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Ireland

WASTE LICENCE
INTEGRATED WASTE MANAGEMENT FACILITY
INCLUDING
A LANDFILL FOR NON-HAZARDOUS WASTE

PROPOSED DECISION

Waste Licence	47-1
Register Number:	
Applicant:	Neiphin Trading Limited
Location of Facility:	Kerdiffstown, Naas, County Kildare

INTRODUCTION

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

This licence is for the operation of an integrated waste facility consisting of a non-hazardous waste landfill, inert waste landfill and infrastructure for the recovery of commercial/industrial waste and construction and demolition waste at Kerdiffstown, Naas, Co. Kildare. The facility covers an area of approximately 28 hectares. It is a sand and gravel pit, which has a history of various extractive and backfilling operations.

The licence allows up to 630,000 tonnes of waste per annum to be processed at the facility, provided adequate processing capacity is available. This includes acceptance into the facility of 300,000t/a (commercial/industrial waste and construction/demolition waste) and excavation on-site of 330,000t/a (waste previously landfilled at the facility). A lined landfill may be developed in the void created from the extracted waste. Disposal of waste to the lined landfill is limited to 183,000 tonnes per annum. Only non-putrescible waste may be landfilled. Inert waste accepted at the facility or derived from the waste recovery process on-site must satisfy the criteria set in the licence. The quantities of inert waste allowed for restoration of the facility are limited to that required to achieve the final profile, which the licence restricts to a height consistent with the surrounding landscape.

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

The licence sets out in detail the conditions under which Neiphin Trading Limited, 1 Terenure Place, Terenure, Dublin 6W will 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, all submissions received from other 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 40(1) of the said Act to grant this Waste Licence to Neiphin Trading Limited, 1 Terenure Place, Terenure, Dublin 6W to carry on the waste activities listed below at Kerdiffstown, Naas, Co. Kildare 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 non-hazardous wastes specified in Condition 1.4 in lined cells that are on, in and under land.
Class 4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of leachate in a lagoon/tank prior to disposal off-site at a suitable wastewater treatment plant.
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 non-hazardous waste into lined cell(s).
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 provision of a waste quarantine area and the temporary storage on-site of unacceptable waste prior to transport to another facility.

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

Class 3	Recycling or reclamation of metals and metal compounds: This activity is limited to recovery of metals.
Class 4	Recycling or reclamation of other inorganic materials: This activity is limited to the recovery of construction and demolition waste such as concrete and soil.
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 recycled construction and demolition waste such as clay and topsoil as cover and /or construction material at the site.
Class 13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to storage of waste on site in a building or on hardstanding prior to reuse.

Part II: Activities Refused

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to refuse the following classes of activity.

Refused waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996

Class 6	Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. Of this Schedule: Reason: No description is given for this waste activity in the application.
Class 11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule: Reason: The description given in the application relates to the reuse of waste, however this is a disposal activity.
Class 12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule: Reason: No description is given for this waste activity in the application.

Refused 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): Reason: No description is given for this waste activity in the application.
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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.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques as defined in Article 2(11) of Council Directive 96/61/EC concerning integrated pollution prevention and control.
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 <i>Schedule C: Emission Limits</i> , of this licence.
European Waste	A harmonised, non-exhaustive list of wastes drawn up by the European

Catalogue (EWC)	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.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Intermediate Cover	Refers to placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Landfill	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
Landfill Gas	Gases generated from the landfilled waste.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A waste licence issued in accordance with the Act.
Licensee	Neiphin Trading Ltd.
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Mobile Plant	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
Putrescible waste	Biodegradable waste with the potential to give rise to an offensive odour.
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 greater than 2% dry matter.
Specified Emissions	Those emissions listed in <i>Schedule C: Emission Limits</i> , of this licence.
Specified Engineering Works	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> , of this licence.
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.
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 III CONDITIONS

