIVITIES LICENCED</i>	5
<i>PART II CONDITIONS</i>	6
CONDITION 1 SCOPE OF THE LICENCE	6
CONDITION 2 MANAGEMENT OF THE FACILITY	9
CONDITION 3 FACILITY INFRASTRUCTURE	10
CONDITION 4 RESTORATION AND AFTERCARE	15
CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT	16
CONDITION 6 EMISSIONS	20
CONDITION 7 NUISANCE CONTROL	21
CONDITION 8 MONITORING	22
CONDITION 9 CONTINGENCY ARRANGEMENTS	24
CONDITION 10 RECORDS	25
CONDITION 11 REPORTS AND NOTIFICATIONS	27
CONDITION 12 CHARGES AND FINANCIAL PROVISIONS	29
SCHEDULE A : Waste Acceptance	31
SCHEDULE B : Specified Engineering Works	31
SCHEDULE C : Emission Limits	31
SCHEDULE D : Monitoring	32
SCHEDULE E : Recording and Reporting to the Agency	36
SCHEDULE F : Acceptance of Inert Waste for Recovery	36
SCHEDULE G : Content of the Annual Environmental Report	37

DECISION & REASONS FOR THE DECISION

Reasons for the decision

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available that, subject to compliance with the Conditions of the 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 2008.

In reaching this decision the Agency has considered documentation received from the licensee, a submission received and the report of its inspector.

INTERPRETATION

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts, 1996 to 2008 (the Acts), unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Annually	All or part of a period of twelve consecutive months.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques as defined in Article 2(11) of Council Directive 96/61/EC concerning integrated pollution prevention and control.
Biodegradable waste	Waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste and paper and cardboard.
Biodegradable municipal waste (BMW)	The biodegradable component of municipal waste, not including bio-stabilised residual waste. Biodegradable municipal waste is typically composed of food and garden waste, wood, paper, cardboard and textiles.
Bio-stabilised residual waste	Residual biodegradable municipal waste that has been treated to achieve an EPA-approved biodegradability stability standard (as defined in this licence) prior to landfilling or alternative use agreed.
Bund	A structure to provide containment for any loss of liquid from a storage tank and associated pipework. The Agency's Landfill Design Manual (draft) sets forth design criteria.
CEN	(Comité Européen de Normalisation - European Committee for Standardisation.
Characterisation of waste	The sampling and analysis of waste to determine, amongst other things, its nature and composition, including the proportions of biodegradable, recyclable and other materials in the waste.
Classification of waste	The classification of waste as inert, non-hazardous or hazardous for the purpose of article 4 of Council Directive (1999/31/EC) on the landfill of waste.

Coding of waste	The allocation of a European Waste Catalogue/Hazardous Waste List code and a concise/standardised description of the waste, including information on the source of the waste, e.g. municipal, industrial, construction and demolition etc.
Condition	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed by the Agency.
Daily	Consecutive 24 hour periods.
Day	A period from 0000 hours to 2400 hours.
Daily Cover	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.
Daytime	0800 hrs to 2200 hrs.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emergency	Those occurrences defined in Condition 9.4.
Emission	As defined in Section 5 (1) of the Act.
Emission Limits	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Hours of Operation	The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works, such as the removal and laying of daily cover. Different activities within the facility may have different hours of waste acceptance.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste. Different activities within the facility may have different hours of waste acceptance.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or

harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.

Incident	The following shall constitute an incident for the purposes of this licence:- a) An emergency; b) Any emission which does not comply with the requirements of this licence; c) Any exceedance of the daily duty capacity of the waste handling equipment; d) Any trigger level specified in this licence which is attained or exceeded; e) Any indication that environmental pollution has, or may have, taken place.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Impulsive Noise	As defined in British Standard BS 4142, 1990. "Method for rating industrial noise affecting mixed residential and industrial areas".
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A waste licence issued in accordance with the Act.
Licensee	Greenstar Recycling Holdings Limited.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Mobile Plant	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Municipal solid waste (MSW)	Household waste as well as commercial and other waste which, because of its nature or composition, is similar to household waste. Excluding municipal sludges and effluents.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Night-time	2200 hrs to 0800 hrs.
Oil Separator	Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, eg. oil and petrol).
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc which may be recycled.
Residual waste	The fraction of collected waste remaining after a treatment or diversion step, which generally requires further treatment or disposal.
Quarterly	At approximately three monthly intervals.

Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
Specified Emissions	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , of this licence.
SOP	(Standard Operating Procedure)
Telemetry	Automatic transmission and measurement of data from remote sources by wire or radio or other means.
Treated Sludge	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
TOC	(Total Organic Carbon)
Treatment/pre-treatment	In relation to waste, any manual, thermal, physical, chemical or biological processes that change the characteristics of waste in order to reduce its volume or hazardous nature or facilitate its handling, disposal or recovery.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Wastewater	Contaminated water including water that has been used for washing and/or flushing (including foul water).
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	9.00 a.m. to 5.30 p.m. Monday to Friday.
Working Face	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts, 1996 to 2008, the Agency proposes, under Section 46(8) of the said Acts to grant this Waste Licence to Greenstar Recycling Holdings Limited to carry on the waste activities listed below at Killagh More, Ballybaun (E.D. Killaan), Ballintober (E.D. Killaan), Ballinasloe, County Galway subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purpose of Article 48 of the Waste Management (Licensing) Regulations 2004 (S.I. No. 395) 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 2008

Class 1	Deposit on, in or under land (including landfill): This activity is limited to the disposal of non-hazardous waste into lined cells.
Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the management of leachate and surface water at the facility.
Class 5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment: This is the principal activity. This activity is limited to the disposal of non-hazardous waste into lined cells.
Class 6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule: This activity is limited to potential future treatment of leachate at the facility.
Class 13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced: This activity is limited to the temporary storage of unacceptable wastes in the waste quarantine area prior to dispatch off-site to an alternative facility.

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

Class 4	Recycling or reclamation of other inorganic materials: This activity is limited to the use of material reclaimed from construction and demolition waste for the purposes of fill, daily cover, road construction and other uses.
Class 11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the use of material reclaimed from construction and demolition waste for the purposes of fill, daily cover, road construction and other uses.
Class 13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to the temporary storage prior to use of material reclaimed from construction and demolition waste for the purposes of fill, daily cover, road construction and other uses.

PART II CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red (labelled as Activity Boundary) on Drawing No. 1501072/01/304 (Rev. A) of the EIS. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management Acts, 1996 to 20038 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.
- 1.4. Only those waste types listed in *Schedule A: Waste Acceptance*, of this licence may be recovered and/or disposed of at the facility subject to the maximum quantities and other constraints specified in that Schedule and in this licence.
- 1.5. Waste Acceptance
 - 1.5.1. Wastes shall be accepted at the facility only from customers who are holders of a waste permit, unless exempted, under the Waste Management (Collection Permit) Regulations 2007 to 2008, or from licensed/permited facilities.
 - 1.5.2. Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility.
 - 1.5.3. No hazardous wastes other than asbestos waste permitted under Condition 5.10, liquid wastes, incinerator ash or sludges shall be disposed of at the facility.
 - 1.5.4. No waste which in the conditions of the landfill, is explosive, corrosive, oxidising, highly flammable or flammable as defined in EU Council Directive 91/689/EEC shall be accepted at the landfill.
 - 1.5.5. Gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste.
 - 1.5.6. The dilution or mixture of waste solely in order to fulfil relevant waste acceptance criteria established under Condition 1.12 is prohibited.
- 1.6. Waste Treatment

Only waste that has been subject to treatment shall be accepted for disposal at the landfill facility.

