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WASTE LICENCE
LANDFILL FOR NON-HAZARDOUS WASTE

PROPOSED DECISION

Waste Licence Register Number:	12-2
Applicant:	Cork City Council (formerly Cork Corporation)
Location of Facility:	Ballyphehane, Curraghconway, Inchisarsfield, South City Link Road, Cork.

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 continued landfilling by Cork City Council of the waste types specified in this licence at the Kinsale Road landfill at Ballyphehane, Curraghconway, Inchisarsfield, South City Link Road, Cork. This licence restricts the amount of waste to be landfilled to 100,000 tonnes per annum.

The licence also allows for the operation of a Civic Waste Facility, a Construction and Demolition Waste Recovery Area and a green waste composting area. It also requires the utilisation, where feasible of landfill gas as an energy source from all landfilled areas.

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

The licence sets out in detail the conditions under which the licensee is required to operate and manage this facility.

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DECISION & REASONS FOR THE DECISION

The Environmental Protection Agency (the Agency) is satisfied, on the basis of the information available, that the requirements of Section 40(4) of the Waste Management Act, 1996 have been complied with in respect of the application for a waste licence for the activities listed hereunder in Part I.

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

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Agency proposes, under Section 46(2) of the said Act to grant this Waste Licence to Cork City Council to carry on the waste activities listed below at Kinsale Road Landfill, Ballyphehane, Curraghconway, Inchisarsfield South City Link Road subject to twelve conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Act 1996

Class 1	**Deposit on, in or under land (including landfill):**
	This activity is limited to the disposal of the waste types specified in this licence up to a maximum of 100,000 tonnes per annum.
Class 2	**Land treatment, including biodegradation of liquid or sludge discards in soils:**
	This activity is limited to the disposal of non hazardous sludge at the landfill up to a maximum of 7,500 tonnes per annum.
Class 4	**Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons:**
	This activity is limited to the operation of leachate and stormwater retention ponds.
Class 5	**Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment:**
	This activity is limited to the disposal of the certain wastes in exceptional circumstances into lined discrete cells.
Class 7	**Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) 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 the operation of the leachate treatment plant.
Class 11	**Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule:**
	This activity is limited to the processing and mixing of construction and demolition waste prior to disposal at the facility.
Class 12	**Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule:**
	This activity is limited to repackaging waste in an accident/emergency situation.
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 storage of waste prior to its disposal.

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

Class 2	**Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):**
	This activity is limited to the composting of green waste accepted subject to a limit of $1000m^3$ at any one time at the facility and the storage of waste oils at the civic waste facility.
Class 3	**Recycling or reclamation of metals and metal compounds:**
	This activity is limited to the recovery of metal and metal compounds at the construction and demolition facility and at the civic waste facility.
Class 4	**Recycling or reclamation of other inorganic materials:**
	This activity is limited to the recovery of inorganic materials at the construction and demolition facility and the storage of inorganic materials at the civic waste facility.
Class 10	**The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system:**
	This activity is limited to the use of various suitable wastes as intermediate cover and in the closure/restoration stage of the landfill subject to the agreement of the Agency.
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 processed wastes in roadways, drains etc. at the facility.
Class 12	**Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule:**
	This activity is limited to the possible exchange of waste being delivered to the facility in exchange for processed waste subject to the agreement of the Agency.
Class 13	**Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:**
	This activity is limited to the temporary storage of waste prior to inspection, recycling, recovery and /or reuse at the facility or elsewhere.

INTERPRETATION

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

Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Animal waste	Carcasses, offal, skins & hides, bones, excrement, blood and paunch.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
Condition	A condition of this licence.
Construction and Demolition Waste	All wastes which arise from construction, renovation and demolition activities.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses.
Cover material	Bricks, crushed concrete, tarmac, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed with the Agency.
Daily Cover	Is the term used to describe material spread (about 150mm if soil cover is used) over deposited waste at the end of each day. Synthetic materials may also be used. Its objective is to minimise odour, the amount of litter generated and to control flies and access to the waste by birds and vermin. Where soils are used for daily cover, it is recommended that they be removed at the start of the day and subsequently reused as much as possible.
Daytime	0800 hrs to 2200 hrs.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
Emergency	Those occurrences defined in Condition 9.4.
Emission 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.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Hours of Operation	The hours during which the facility is authorised to be operational. The hours of operation of a facility are usually longer than the hours of waste acceptance to facilitate preparatory and completion works, such as the removal and laying of daily cover. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste. Different activities within the facility, such as the landfill and the civic waste facility, may have different hours of waste acceptance.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25^{o}C and atmospheric pressure.
Licence	A waste licence issued in accordance with the Act.
Licensee	Cork City Council (formerly Cork Corporation)
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.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Recyclable Materials	Those waste types, such as cardboard, batteries, gas cylinders, etc which may be recycled.
Quarterly	At approximately three monthly intervals.

Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
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 15% and 25% 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	Treatment means the physical, thermal, chemical or biological processes, including sorting, that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery.
Trigger Level	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Waste Construction Materials containing Asbestos EWC/HWL – 17 06 05*	Includes bonded asbestos, such as tiles, which are authorised for disposal at the facility.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
EPA Working Day	Refers to the following hours: 0900 hrs to 1730 hrs 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 blue on Drawing No. 2001-011-08-01 Rev. C entitled Site Layout and Activity Boundary received on 7/12/01 (response to Agency's Article 14 notice) of the application. Any reference in this licence to "facility" shall mean the area thus outlined in blue.

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

1.4 Municipal Waste, Commercial Waste and Industrial Waste may be recovered and disposed of at the facility subject to the maximum quantities and other constraints listed in *Schedule A: Waste Acceptance* of this licence and Condition 1.5.