CONDITION 1 SCOPE OF THE LICENCE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I: Activities Licensed and authorised by this licence.
- 1.2. For the purposes of this licence, the facility is the area of land outlined in red on Fig. No. 1.2.1 Rev. A 'Site Location Map' of Article 16(1) Notice Response and dated October 2001 of the application. The licensee shall submit to the Agency for its agreement, prior to commencement of waste activities, details of the licensee's interest in all the land within the red boundary. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3. This licence is for the purposes of waste licensing under the Waste Management 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. Commercial Waste, Industrial Waste and Construction and Demolition 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.
- 1.5. Waste Acceptance.
 - 1.5.1. 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 16 July 2003. Shredded tyres shall not be disposed of at the facility from 16 July 2006.
 - 1.5.2. No hazardous wastes, liquid wastes, putrescible waste or sludges shall be disposed of at the facility.
 - 1.5.3. The licensee shall ensure that all waste accepted at the facility is subject to treatment. This provision may not apply to inert waste for which treatment is not technically feasible, nor to any other waste for which such treatment does not contribute to the objectives of the landfill directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.
- 1.6. Waste Acceptance Hours and Hours of Operation.
 - 1.6.1. Waste may only be accepted at the facility between the hours of 08.00 to 18.00 Monday to Friday inclusive and 08.00 to 17.00 on Saturdays.
 - 1.6.2. The facility may only be operated during the hours of 07.30 to 20.00 Monday to Friday inclusive and 08.00 to 18.00 on Saturdays.
 - 1.6.3. Waste shall not be accepted at the facility on 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 non-acceptance or rejection of waste at the facility.

- 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.

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 Recovery and Disposal Facilities shall each be supervised by appropriately qualified and competent persons at all times when waste is being accepted or processed.
- 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 Prior to the commencement of waste activities, the licensee shall submit written 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 establish and maintain an EMS. By the 31st January 2003 the licensee shall submit to the Agency for its agreement a proposal for a documented Environmental Management System (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 establish and 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. This shall be established within six months of the date of grant of the licence.

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 prior to the commencement of the licensed activities or as required by the conditions of this licence.
- 3.2 Specified Engineering Works.
- 3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
- 3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.
- 3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include the following information:-
- a) A description of the works.
 - b) As-built drawings of the works.
 - c) Records and results of all tests carried out (including failures).
 - d) Drawings and sections showing the location of all samples and tests carried out.
 - e) Daily record sheets/diary.
 - f) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works.
 - g) Name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works.
 - h) Records of any problems and the remedial works carried out to resolve those problems.
 - 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 The licensee shall carry out a review of the site security arrangements and shall within three months of the date of grant of this licence, ensure that all areas of the facility are secure.

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.

3.5.2 Internal access roads used for waste acceptance/removal and vehicle parking areas shall be either hardstanding or paved and shall at minimum consist of the following make-up or an equivalent

- a) hardstanding areas shall be constructed to the following specification; 150mm concrete slab overlying 200 mm Clause 804 granular fill; and
- b) roads shall be constructed of 40mm wearing course of macadam, 60mm base course of macadam and 200 mm Clause 804 granular fill

Service roads may be constructed of 500mm compacted hardcore/gravel subject to agreement with the Agency.

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 Wheel Cleaning.

3.9.1 The licensee shall establish and maintain a wheelwash at the facility.

3.9.2 Drainage from the wheelwash shall be directed to the leachate collection system.

3.10 Waste Water Treatment System.

3.10.1 The licensee shall provide and maintain a Wastewater Treatment System at the facility for the treatment of wastewater arising from toilets and water services 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 within three months of the date of grant of this licence or 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 Waste handling, ventilation and processing plant

3.12.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including inter alia waste loading vehicles and ejector trailers) shall be provided on the following basis:

- 100% duty capacity;
- 50% standby capacity available on a routine basis;
- Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

3.12.2 Prior to commencement of waste recovery activities, the licensee shall provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per *Schedule A: Waste Acceptance* of this licence.

3.12.3 The total quantity of waste accepted for recovery at the facility or excavated on-site on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this quantity shall be treated as an incident.