 - (i) Treatment shall reflect published EPA technical guidance as set out in *Municipal Solid Waste – Pre-treatment and Residuals Management*, EPA, 2009.
 - (ii) With the agreement of the Agency, this condition shall not apply to:
 - inert wastes for which treatment is not technically feasible;
 - other waste for which such treatment does not contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.
- 1.7. Limit on acceptance of biodegradable municipal waste

1.7.1 The following limits shall apply:

- (i) For the calendar years 2010, 2011 and 2012, a maximum of 40% by weight of municipal solid waste (MSW) accepted for disposal to the body of the landfill shall comprise biodegradable municipal waste (BMW),
- (ii) For the calendar years 2013, 2014 and 2015, a maximum of 24% by weight of MSW accepted for disposal to the body of the landfill shall comprise BMW, and
- (iii) For the calendar year 2016 and thereafter, a maximum of 15% by weight of MSW accepted for disposal to the body of the landfill shall comprise BMW,

unless an alternative has been agreed in writing by the Agency in accordance with condition 1.7.2.

1.7.2 Two or more licensed landfills may seek the agreement of the Agency that collectively they will arrange to comply with condition 1.7.1. Any agreements entered into become part of this licence. In seeking agreement the following factors, as a minimum, shall be addressed in any proposal submitted to the Agency:

- BAT;
- age, intake rate and life expectancy of facility;
- waste intake characterisation;
- potential for odour generation;
- proximity to sensitive receptors;
- capacity of landfill gas and leachate infrastructure; and
- consideration of any potential environmental impact or change to operational practices.

1.8 Determination of biodegradable municipal waste content of municipal waste

1.8.1 The licensee shall determine the biodegradable municipal waste content of MSW accepted for disposal to the body of the landfill. Waste that has been bio-stabilised in accordance with condition 1.8.4 shall not be considered BMW.

1.8.2 Bio-stabilised residual wastes meeting the requirements of Condition 1.8.4 received at the landfill facility may be included in the determination of MSW quantities accepted at the facility for the purposes of Condition 1.7.1.

1.8.3 In determining BMW content, the licensee shall use approved calculation factors for BMW content of municipal waste streams published by the EPA. With the agreement of the EPA, alternative factors can be used if they have been determined following waste characterisation carried out in accordance with EPA-approved characterisation protocols including, where appropriate, the use of EPA-approved contractors.

1.8.4 In the case of bio-stabilised residual wastes, stabilisation means the reduction of the decomposition properties of the waste to such an extent that offensive odours are minimised and that the respiration activity after four days (AT₄) is <10mg O₂/g DM until 1 January 2016 and <7mg O₂/g DM thereafter.

1.8.5 Bio-stabilised residual wastes shall be monitored in accordance with Schedule D.8.

1.8.6 Waste that was accepted to the body of the landfill as stabilised but subsequently is found not to meet the stabilisation standard set out in Condition 1.8.4 shall be notified to the Agency and included in the calculation of BMW accepted to the body of the landfill when

assessing compliance with Condition 1.7.1. In the event of failure to meet the stabilisation standard, each and every load of bio-stabilised residual waste accepted from the failed source following receipt of the failed test result shall be tested, notwithstanding the testing frequency set out in Schedule D.8, until otherwise agreed with the Agency.

- 1.8.7 The licensee is required to maintain on-site as part of their waste acceptance procedures and associated documentation, evidence to demonstrate compliance with condition 1.7.1, which shall be available for inspection by Agency personnel.

1.9 Waste Acceptance Hours and Hours of Operation

1.9.1 Landfill

1.9.1.1 Waste may be accepted at the facility only for disposal at the landfill between the hours of 8.00am and 5.45pm Monday to Friday inclusive and 8.00am-1.45pm on Saturdays.

1.9.1.2 The landfill may be operated only during the hours of 7.30am to 6.30pm Monday to Friday inclusive and 7.30am-2.30pm on Saturdays.

1.9.1.3 Waste shall not be accepted at the landfill on Sundays or Public Holidays.

1.9.2 Borrow area

1.9.2.1 Operation of the borrow area is limited to 8.00am and 8.00pm Monday to Friday inclusive and 8.00am-3.00pm on Saturdays.

- 1.10 Where the Agency considers that a non-compliance with any condition of this licence has occurred, it may serve a notice on the licensee specifying.

1.10.1 That only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice.

1.10.2 That the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice.

1.10.3 That the licensee shall carry out any other requirement specified in the notice.

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

- 1.11 Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.

1.12 Waste Acceptance and Characterisation Procedures

Within one month of the date of grant of this licence, the licensee shall submit to the Agency for its agreement updated written procedures for the acceptance and handling of all wastes. These procedures shall include details of the treatment of all waste to be carried out in advance of acceptance at the facility and shall also include methods for the characterisation, classification and coding of waste. The procedures shall have regard to the Council Decision (2003/33/EC) establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC on the landfill of waste

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

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

2.2 Management Structure

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

2.3 Environmental Management System (EMS)

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

2.3.2.1 Schedule of Environmental Objectives and Targets

The licensee shall prepare and maintain a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology (including emissions prevention/reduction), and the beneficial recovery/recycling of waste in subsequent landfill engineering operations. 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).

The licensee shall ensure insofar as practicable that environmental objectives and targets are met according to the stated schedule.

2.3.2.2 Environmental Management Plan (EMP)

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

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

2.3.2.3 Landfill Environmental Management Plan (LEMP)

Notwithstanding the provisions of Condition 2.3.2.2, within 12 months of date of grant of this licence, the operator shall prepare, operate and maintain a Landfill Environmental Management Plan (LEMP) covering aspects not already included in the EMP. This Plan shall have regard to the guidance set out in EPA publications. A copy of this plan shall be submitted to the Agency. The LEMP shall be regularly reviewed (at least annually) in light of operational experiences at the facility, the stage of development of the facility (active, closure, aftercare), evolving legislative and BAT requirements, as well as any Agency instructions that may issue, with updates notified to the EPA as part of the AER.