1.5 Waste Disposal Restrictions

1.5.1 No hazardous wastes, liquid wastes, animal wastes, sewage sludge or septic tank waste shall be disposed of at the facility. Asbestos will only be allowed in accordance with Condition 5 of this licence.

1.5.2 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility from 16th July 2003. Shredded tyres shall not be disposed of at the facility from 16th July 2006.

1.5.3 No waste shall be accepted for landfilling at this facility after the final pre-settlement profile of the waste, as agreed under Condition 4.2, is reached.

1.6 Waste Acceptance Hours and Hours of Operation.

1.6.1 The facility may only be operated during the hours of 7.30am to 7.00pm Monday to Friday; 7.00am to 6.00pm on Saturdays; and 7.00am to 10.00am on Sundays and Bank Holidays.

Landfill

1.6.2 Waste may only be accepted at the facility for disposal at the landfill between the hours of 8.00am to 6.00pm Monday to Friday; 8.00am to 5.00pm on Saturdays; and 7.00am to 9.00am on Sundays and Bank Holidays.

Civic Waste Facility

1.6.2 Waste may only be accepted at the Civic Waste Facility between the hours of 8.00am to 6.00pm Monday to Friday; 8.00am to 5.00pm on Saturdays; and 7.00am to 9.00am on Sundays and Bank Holidays.

1.7 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.

e) The by-passing of the reedbeds from the stormwater retention pond in storm events

f) Any breakdown in the landfill gas utilisation plant or enclosed landfill gas flare (if required).

1.8 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.

1.8.1 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.

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

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

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

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

1.10 This licence is being granted in substitution for the waste licence granted to the licensee on 2nd February 2000 and bearing the Waste Licence Register No. 12-1. This licence supercedes the previous waste licence (Register No. 12-1).

REASON: To clarify the scope of this licence.

CONDITION 2 MANAGEMENT OF THE FACILITY

2.1 Facility Management

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

2.1.2 The Civic Waste Facility shall be supervised by an appropriately qualified and competent person at all times when waste is being accepted.

2.1.3 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS Waste Management Training Programme (or equivalent agreed with the Agency) and associated on site assessment appraisal within twelve months of appointment.

2.1.4 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.

2.2 Management Structure

2.2.1 Within three months from the date of grant of this licence, the licensee shall submit written updated details of the management structure of the facility to the Agency. Any proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information:-

a) The names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies.

b) Details of the responsibilities for each individual named under a) above.

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 maintain an EMS. By 2nd August 2003, the licensee shall submit to the Agency for its agreement a proposal for the updating (where appropriate) of the documented EMS for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.

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

2.3.2.1 Schedule of Environmental Objectives and Targets:-

The objectives should be specific and the targets measurable. The schedule shall address a five-year period as a minimum. The schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

2.3.2.2 Environmental Management Plan (EMP):-

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

a) The items specified to be contained in an Environmental Management Plan in the Landfill Operational Practices Manual published by the Agency.

b) Methods by which the objectives and targets will be achieved and the identification of those responsible for achieving those objectives and targets.

c) Any other items required by written guidance issued by the Agency.

2.3.2.3 Corrective Action Procedures:-

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

2.3.2.4 Awareness and Training Programme:-

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

2.4 Communications Programme

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

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

CONDITION 3 FACILITY INFRASTRUCTURE

3.1 The licensee shall establish all infrastructure referred to in this licence as required by the conditions of this licence.

3.2 Specified Engineering Works

3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works*, 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.

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.

f) Where environmental information relating to the facility can be obtained.

3.4 Facility Security

3.4.1 Security arrangements shall be as detailed in Section D.1.a received 7/12/01 as part of the response to the Agency's Article 14 notice 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.

b) A repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.5 Facility Roads and Hardstanding

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

3.6 Facility Office

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

3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

3.7 Waste Inspection and Quarantine Areas

3.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at the facility.

3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area and the waste quarantine area shall be clearly identified and segregated from each other.

3.7.3 Drainage from these areas shall be directed to the leachate collection system.

3.8 Weighbridge

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

3.9 Vehicle wash

3.9.1 The licensee shall provide and maintain a vehicle wash at the facility

3.10 Waste Water Treatment Plant.

3.10.1 The licensee shall provide and maintain a septic tank and percolation area at the facility for the treatment of wastewater arising on-site. Any percolation area shall satisfy the criteria set out in the *Wastewater Treatment Manual, Treatment Systems for Single Houses*, published by the Environmental Protection Agency.

3.11 Tank and Drum Storage Areas

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

3.11.2 All tank and drum storage areas shall, as a minimum, be 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.

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

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

3.11.5 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.

3.12 Leachate Management Infrastructure

3.12.1 Leachate management infrastructure consisting of the following shall be provided and maintained at the facility:

a) A leachate collection system for the collection of leachate generated at the facility which shall incorporate a leachate collection drain, sheet pile wall and a spur line on the eastern section of the collection drain and any other works agreed by the Agency.

b) A leachate conditioning plant and associated works.

c) Connection pipework to the Tramore River Valley sewer.

d) A compartmentalised leachate/contaminated stormwater storage lagoon for the storage of leachate/contaminated stormwater collected from the waste. The section of the lagoon storing leachate shall be covered with a floating cover capable of containing gases and odours.

e) SCADA system for the monitoring and management of leachate at the facility.

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

3.12.3 Prior to the placement of waste in Phases 1-5 as shown on Drawing 2001-011-08-018 Rev. B of the Application, a borehole shall be installed in each of Phases 1-5. This borehole shall be used for the abstraction of leachate. All leachate abstracted shall be directed to the leachate collection and treatment system.