3.13 Landfill Lining:

3.13.1 The landfill liner for the non-hazardous waste landfill shall comprise:-

- a) A composite liner consisting of a 1m layer of compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s, (or equivalent to be agreed with the Agency) overlain by a 2mm thick high density polyethylene (HDPE) layer.
- b) A geotextile protection layer placed over the HDPE layer.
- c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains.
- d) The side walls shall be designed and constructed to achieve an equivalent protection.

3.13.2 Inert waste may only be disposed of in areas which satisfy the following lining criteria:

- a) Base and side wall mineral layer of a minimum thickness of 1m with a hydraulic conductivity less than or equal to 1×10^{-7} m/s or a minimum thickness of 0.5 m artificial layer of enhanced soils or similar, giving equivalent protection to the foregoing.

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

3.13.4 Formation levels of the cells shall be agreed with the Agency prior to cell development. The formation level of the base of the non-hazardous waste landfill liner (prior to placement of compacted clay or equivalent) shall be at least 1m above the groundwater table level. All waste shall be removed from beneath the formation level of the liner to be developed.

3.14 Leachate Management Infrastructure

3.14.1 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement a Leachate Management Plan dealing with leachate which is currently generated at the facility. This shall include measures to minimise the leachate being generated, monitoring procedures, including frequencies and any remediation measures to deal with contaminated or polluted groundwater.

3.14.2 The licensee shall submit details to the Agency for its agreement on the leachate management system to deal with leachate generated in the proposed lined cells. The details shall include information on the proposed leachate treatment system including its operational criteria, the proposed standards for treated leachate and a timescale for the construction and commissioning of the system.

3.14.3 Leachate management infrastructure shall be provided and maintained at the facility. The infrastructure shall provide for the abstraction/collection and storage of leachate from the lined non-hazardous waste landfill and its treatment either at the facility or at a suitable treatment works. The leachate management infrastructure shall also, within six months of the date of grant of this licence, cater for any leachate generated from previous landfilling within the facility.

Within six months of the date of grant of this licence the licensee shall provide and maintain a leachate storage lagoon/tank at the facility to facilitate the storage of leachate abstracted/collected from the waste. In the case of use of a leachate lagoon, the lagoon lining shall be a composite liner equivalent to the non-hazardous waste landfill liner and constructed using the same methods or other as agreed with the Agency.

3.15 Landfill Gas Management.

3.15.1 In conjunction with the installation of final capping of a cell/cells or any part of the facility which contains previous landfilled waste, the licensee shall submit to the Agency for its agreement within three months of the date of grant of the licence, an assessment of whether

the utilisation of landfill gas as an energy resource is feasible. If feasible such a system shall be installed within a timeframe agreed with the Agency. This assessment shall include proposals regarding the utilisation of heat energy from this plant.

3.15.2 Where landfill gas utilisation is not feasible, effective infrastructure shall be provided and maintained at the facility for the collection and flaring of landfill gas for each cell or any part of the facility, which contains previous landfilled waste, upon final capping.

3.15.3 Flare unit efficiency shall be tested once it is installed and once every three years thereafter.

3.15.4 The landfill gas flare shall be of an enclosed type design and the combustion air supply shall be controlled so as to achieve a minimum temperature of 1,000°C and 0.3 seconds retention time at this temperature. The design and operation of the landfill gas flare shall be agreed in advance with the Agency.

3.15.5 Flares should be maintained in accordance with the manufacturers recommendations.

3.15.6 Until the operation of the landfill gas combustion plant/flare, passive landfill gas management at the facility shall be carried out. Landfill gas management and infrastructure shall meet the recommendations given in the Agency Manual on "Landfill Operational Practices".

3.15.7 Within three months from the date of grant of this licence, the licensee shall install perimeter landfill gas monitoring boreholes at maximum 45m intervals around the periphery of the facility.

3.15.8 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.

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

3.16 Surface Water Management.

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

- a) the prevention of contaminated water and leachate discharges into surface water drains and courses; and
- b) the collection/diversion of run off arising from capped and restored areas.

