Headquarters,
P.O. Box 3000,
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County Wexford, Ireland

WASTE LICENCE
RECOMMENDED DECISION
LANDFILL FOR NON-HAZARDOUS WASTE

Waste Licence Register Number:	W0146-02
Licensee:	Greenstar Holdings Limited
Location of Facility:	Knockharley Landfill, Knockharley, Navan, County Meath (includes townlands of Tuiterath and Flemingstown).

INTRODUCTION

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

This licence is for the operation and development of a landfill at Knockharley, Navan, County Meath (includes townlands of Tuiterath and Flemingstown). The waste for disposal consists of residual, non-hazardous household, commercial and industrial waste arising in the north-east.

The waste intake is limited to 200,000 tonnes of waste per annum and the facility has an operating life of approximately 14 years. The proposed facility covers an area of 135 hectares. The landfill, which is positioned in the centre of the site, will cover approximately 25 hectares. The licence requires a buffer zone i.e. an area where no waste will be deposited between the landfill and the nearest residences. A 50m band of this area, inside the facility boundary, will be planted with woodland.

The facility consists of the landfill, an administration building, leachate lagoon, surface water pond, weighbridges, wheelwash and a landfill gas collection and flaring system. The associated infrastructure is necessary so as to control the emissions from the facility. Infrastructure to control emissions to the environment must meet BAT standards. There are no direct discharges of effluent to surface water or groundwater. Leachate will be tankered off-site to a Sanitary Authority waste water treatment plant.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee has to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility, to the Agency.

The conditions of this licence set out in detail the legal constraints under which Greenstar Holdings Limited is allowed to operate and manage the Knockharley Facility.

Table of Contents

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, all submissions, and the report of its inspector.

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 Holdings Limited to carry on the waste activities listed below at the Knockharley Landfill, Knockharley, Navan, Co. Meath (includes Townlands of Tuiterath and Flemingstown) subject to twelve 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 deposit of non-hazardous wastes specified in Condition 1.4 in lined cells that are on, in and under land.
Class 4.	**Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:** This activity is limited to the storage of leachate in a lagoon prior to disposal off-site at a suitable waste water treatment plant and the use of a surface water pond to control the quality and quantity of the surface water run-off from the site.
Class 5.	**Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.** This activity is limited to the deposition of non-hazardous waste into lined cell(s).
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 possible future biological pre-treatment of leachate subject to the agreement of the Agency.
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 on-site of unacceptable waste in the waste quarantine area prior to transport to another site.

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 recycled construction and demolition waste as cover and/or construction material at the site.
Class 9.	**Use of any waste principally as a fuel or other means to generate energy:** This activity is limited to the utilisation of landfill gas.
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 construction and demolition waste on-site.
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 storage of construction and demolition waste on site prior to reuse.

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.

Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques.
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.
Buffer Zone	The zone between the area within which no waste shall be deposited and the boundary of the facility.
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.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment	A boom which can contain spillages and prevent them from entering

boom	drains or watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials or other cover material the use of which has been agreed with the Agency.
Daily Cover	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible
Daytime	8.00 a.m. to 10.00 p.m.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emergency	Those occurrences defined in Condition 9.4
Emission Limits	Those limits, including concentration limits and deposition levels established in *Schedule C: Emission Limits*, 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 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Footprint	Area where waste is deposited of in lined cells
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Hours of Operation	7.30 to 18.30 Monday to Saturday.
Hours of Waste Acceptance	8.00 to 18.00 Monday to Saturday.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Landfill	Refers to the area of the facility where the waste is disposed of by

	placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	Celtic Waste 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.
Night-time	10.00 p.m. to 8.00 a.m.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled.
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.
SCADA system	Supervisory Control and Data Acquisition system.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
Specified Emissions	Those emissions listed in *Schedule C: Emission Limits* of this licence.
Specified Engineering Works	Those engineering works listed in *Schedule B: Specified Engineering Works* of this licence.
Treated Sludge	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly

	to reduce its fermentability and the health hazards resulting from its use.
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.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	Refers to the following hours; 9.00 a.m. to 5.30 p.m. Monday to Friday inclusive.
Working Face	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

PART II CONDITIONS

CONDITION 1 SCOPE 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 bold red on Drawing No. 2000-144-01-01 entitled Landfill Layout and Figure B2.2 Location Map of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.

1.3. This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2008 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.4. Municipal Waste, Commercial Waste and Industrial Waste may be disposed of at the facility subject to the maximum quantities and other constraints listed in *Schedule A: Waste Acceptance*, of this licence.

1.5. No hazardous wastes or liquid wastes shall be disposed of at the facility.

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. 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.

1.8. 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.

1.9. Gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste

1.10. The dilution or mixture of waste solely in order to fulfil relevant waste acceptance criteria established under Condition 5.3 is prohibited.

1.11. Waste Acceptance Hours and Hours of Operation

1.11.1 Waste shall only be accepted at the facility for disposal at the landfill between the hours of 8.00 to 18.00 Monday to Saturday inclusive.

1.11.2 The facility shall only be operated during the hours of 7.30 to 18.30 Monday to Saturday inclusive.

1.11.3 Waste shall not be accepted at the landfill on Public Holidays.

1.12. The following shall constitute an incident for the purposes of this licence:

a) an emergency;

b) any emission which does not comply with the requirements of this licence;

c) any trigger level specified in this licence which is attained or exceeded;

d) any indication that environmental pollution has, or may have, taken place and

e) any rejected load of waste.