3.13 Landfill Gas Management.

3.13.1 Landfill gas management infrastructure consisting of the following shall be provided and maintained at the facility:

a) a system for the collection and utilisation of the landfill gas as an energy source.

b) Within six months of the date of grant of this licence, a feasibility study on the utilisation of all landfill gas generated at the facility (including historical landfill areas) as an energy source shall be submitted to the Agency for agreement. Within twelve months of the date of grant of this licence, all landfill gas generated at the facility shall either be utilised (if feasible) or flared.

c) The flare shall be of an enclosed type design and the combustion air supply shall be controlled so as to achieve a minimum temperature of 1000°C and 0.3 seconds retention time at this temperature. Flare unit efficiency shall be tested once it is installed.

d) The design and operation of the landfill gas flare shall be agreed in advance with the Agency.

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

3.13.3 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.

3.14 Surface Water Management

3.14.1 Effective surface water management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall consist of the following:-

a) A system for the collection and diversion of run off arising from capped and restored areas such that contaminated water is prevented from discharging into surface water courses. This run-off shall be diverted to a stormwater retention pond and a reed bed system.

b) Control measures shall be incorporated into the design of the stormwater retention pond such that, if necessary, its contents can be isolated and discharged to the leachate management infrastructure or tankered off-site.

3.14.2 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement an updated management programme for the control of surface water runoff from the facility. These updated proposals shall include as a minimum:

a) A phased introduction of capping whereby surface water run-off from each restored phase can be determined independently prior to discharge to the stormwater retention pond.

b) The certification of the surface water drainage network and the quality of the surface water run-off from each phase shall be carried out by an appropriately qualified engineer/chemist. No surface water run-off shall be discharged to the stormwater retention pond until this certification has been agreed with the Agency.

3.14.3 There shall be no interference with, draining of, or culverting of, the Tramore River or its banks without prior consultation with the Southwestern Regional Fisheries Board and subject to agreement with the Agency.

3.14.4 Recirculation of leachate or other contaminated surface water shall not be undertaken at the facility.

3.15 Construction and Demolition Waste Recovery Area.

3.15.1 The licensee shall provide and maintain a construction and demolition waste recovery area. Surface water run-off shall be diverted to a silt trap and oil interceptor prior to discharge from the facility.

3.16 Civic Waste Facility

3.16.1 The licensee shall provide and maintain a Civic Waste Facility. All waste types shall be collected and stored in appropriate containers or in appropriately bunded storage areas as necessary.

3.17 Compost facility

3.17.1 The licensee shall provide and maintain a green waste composting area at the facility. This area shall at a minimum comprise the following:

a) An impermeable concrete slab.

b) Collection and disposal of all run-off to the leachate collection system.

3.18 Monitoring Infrastructure

3.18.1 The licensee shall provide and maintain all monitoring infrastructure required by Condition 8.1.

3.18.2 Within one month from the date of grant of this licence, the licensee shall install an effective permanent gas monitoring system in the site office.

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

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

CONDITION 4 RESTORATION AND AFTERCARE

4.1. The licensee shall restore the facility on a phased basis. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a Restoration and Aftercare Plan to reflect changes due to the requirements of this licence. This plan shall include all historically landfilled areas and should include a schedule detailing the various stages of restoration, including timescales, for the facility.

4.2. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for agreement a drawing showing the final pre-settlement profile of the waste at the facility. This drawing shall be based on the final post-settlement profile shown on Drawing No. 2001-011-08-023 Rev. B entitled "Waste Contour Plan (Post-Settlement)" of the application and shall take into account any requirements of this licence. This drawing shall be accompanied by details, including timescales, of the landfilling to achieve the final pre-settlement profile.

4.3. Final Capping

4.3.1. The final capping shall consist of the following:

a) Top soil (150 -300mm).

b) Subsoils, such that total thickness of top soil and subsoils is at least 1m.

c) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of $1x10^{-4}$ 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.

e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.

f) Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap.

4.3.2 Reprocessed Construction and Demolition material may be used in the capping system as sub-soil, free-draining material and in the gas collection layer. The licensee shall submit evidence to the Agency that the reprocessed waste material is fit for the purpose that it is intended. Reference should be made to any specific reference standards (BS, CEN, DETR) or any future guidance produced by the Agency. Following agreement with the Agency, this reprocessed waste material may be used in the capping system.

4.3.3 By 1st October 2002, Phases A and B as shown on Drawing 2001-011-08-018 Rev. A entitled "Filling and Final Capping Sequence" of the application shall be capped in accordance with Condition 4.3.1. By 1st October 2003, Phase C as shown on this drawing shall be capped in accordance with Condition 4.3.1. All other phases shall be permanently capped in accordance with Condition 4.3.1 within twelve months of the phases having been filled to the required level agreed under Condition 4.2.

4.3.4 Within twelve months of the date of grant of this licence, the licensee shall submit to the Agency a report on the structure of the cap of historically landfilled areas, Zone 1 and Zone 2 as shown in Drawing No. 2001-011-08-01 Rev. C entitled Site Layout and Activity Boundary received on 7/12/01 (response to Agency's Article 14 notice) of the application. Any modifications to the cap shall be carried out by the licensee within timescales specified by the Agency.

4.4. No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.

4.5. Soil Storage

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

REASON: To provide for the restoration of the facility

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

5.1 Wastes shall not be deposited in any phase or part of the landfill without the prior agreement of the Agency.

5.2 Waste Acceptance and Characterisation Procedures

5.2.1 The licensee shall maintain detailed written procedures at the facility for the acceptance of waste (to distinguish between inert, non-hazardous and hazardous wastes) and for the handling of hazardous wastes.

5.2.2 Toxicity testing shall be performed on a minimum of two samples per annum for all industrial sludge/solids being accepted at the facility and the results included in the AER.