2.3.2.4 Corrective Action Procedures

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

2.3.2.5 Awareness and Training Programme

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

2.3.2.6 Communications Programme

The licensee shall establish and maintain a Communications Programme to inform the local community and ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

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

CONDITION 3 FACILITY INFRASTRUCTURE

- 3.1 The licensee shall establish all infrastructure as required by the conditions of this licence.
- 3.2 Specified Engineering Works
 - 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. Such proposals shall be in accordance with the Technical Landfill Manuals published by the Agency. No such works shall be carried out without the prior agreement of the Agency.
 - 3.2.2 All specified engineering works shall be supervised by a competent person(s) agreed by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken to ensure the requirements of the licence are complied with.
 - 3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include the following information:-

- a) A description of the works;
- b) As-built drawings of the works;
- c) Records and results of all tests carried out (including failures);
- d) Drawings and sections showing the location of all samples and tests carried out;
- e) Daily record sheets/diary;
- f) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;
- g) Name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
- h) Records of any problems and the remedial works carried out to resolve those problems;
- i) Any other information requested in writing by the Agency; and
- j) Written statement by the competent person(s) identified in Condition 3.2.2 to indicate that the testing requirements specified in the Technical Landfill Manuals published by the Agency have been complied with.

3.3 Facility Notice Board

3.3.1 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.

3.3.2 The board shall clearly show:-

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

3.4 Facility Security

3.4.1 Effective security and stockproof fencing and gates shall be installed and maintained at the facility as agreed in advance by the Agency.

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

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

3.4.3 A Closed Circuit Television (CCTV) system shall be provided and maintained at the facility at locations which have been agreed by the Agency.

3.5 Facility Roads and Site surfaces

3.5.1 Facility roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.6 Facility Office

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

- 3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.
- 3.7 Waste Inspection and Quarantine Areas
- 3.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.
- 3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.
- 3.7.3 Drainage from these areas shall be directed to the leachate collection system.
- 3.8 Weighbridges
- 3.8.1 The licensee shall establish and maintain two weighbridges at the facility, the drainage from which shall be directed to the leachate collection system.
- 3.9 Wheel Cleaning
- 3.9.1 The licensee shall establish and maintain a wheelwash at the facility, the drainage from which shall be directed to the leachate collection system.
- 3.10 Wastewater collection
- 3.10.1 Treated facility wastewater shall be directed to the leachate collection system.
- 3.11 Tank and Drum Storage Areas
- 3.11.1 All tank and drum storage areas shall be rendered impervious to the materials stored therein.
- 3.11.2 All tank and drum storage areas shall, as a minimum, be banded, either locally or remotely, to a volume not less than the greater of the following:-
- (a) 110% of the capacity of the largest tank or drum within the banded area; or
 - (b) 25% of the total volume of substance which could be stored within the banded area.
- 3.11.3 All drainage from banded areas shall be diverted for collection and safe disposal.
- 3.11.4 All inlets, outlets, vent pipes, valves and gauges must be within the banded area.
- 3.11.5 Bunds should be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004). The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area.
- This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.
- 3.12 Landfill Lining
- 3.12.1 Prior to the installation of the landfill liner, the licensee shall demonstrate to the Agency that all peat in the sub-formation deposits, which will underlie the liner, has been removed.
- 3.12.2 Formation levels of the cells shall be as shown on Drawing No. 1501072/01/320 (Rev. B) unless otherwise agreed by the Agency.

- 3.12.3 The landfill liner shall comprise:-
- a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s, (or equivalent to be agreed by the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer;
 - b) A geotextile protection layer placed over the HDPE layer;
 - c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains (or equivalent as agreed by the Agency); and
 - d) The side walls shall be designed and constructed to achieve an equivalent protection.
- 3.12.4 The lining of the surface water lagoon shall be a composite liner equivalent to the landfill liner and constructed using the same methods.
- 3.12.5 Following the placement of the liner system in all cells, and the surface water lagoon, the licensee shall commission an independent leak detection survey of the liner system.
- 3.12.6 The liner detailed design and its construction shall be in accordance with the guidelines provided in the Agency's *Landfill Manual, Landfill Site Design*.

3.13 Buffer Zone

- 3.13.1 A Buffer Zone, in which no waste shall be disposed of, shall be provided and maintained within the facility. The Buffer Zone shall be as shown on Drawing No. 1501072/01/305 (Rev A). The buffer zone shall be no less than 40m wide between the eastern perimeter of the landfill footprint and the public road.

3.14 Leachate Management Infrastructure

- 3.14.1 Leachate management infrastructure shall be provided and maintained at the facility as described in Section 3.7 and as shown on the relevant drawings of the EIS, unless otherwise agreed by the Agency.
- 3.14.2 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

3.15 Landfill Gas Management

- 3.15.1 All infrastructure for the active collection and flaring of landfill gas shall be installed at the facility. The flare shall comply with the emission limits in *Schedule C: Emission Limits*, of this licence.
- 3.15.2 The landfill gas flare shall be of an enclosed type design and the combustion air supply shall be controlled so as to achieve a minimum temperature of 1,000°C and 0.3 seconds retention time at this temperature. The design and operation of the landfill gas flare shall be agreed in advance by the Agency.
- 3.15.3 Until the operation of the landfill gas flare, passive landfill gas management at the facility shall be carried out. Landfill gas management and infrastructure shall meet the recommendations given in the Agency Manual on "Landfill Operational Practices".
- 3.15.4 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.
- 3.15.5 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

3.16 Surface Water Management

- 3.16.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility.
- 3.16.2 The surface water retention lagoon, associated surface water management infrastructure, and the site access roads for Phase I shall be constructed prior to the commencement of construction of the remainder of the facility.
- 3.16.3 The temporary surface water management infrastructure for the borrow area shall be constructed prior to extraction of material from the borrow area. Surface water emissions from the borrow area shall pass through the surface water management infrastructure prior to its discharge to the Killaghmore Stream.
- 3.16.4 A surface water swale shall be installed around the perimeter of the landfill (on a phased basis) and shall be designed in a manner to prevent side wall erosion, stagnation and inadequate capacity. The surface water swale shall also capture surface water run-off from the storage of soils (peat, top soil, subsoil, etc.) at the facility and shall drain to the surface water retention lagoon.
- 3.16.5 The surface water retention lagoon shall be capable of dealing with all surface water arising at the facility. The inlets to the surface water retention lagoon from the surface water swale and the facility roads shall be kept separate for the purposes of individual monitoring. Isolation valves shall be maintained on these inlets in order to stop inflow where necessary. A reed bed treatment system shall be installed and maintained at the outlet of the surface water retention lagoon following consultation with the Western Regional Fisheries Board.
- 3.16.6 Surface water run-off from arising impermeable surfaces and other areas as shown on Drawing No. 1501072/01/325 (Rev. A) of the EIS shall pass through a grit trap and Class I oil interceptor prior to discharging to the surface water retention lagoon.
- 3.16.7 The licensee shall consult with the Western Regional Fisheries Board in advance of the in-stream works associated with the re-diversion/culverting of the Killaghmore and/or Ballintober Streams.

3.17 Groundwater Management

- 3.17.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the following:-
- a) the protection of the groundwater resources from pollution by the waste activities; and
 - b) The protection of other infrastructure, such as the liner, from any adverse effects caused by the groundwater.
- 3.17.2 Any groundwater arising from the construction of the facility shall be diverted to the surface water lagoon.