1.13. Limit on acceptance of biodegradable municipal waste

1.13.1. Unless otherwise as may be specified by the Agency, 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 1.13.2.

1.13.2. Two or more licensed landfills may seek the agreement of the Agency that collectively they will arrange to comply with condition 1.13.1. 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.

1.14. Determination of biodegradable municipal waste content of municipal waste

1.14.1. 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 1.14.4 shall not be considered BMW.

1.14.2. Bio-stabilised residual wastes meeting the requirements of Condition 1.14.4 received at the landfill facility may be included in the determination of MSW quantities accepted at the facility for the purposes of Condition 1.13.1.

1.14.3. 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.

1.14.4. 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 (AT_4) is <10mg O_2/g DM until 1 January 2016 and <7mg O_2/g DM thereafter.

1.14.5. Bio-stabilised residual wastes shall be monitored in accordance with Schedule D.9.

1.14.6. Waste that was accepted to the body of the landfill as stabilised waste but subsequently is found not to meet the stabilisation standard set out in Condition 1.14.4 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 1.13.1. In the event of failure to meet the stabilisation standard, each and every load of bio-stabilised residual waste from the failed source following receipt of the failed test result shall be tested, notwithstanding the testing frequency set out in Schedule D.9, until otherwise agreed with the Agency.

1.14.7. The licensee is required to maintain on-site as part of their waste acceptance procedures and associated documentation, evidence to demonstrate compliance with condition 1.13.1, which shall be available for inspection by Agency personnel.

1.15. 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:

1.15.1. 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;

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

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

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

1.16. Bio-stabilised residual waste shall only be used as landfill cover where it has been stabilised in accordance with Condition 1.14.4 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.

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

REASON: To clarify the scope of this licence.

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

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

2.1.2 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS waste management training programme (or equivalent agreed with the Agency) and associated on site assessment appraisal within twelve months of appointment.

2.1.3 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 The licensee shall maintain onsite written details of the management structure of the facility. 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:

(i) the items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency;

(ii) methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets;

(iii) any other items required by written guidance issued by the Agency.

2.3.2.3 Landfill Environmental Management Plan (LEMP)

Notwithstanding the requirements 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.

2.4 Communications Programme

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

2.5.1 Resource Use and Energy Efficiency

2.5.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The audit shall:-

(i) identify all opportunities for energy use reduction and efficiency;

(ii) be carried out in accordance with the guidance published by the Agency - "Guidance Note on Energy Efficiency Auditing"; and

(iii) be repeated at intervals as required by the Agency.

The recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2.3.2.1 above.

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

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

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

CONDITION 3 FACILITY INFRASTRUCTURE

3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or 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. No such works shall be carried out without the prior agreement of the Agency.

3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.

3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include the following information:

a) a description of the works;

b) as-built drawings of the works;

c) records and results of all tests carried out (including failures);

d) drawings and sections showing the location of all samples and tests carried out;

e) daily record sheets/diary;

f) name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;

g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;

h) records of any problems and the remedial works carried out to resolve those problems; and

i) any other information requested in writing by the Agency.

3.3 Facility Notice Board

3.3.1 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 Security and stockproof fencing, gates and infrastructure shall be installed and maintained as described in Section 3.1.6 'Site Security' of the EIS. The locations shall be as shown on Drawing No's. 2000-144-01-11 'Fencing Details' and 2000-144-01-12 'Security & Fencing Layout' unless otherwise agreed with the agency. The base of the fencing shall be set in the ground.

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 maintained at the facility as described in Section 3.1.6 'Site Security' of the EIS.

3.5 Facility Roads, Access Roads and Hardstanding

3.5.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility. The proposed internal road network system and hardstanding areas shall be provided and maintained.

3.5.2 Access to and from the facility shall only be from the N2 via the existing access road.

3.5.3 The licensee shall consult with the roads authority on the prohibition of construction, waste disposal or leachate vehicles using the R150 road or the county road CR384 north and east of the facility en route to or from 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 lagoon.

3.8 Weighbridge

3.8.1 The licensee shall provide and maintain two weighbridges at the facility.

3.9 Wheel Cleaning

3.9.1 The licensee shall maintain a dry wheel shake and wheelwash at the facility.

3.9.2 The wheel cleaner units shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel cleaner units. Following construction of the leachate lagoon, dirty water from the wheel cleaner shall be pumped to the lagoon.

3.10 Waste Water Treatment Plant

3.10.1 The licensee shall provide and maintain a Wastewater Treatment plant at the facility for the treatment of domestic wastewater arising on-site.

3.10.2 The outlet from the treatment plant shall discharge to the leachate lagoon.

3.10.3 During construction all wastewater arising on site shall be collected and disposed of off-site at a suitable Waste Water Treatment Plant unless otherwise agreed with the Agency.

3.11 Tank and Drum Storage Areas

3.11.1 The licensee shall provide and maintain a bunded fuel storage area at the facility.

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

3.11.3 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

(a) 110% of the capacity of the largest tank or drum within the bunded area; or

(b) 25% of the total volume of substance which could be stored within the bunded area.