5.3 All wastes shall be checked at the working face to ensure that they comply with the requirements of this licence. Any wastes not suitable for acceptance shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only. No waste shall be stored in the Waste Quarantine Area for more than three months.

5.4 Working Face

5.4.1 Unless the prior agreement of the Agency is given, the following shall apply at the landfill:-

a) Only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials.

b) The working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.

5.4.2 All waste deposited at the working face shall be compacted, using a steel wheeled compactor, and covered as soon as is practicable and at any rate prior to the end of the working day.

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

5.5 Daily and Intermediate Cover

5.5.1 Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.

5.5.2 Appropriate cover material shall be placed across the whole landfill so that no waste, other than the following is exposed:-

a) Waste suitable for specified engineering works.

b) Waste on the working face during the operational hours of the facility.

5.5.3 All areas in Phases 1 to 5 as shown in Drawing No. 2001-011-08-018 Rev. B, other than those currently being used at the working face or finally capped in accordance with Condition 4.3 shall be covered with intermediate cover.

5.6 Landscaping.

5.6.1 Within three months of the date of grant of this licence, a landscaping plan shall be submitted to the Agency for agreement.

5.7 Operational Controls.

5.7.1 The landfill shall be filled in accordance with the phase sequence 1-5 as shown in Drawing No. 2001-011-08-018 Rev. B entitled "Filling and Final Capping Sequence" of the application. No waste shall be deposited in Phase 6 as shown on this drawing.

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

5.7.3 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 final cap, leachate and landfill gas collection systems or with the prior agreement from the Agency.

5.7.4 Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate. Any depressions arising after profiling shall be rectified by the emplacement of suitable capping or restoration materials.

5.7.5 Scavenging shall not be permitted at the facility.

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

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

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

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

5.7.10 No smoking shall be allowed on the facility other than in buildings fitted with permanent gas monitoring systems.

5.8 Waste Handling

5.8.1 Sludge

5.8.1.1 Treated industrial non-hazardous sludge shall only be accepted at the facility between the hours of 8.30am and 2pm Monday to Friday inclusive. All sludge shall be covered immediately with other waste.

5.8.2 Compost

5.8.2.1 In order not to be considered a waste, compost produced by the facility shall comply with the quality standards established in *Schedule F: Standards for Compost Quality* of this licence. Analysis of the compost shall be in accordance with the requirements of that Schedule.

5.8.3 Construction and Demolition Waste

5.8.3.1 Only construction and demolition waste or other inert material shall be accepted at this area. All loads shall be visually checked to ensure that no contamination exists. Materials which are capable or being recovered for reuse or recycling shall be extracted from the waste. Materials recovered in this way shall be stored temporarily in containers prior to removal.

5.8.3.2 All stockpiles shall be maintained so as to minimise dust generation.

5.8.4 Waste Construction Materials containing Asbestos

5.8.4.1 Only asbestos waste classified under EWC as *17 06 05* – construction materials containing asbestos* may be disposed of at the facility.

5.8.4.2 From the date of grant of this licence, asbestos waste shall only be accepted at the facility for disposal subject to deposition being carried out in accordance with Council Directive 1999/31/EC on the Landfill of Waste and technical guidance issued by the European Commission

5.8.4.3 Asbestos waste must be double wrapped in heavy gauge plastic which is clearly labelled to indicate the presence of asbestos prior to its disposal.

5.8.4.4 Disposal of asbestos waste shall be into prepared bays or trenches of at least 2 metres in depth.

5.8.4.5 Deposited asbestos waste shall be covered immediately with at least 250mm of suitable material. At the end of the day, the waste shall be covered with a minimum of 500mm of suitable material.

5.8.4.6 No asbestos waste shall be present within 2.5 metres of the final surface levels.

5.9 Off-site Disposal and Recovery.

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

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

5.9.3 All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.

5.10 Civic Waste Facility.

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

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

a) Into a skip.

b) Into a receptacle for recovery.

c) In the case where inspection is required, into a designated inspection area.

5.10.3 Waste to be accepted at the Civic Waste Facility shall be limited to domestic waste, glass, beverage cans, textiles, paper and cardboard, plastics, timber, metals, tyres, garden waste, electronic goods, fluorescent tubes, waste oils, household hazardous waste, batteries, print/toner cartridges and other waste types subject to the prior written agreement of the Agency.

5.10.4 Domestic waste delivered to the civic waste facility for disposal shall be deposited at the working face prior to the end of the working day or removed offsite to an alternative facility agreed with the Agency.

5.10.5 Household hazardous wastes, batteries, waste oils and print/toner cartridges shall be stored in appropriately bunded storage areas. Fluorescent tubes shall be stored in an enclosed container in such a manner to prevent breakage.

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

5.11 Leachate

5.11.1 The frequency of leachate removal/discharge from the leachate lagoon shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon at all times.

5.11.2 Unless treated on the facility, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers.

5.12 Maintenance

5.12.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.

5.12.2 All lagoon structures on the facility shall be inspected and certified fit for purpose every three years by an independent and appropriately qualified chartered engineer.

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

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

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

CONDITION 6 EMISSIONS

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

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

6.3. Landfill Gas

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

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

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

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

a) In the case of landfill gas flare:

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

b) In the case of landfill gas utilisation plant:

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

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

6.3.3.1. Continuous monitoring:-

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

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

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

6.3.2.2. Non-Continuous Monitoring:-

a) 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.

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

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

6.4 Emissions to Groundwater

6.4.1 Within six 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 Council Directive 1999/31/EC for the groundwater monitoring boreholes NW3, NW7 and NW9.