3.18 Telemetry

- 3.18.1 A telemetry system shall be installed and maintained at the facility. This system shall include for:-
- a) Recording of leachate levels in the lined cells and storage tank;
 - b) Recording of levels, in the surface water lagoon, flows to the perimeter streams and flows in the perimeter streams;
 - c) Quality of the surface water being discharged to the perimeter streams;

- d) Status of the penstock on the surface water lagoon and status of landfill gas flare; and
- e) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

The monitoring infrastructure (in relation to surface water) required by (b), (c) and (d) above shall be operational prior to the commencement of surface water discharges from the facility.

3.19 Monitoring Infrastructure

3.19.1 Landfill Gas

The licensee shall install and maintain:

- a) a landfill gas monitoring point every 50m around the landfill footprint. Installation of these wells shall proceed with the phased construction of the landfill and shall occur prior to commencement of waste disposal activities.
- b) an effective permanent gas monitoring system in the site office and any other enclosed structures at the facility.
- c) a minimum of two monitoring boreholes per cell within the waste mass.

3.19.2 The licensee shall provide and maintain a meteorological station at the facility capable of monitoring the parameters listed in *Schedule D.6: Meteorological Monitoring* of this licence.

3.19.3 Groundwater

- a) Except as may be otherwise agreed by the Agency, the licensee shall utilise the two additional bedrock boreholes installed to the North/North-East of the landfill to allow for the sampling and analyses of groundwater.

3.19.4 Surface water

- a) The licensee shall install a continuous flow monitor to facilitate the monitoring of flows in the Ballintober Stream.

3.19.5 Replacement of Infrastructure

- a) 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.

3.20 The licensee shall maintain records that clearly identify and mark the position of the gas pipeline at the facility in order to avoid accidental disturbance.

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

CONDITION 4 RESTORATION AND AFTERCARE

4.1. The licensee shall maintain and update to the satisfaction of the Agency a detailed Restoration and Aftercare Plan (RAP) for the facility. The Restoration and Aftercare Plan for the facility shall include the details submitted in Drawing No. 336 (Rev A), entitled 'Restoration Plan' and shall include a detailed timetable of works. The licensee shall restore the facility on a phased basis.

4.2. The restoration of the landfill facility shall commence as soon as a cell is finally capped. Landfill restoration shall be completed within 36 months of the date of cessation of waste deposition at the landfill facility.

- 4.3. The final profile/height of the facility shall be as shown in Drawing No. 1501072/01/326 (Rev. B) and shall be no greater than 124mOD Malin Head (post settlement).
- 4.4. Final Capping
- 4.4.1. Unless otherwise agreed by the Agency, the final capping shall consist of the following:-
- a) Top soil (150 -300mm);
 - b) Subsoils, such that total thickness of top soil and subsoils is at least 1m;
 - c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of 1×10^{-4} m/s (or equivalent as agreed by the Agency);
 - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-9} m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and
 - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.5. No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 4.6. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.

REASON: To provide for the restoration of the facility.

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

- 5.1 Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.2 All wastes shall be checked at the working face. Any waste deemed unsuitable for acceptance 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.
- 5.3 Working Face
- 5.3.1 Unless the prior agreement of the Agency is given, the following shall apply at the landfill:-
- a) Only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and
 - b) The working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.
- 5.3.2 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.
- 5.3.3 The working face shall each day at the end of the day, be covered with suitable material. At the end of the working week a minimum of 150mm of inert material shall be placed over the waste.
- 5.4 Daily and Intermediate Cover

- 5.4.1 Bio-stabilised residual waste shall only be used as landfill cover where it has been stabilised in accordance with Condition 1.8.4, and complies with any requirements of the Department of Agriculture, Fisheries and Food relating to the management of animal by-products and has been agreed in advance with the Agency.
- 5.4.2 Any cover material at any location within the facility, which is eroded, washed off or otherwise removed, shall be replaced by the end of the working day.
- 5.5 Soil/peat storage
- 5.5.1 Soil/peat removed during site preparation, other than that to be immediately reused for site construction purposes, shall be stored at a location and manner agreed by the Agency.
- 5.5.2 Where soils are stored for future use, they shall be stored in a manner which preserves the soil structure.
- 5.5.3 Surface water run-off from the stockpiles shall be controlled and temporary seeding of the stockpiles carried out where appropriate.
- 5.6 Landscaping/Tree disturbance
- 5.6.1 The woodland blocks entitled 'Broadleaf Block A' and 'Broadleaf Block C' as outlined in Figure 1501072/01/308 of the EIS shall be retained by the licensee.
- 5.6.2 Due consideration shall be given to the protection of potential bat populations where buildings or mature trees at the facility are to be disturbed. This shall include the measures outlined in Section 4.6.3.2 of the EIS.
- 5.6.3 Hedgerows and trees shall not be removed or disturbed between March 1st and August 31st unless otherwise agreed by the Agency.
- 5.6.4 General maintenance of landscaping measures shall be carried out as outlined in the EIS in Section 12 (vi) of the 'Article 12 &13 Response' which was received by the Agency on 28/5/03.
- 5.7 Landscaping implementation programme
- 5.7.1 The licensee shall, to the satisfaction of the Agency, develop and maintain a landscaping implementation programme which shall include the following:
- (i) Replacement and/or improvement of individual trees, tree lines/hedgerows and broadleaf woodland as outlined in Section 4.6.2 of the EIS. This shall include details on tree types, tree ages and locations.
 - (ii) Perimeter planting for the purpose of screening landfill construction and operation. This perimeter planting shall be put in place as soon as possible after the date of grant of licence and shall consist of the tree mix outlined in Drawing No. 336 (Rev. B), entitled 'Restoration Plan'.
 - (iii) Emplacement and planting of berms for the purpose of screening the borrow area, as referred to in Section 12 (ii) of the 'Article 12 &13 Response' received by the Agency on 28/5/03.
 - (iv) The installation of a berm along a portion of the eastern boundary of the facility for the purposes of screening landfill construction and operation. This berm shall be no lower than 3m high and shall be seeded/landscaped with tree mix 1A as outlined in Drawing No. 336 (Rev. B), entitled 'Restoration Plan'. The implementation programme shall include a map detailing the location and extent of the berm.
- 5.8 Operational Controls
- 5.8.1 The landfill shall be filled in accordance with the three phase sequence specified in Drg. No. 1501072/01/320 (Rev. A).