3.11.4 All drainage from bunded areas shall be diverted for collection and safe disposal.

3.11.5 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.11.6 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, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency following their installation and prior to their use as a fuel storage area. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also maintain a record on the storage of fuels at the facility. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

3.11.7 All tanks and containers, including tankers used to transport leachate from the facility, shall be labelled to clearly indicate their contents.

3.12 Landfill Lining:

3.12.1 The landfill liner shall comprise:

(i) a composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to $1x10^{-9}$m/s, (or equivalent to be agreed with the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer;

(ii) a geotextile protection layer placed over the HDPE layer;

(iii) 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;

(iv) the side walls shall be designed and constructed to achieve an equivalent protection.

3.12.2 The liner system for the two leachate storage lagoons and the surface water pond shall comprise the following: a composite liner consisting of at minimum a basal soil/clay layer of at least 1m in thickness with a permeability of less than $1x10^{-9}$m/s overlain by a 2mm thick high density polyethylene (HDPE) layer unless otherwise agreed in advance with the Agency.

3.12.3 The liner detailed design and its construction shall be in accordance with the guidelines provided in the Agency's Landfill Manual, Landfill Site Design.

3.12.4 Formation levels of the cells shall be as shown on Drawing No. 2000 –144-01-06 'Landfill Section' of the EIS.

3.13 Buffer Zone

3.13.1 A Buffer Zone, in which no waste shall be landfilled, shall be provided and maintained within the facility.

The Buffer Zone shall be a minimum of 100m between the landfill footprint (area being filled with waste) and the facility boundary.

3.14 Leachate Management Infrastructure

3.14.1 Effective leachate management infrastructure shall be provided and maintained at the facility as described in Section 3.1.3.9 'Leachate Collection System and Management Plan' of the EIS.

3.14.2 The licensee shall provide and maintain leachate storage lagoons at the facility to facilitate the storage of leachate abstracted/collected from the waste

3.14.3 The location of the leachate storage lagoons shall be as detailed on Drawing No. 2000-144-01-01 'Landfill Layout' unless otherwise agreed with the Agency.

3.14.4 All structures for the storage and/or treatment of leachate shall be fully enclosed except for inlet and outlet piping.

3.14.5 All leachate management structures on-site shall be inspected and certified fit for purpose on an annual basis by an independent and appropriately qualified chartered engineer. Any remedial works recommended in this report must be implemented immediately.

3.15 Landfill Gas Management

3.15.1 Landfill gas management at the facility shall be carried out as described in Section 3.1.4 Gas Management of the EIS submitted with the application unless the licence conditions require otherwise.

3.15.2 A Landfill Gas Flare and associated infrastructure shall be installed and maintained at the facility.

i) The flare shall be of an enclosed type design and shall comply with the emission limits in *Schedule C: Emission Limits*, of this licence.

ii) The relocation of the gas flaring system to the west of the facility shall be investigated prior to the final location being agreed with the Agency. The report of the investigation will accompany the proposal for installation of landfill gas management infrastructure required under Condition 3.2.1 and shall include the results of modelling carried out on the expected level of emissions.

3.15.3 Flare unit efficiency shall be tested upon installation, upon commencement of landfill gas combustion and once every three years thereafter.

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 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 outlined in the Agency Manuals on 'Landfill Site Design' and "Landfill Operational Practices".

3.15.6 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

3.15.7 Where the utilisation of landfill gas as an energy resource is feasible, as may be agreed with the Agency, a system for such utilisation shall be installed within a timeframe agreed with the Agency. Such a system shall, where feasible and practicable, provide heat energy to other premises/facilities at and in the vicinity of the facility and a fuel for on-site vehicles.

3.15.8 The licensee shall install continuous carbon monoxide monitors on the outlets of the gas engine(s).

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 Surface water management infrastructure shall be provided and maintained at the facility. As a minimum, the infrastructure shall be capable of the following:

a) the prevention of contaminated water and leachate discharges into surface water drains and courses; and

b) the collection/diversion of run off arising from capped and restored areas, incorporating adequately sized swales.

3.16.3 The surface water ponds, surface water management infrastructure and stream diversions shall be constructed and operational prior to the commencement of other construction works.

3.16.4 The surface water from all roads, hardstanding areas and all areas of the facility where surface water has the potential to become contaminated shall be directed to the surface water pond.

3.16.5 The design and capacity of the surface water pond shall ensure that it is capable of fulfilling the requirements of this licence and dealing with all surface water run-off from potentially contaminated areas of the facility. The surface water pond shall be constructed and maintained at the location as shown in Drawing No. 2000-114-01-05 'Leachate Lagoon and Storm Water Pond Details' unless otherwise agreed with the Agency.

3.16.6 The inlet to the surface water pond shall be fitted with a Class I Full Oil Interceptor.

The discharge from the surface water pond shall be controlled by an actuated penstock that will prevent surface water discharging in the event that monitoring should indicate contamination of the surface water.

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.

3.18 A perimeter berm shall be constructed at the facility as described in Section 4.10.3 'Mitigation, Construction Aspects' of the EIS.

3.19 Telemetry

3.19.1 A telemetry system shall be installed and maintained at the facility. All facility operations linked to the telemetry system shall also have a manual control which will be reverted to in the event of break in power supply or during maintenance.