6.5 Emissions to Surface Water

6.5.1 No leachate or other contaminated surface water shall be discharged to the Tramore and Trabeg Rivers. No stormwater shall be discharged to the Tramore and Trabeg Rivers when its quality indicates that it exceeds the trigger levels specified in Condition 6.5.3 below.

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

6.5.3 The licensee shall determine normal levels for ammonia, BOD, COD, chloride, conductivity, pH, TOC and temperature and trigger levels for TOC and conductivity for the water entering the stormwater retention pond (SRP1) prior to reed bed treatment. Within six months of the date of grant of this licence, the applicant shall submit to the Agency for its agreement a proposal outlining the measures to be implemented when

such trigger levels are reached. This proposal shall also take into account the water quality in the receiving waters upgradient of the landfill.

6.6 Trigger Level for PM_{10}.

6.6.1 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.

6.7 Emissions to Sewer

6.7.1 Unless otherwise agreed in advance with the Agency and the Sanitary Authority, the following shall apply for the discharge of leachate, which shall be via the leachate discharge point SD1 indicated on Drawing No. 9801127-06 Rev. F received 8/03/02 as part of the response to the Agency's Article 14 notice. There shall be no other discharge or emission to sewer of environmental significance.

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

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

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

6.7.5 Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.

6.7.6 The licensee shall submit monitoring results to the Sanitary Authority on an annual basis.

6.7.7 The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which the leachate is being discharged. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge

6.7.8 Emission limit values for emissions to sewer in this licence shall be interpreted in the following way:-

a) Continuous monitoring.
No flow value shall exceed the specified limit

b) Non-Continuous monitoring.
Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall not exceed 1.2 times the emission limit value.

c) No grab sample shall exceed 1.2 times the emission limit value.

6.8 Temporary Emissions of Dilute Leachate/Contaminated Stormwater to sewer

Discharge procedures for the discharge of dilute leachate or contaminated stormwater to sewer shall be in accordance with any written requirements of the Sanitary Authority.

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

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

7.4 Litter Control

7.4.1 Litter fencing shall be provided, from the date of grant of licence, and maintained around the perimeter of the active tipping area.

7.4.2 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.

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

7.4.3 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.

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

7.5 Dust Control

7.5.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

7.6 Prior to exiting the facility, all waste vehicles (including vehicles leaving the Construction and Demolition area) shall use the vehicle wash.

7.7 Bird Control

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

REASON: To provide for the control of nuisances

CONDITION 8 MONITORING

8.1 The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring* of this licence and as specified in this licence. Unless otherwise specified

by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.

8.2 The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.

8.3 Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.

8.4 The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

8.5 Landfill Gas Monitoring

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

8.5.2 Within six months of the date of grant of this licence, the licensee shall submit a proposal to the Agency for agreement to monitor surface methane emissions from capped and uncapped areas. This proposal shall as a minimum contain the methologies to be used and the frequency of monitoring.

8.6 Wind sock

8.6.1 The licensee shall provide and maintain in a prominent location on the facility a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

8.7 Topographical Survey

8.7.1 A topographical survey shall be carried out within one month of the date of grant of this licence. The survey shall include a measurement of the remaining available void space. It shall be repeated biannually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

8.8 Stability Assessment

8.8.1 Within six months of the date of grant of this licence, and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility.

8.9 Nuisance Monitoring

8.9.1 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.

8.10 Capping materials stockpile

8.10.1 Within six months of the date of grant of this licence, the licensee shall provide a report to the Agency on the quantity of capping materials stockpiled at the facility. In the event that the stockpile fails to contain the requisite volume of capping materials for the next twelve months, the report required by this condition shall contain a proposal for the Agency's agreement for alternative sources of capping materials or for the utilisation of geosynthetic materials.

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:-

a) Identify and put in place measures to avoid reoccurrence of the incident.

b) Identify and put in place any other appropriate remedial action.

9.2 The licensee shall maintain written Emergency Response Procedures (ERP) at the facility. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.

9.3 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.

9.4 Emergencies

9.4.1 All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.

9.4.2 No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.

9.4.3 In the event that monitoring of local wells indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.

9.4.5 In the event that monitoring of the slide slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

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

CONDITION 10 RECORDS

10.1 The licensee shall keep the following documents at the facility office:-

a) The current waste licence relating to the facility.

b) The current EMS for the facility.

c) The previous year's AER for the facility.

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 (including Construction and Demolition waste and topsoils/subsoils), excluding those arriving at the Civic Waste Facility. The licensee shall record the following:-

a) The date.

b) The name of the carrier (including if appropriate, the waste carrier registration details).

c) The vehicle registration number.

d) The name of the producer(s)/collector(s) of the waste as appropriate.

e) The name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number.

f) A description of the waste including the associated EWC codes.

g) The quantity of the waste, recorded in tonnes.

h) The name of the person checking the load; and,

i) Where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed.

10.3 Written Records.

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

a) The types and quantities of waste recovered and disposed of at the facility each year. These records shall include the relevant EWC Codes.

b) All training undertaken by facility staff.

c) Results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them.

d) Details of all nuisance inspections.

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.

f) Maintenance records in accordance with the manufacturer's recommendations for the landfill gas utilisation plant and flare at the facility.

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

a) Date and time of the complaint.

b) The name of the complainant.

c) Details of the nature of the complaint.

d) Actions taken on foot of the complaint and the results of such actions.

e) The response made to each complainant.

10.5 A written record shall be kept of each consignment of leachate and/or contaminated stormwater 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 and/or contaminated stormwater from the facility.

c) The volume of leachate and/or contaminated stormwater, 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 and/or contaminated stormwater was transported.

e) Any incidents or spillages of leachate and/or contaminated stormwater during its removal or transportation.