- 5.8.2 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
 - 5.8.3 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without the prior agreement of the Agency.
 - 5.8.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.
 - 5.8.5 Unless otherwise agreed, filled cells shall be permanently capped within 24 months of the cells having been filled to the required level.
 - 5.8.6 Scavenging shall not be permitted at the facility.
 - 5.8.7 Gates shall be locked shut when the facility is unsupervised.
 - 5.8.8 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
 - 5.8.9 Fuels shall be stored only at appropriately bunded locations on the facility.
 - 5.8.10 All tanks and drums shall be labelled to clearly indicate their contents.
 - 5.8.11 No smoking shall be allowed on the facility other than in the area of the administration building.
 - 5.8.12 Flare unit efficiency shall be tested once it is installed and once every three years thereafter.
- 5.9 Inert Waste
- 5.9.1 Only inert waste as outlined in *Schedule F: Acceptance of Inert Waste for Recovery*, shall be accepted at the facility, unless otherwise agreed by the Agency.
- 5.10 Asbestos Waste
- 5.10.1 Asbestos waste to be disposed of at the facility shall comply with the requirements of Article 6(c)(iii) of the Landfill Directive (1999/31/EC) and be accepted and managed in accordance with the procedures laid down in Section 2.3.3 of the Annex to Council Decision 2003/33/EC.
 - 5.10.2 Asbestos-based waste must be double-wrapped in heavy-gauge plastic, which is clearly labelled to indicate the presence of asbestos.
 - 5.10.3 Disposal of asbestos waste shall be into prepared bays or trenches of at least 2 metres in depth and which are formed in a precisely located self contained cell that does not accept any biodegradable non-hazardous waste.
 - 5.10.4 Deposited asbestos waste shall be covered immediately with at least 250mm of suitable material. At the end of the day, the waste shall be covered with a minimum of 500mm of suitable material.
 - 5.10.5 No asbestos waste shall be present within 2.5 metres of the final surface levels.
 - 5.10.6 The amount of waste containing asbestos shall be limited to a maximum of 10% or 50,000 tonnes (whichever is the least) of total waste intake for the landfill.
- 5.11 Off-site Disposal and Recovery
- 5.11.1 Waste sent off-site for recovery or disposal shall be conveyed only by a waste contractor agreed by the Agency.
 - 5.11.2 All waste transferred from the facility shall be transferred only to an appropriate facility agreed by the Agency.
 - 5.11.3 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.
- 5.12 The waste acceptance procedures established under Condition 1.12 shall provide:-
- (i) For the checking of waste documentation on receipt of waste in the waste reception area;

- (ii) For non pre-cleared customers, the visual inspection and testing of waste in the waste inspection area pending acceptance/rejection;
- (iii) For the visual inspection of waste when deposited at the working face;
- (iv) For the keeping for two months of any samples associated with on-site verification sampling of waste accepted at the facility.

5.13 Borrow Area

- 5.13.1 A 3m high grassed berm shall be constructed and maintained across the western boundary of the borrow area.
- 5.13.2 Planting (for the purposes of screening) shall also be maintained around the perimeter of the borrow area.
- 5.13.3 During the period of operation, the borrow area and all stockpiles shall be maintained so as to minimise dust and noise generation. This shall include the following measures:
 - i) Road and stockpile wetting;
 - ii) Use of dust covers/tarpaulins;
 - iii) Carrying out of temporary seeding of exposed areas where possible; and
 - iv) Siting of stockpiles to provide acoustic screening.

5.14 Leachate Management

- 5.14.1 Leachate levels in the waste shall not exceed a level of 1m over the top of the liner at the base of the landfill.
- 5.14.2 The frequency of leachate removal/discharge from the leachate holding tank shall be such that a minimum freeboard of 0.75m shall be maintained in the holding tank at all times.
- 5.14.3 The level of leachate in the pumping chambers, lined cells and leachate holding tank shall be monitored continuously by a system that shall automatically activate leachate pumps to maintain leachate at the required level. A high level alarm shall also be installed in the pumping chambers and the leachate holding tank.
- 5.14.4 Leachate stored in the leachate holding tank shall be disposed of by tankering off-site in fully enclosed road tankers to a Waste Water Treatment Plant agreed in advance by the Agency.
- 5.14.5 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and shall be undertaken only within cells which have been lined and capped to the satisfaction of the Agency.

5.15 Maintenance

- 5.15.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 5.15.2 The surface water lagoon shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.
- 5.15.3 The licensee shall maintain and clearly label and name all sampling and monitoring locations.
- 5.15.4 The wheel-wash shall be inspected on a daily basis.

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

CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits*, of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.3. Landfill Gas
- 6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:-
- a) Methane, greater than or equal to 1.0% v/v; or
 - b) Carbon dioxide, greater than or equal to 1.5% v/v.
- 6.3.2. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of :-
- a) In the case of landfill gas flare:
Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
- 6.3.3. Emission limits for emissions from landfill gas flare/combustion plant to atmosphere in this licence shall be interpreted in the following way.
- 6.3.3.1. Continuous monitoring
- a) No 24 hour mean value shall exceed the emission limit value;
 - b) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value; and
 - c) No 30 minute mean value shall exceed twice the emission limit value.
- 6.3.3.2. Non-Continuous Monitoring
- a) For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value;
 - b) For all other parameters, no 30 minute mean value shall exceed the emission limit value; and
 - c) For flow, no hourly or daily mean value shall exceed the emission limit value.
- 6.4. Groundwater
- 6.4.1. There shall be no direct emissions to groundwater.
- 6.4.2. Groundwater monitoring trigger levels shall be set in accordance with the requirements of Directive 1999/31/EC and based on a minimum of six monitoring events. They shall be reviewed annually as part of the AER.
- 6.4.3. The trigger levels parameters measured shall include Ammonia, Chloride, Potassium, Sodium, pH and TOC unless otherwise agreed by the Agency.
- 6.5. Emissions to Surface Water

- 6.5.1. No raw leachate, treated leachate or contaminated surface water shall be discharged to adjacent surface water courses. Other than surface water emissions from SW6 (surface water lagoon) and SW7 (borrow area surface water control infrastructure) there shall be no other emissions to surface water of environmental significance.
- 6.5.2. No substance shall be discharged in a manner, or at a concentration, which, following initial dilution causes tainting of fish or shellfish.
- 6.5.3. The licensee shall ensure that the surface water management infrastructure prevents the emission of polluting matter to the surface water resources within and adjacent to the facility.
- 6.6. Trigger Level for PM₁₀
- 6.6.1. The trigger level for PM₁₀ from the facility measured at any location on or outside the boundary of the facility is:-
- a) PM₁₀ greater than 50µg/m³ for a daily sample.

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

CONDITION 7 NUISANCE CONTROL

- 7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter, noise and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.
- 7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 7.3 Litter Control
- 7.3.1 The measures and infrastructure as described in Section 3.14.4 of the EIS shall be applied to control litter at the facility.
- 7.3.2 Litter fencing shall be installed and maintained around the perimeter of the active tipping area to prior to the disposal of any waste in any cell. Portable litter nets/screens shall also be used at the active tipping face.
- 7.3.3 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:-
- a) A temporary repair shall be made by the end of the working day; and
- b) A repair to the standard of the original netting shall be undertaken within three working days.
- 7.3.4 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licences, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.
- 7.3.5 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 7.4 Dust Control
- 7.4.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
- 7.5 The wheel wash shall be used, unless exempted, by all vehicles to ensure that no process water or waste is carried off-site. The exemption of certain categories of vehicles entering the facility from using the wheel wash shall be agreed by the Agency.

7.6 Noise/Disturbance

7.6.1 The licensee shall ensure the following:

- (a) that low sound level plant is used on site;
- (b) that speed restrictions are imposed on internal site roads;
- (c) that all heavy machinery and mechanical plant used on-site are fitted with acoustic panels and acoustic mufflers (exhaust silencers); and
- (d) compliance with 'BS 5228, Noise Control on Construction and Open Sites'.