3.20 Monitoring Infrastructure

3.20.1 Landfill Gas

(i) The construction of the monitoring boreholes shall be phased so as to match the phased development of cells. The licensee shall install landfill gas monitoring infrastructure at the following locations.

(a) perimeter monitoring boreholes at 50m intervals around the periphery of the landfill footprint,

(b) site office and all other site buildings; and

(c) a minimum of two monitoring boreholes per hectare within the waste mass.

(ii) The licensee shall install and maintain a permanent continuous gas monitoring system with an alarm in the site office and in any other enclosed structures at the facility.

3.20.2 Groundwater

(i) The licensee shall install and maintain the following borehole monitoring points to allow for the sampling and analyses of groundwater:

a) MW1d, MW2d, MW3d, MW5d, MW6d, MW7d and MW16d as detailed in Table J.1 and Figure J.1 'Suggested Monitoring Locations' of the EIS.

3.20.3 Leachate

(i) The licensee shall install and maintain leachate monitoring points in each active cell and in each leachate storage lagoon to allow for the sampling and analyses of leachate.

3.20.4 Replacement of Infrastructure

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

3.21 Meteorological Monitoring

3.21.1 Prior to the commencement of waste activities 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.

3.22 The licensee shall consult with Bord Gáis prior to construction or development work within 100m of the gas pipeline.

3.23 Prior to commencement of any construction works, the licensee shall submit to the Agency for its agreement, a proposal after consulting the National Parks and Wildlife Service and the Department of Agriculture, Fisheries and Food on the relocation of badgers, newts, frogs, bats and barn owls within the facility. Timetables for removal of trees and preliminary development work shall be in accordance with the requirements of the Wildlife Act 1976.

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

CONDITION 4 RESTORATION AND AFTERCARE

4.1. The licensee shall maintain and implement a Restoration and Aftercare Plan for the facility. The Restoration and Aftercare Plan shall have regard to the guidance published in the Agency's Landfill Manual on "Landfill Restoration and Aftercare" or any other relevant guidance as agreed by the Agency. The licensee shall restore the facility on a phased basis. In particular the plan shall include:

a) Potential restoration options;

b) The proposed consultation process in relation to the restoration options for the facility; and

c) Proposals for nature conservation and woodland restoration.

The plan shall be reviewed annually and proposed amendments notified to the Agency for agreement as part of the AER. No amendments may be implemented without the prior agreement of the Agency.

4.2. The final profile/height of the facility shall be a maximum of 74mOD Malin and be domed in shape. The licensee shall submit a map showing the final contour layout within three months of the date of grant of licence.

4.3. Final Capping

4.3.1. 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 $1x10^{-4}$ m/s or an equivalent geosynthetic layer;

d) compacted mineral layer of a minimum 0.6m thickness with a permeability of less than $1x10^{-9}$ 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.

4.4. The licensee shall maintain a stockpile of capping materials at the facility containing the requisite volume of capping materials for a six-month period. If using geosynthetic material, the licensee shall ensure that adequate secure supplies are available.

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 in accordance with the EPA Manual on Landfill Restoration And Aftercare.

4.7. Soil Storage

4.7.1. All soils shall be stored to preserve the soil structure for future use.

4.8 A final validation report to include a certificate of completion for the Restoration and Aftercare Plan, for all or part of the site as necessary, shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

REASON: To provide for the restoration of the facility.

CONDITION 5 FACILITY OPERATIONS 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 Waste shall only be accepted at the facility from holders of waste collection permits under the Waste Management (Collection Permit) Regulations 2007. The licensee must maintain copies of these waste permits on-site.

5.3 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.

5.4 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.

5.5 The licensee shall ensure that inert waste accepted at the facility is subject to pre-treatment where technically feasible and appropriate.

5.6 Working Face

5.6.1 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 25 metres long and 25 metres wide (i.e. <625m^2 surface area), no more than 2.5 metres in height after compaction, and have a slope no greater than 1 in 3.

5.6.2 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.

5.6.3 The working face, or faces, shall each day at the end of the day, be covered with suitable material.

5.7 Daily and Intermediate Cover

5.7.1 Daily and Intermediate capping material shall be as described in Section 3.1.5.1 'Intermediate Capping' of the EIS. Daily cover should be 150mm in depth while intermediate capping should be 300mm in depth unless otherwise agreed with the Agency.

5.7.2 The working face of the operational cell shall, at the end of each day, be covered with suitable material to minimise any nuisances occurring.

5.7.3 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.

5.8 Landscaping

5.8.1 Landscaping of the facility shall be as described in Section 4.10 'Landscape and Visual Aspects' and associated figures of the EIS.

5.8.2 Apart from the removal of hedgerow to facilitate the facility entrance, the existing hedgerow network which forms the boundary of the facility shall be retained by the licensee as indicated in Section 4.10 'Landscape and Visual Aspects' of the EIS.

5.8.3 The Licensee shall submit a report, as part of the AER, on the implementation of the landscaping programme. In particular the report shall outline progress in meeting objectives outlined in Section 4.10.3 of the EIS, planting, die back rate and enhancement of natural biodiversity.

5.9 Operational Controls

5.9.1 The landfill shall be filled in accordance with the seven phase sequence outlined in Sections 3.1.3 as specified in the EIS.

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

5.9.3 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the landfill gas collection system only with the prior agreement from the Agency.