3.16.2 Prior to commencement of waste activities and as part of the construction of hardstanding areas and a building for use in the recovery of waste, the licensee shall carry out the following works to the wastewater/surface water handling system at the facility:

- a) Run off from hardstanding areas (including waste recovery areas) shall be separated into wastewater and storm water drainage systems.
- b) Surface water shall discharge to adequately sized silt traps and oil interceptors. The interceptors shall be a Class I full retention interceptor and the silt traps and interceptors shall be in accordance with European Standard prEN 858 (installations for the separation of light liquids).

- c) Wastewater shall discharge to an adequately sized silt trap and oil interceptor. The interceptors shall be a Class II full retention interceptor and the silt traps and interceptors shall be in accordance with European Standard prEN 858 (installations for the separation of light liquids).
- d) Wastewater (including leachate produced from waste recovery activities) shall be directed to the leachate collection system. Prior to commencement of waste activities, the integrity and water tightness of all underground pipes, tanks and sumps, and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- e) All sewer gullies, drainage grids and manhole covers shall be painted with red squares whilst all surface water discharge gullies, drainage grids and manhole covers shall be painted with blue triangles. These colour codes shall be maintained so as to be visible at all times during facility operation, and any identification designated in this licence shall be inscribed on these manholes.
- f) The licensee shall agree in advance with the Agency and Sanitary Authority any connection to the proposed sewer line.

3.16.3 The drainage system, bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal. A written record shall be kept of the inspections, desludging, cleaning, disposal of associated waste products, maintenance and performance of the interceptors, bunds and drains.

3.17 Groundwater Management

3.17.1 Effective groundwater management infrastructure shall be provided and maintained at the facility during construction, operation, restoration and aftercare of the facility. As a minimum, the infrastructure shall be capable of the protection of the groundwater resources from pollution by the waste activities.

3.17.2 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement details, including location, of three perimeter groundwater monitoring boreholes. These boreholes shall be installed within three months of the Agency's agreement.

3.18 Waste Recovery Area

3.18.1 Prior to commencement of recovery operations, the licensee shall provide and maintain a waste recovery area. This infrastructure shall at a minimum comprise the following:-

- a) An impermeable concrete slab.
- b) Collection and disposal infrastructure for all run-off.

3.18.2 The licensee may store only those processed/unprocessed wastes as agreed in advance with the Agency in this area. No waste processing activity shall be carried on in this area unless agreed with the Agency.

3.18.3 The licensee shall, unless otherwise agreed with the Agency, provide a building at the location shown on Drawing No. NTL/01 Rev. B 'Existing Conditions Site Plan' for the recovery of waste extracted on-site and commercial/industrial waste and construction and demolition wastes accepted at the facility.

3.19 Telemetry

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

3.19.2 A telemetry system shall be installed and maintained at the facility. This system shall include for:-

- a) Recording of leachate levels in the lined cells and lagoon.
- b) Recording of levels in the surface water lagoon and flows to the perimeter streams.
- c) Recording of the surface water quality at the inlet to the surface water lagoons and being discharged to the perimeter streams.
- d) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

3.20 Replacement of Monitoring Infrastructure

3.20.1 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. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement a detailed Restoration and Aftercare Plan for the facility. The Restoration and Aftercare Plan shall have regard to the guidance published in the Agency's Landfill Manual on "Landfill Restoration and Aftercare". The following shall be incorporated in the plan:

- a) the restoration of areas proposed as lined areas for acceptance of non-hazardous waste and for the disposal of inert waste;
- b) the restoration of areas other than a) above. Only inert waste may be used to restore such areas and the restoration of these areas of the facility shall be completed within two years of the date of grant of this licence.

4.2. The final profile/height of the facility shall be a maximum of 100mOD Poolbeg and be domed in shape. The licensee shall submit a map showing the final contour layout within three months of the date of grant of licence. Any area of the facility, which contains waste that exceeds the maximum profile less final capping requirements shall have the waste removed for recovery/disposal in accordance with the requirements of this licence.

4.3. Landscaping

4.3.1. Landscaping of the facility as described in Section G - Restoration and Aftercare (information submitted in response to Article 16(1) dated October 2001), Table 3.9.1 and Drawing NTL/07Rev. B shall be carried out within 2 years of the date of grant of this licence.