10.6 A written record shall be kept for each load of waste departing from the Civic Waste Facility. The following shall be recorded:-

a) The name of the carrier.

b) The vehicle registration number.

c) The destination of the waste (facility name and waste licence/permit number as appropriate).

d) A description of the waste (if recovered or rejected waste, the specific nature of the waste).

e) The quantity of waste, recorded in tonnes.

f) The name of the person checking the load.

g) The time and date of departure.

10.7 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.

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.

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 10:00am 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/sewer water, notify the Southwestern Regional Fisheries Board as soon as practicable and in any case not later than 10:00a.m. on the following working day after such an incident.

d) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.

11.3 Waste Recovery Reports.

11.3.1 Within six months of the date of grant of this licence, a report examining waste recovery options shall be submitted to the Agency for its agreement. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:-

a) Proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste going to landfills as specified in the Landfill Directive.

b) Updated proposals regarding the utilisation of heat from the gas utilisation plant.

c) The feasibility of using landfill gas as a fuel for on-site vehicles.

11.4 Achievement of Final Profile

11.4.1 Within **six** months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, proposals for landfilling and restoration to achieve the final profile/height of the facility to the Agency for its agreement.

11.5 Monitoring Locations

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

monitoring point. An amended drawing shall be submitted as and when any changes to the monitoring locations are made under the terms of the licence.

11.6 Annual Environmental Report.

11.6.1 The licensee shall submit to the Agency for its agreement, by 2nd March 2003, and within one month of the end of each year thereafter, an Annual Environmental Report (AER).

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

REASON: To provide for proper reports to and notifications to 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 €31,050 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2003 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2002, the licensee shall pay a pro rata amount from the date of this licence to 31st December. This amount shall be paid to the Agency within one month of the date of grant of this licence.

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

12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 The licensee shall from a date to be set by the Agency establish and maintain a fund, or provide a written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 4. The type of fund established and means of its release/recovery shall be agreed by the Agency prior to its establishment.

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

12.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund or guarantee must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

12.2.4 Unless otherwise agreed any revision to the fund shall be computed using the following formula:-

Cost = (ECOST x 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 Sanitary Authority Charges

12.3.1 Sanitary Authority charges of €6,000 shall be made payable to the Sanitary Authority directly on an annual basis. Sanitary Authority charges will increase from time to time in response to increased costs in providing drainage and monitoring.

12.4 Cost of landfill of waste.

12.4.1 The licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility.

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 for Disposal/Recovery at the facility.

Waste Type	Maximum (tonnes per annum)
Household & Commercial waste	98,000
Industrial non-hazardous sludge	1,500
Construction Materials containing asbestos - EWC 17/06/05*	500 Note 1
TOTAL FOR DISPOSAL	100,000
Construction & Demolition Waste	300,000 Note 2
Waste to be imported for restoration purposes	100,000
Green waste for composting	Note 3
Wastes accepted for storage at the civic waste facility prior to recycling, reuse or reclamation	5,000
TOTAL FOR RECOVERY	405,000

Note 1: Subject to restrictions in Condition 5.
Note 2: Construction and demolition waste may be accepted for recovery for use as daily cover, in site construction works and landfill restoration.
Note 3: Limited to 1000m^3 at any one time.

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Final capping.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management 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 any noise sensitive location (A1 and A4 on Table D.1.1)

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

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

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

C.3 Dust Deposition Limits: (Measured at the monitoring points indicated in Table D.1.1).

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

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

C.4 Surface Water Discharge Limits: Measured at SRP5 (outlet from Reedbed No. 2).

Suspended Solids mg/l
35

C.5 Emission Limits Values for Landfill Gas Utilisation Plant/Enclosed Flare

Emission Point Reference numbers: TV01 and TV02 **and outlet of enclosed flare (location to be agreed with Agency in advance).**
Volume to be emitted: $3000m^3/hr$ (unless results from modelling suggests otherwise)
Minimum discharge height: 5m (unless results from modelling suggests otherwise)

Parameter	Flare (enclosed) Emission Limit Value [Note 1]	Utilisation Plant Emission Limit Value [Note 1]
Nitrogen oxides (NO_x)	150 mg/m^3	500 mg/m^3
CO	50 mg/m^3	650 mg/m^3
Particulates	Not applicable	130 mg/m^3
TA Luft Organics Class I [(Note 2)]	Not applicable	20 mg/m^3 (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II [(Note 2)]	Not applicable	100 mg/m^3 (at mass flows > 2 kg/hr)
TA Luft Organics Class III [(Note 2)]	Not applicable	150 mg/m^3 at mass flows > 3kg/hr)
Total organic carbon (TOC)	10 mg/m^3	Not applicable
Hydrogen Chloride	50 mg/m^3 (at mass flows > 0.3 kg/h)	50 mg/m^3 (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m^3 (at mass flows > 0.05 kg/h)	5 mg/m^3 (at mass flows > 0.05 kg/h)

Note 1: Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.
Note 2: 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.

C.6 Emission Limits for Leachate Being Discharged to Sewer

Emission Point Reference No. SD1

Volume to be emitted: Maximum rate per hour: 25 m^3/hr

Parameter	Emission Limit Value
	Daily Mean Concentration (mg/l)
BOD	3,000
Ammoniacal Nitrogen (NH_4-N)	300
Suspended solids	1,000
Sulphates (as SO_4)	500
pH	6-9
Dissolved methane	0.2

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 and as shown in Drawing 9801127-06 Rev. F entitled "Environmental Monitoring Locations" received 8/03/02 as part of response to the Agency's Article 14 notice and Drawing No. 2001-011-08-020 Rev. B entitled "Stormwater Retention Pond" of the application.