5.9.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate.

5.9.5 Unless otherwise agreed, filled cells shall be permanently capped within 24 months of the cells having been filled to the required level.

5.9.6 Scavenging shall not be permitted at the facility.

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

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

5.9.9 Fuels shall only be stored at appropriately bunded locations on the facility.

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

5.9.11 No smoking shall be allowed on the facility (other than in the administration/office block as shown on Drawing No. 2000-144-01-02 "Site Facilities Services Layout").

5.10 Off-site Disposal and Recovery

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

5.10.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency.

5.10.3 All waste 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.

5.11 Leachate Management

5.11.1 The licensee shall submit details for agreement with the Agency on any proposals for the pre-treatment of leachate on-site prior to carrying out such an activity. The details shall include information on the proposed leachate treatment system including its operational criteria, the proposed standards for treated leachate and a timescale for the construction and commissioning of the system.

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

5.11.3 The level of leachate in the pump sumps shall be continuously monitored.

5.11.4 Unless otherwise agreed with the Agency leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers and discharging to an agreed Sanitary Authority Waste Water Treatment Plant as per Condition 6.7.1. The frequency of leachate removal from the leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.

5.12 Leachate Re-circulation

5.12.1 Re-circulation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and shall only be undertaken within cells, which have been lined and capped to the satisfaction of the Agency.

5.13 Noise

5.13.1 In order to mitigate against noise emissions from the facility the licensee shall:

a) Construct an earth berm, three metres in height, around the perimeter of the waste disposal cells;

b) Plant a 50 metre wide band of woodland plantation inside the entire facility boundary where it does not interfere with overhead powerlines;

c) Impose vehicle speed limits on all internal site roads; and

d) Fit all heavy machinery used on-site with acoustic panels in the engine bays and acoustic mufflers (exhaust silencers).

5.14 Maintenance

5.14.1 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.

5.14.2 The licensee shall maintain and clearly label and name all sampling and monitoring locations.

5.14.3 The wheel-wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of at the working face or to a skip.

5.15 The waste acceptance procedures established under Condition 5.3 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.

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

CONDITION 6 EMISSIONS

6.1. No specified emission from the facility shall exceed the emission limit values set out in Schedule C: *Emission Limits,* of this licence. There shall be no other emissions of environmental significance.

6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.

6.3. Landfill Gas

6.3.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service duct or manhole on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:

a) Methane, greater than or equal to 1.0% v/v; and

b) Carbon dioxide, greater than or equal to 1.5% v/v.

6.3.2. The concentration limits for emissions to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of :-

a) in the case of landfill gas flare:

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and

b) in the case of landfill gas combustion plant:

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

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

6.3.3.1. Continuous monitoring

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

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

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

6.3.3.2 Non-Continuous Monitoring

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

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

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

6.4. Emissions to Surface Water

6.4.1. Surface water emissions from the surface water pond shall only be made to the adjacent stream at a location agreed in advance by the Agency.

6.4.2. No raw leachate, treated leachate or contaminated surface water shall be discharged to the adjacent stream or any part of the Nanny River catchment.

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

6.5. There shall be no direct emissions to groundwater.

6.6. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.

6.7. Disposal of Leachate

6.7.1 The licensee shall maintain an agreement or agreements between the licensee and a Sanitary Authority for accepting leachate from the facility at a waste water treatment plant.

6.8 Trigger Levels for PM_{10}

6.8.1 The trigger level for PM_{10} from the facility measured at any location on the boundary of the facility is:

a) PM_{10} greater than $50\mu g/m^3$ for a daily sample.

6.9 Noise Emissions

6.9.1 There shall be no clearly audible tonal component or impulsive component in the noise emissions from the facility at the facility boundary.

6.10 Odour Control and Monitoring

6.10.1 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.

6.10.2 The OMP referred to in Condition 6.10.1 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 odourous 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.

6.10.3 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 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 Schedule D.10, carried out (and 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 recommendations.

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

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

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

(a) VOC greater than or equal to 50ppmv average over capped area; or

(b) VOC greater than or equal to 100ppmv instantaneous reading on open surfaces within the landfill footprint; or

(c) VOC greater than or equal to 500ppmv around all identified features.

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

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

6.10.8 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.

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

6.11 Air Emissions

The licensee shall install a continuous VOC monitor with directional information at the school (if agreed) otherwise at a location on a site agreed with the Agency. This requirement will be reviewed by the Agency on an annual basis.

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

CONDITION 7 NUISANCE CONTROL

7.1 The licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.

7.2 The road network in the vicinity of the facility shall be kept free from any debris and deposited waste caused by vehicles entering or leaving the facility. Any such debris or deposited waste shall be removed without delay.

7.3 Litter Control

7.3.1 Litter fencing and netting shall be installed and maintained around the perimeter of the active tipping area prior to the disposal of any waste in any cell. The netting shall meet the guidance provided in the Agency's Manual on "Landfill Operational Practices". The height of the netting shall be minimised so as to not cause visual intrusion and the netting shall be kept tidy. Litter trapped in the netting shall be removed as soon as practicable. Portable litter nets/screens shall also be used at the active tipping face.

7.3.2 All litter control infrastructure shall be inspected on a daily basis. The licensee shall remedy any defect in the litter netting as follows:

a) a temporary repair shall be made by the end of the working day; and,

b) a repair to the standard of the original netting shall be undertaken within three working days.