4.4. Final Capping

4.4.1. 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 1×10^{-4} m/s.
 - d) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than 1×10^{-9} m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection.
 - e) Gas collection layer of natural material (minimum 0.3m) or a geosynthetic layer.
- 4.5. No material or object that is incompatible with the proposed restoration of the facility shall be present within one metre of the final soil surface levels.
- 4.6. Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.

<i>REASON: To provide for the restoration of the facility</i>

CONDITION 5 FACILITY OPERATION AND WASTE MANAGEMENT

- 5.1 Wastes shall not be recovered or disposed of in any cell or part of the facility without the prior agreement of the Agency. No waste shall be accepted at the facility for either recovery or disposal until the reports and infrastructure required under this licence (specifically reports required under Conditions 1.2, 2.2, 3.12, 5.3, 5.6, 6.4 and 6.6 and infrastructure required under Conditions 3.7, 3.13, 3.16, 3.18 and 5.7) are in place and agreed by the Agency and the financial provision required under Condition 12 is in place and agreed by the Agency.
- 5.2 Waste shall only be accepted at the facility from holders of waste collection permits under the Waste Management (Collection) Permits Regulations 2000. The licensee must maintain copies of these waste permits on-site.
- 5.3 Waste Acceptance and Characterisation Procedures
- 5.3.1 Prior to commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes, including the excavation, handling and processing of waste excavated from the existing landfill to establish formation levels for the lined non-hazardous waste landfill. These procedures shall include methods, such as sludge, eluate and toxicity testing, for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes.
 - 5.3.2 Waste arriving at the facility shall be subject to inspection, weighed, documented and directed to the appropriate facility (Waste Recovery or landfill). Each load of waste arriving at the Facility shall be inspected upon tipping. Only after such inspections shall the waste be processed for disposal or recovery.
 - 5.3.3 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence 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. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 5.4 Working Face

- 5.4.1 Unless the prior agreement of the Agency is given, the following shall apply at each landfill at the facility:-
- a) Only one working face shall exist at each landfill (inert waste landfill and non-hazardous waste 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 Within three months of the date of grant of this licence, 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.
- 5.6 Operational Controls
- 5.6.1 Prior to the commencement of landfilling, the licensee shall submit to the Agency for its agreement, the proposed development and filling phase sequence.
- 5.6.2 All large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.6.3 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over only with the prior agreement from the Agency.
- 5.6.4 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.
- 5.6.5 Filled cells shall be permanently capped within twelve months of the cells having been filled to the required level.
- 5.6.6 Scavenging shall not be permitted at the facility.
- 5.6.7 Gates shall be locked shut when the facility is unsupervised.
- 5.6.8 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.6.9 Fuels shall only be stored at appropriately bunded locations on the facility.
- 5.6.10 All tanks and drums shall be labelled to clearly indicate their contents.
- 5.6.11 No smoking shall be allowed on the facility other than in the facility office.
- 5.6.12 The licensee shall only handle or store waste for recovery purposes and park vehicles in areas of the facility where an impermeable hardstanding surface exists.
- 5.7 Waste Handling