7.7 Bird Control

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

REASON: To provide for the control of nuisances.

CONDITION 8 MONITORING

- 8.1 The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring*, of this licence and as specified in this licence.
- 8.2 The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 8.3 Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.
- 8.4 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.
- 8.5 All persons conducting the sampling, monitoring and interpretation of monitoring results as required by this licence shall be suitably competent.
- 8.6 The licensee shall maintain onsite an updated and appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the twelve figure National Grid Reference for the various monitoring points.
- 8.7 Topographical Survey
 - 8.7.1 A topographical survey shall be carried out annually and shall include a measurement of the remaining available void space. The survey shall be in accordance with any written instructions issued by the Agency.
- 8.8 Biological Assessment
 - 8.8.1 A biological assessment and electro-fishing survey of the Ballintober and Killaghmore Streams shall be undertaken annually. The biological assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams.
- 8.9 Archaeological Assessment

8.9.1 Prior to the development of any undisturbed area, the advice of The Development Applications Section of The Department of the Environment, Heritage and Local Government, (formerly Dúchas) shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to The Development Applications Section and to the Agency.

8.10 Stability Assessment

8.10.1 The licensee shall carry out an annual stability assessment of the side slopes of the facility

8.11 Nuisance Monitoring

8.11.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust, noise and odours.

8.12 Data Management System

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

8.13 Odour Control and Monitoring

8.13.1 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for agreement, an Odour Management Plan (OMP) for the facility. The plan, as agreed, shall be implemented from the time of commencement of waste activities unless otherwise agreed by the Agency.

8.13.2 The OMP referred to in Condition 8.13.1 shall include measures to control potential sources of odour nuisance, including inter alia, provisions regarding:

- a) Requirements of relevant conditions of this licence;
- b) Adequate resources and training on-site to provide for the maintenance, monitoring and operation of the landfill gas extraction system;
- c) Acceptance and management of odorous waste deliveries;
- d) Following completion of waste acceptance in any cell /sub-cell, the licensee shall on a bi-annual basis arrange to the carrying out of an independent assessment and report on surface VOC emissions at the facility;
- e) Use of sacrificial gas extraction systems; phased capping of the waste body; and an interim capping system at inter-cell boundaries;
- f) Working face/active cell sizing and covering;
- g) Landfill gas collection:- locations of infrastructure including access/haul roads, well design and density, monitoring, condensate management, field balancing, flare/combustion plant operation;
- h) Identification of fugitive sources of landfill gas emissions (e.g. from leachate management infrastructure);
- i) Monitoring:- VOC surface emissions from capped areas, odour checks off- and on-site, receipt and evaluation/verification of odour complaints received.

8.13.3 To meet the requirements of the OMP, the licensee shall carry out a monthly review of odour control measures in place at the facility and maintain findings in a monthly report. This review shall include:

- a) Consideration of odour complaints received during period (including details and nature of complaints, times and weather conditions, any unusual circumstances, problems, etc.);

- b) Review of any monitoring, including ambient odour monitoring in accordance with Schedule D.9, carried out (including investigation of complaints and actions taken where relevant);
- c) An update on the existing landfill gas control infrastructure (including operational status, number of wells & vents connected and unconnected to the landfill gas collection system, quantity of gas collected and flared/utilised, estimated quantity of landfill gas being produced, details of any problems with equipment during period);
- d) Details of any remedial/corrective actions taken, where relevant, including actions taken on foot of recommendations from previous report; and
- e) Recommendations.

The licensee shall maintain these reports on site and forward them to the Agency on request.

8.13.4 The OMP shall be reviewed annually and any updates/amendments submitted to the Agency as part of the Annual Environmental Report.

8.13.5 In relation to surface emissions from the waste body and identified features, the following shall constitute a trigger level:

- (i) VOC greater than or equal to 50ppmv average over capped area; or
- (ii) VOC greater than or equal to 100ppmv instantaneous reading on open surfaces within the landfill footprint; or
- (iii) VOC greater than or equal to 500ppmv around all identified features.

8.13.6 Leachate holding tanks/lagoons shall be covered, and head gases vented to treatment as may be required by the Agency.

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

8.13.8 Where it is proposed to take biological sludges at the facility, these must be subject to appropriate pre-treatment in advance of acceptance at the facility.

8.13.9 When siting and operating landfill gas infrastructure, regard shall be had to the potential for, and mitigation of, odour nuisance.

8.14 Waste Testing

The licensee shall ensure that any waste acceptance testing and analysis required by this licence shall be carried out by competent laboratories in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.

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

CONDITION 9 CONTINGENCY ARRANGEMENTS

9.1. In the event of an incident the licensee shall immediately:-

- a) Identify the date, time and place of the incident;
- b) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- c) Isolate the source of any such emission;
- d) Evaluate the environmental pollution, if any, caused by the incident;

- e) Identify and execute measures to minimise the emissions/malfunction and the effects thereof; and
 - f) Provide a proposal to the Agency for its agreement within one month of the incident occurring to:-
 - a) Identify and put in place measures to avoid reoccurrence of the incident;
 - b) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall maintain a written Emergency Response Procedure (ERP), which shall be to the satisfaction of the Agency. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment. The ERP shall be reviewed annually and updated as necessary.
- 9.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 9.4. Emergencies
- 9.4.1. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 9.4.2. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.
- 9.4.3. In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
- 9.4.4. In the event that monitoring of the slide slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

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

CONDITION 10 RECORDS

- 10.1 The licensee shall keep the following documents at the facility office:-
- a) The current waste licence relating to the facility;
 - b) The current EMS for the facility;
 - c) The previous year's AER for the facility; and
 - d) All written procedures produced by the licensee which relate to the licensed activities.
- 10.2 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:-
- a) The date & time;
 - b) The name of the carrier (including if appropriate, the waste carrier registration details);
 - c) The vehicle registration number
 - d) The trailer, skip or other container unique identification number (where relevant)
 - e) The name of the producer(s)/collector(s) of the waste as appropriate;

- f) The name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
- g) The name and the waste collection permit details;
- h) A description of the waste including the associated EWC/HWL codes;
- i) The quantity of the waste, recorded in tonnes;
- j) Details of the treatment(s) to which the waste has been subjected;
- k) The classification and coding of the waste, including whether MSW or otherwise;
- l) Whether the waste is for disposal or recovery and if recovery, for what purpose;
- m) The name of the person checking the load; and
- n) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed (including the waste licence/permit and/or waste collection permit).

10.3 Written Records

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

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

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

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

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

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

10.6 A written record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:-

- a) The date and time during which spraying of insecticide is carried out;

- b) Contractor details;
- c) Contractor logs and site inspection reports;
- d) Details of the rodenticide(s) and insecticide(s) used;
- e) Operator training details;
- f) Details of any infestations;
- g) Mode, frequency, location and quantity of application; and
- h) Measures to contain sprays within the facility boundary.