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

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

7.4 Dust Control

7.4.1 From the commencement of construction of the facility the Dust Control Measures outlined in Sections 3.3.3, 4.2.2.1 and 4.2.3.1 Dust Emissions of the EIS shall be implemented at the facility.

7.4.2 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.

7.4.3 All stockpiles shall be adequately contained to minimise dust generation.

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

7.6 Bird Control

7.6.1 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.

7.6.2 The licensee shall, as may be required by the Agency, carry out an assessment of the effectiveness of the bird control measures at the facility. This assessment shall include, where required:

a) proposals for additional bird control measures;

b) method for assessing the effectiveness of such additional measures; and,

c) timescales for the implementation of such measures.

7.7 Vermin Control

7.7.1 The licensee shall maintain and apply vermin control procedures and measures which shall include as a minimum the following:

(a) details on the insecticides(s) and rodenticides(s) to be used;

(b) operator training;

(c) mode and frequency of application and measurers to contain sprays at the facility boundary;

(d) details on the precautions (including supporting documentation) to be taken to minimise the secondary poisoning of birds and other species from the use of the insecticides and rodenticides proposed;

(e) copies of any comments received from National Parks and Wildlife Service on the vermin control proposed; and

(f) response proposed to complaints received about any vermin adjacent to 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 as required by this licence shall be suitably competent.

8.6 Landfill Gas

8.6.1 All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.

8.7 Groundwater Monitoring

8.7.1 Subject to the agreement of the well owners, all private wells within 1km of the landfill footprint shall be included in the monitoring programme set out in *Schedule D: Monitoring*, of this licence.

8.8 Surface Water Monitoring

8.8.1 The licensee shall implement a continuous monitoring programme for the water in the surface water pond. This programme shall include the criteria/trigger levels, which will determine which the automated penstock in the outlet from the surface water pond shall be closed. Such continuous monitoring shall, as a minimum, include conductivity, pH and TOC and shall be carried out on the inlet to the surface water pond at a monitoring location to be agreed by the Agency.

8.9 Topographical Survey

8.9.1 A topographical survey shall be carried out annually at the facility. The survey shall include a measurement of the remaining available void space. The survey shall be in accordance with any written instructions issued by the Agency.

8.10 Biological Assessment

8.10.1 An annual biological assessment of the Kentstown Stream and Nanny River shall be undertaken. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The report shall include a map showing the location of monitoring points, each identified by a unique number and a twelve-point grid reference. The scope, content and details of the contractor carrying out the assessment shall be submitted to the Agency for its agreement prior to the assessment.

8.11 Archaeological Assessment

8.11.1 Prior to the development of any undisturbed area, the holy well or farm building, the advice of the National Parks and Wildlife Service or relevant expertise in the Department of Environment, Heritage and Local Government (DOEHLG) shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to the DOEHLG and to the Agency.

8.12 Stability Assessment

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

8.13 Nuisance Monitoring

8.13.1 The licensee shall, at a minimum of one-week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours unless otherwise agreed or instructed by the Agency.

8.14 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;

f) provide a proposal to the Agency for its agreement within one month of the incident occurring to:

i) identify and put in place measures to avoid reoccurrence of the incident; and

ii) identify and put in place any other appropriate remedial action.

9.2. The licensee shall maintain, review annually and update as necessary 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.

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 and fund 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.

9.4.5. In the event that monitoring should indicate contamination of the site surface water in the Knockharley stream, the stream shall be diverted to the surface water lagoon.

9.5 After construction of the facility, or part thereof, and prior to the disposal of any waste in the facility or part thereof, and prior to the use of any infrastructure at the facility, an independent third party shall carry out a risk assessment of the facility, or part thereof, as agreed in advance with the Agency. The risk assessment shall pay particular regard to any accidents, emergencies, or other incidents, which might occur at the facility and their effect on the environment, on the neighbours of the facility and on adjoining land-uses. The assessment and recommendations, including a timescale for implementation, shall be submitted to the Agency for agreement. The agreed recommendations shall be implemented within the agreed timescale.

9.6 The licensee shall maintain a documented Accident Prevention Policy which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

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

CONDITION 10 RECORDS

10.1 The licensee shall keep the following documents at the facility office.

a) the current waste licence relating to the facility;
b) the current EMS for the facility;
c) the previous year's AER for the facility;
d) all written procedures produced by the licensee which relate to the licensed activities.

10.2 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:

a) the date and 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) a description of the waste including the associated EWC/HWL codes;
h) the quantity of the waste, recorded in tonnes;
i) details of the treatment(s) to which the waste has been subjected;
j) the classification and coding of the waste, including whether MSW or otherwise;
k) Whether the waste is for disposal or recovery and if recovery, for what purpose;
l) the name of the person checking the load; and,
m) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.

10.3 Written Records

The following written records shall be maintained by the licensee:

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

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

a) date and time of the complaint;
b) the name of the complainant;
c) details of the nature of the complaint;
d) actions taken on foot of the complaint and the results of such actions; and,
e) the response made to each complainant.

10.5 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;

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 Headquarters;

b) comprise one original and three copies unless additional copies are required;

c) be formatted in accordance with any written instruction or guidance issued by the Agency;

d) include whatever information as is specified in writing by the Agency;

e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;

f) be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: 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 am the following working day after the occurrence of any incident;

b) submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;

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

(iii) the recovery of energy through landfill gas combustion.