- 5.7.1 All waste activities associated with the handling of waste at the Waste Recovery station shall be carried out on impermeable hardstanding areas within an enclosed building, unless otherwise agreed with the Agency. All wastes destined for onward disposal shall be stored within this enclosed building. Wastes destined for recovery off-site may be stored outside this building where appropriate and as agreed in advance with the Agency.
- 5.7.2 Inert waste accepted at the facility or generated from recovery processes at the facility shall comply with the standards established in *Schedule F: Criteria for the Acceptance of Inert Waste*, of this licence. Analysis of such waste shall be in accordance with the requirements of that Schedule.
- 5.7.3 Wastes, which are capable of being recovered, shall be separated and shall be stored temporarily in the recovery area prior to being subjected to other recovery activities at the facility or transport off the facility.
- 5.7.4 Waste soil/fines generated from the recovery process of waste extracted on-site shall be stored separately at the facility and shall be landfilled into the lined cells on-site or at another agreed facility.
- 5.7.5 All stockpiles shall be maintained so as to minimise dust generation.
- 5.7.6 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement a proposal relating to the maximum height to which waste can be stockpiled.
- 5.8 Off-site Disposal and Recovery
- 5.8.1 Waste sent off-site for recovery or disposal shall only be conveyed by a waste contractor agreed by the Agency.
- 5.8.2 All waste transferred from the facility shall only be transferred to an appropriate facility agreed by the Agency.
- 5.8.3 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.
- 5.9 Leachate Management.
- 5.9.1 Leachate levels in the waste shall not exceed a level of 1.0m over the top of the liner at the base of the landfill.
- 5.9.2 The level of leachate in the pump sumps shall be continuously monitored.
- 5.9.3 Unless otherwise agreed with the Agency leachate stored in the leachate storage lagoon/tank shall be disposed of by tankering off-site in fully enclosed road tankers and discharging to an agreed Sanitary Authority Waste Water Treatment Plant as per Condition 6.6.1.
- 5.9.4 The frequency of leachate removal/discharge from the leachate lagoon/tank shall be such that a minimum freeboard of 0.75m shall be maintained in the leachate lagoon/tank at all times.
- 5.10 Leachate Re-circulation
- 5.10.1 Recirculation of leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and, in any case, shall only be undertaken within cells which have been lined to the satisfaction of the Agency.
- 5.11 Maintenance.
- 5.11.1 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.

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

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

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

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 combustion plant:
Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.

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

6.3.3.1. Continuous monitoring:-

- a) No 24 hour mean value shall exceed the emission limit value.
- b) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value.
- c) No 30 minute mean value shall exceed twice the emission limit value.

6.3.3.2. Non-Continuous Monitoring:-

- a) For any parameter where, due to sampling/analytical limitations, a 30 minute samples is inappropriate, a suitable sampling period should be

employed and the value obtained therein shall not exceed the emission limit value.

- b) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
- c) For flow, no hourly or daily mean value shall exceed the emission limit value.

6.4. Groundwater

6.4.1 There shall be no direct emissions to groundwater.

6.4.2 Prior to the acceptance of waste for disposal to landfill at the facility, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC (Ammonia, TOC and Chloride as a minimum).

6.5. Emissions to Surface Water

6.5.1. No raw leachate, treated leachate or contaminated surface water shall be discharged to surface waters.

6.6. Disposal of Leachate

6.6.1. Prior to accepting waste for disposal to landfill at the facility, the licensee must submit to the Agency for agreement details of an agreement between the licensee and a Sanitary Authority for accepting leachate from the facility at a waste water treatment plant.

6.7. Trigger Level for PM₁₀

6.7.1. The trigger level for PM₁₀ from the facility measured at any location on the boundary of the facility is:-

- a) PM₁₀ greater than 50µg/m³ for a daily sample.

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

CONDITION 7 NUISANCE CONTROL

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

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

7.3 Within six months of the date of grant of this licensee and prior to commencement of waste activities, whichever is sooner, the licensee shall submit to the Agency for its agreement, an odour management plan for the facility. The plan shall include:

- (i) measures to control potential sources of odour nuisance;
- (ii) details of odour abatement equipment that is necessary to control odours from waste activities to be carried on; and
- (iii) monitoring details of odours and odour abatement equipment.

7.4 Litter Control

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

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 shall use the wheelwash.

7.7 Bird Control

7.7.1 Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place on the facility within three months of the date of grant of the licence and shall maintain their presence every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency. Measures used must be compatible with the mitigation measures to deal with the colonies of Sand Martins.