Table D.1.1 Monitoring Locations

Landfill Gas within & outside waste	Landfill Gas Utilisation Plant & Enclosed Flare (if required)	Dust Deposition /PM_{10}	Odour Note 1	Noise	Asbestos fibres	Surface Water	Ground Water	Leachate
Stations	**Stations**	**Stations**	**Stations**	**Stations**	**Stations**	**Stations**	**Stations**	**Stations**
LG1-LG19	TV01 & TV02	D1 – D5 (Dust deposition)	O1-O5	B1-B4	Four locations Note 4	EM0-EM2	MWBR1, OB1, OB2, MWBR7	PS1-PS7
LG20-LG29	Outlet of enclosed flare	S1-S4 Note 2 (PM_{10})	O6-O7	A1 & A4		EM6-EM11	OB7, OB3, MWBR3	Lagoon
DP1-DP6	Inlet of utilisation plant & enclosed flare		Upwind sample Note 3	Any other location requested by Agency.		SRP1-SRP5 (stormwater & retention ponds)	BH1, BH12, KC8	SD1 (discharge to sewer)
Site Office	Any other location requested by Agency		Working face Note 3			A-F Note 5	NW1-NW9	Borehole in each of Phases 1-5.

Note 1: Number of locations may be reduced depending on results.

Note 2: Continuous PM_{10} monitor at S3 may be relocated with prior agreement of the Agency.

Note 3: Exact location of upwind monitoring location and working face monitoring location to be indicated in each odour monitoring report.

Note 4: Exact locations to be agreed in advance with the Agency.

Note 5: Biological monitoring locations on the Tramore & Trabeg Rivers. Location F is to be situated downstream of discharge points from reed beds. Exact location to be agreed in advance 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**	Standard
Atmospheric Pressure	Monthly	-	Standard
Temperature	Monthly	-	Standard

Note 1: All monitoring equipment used should be intrinsically safe.
Note 2 : Or other methods agreed in advance with the Agency.

D.3 Dust/PM_{10}/Odour Monitoring

Table D.3.1 Dust/PM_{10}/Odour Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust	Quarterly	Standard Method [Note 1]
Odour	Quarterly	See Note 2
PM_{10}	Quarterly at S1, S2 and S4 Continuous at S3	See Note 3

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: Odour measurements shall be by olfactometric measurement. Analysis for mercaptans, organic acids and hydrogen sulphide by standard methods.
Note 3: As described in prEN12341 or an equivalent agreed 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]	Annual	Standard [Note 1]
$L(A)_{10}$ [30 minutes]	Annual	Standard [Note 1]
$L(A)_{90}$ [30 minutes]	Annual	Standard [Note 1]
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard [Note 1]

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

D.5 Surface Water, Groundwater and Leachate

Table D.5.1 Water and Leachate - Parameters / Frequency

Parameter [Note 1]	SURFACE WATER [Note 2] Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE [Note 3] Monitoring Frequency
Visual Inspection/Odour [Note 4]	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly [Note 5]	Annually [Note 5]
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly [Note 5]	Annually [Note 5]
pH	Quarterly	Quarterly [Note 5]	Annually [Note 5]
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Cadmium & other metals/elements [Note 6]	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances [Note 7]	Once off [Note 8]	Annually [Note 8]	Once off [Note 8]
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Annually
Total Organic Carbon	Not Applicable	Quarterly [Note 5]	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually [Note 9]	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: See Table D.5.2 for monitoring requirements of stormwater retention ponds and reed beds.
Note 3: See Table D.5.3. for monitoring requirements at SD1, discharge point to sewer.
Note 4: Where there is evident gross contamination of leachate, additional samples should be analysed.
Note 5: For groundwater monitoring locations NW1-NW9 downgradient of the leachate collection drain, monitoring for these parameters shall be on a monthly basis. For the leachate pump sumps monitoring shall be for these parameters on a quarterly basis.
Note 6: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
Note 7: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).
Note 8: Annually for groundwater (MWBR1, MWBR3, NW4). Once off for surface water (EM1 and EM11); leachate (PS3 and PS4).
Note 9: Appropriate biological methods (such as EPA Q-Rating System) to be used for the assessment of rivers and streams.

Table D.5.2 Monitoring of Stormwater Retention Pond/ Reed bed system

Location / Parameter	Monitoring Frequency	Analysis Method/Technique [Note 2]
Inlet to Stormwater Retention Pond - SRP1 [(Note 1)]		
Flow	Continuous	Flow meter / recorder
TOC	Continuous	TOC meter / recorder
pH	Continuous	pH meter / recorder
Conductivity	Continuous	Conductivity Meter / recorder
Suspended Solids	Weekly	Gravimetric
Ammonia	Weekly	Standard Methods
SRP 2, SRP3[Note 3]		
Suspended Solids	Weekly	Gravimetric
SRP4 [Note 3]		
Suspended solids	When in operation	Gravimetric
Flow	When in operation	Flow meter / recorder
SRP5 [Note 3]		
Flow	Continuous	Flow meter / recorder
Visual inspection	Daily	Not applicable
Suspended Solids	Weekly	Gravimetric

Note 1: This inlet point refers to the combined surface water drainage network entering the stormwater retention pond. It should be noted that surface water run off from individually restored phases shall be monitored individually as per Condition 3 before each phase is acceptable for discharge to the stormwater retention pond.
Note 2: Or an equivalent method acceptable to the Agency.
Note 3: SRP2 - Outlet to reed bed No. 1; SRP3 – reed bed No. 1 outlet to reed bed No. 2; SRP4 Overflow outlet from stormwater retention pond, SRP5 - Outlet from Reed Bed No.2.