11.4 Reports relating to Facility Operations

11.4.1. Leachate Handling Procedures

The licensee shall maintain and implement handling procedures for leachate which include (1) procedures for the handling of leachate during removal from the lagoons and subsequent transport/discharge to a waste water treatment plant and (2) monitoring infrastructure details and procedures for monitoring the level of leachate in the pump sumps, the cells and the lagoon.

11.4.2. Operation in Adverse Wind Conditions

The licensee shall maintain and implement procedures for the operation of the facility in adverse wind conditions.

11.5 Vermin and Flies

11.5.1. The licensee shall maintain and implement procedures for the control and eradication of vermin and fly infestations at the facility. The procedures shall include as a minimum, operator training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

11.6 Monitoring Locations

11.6.1. The licensee shall maintain an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence. The drawing(s) shall include the reference code of each monitoring point.

11.7 Annual Environmental Report

11.7.1 The licensee shall submit to the Agency for its agreement by 31st March of each year an Annual Environmental Report (AER), covering the previous calendar year.

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

11.8 Waste Receipts

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).

11.9 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.

11.10 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 1.13.1. 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 report to and notification of the Agency.

CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €29,996, 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.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs.

12.2 Environmental Liabilities

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

12.2.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) to address the liabilities from past and present activities. 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.

12.2.3 As part of the measures identified in Condition 12.2.1 the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities associated with the 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 12.2.1.

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

12.2.5 Unless otherwise agreed any revision to aspects of the fund dealing with restoration and aftercare shall be computed using the following formula:

$$Cost = (ECOST \times WPI) + CiCC$$

Where:

Cost	=	Revised restoration and aftercare cost
ECOST	=	Existing restoration and aftercare cost
WPI	=	Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.
CiCC	=	Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

12.3 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

A.1 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPE	MAXIMUM (TONNES PER ANNUM)
Household	100,000
Commercial	45,000
Industrial	30,000
Sub Total **Waste for Disposal**	**175,000**
Construction & Demolition for recovery at the facility	25,000
TOTAL	**200,000**

Table A.2. Total Permitted Landfill Capacity

Total quantity of waste permitted to be placed at the landfill facility (over authorised life of facility)	3,616,955 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 monitoring points indicated in Table D.1.1 Monitoring Locations).

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

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

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

C.3 ***Dust Deposition Limits:*** (Measured at monitoring locations at or dust sensitive locations)

Level (mg/m^2 /day)[Note 1]
350

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

C.4 ***Surface Water Discharge Limits:*** Measured at the discharge point from the surface water pond to the adjacent stream (grid reference to be submitted to the Agency).

Level (Suspended Solids mg/l)
35

C.5 Emission Limits Values for Landfill Gas Plant & Gas Flares

Emission Point reference nos: (to be agreed with the Agency)
Location: Landfill Gas combustion plant and flarestacks
Maximum volume to be emitted: 3000m^3/hr
Minimum discharge height: 5m

Parameter	Emission Limit Value (Notes 3 &4)
Nitrogen oxides as (NO_2)	500 mg/m^3 (150mg/m^3) Note 1
CO	650 mg/m^3 (50mg/m^3) Note 1
Particulates	130 mg/m^3
TA Luft Organics Class I (Note 2)	20 mg/m^3 - at mass flows > 0.1 kg/hr (Not applicable) Note 1
TA Luft Organics Class II (Note 2)	100 mg/m^3 -at mass flows > 2 kg/hr (Not applicable) Note 1
TA Luft Organics Class III (Note 2)	150 mg/m^3 at mass flows > 3kg/hr (Not applicable) Note 1
Total Organic Carbon	10mg/m^3
Hydrogen Chloride	50 mg/m^3 - at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m^3 -at mass flows > 0.05 kg/h

Note 1: Emission limit values in brackets represent limit values for flare units.
Note 2: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.
Note 3: These emission limit values may be revised with the agreement of the Agency on the basis of the technology employed.
Note 4: Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.

SCHEDULE D :Monitoring

Monitoring to be carried out as specified below.

D.1 Monitoring Locations

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

Table D.1.1 Monitoring Locations

LANDFILL GAS Note 1 & 2	DUST Note 1 &5	PM_{10} Note 1 &5	NOISE Note 4 & 5	SURFACE WATER Note 5	GROUND WATER Note 1,2, 5 & 6.	LEACHATE Note 1 &2	LANDFILL GAS FLARE Note 1
STATIONS	STATIONS	STATION	STATIONS	STATIONS	STATIONS	STATIONS	STATIONS
Perimeter boreholes at 50m intervals.	D1	North of the facility	N1	SW1	MW1d	Each active cell	To be agreed
Site office & other buildings	D2	East of the facility	N2	SW2	MW2d	Each storage lagoon	
Two boreholes per hectare within the waste mass	D3	South-west of the facility	N3	SW3	MW3d		
	D4	P4	N4	SW5	MW5d		
	D5	P5		SW6	MW6d		
	D6	P6		SW7	MW7d		
	D7			SW8	MW16d		
	D8				Private wells within 1km Note 3		
	D9						
	D10						

Note 1: The licensee shall maintain an appropriately sized and referenced drawing along with twelve digit national grid references for landfill gas, landfill gas combustion plant, additional surface water, dust, leachate and groundwater monitoring locations.