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

CONDITION 11 REPORTS AND NOTIFICATIONS

11.1 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:-

- a) Be sent to the Agency's Regional Inspectorate, John Moore Road, Castlebar, Co Mayo;
- b) Comprise one original and two copies unless additional copies are required;
- c) Be formatted in accordance with any written instruction or guidance issued by the Agency;
- d) Include whatever information as is specified in writing by the Agency;
- e) Be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
- f) Be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: Recording and Reporting to the Agency*, of this licence;
- g) Be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
- h) Be transferred electronically to the Agency's computer system if required by the Agency.

11.2 In the event of an incident occurring on the facility, the licensee shall:-

- a) Notify the Agency as soon as practicable and in any case not later than 10:00 hrs the following working day after the occurrence of any incident;
- b) Submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
- c) In the event of any incident which relates to discharges to surface water, notify the Western Regional Fisheries Board as soon as practicable and in any case not later than 10:00 hrs on the following working day after such an incident; and
- d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.

11.3 Operation in Adverse Wind Conditions

- 11.3.1 The licensee shall maintain procedures for the operation of the facility in adverse wind conditions.

- 11.4 The licensee shall provide a written acknowledgement (to carrier/waste contractor) of receipt of each delivery of waste to the facility (for disposal in the landfill).
- 11.5 Vermin and Flies
- 11.5.1 The licensee shall maintain procedures for the control and eradication of vermin and fly infestations at the facility. The procedures shall be as agreed with the Agency and shall, as a minimum address the following:
- (i) details on the rodenticide(s) and insecticide(s) to be used;
 - (ii) mode and frequency of application and measures to contain sprays within the facility boundary;
 - (iii) operator training;
 - (iv) details on the precautions (including supporting documentation) to be used to minimise the secondary poisoning of birds and other species from the use of the insecticides and rodenticides proposed; and
 - (v) details of any consultation with Development Applications Section, Department of the Environment, Heritage & Local Government (formerly known as Dúchas) on the vermin control proposed.
- 11.6 Landfill Gas Utilisation
- 11.6.1 All landfill gas utilisation infrastructure shall be installed within a timeframe agreed by the Agency and shall, where feasible and practicable, include provision for the utilisation of heat energy from this plant at other premises / facilities at and in the vicinity of the facility.
- 11.7 Leachate
- 11.7.1 The licensee shall ensure the following to the satisfaction of the Agency:
- a) the provision of infrastructure for the on-site treatment of leachate at the facility;
 - b) agreement from the off-site Wastewater Treatment Plant(s) to which leachate and/or contaminated water will be tankered to for treatment;
 - c) the capacity of the off-site WWTP(s) and its ability to treat leachate/contaminated water to appropriate standards;
 - d) contingency arrangements in the event of process failure in the nominated off-site WWTP(s); and
 - e) a Leachate Handling Procedure for the handling of leachate on the facility and during removal from the tank and subsequent transport/discharge to the Waste Water Treatment Plant.
- 11.8 National Reporting
- 11.8.1 The licensee shall submit data as required for the European Pollution Emission Register (EPER) and the National Waste Database. Such data shall be in accordance with any relevant guidance issued by the Agency.
- 11.9 Annual Environmental Report
- 11.9.1 The licensee shall submit to the Agency for its agreement by 31st March each year, an Annual Environmental Report (AER), covering the previous year.
- 11.9.2 The AER shall include as a minimum the information specified in *Schedule G: Content of Annual Environmental Report* of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.
- 11.10 Waste Recovery Reports

The licensee shall as part of the Annual Environmental Report for the site submit a report on the contribution by this facility to the achievement of the waste recovery objectives stated in Condition 2.3.2.1 and as otherwise may be stated in National and European Union waste policies and shall, as a minimum, include tonnages of the following:

- (i) the recovery of Construction and Demolition Waste;
- (ii) the recovery of other waste in landfill operations, including restoration; and
- (iii) the recovery of energy through landfill gas combustion.

11.11 The licensee shall, in writing, notify the Agency without delay of any waste that arrived at the facility that does not meet the waste acceptance criteria.

11.12 Reporting to Demonstrate Compliance with Diversion Targets

The Licensee shall report to the Agency such data and records, and at such frequency, as may be specified by the Agency in order to demonstrate compliance with the requirements of Condition 1.7.1. From 1 January 2010, and unless otherwise advised by the Agency, the licensee shall submit quarterly summary reports to the Agency within one week of the end of each quarter on the quantity of MSW and BMW accepted at the landfill during the preceding quarter and on a cumulative basis for the calendar year to date. The report shall detail the tonnage of MSW and BMW accepted and the basis (including all calculation factors) on which the figures have been calculated.

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

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Environmental Liabilities

12.1.1 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.

12.1.2 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) to address the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 4 for execution of the Restoration and Aftercare Plan (RAP). 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. The results of the review shall be notified as part of the AER.

12.1.3 As part of the measures identified in Condition 12.1.1, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with operation (including closure and aftercare) of the facility. The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'Statement of Measures' report identified in Condition 12.1.1.

12.1.4 Unless otherwise agreed, any revision to that part of the indemnity dealing with restoration and aftercare liabilities (refer Condition 12.1.3) shall be computed using the following formula:

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

Where:

$$\text{Cost} = \text{Revised restoration and aftercare cost.}$$

- ECOST = Existing restoration and aftercare cost.
- WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], 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 Financial charges

12.2.1 The licensee shall pay to the Agency an annual contribution of €31,446, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2008. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2008, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.2.2 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 defray its costs in regard to items not covered by the said annual contribution.

12.3 Cost of landfill of waste

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

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

SCHEDULE A : Waste Acceptance

Table A.1 Waste Categories and Quantities for Disposal

Waste Type	Maximum (Tonnes Per Annum) ^{Note 1}
Household	45,000
Commercial	27,500
Industrial non-hazardous	24,500
Asbestos waste	3,000
TOTAL	100,000

Note 1: The tonnage of household waste, commercial waste and industrial non-hazardous waste may be altered with the prior agreement of the Agency provided that the total amount of these wastes accepted at the facility does not exceed the combined tonnage of 97,000 tonnes per annum (as specified in the total above).

Table A.2 Waste Categories and Quantities for Recovery

Waste Type	Maximum (Tonnes Per Annum)
Inert wastes (for the purposes of restoration and aftercare)	27,320

Table A.3 Total Permitted Landfill Capacity

Total quantity of waste permitted to be placed at the landfill facility (over authorised life of facility)	1,452,125 m ³
--	--------------------------

SCHEDULE B : Specified Engineering Works

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

SCHEDULE C : Emission Limits

C.1 Noise Emissions (Measured at the noise sensitive locations indicated in Table D.1)

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

C.2 Landfill Gas Concentration Limits (Measured in any building on/adjacent to the facility)

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

C.3 Dust Deposition Limits (Measured at the monitoring points indicated in Table D.1)

Level (mg/m ² /day) ^{Note 1}
350

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

C.4 Surface Water Discharge Limits (Measured at the SW6, SW7, SW8)

Level (Suspended Solids mg/l)
35 mg/l

C.5 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: To be agreed

Volume to be emitted: 3000m³/hr (unless otherwise agreed)

Minimum discharge height: 8m (unless otherwise agreed)

Parameter	Flare (enclosed) Emission Limit Value ^{Note 1,2}	Utilisation Plant Emission Limit Value ^{Note 1,2}
Nitrogen oxides (NO _x)	150 mg/m ³	500 mg/m ³
CO	50 mg/m ³	1400 mg/m ³
Particulates	Not applicable	130 mg/m ³
Total Volatile Organic Compounds (VOCs)	Not applicable	1000 mg/m ³
Total non-methane VOCs	Not applicable	75 mg/m ³
Total organic carbon (TOC)	10 mg/m ³	Not applicable
Hydrogen Chloride	50 mg/m ³ (at mass flows > 0.3 kg/h)	50 mg/m ³ (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ (at mass flows > 0.05 kg/h)	5 mg/m ³ (at mass flows > 0.05 kg/h)

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

Note 2: These emission limit values may be revised with the agreement of the Agency on the basis of the technology employed.