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 Within two months of the date of grant of licence, the licensee shall install a permanent gas monitoring system in the site office and any other enclosed structures at the facility. All landfill gas monitoring equipment, other than permanent monitoring systems within buildings, shall be certified as being intrinsically safe.
- 8.6 All persons conducting the sampling, monitoring and interpretation as required by this licence shall be suitably competent.
- 8.7 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement an updated appropriately scaled drawing showing all the monitoring locations that are stipulated in this licence. The drawing shall include the twelve figure National Grid Reference for the various monitoring points.
- 8.8 Groundwater Monitoring
- 8.8.1 Subject to the agreement of the well owners, all private wells within 250m of the facility (including supply wells for livestock) shall be included in the monitoring programme set out in *Schedule D: Monitoring* of this licence.
- 8.9 Topographical Survey
- 8.9.1 A topographical survey shall be carried out within three months 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
- 8.10 Archaeological Assessment
- 8.10.1 Prior to the development of any undisturbed area, the advice of Dúchas the Heritage Service shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to Dúchas and to the Agency.
- 8.11 Nuisance Monitoring
- 8.11.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours.
- 8.12 Stability Assessment
- 8.12.1 Within three 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.
- 8.13 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

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

CONDITION 9 CONTINGENCY ARRANGEMENTS

- 9.1. In the event of an incident the licensee shall immediately:-
- a) Identify the date, time and place of the incident.
 - b) Carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom.
 - c) Isolate the source of any such emission.
 - d) Evaluate the environmental pollution, if any, caused by the incident.
 - e) Identify and execute measures to minimise the emissions/malfunction and the effects thereof.
 - f) Provide a proposal to the Agency for its agreement within one month of the incident occurring to:-
 - i) Identify and put in place measures to avoid reoccurrence of the incident.
 - ii) Identify and put in place any other appropriate remedial action.
- 9.2. The licensee shall, within six months of the date of grant of this licence, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. 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 (including wells for livestock) indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an emergency and the licensee shall provide an alternative supply of water to those affected.
- 9.4.4. In the event that monitoring of the slide slopes of the facility indicate that there may be a risk of slope failure this will be treated as an emergency.

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

CONDITION 10 RECORDS

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

- a) The current waste licence relating to the facility.
- b) The current EMS for the facility.
- c) The previous year's AER for the facility.
- d) All written procedures produced by the licensee which relate to the licensed activities.
- e) All monitoring results, waste records and any other reports which relate to this licence.

10.2 The licensee shall maintain a written record for each load of waste arriving at and leaving from the 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 or to which the load departed 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 month and 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) Records of flare maintenance and training provided.

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 removed from the facility. The record shall include the following:-
- a) The name of the carrier.
 - b) The date and time of removal of leachate from the facility.
 - c) The volume of leachate, in cubic metres or tonnes, removed from the facility on each occasion.
 - d) The name and address of the Waste Water Treatment Plant to which the leachate was transported.
 - e) Any incidents or spillages of leachate during its removal or transportation.
- 10.6 A written record shall be kept at the facility of the programme for the control and eradication of vermin and fly infestations at the facility. These records shall include as a minimum the following:-
- a) The date and time during which spraying of insecticide is carried out.
 - b) Contractor details.
 - c) Contractor logs and site inspection reports.
 - d) Details of the rodenticide(s) and insecticide(s) used.
 - e) Operator training details.
 - f) Details of any infestations.
 - g) Mode, frequency, location and quantity of application.
 - 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 10:00 hrs the following working day after the occurrence of any incident.
- b) Submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident.
- c) In the event of any incident which relates to discharges to surface/sewer water, notify the Eastern Regional Fisheries Board as soon as practicable and in any case not later than 10:00 hrs on the following working day after such an incident.
- 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.

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 to landfill, going to landfills as specified in the Landfill Directive.
- b) The recovery of Construction and Demolition Waste.
- c) The recovery of industrial/commercial waste, including cardboard.
- d) Inert waste to be used for cover/restoration material at the facility.
- e) Proposals regarding the utilisation of energy from the gas utilisation plant.

11.4 Reports relating to Facility Operations.

11.4.1 Leachate Handling Procedures:-

11.4.1.1 The licensee shall submit to the Agency for its agreement prior to the use of the leachate holding lagoon/tank, Handling Procedures for the handling of leachate which include (1) procedures for the handling of leachate during removal from the lagoon/tank and subsequent transport/discharge to a Waste Water Treatment Plant and (2) monitoring infrastructure details and procedures for monitoring the level of leachate in the pump sumps, the cells and the lagoon/tank.