Table D.5.3 Monitoring of Emissions to Sewer – Parameters/Frequency

Emission Point Reference No.: SD1

Parameter	Monitoring Frequency	Analysis Method/Technique [Note 1]
Flow	Continuous	Flow meter/recorder
BOD	Monthly (24 hour composite)	Standard Method [Note 2]
Ammoniacal nitrogen	Monthly (24 hour composite)	Standard Method [Note 2]
Suspended Solids	Monthly (24 hour composite)	Gravimetric
Sulphates	Monthly (24 hour composite)	Standard Method [Note 2]
pH	Continuous	pH meter/recorder
Methane	Continuous	Dissolved Methane Probe/Headspace methane monitor

Note 1: Or an equivalent method acceptable to the Agency.
Note 2: "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 19th Ed. 1995, American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA".

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring:
Monitoring Location: Data to be obtained from Cork Airport.

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

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

D.7 Landfill Gas Combustion Plant/Enclosed Flare

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 Monitoring of Composting Process

Table D.8.1 Monitoring of Compost Process

Parameter	Monitoring Frequency [Note1]	Analysis Method/Technique
Moisture Content	Weekly	Standard
Temperature (min/max.)	Daily	Standard
Oxygen	Daily	Standard

Note 1: Unless otherwise 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	One month after the end of the year reported on.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	One month after end of three year period last assessed.
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.
Landfill Gas Combustion Products	Quarterly	Ten days after the period being reported on.
Monitoring of Surface Water/ Groundwater/Leachate Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Compost Quality	Quarterly	Ten days after end of the quarter being reported on.
Dust/PM_{10} /Odour/CO Monitoring	Quarterly	Ten days after the period being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Capping materials stockpiles	Biannually	Ten days after the period being reported on.
Slope stability monitoring	Biannually	Ten days after the period being reported on.
Topographical/void space survey	Biannually	One month after the period being reported on.
Noise Monitoring	Annually	One month after end of the year being reported on.
Biological and estuarine monitoring	Annually	One month after the period being reported on.
Any other monitoring.	As they occur	Within ten days of obtaining results.

Note 1: Unless altered by the Agency.

SCHEDULE F : Standards for Compost/Digestate Quality

Compost/digestate shall be deemed unsatisfactory if more than 25% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set. The following criteria (where they apply to compost) are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH_4-N, NO_3-N, pH and dry matter content should also be measured.

1. **Maturity (Compost only) -** The state of the curing pile must be conducive to aerobic biological activity. Compost shall be deemed to be mature if it meets two of the following groups of requirements:

a) Respiration activity after four days AT_4 is < 10mgO_2/g dry matter **or** Dynamic Respiration Index is < 1,000mgO_2/kg VS/h.

b) Germination of cress (*Lepidium sativum*) seeds and of radish (*Raphanus sativus*) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample.

c) Compost must be cured for at least 21 days and compost will not reheat upon standing to greater than 20°C above ambient temperature.

d) If no other determination of maturity is made, the compost must be cured for a six month period. In addition, offensive odours from the compost shall be minimal for the compost to be deemed mature.

e) Or other maturity tests as may be agreed with the Agency.

2. **Trace Elements (Compost and Digestate)** [Note 1]

Maximum Trace Element Concentration Limits [Note 2]

Parameters (mg/kg, dry mass)	Compost/Digestate Quality Standards [Note 3]		Stabilised Biowaste
	Class 1	Class 2	
Cadmium (Cd)	0.7	1.5	5
Chromium (Cr)	100	150	600
Copper (Cu)	100	150	600
Mercury (Hg)	0.5	1	5
Nickel (Ni)	50	75	150
Lead (Pb)	100	150	500
Zinc (Zn)	200	400	1500
Impurities >2mm [Note 4]	<0.5%	<0.5%	<3%
Gravel and Stones >5mm [Note 4]	<5%	<5%	-

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

Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

Note 3: Normalised to 30% organic matter content.

Note 4: Compost must not contain any sharp foreign matter measuring over a 2 mm dimension that may cause damage or injury to humans, animals and plants during or resulting from its intended use.

3. **Pathogens (Compost and Digestate) -** Pathogenic organism content must not exceed the following limits:

Salmonella sp.	Absent in 50g	n=5
Faecal Coliforms	≤ 1000 Most Probable Number (MPN) in 1g	n=5

Where: n = Number of samples to be tested;

4. **Monitoring (Compost and Digestate) -** The licensee shall monitor the compost/digestate product at least biannually and in the case of pathogens on a once-off basis. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, details of the sampling protocol, methods of analyses and sample numbers.

SCHEDULE G :Content of the Annual Environmental Report

Annual Environmental Report Content
Reporting Period.
Waste activities carried out at the facility.
Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.
Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.
Methods of deposition of waste.
Summary report on emissions.
Summary of results and interpretation of environmental monitoring.
Resource and energy consumption summary.
Proposed development of the facility and timescale of such development.
Volume of leachate produced and volume of leachate transported / discharged off-site.
Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.
Report on restoration of completed cells/ phases.
Results from testing of industrial non-hazardous sludge and solids accepted at the facility.
Site survey showing existing levels of the facility at the end of the reporting period.
Estimated annual and cumulative quantities of landfill gas emitted from the facility.
Estimated annual and cumulative quantity of indirect emissions to groundwater.
Meteorological report.
Annual water balance calculation and interpretation.
Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.
Schedule of Environmental Objectives and Targets for the forthcoming year.
Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
Tank, pipeline and bund testing and inspection report.
Reported incidents and Complaints summaries.
Review of Nuisance Controls.
Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.
Report on training of staff.
Any other items specified by the Agency.

Signed on behalf of the said Agency _____

on the 5th day of July 2002 Breda Sheehan **Authorised Person**