SCHEDULE D : Monitoring

D.1 Monitoring Locations Monitoring Locations as set out in Drg No. 1501072/01/307 in the EIS.

Landfill Gas	Landfill Gas Flar	Dust Deposition & PM ₁₀	Noise	Surface Water	Ground Water	Biological	Leachate
Within waste body ^{Note 2}	Flare	D1, D2, D3, D4 D5 (near facility entrance) ^{Note 1}	N1 ^{Note 4} , N2 N3 ^{Note 4} , N4 N5 ^{Note 1 & 4}	SW1, SW2, SW3 SW4, SW5 SW6 ^{Note 5} , SW7 ^{Note 6}	GW1, GW2 GW3, GW4 GW5, GW6 GW7 ^{Note 1} GW8 ^{Note 1}	IN1 IN2 IN3 IN4	Leachate holding Tank Each Cell
Perimeter locations ^{Note 3}	Utilisation Plant						
Site buildings							

Note 1: Locations to be agreed by the Agency

Note 2: At least 2 per cell.

Note 3: As per Condition 3.19.1

Note 4: Noise Sensitive Location

Note 5: Outlet from the surface water retention lagoon

Note 6: Outlet from the borrow area surface water control measures

D.2 Landfill Gas Monitoring

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

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

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

D.3 Dust/PM10 Monitoring

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Quarterly ^{Note 2}	Standard Method ^{Note 1}
PM ₁₀	Quarterly	See ^{Note 3}

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

Note 2: Twice during the period May to September.

Note 3: As described in prEN12341 or an equivalent agreed by the Agency.

D.4 Noise Monitoring

Parameter	Monitoring Frequency ^{Note 2}	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Quarterly	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Quarterly	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Quarterly	Standard ^{Note 1}
Frequency Analysis (1/3 Octave band analysis)	Quarterly	Standard ^{Note 1}

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

Note 2: At least two monitoring events per year should be carried out during the operation of the borrow area

D.5 Surface Water, Groundwater and Leachate Monitoring

PARAMETER ^{Note1}	SURFACE WATER ^{Note2}	GROUNDWATER	LEACHATE ^{Note3}
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly ^{Note 7}	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually

PARAMETER ^{Note 1}	SURFACE WATER ^{Note 2}	GROUNDWATER	LEACHATE ^{Note 3}
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
pH	Quarterly	Quarterly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Metals / non metals ^{Note 3}	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances ^{Note 4}	Once off ^{Note 5}	Annually ^{Note 5}	Once off ^{Note 5}
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually ^{Note 6}	Not Applicable	Not Applicable

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

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

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

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

Note 5: 12 surface water locations, 3 groundwater locations and 2 leachate locations to be agreed by the Agency for these parameters.

Note 6: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.

Note 7: Prior to the commencement of waste acceptance on-site the monitoring frequency shall be monthly.

D.6 Meteorological Monitoring

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

Note 1: Monitoring frequency for these parameters may be decreased with the agreement of the Agency.

D.7 Landfill Gas Combustion Plant/Enclosed Flare

Parameter	Flare (enclosed) Frequency	Analysis Method ^{Note1} /Technique ^{Note2}
Inlet		
Methane (CH ₄) % v/v	Continuous	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO ₂) % v/v	Continuous	Infrared analyser/thermal conductivity
Oxygen (O ₂) % v/v	Continuous	Electrochemical/thermal conductivity
Total Sulphur	Annually	Ion chromatography
Total Chlorine	Annually	Ion chromatography
Total Fluorine	Annually	Ion Selective Electrode
Process Parameters		
Combustion Temperature	Continuous	Temperature Probe/datalogger
Outlet		
CO	Continuous	Flue gas analyser/datalogger
Nox	Annually	Flue gas analyser
SO ₂	Annually	Flue gas analyser
Particulates	Not applicable	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Not applicable	Adsorption/Desorption /GC/GCMS ^{Note 3}
TOC	Annually	Flame ionisation
Hydrochloric acid	Annually	Impinger /Ion Chromatography
Hydrogen fluoride	Annually	Impinger /Ion Chromatography

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

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

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

D.8 Waste Monitoring

Waste class	Frequency	Parameter	Method
Bio-stabilised residual waste	Every 200 tonnes from each source	As Agreed	As Agreed

D.9 Ambient Odour Monitoring

Parameter	Frequency	Analysis Method/Technique
Odour	Monthly	As agreed with the Agency

SCHEDULE E : Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note 1}	Report Submission Date
Environmental Management System Updates	Annually	As part of the AER.
Annual Environment Report (AER)	Annually	By 31 March of each calendar year
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	One month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Monitoring	Three times a year	Ten days after the period being reported on
Noise Monitoring	Quarterly	One month after end of the year being reported on.
Odour Management Plan (OMP)	As required	Six months after date of grant of licence
Environmental Liabilities Risk Assessment (ELRA)	Every three years	Within 12 months after date of grant of licence and at least every three years thereafter as part of the AER.
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F : Acceptance of Inert Waste for Recovery

F.1 Acceptable Waste for Recovery

Only the inert wastes below are acceptable for recovery at the facility, unless otherwise agreed by the Agency.

WASTE	
Concrete	Solid Road Planings, Solid Tarmacadam, Solid Asphalt ^{Note 1}
Subsoil	Brickwork
Stone, Rock and Slate	Clay

Note 1: Acceptance subject to the prior agreement of the Agency

SCHEDULE G : Content of the Annual Environmental Report

Annual Environmental Report Content

Reporting Period.

Waste activities carried out at the facility.

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

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

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretation of environmental and ecological monitoring.

Resource and energy consumption summary.

Proposed development of the facility and timescale of such development.

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

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

Report on restoration of completed cells/ phases.

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

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

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

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

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

Report on training of staff.

Statement of compliance of facility with any updates of the relevant Waste Management Plan

Statement on the achievement of the waste acceptance and treatment obligations

Updates of the Landfill Environmental Management Plan (LEMP).

Updates on Environmental Liabilities Risk Assessment (ELRA).

Statement of measures for prevention of environmental damage and financial provisions

Any other items specified by the Agency.

Sealed by the seal of the Agency on this the ... day of September 2009

PRESENT when the seal of the Agency
was affixed hereto:

..., **Director/Authorised Person**