Note 2: This information shall be updated with the phased development of cells.

Note 3: Subject to the agreement of the owners / occupiers.

Note 4: The licensee shall maintain an appropriately sized and referenced drawing along with twelve digit national grid references for all noise monitoring locations that have been agreed with the Agency.

Note 5: As per Figure J.1 Suggested Monitoring Locations submitted as Article 14 Response – April 2001. Additional locations to be agreed with the Agency.

Note 6. All private wells within 1km of the facility as per Condition 8.

Note 7. VOC monitoring location to be agreed with the Agency.

D.2 Landfill Gas

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

Parameter	Monitoring Frequency		Analysis Method[Note1]/Technique[Note2]
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH_4) % v/v	Monthly	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	-	Standard
Temperature	Monthly	-	Standard

Note1: All monitoring equipment used should be intrinsically safe.
Note 2 : Or other methods agreed in advance with the Agency.

D.3 Dust

Table D.3.1 Dust Monitoring Frequency and Technique

Parameter ($mg/m^2/day$)	Monitoring Frequency	Analysis Method/Technique
Dust	Monthly [Note 2]	Standard Method [Note 1]
PM_{10}	Quarterly	Standard Method [Note 2]

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

Note 2: As described in prEN12341 "Air Quality – field test procedure to demonstrate reference equivalence of sampling methods for PM_{10} fraction of particulate matter" or an alternative agreed in writing with the Agency

D.4 Noise

Table D.4.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	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."

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters /Frequency

Parameter [Note 1]	SURFACE WATER Monitoring Frequency	GROUNDWATER [Note 9] Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour [Note 2]	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly [Note 6]	Quarterly	Quarterly
BOD	Quarterly [Note 6]	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly [Note 6]	Quarterly	Quarterly
PH	Quarterly [Note 6]	Quarterly	Quarterly
Total Suspended Solids	Quarterly [Note 6]	Not Applicable	Not Applicable
Temperature	Quarterly [Note 6]	Monthly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances [Note 3]	Note 8	Annually	Note 8
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Annually [Note 5]
Total Phosphorus / orthophosphate	Annually [Note 6]	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Phenols	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms [Note 4]	Not Applicable	Quarterly	Annually
Total Coliforms [Note 4]	Not Applicable	Quarterly	Annually
Biological Assessment	Annually [Note7]	Not Applicable	Not Applicable

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

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

Note 3: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (US Environmental Protection Agency method 525 or equivalent, and pesticides (US Environmental Protection Agency method 608 or equivalent).

Note 4: In the case where groundwater is extracted for drinking water, if there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.

Note 5: Only to be analysed in instances of on-site treatment of leachate.

Note 6: Discharge of diverted surface water/groundwater shall be monitored on a monthly basis for these parameters unless flow in that month does not allow such monitoring.

Note 7: Appropriate biological methods (such as EPA Q-Rating System to be used for the assessment of rivers and streams).

Note 8: Once off for List I/II organic substances.

Note 9: All private wells within 1Km of the landfill footprint shall be analysed annually for ammonical N, K, Na, pH, electrical conductivity and TOC. A written report and interpretation shall accompany the analysis results.

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring:
Data to be obtained from the on-site meteorological station. The location of the on-site meteorological station shall be in accordance with advice from Met Eireann and agreed in advance with the Agency.

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

D.7 Landfill Gas Combustion Plant/Enclosed Flare

Location: Utilisation plant and enclosed flare (exact location of flare to be agreed with the Agency in advance).

Table D.7.1 Landfill Gas Utilisation Plant/Enclosed Flare Parameters and Monitoring Frequency

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method[Note1]/Technique[Note2]
Inlet			
Methane (CH_4) % v/v	Continuous	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO_2)%v/v	Continuous	Weekly	Infrared analyser/ thermal conductivity
Oxygen (O_2) %v/v	Continuous	Weekly	Electrochemical/thermal conductivity
Total Sulphur	Annually	Annually	Ion chromatography
Total Chlorine	Annually	Annually	Ion chromatography
Total Fluorine	Annually	Annually	Ion Selective Electrode
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Outlet			
CO	Continuous	Continuous	Flue gas analyser/datalogger
NOx	Annually	Annually	Flue gas analyser
SO_2	Annually	Annually	Flue gas analyser
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Not applicable	Annually	Adsorption/Desorption /GC/GCMS [Note 3]
TOC	Annually	Not applicable	Flame ionisation
Hydrochloric acid	Annually	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Annually	Impinger / Ion Chromatography

Note 1: All monitoring equipment used should be intrinsically safe.
Note 2: Or other methods agreed in advance with the Agency.
Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum

D.8 VOC Monitoring

Parameter	Monitoring Frequency	Analysis
VOC	Continuous	To be agreed with the Agency.

D.9 Waste Monitoring

Table D.9.1 Waste Monitoring

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

D.10 Ambient Odour Monitoring

Table D.10.1 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 Note1	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	By 31 March each 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	Bi-annually	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 : 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 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.
Feasibility study on alternatives to treating leachate 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.
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
Updates of the Restoration and Aftercare Plan (RAP).
Treatment of waste received.
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:

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