11.4.2 Operation in Adverse Wind Conditions:-

11.4.2.1 Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.

11.5 Vermin and Flies.

11.5.1 Within three months of the date of this licence, the licensee shall submit to the Agency for its agreement a proposal for the control and eradication of vermin and fly infestations at the facility. This proposal should include as a minimum, operator training, details on the rodenticide(s) and insecticide(s) to be used, mode and frequency of application and measures to contain sprays within the facility boundary.

11.6 Birds.

- 11.6.1 Prior to commencement of waste activities, the licensee shall submit to the Agency for its agreement details of the measures to be taken to prevent disturbance to Sand Martins during the breeding season (April to August).

11.7 Annual Environmental Report.

- 11.7.1 The licensee shall submit to the Agency for its agreement, an Annual Environmental Report (AER) by the 31st January 2003. The AER shall be submitted on an annual basis thereafter.
- 11.7.2 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 €39,953 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 arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for its agreement within six months of date of grant of this licence and prior to the commencement of waste activities.
- 12.2.2 Prior to the commencement of waste activities, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates or in consequence of ceasing to carry on the activities. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.
- 12.2.3 The amount of financial provision, held under condition 12.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.

12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under condition 12.2.2, forward to the Agency written proof of such indemnity.

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

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

Where:-

Cost = Revised restoration and aftercare cost

ECOST = Existing restoration and aftercare cost

WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

12.3 Sanitary Authority Charges (on connection to sewer).

12.3.1 Sanitary Authority charges of €1.73 per cubic metre per 500ppm COD of trade effluent shall be made payable to the Sanitary Authority directly on annual basis. Annual monitoring costs incurred by the Sanitary Authority shall also be defrayed by the licensee. 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.

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

Waste Type	Maximum (Tonnes Per Annum) ^{Note 1}
Commercial & Industrial	100,000
Imported Construction & Demolition Waste	200,000
Waste Excavated On Site	330,000
TOTAL	630,000

Note 1: Maximum tonnage's subject to Agency agreement on Waste Handling, Ventilation and Processing Plant Capacities.

Waste for Recovery & Disposal	Maximum (Tonnes Per Annum)
Waste for Recovery	447,000 ^{Note 1}
Waste for Disposal to lined landfill	183,000
TOTAL	630,000

Note 1: Inert waste for recovery must satisfy the criteria set out in this licence.

SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Final capping and restoration.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management Infrastructure.
Installation of Groundwater Control Infrastructure.
Installation of Surface Water Management Infrastructure.
Development of the facility (waste recovery infrastructure and lined landfill) including installation of waste handling, processing, recycling/recovery infrastructure, completion of areas not to be used as a lined landfill and preparatory works and lining of the landfill.
Any other works notified in writing by the Agency.

SCHEDULE C : Emission Limits

C.1 Noise Emissions: (Measured at the perimeter monitoring points indicated in *Table D1*.)

Day dB(A) L _{Aeq} (15 minutes)	Night dB(A) L _{Aeq} (15 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 D1*).

Level (mg/m ² /day) ^{Note 1}
350

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

C.4 Emission Limits Values for Landfill Gas Plant

Emission Point Reference numbers: to be agreed with Agency in advance.

Volume to be emitted: 3000m³/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.5 Emission Limits for Discharge to Sewer

Emission Point Reference No. To be agreed in advance with the Agency

Parameter	Emission Limit Value
	Daily Mean Concentration (mg/l)
BOD	8,500
COD	21,500
Ammoniacal Nitrogen (NH ₄ -N)	300
Suspended solids	1,000
Sulphates (as SO ₄)	500
pH	6-8
Dissolved methane	0.2

SCHEDULE D : Monitoring

D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and Fig 4.6.1 'Past and Existing Monitoring Points' Rev. A of Article 16(1) Notice Response and dated October 2001 of the application.

Table D.1.1 Monitoring Locations

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/Utilisation Plant	Dust Deposition	Odour & PM ₁₀	Noise	Surface Water	Ground Water	Leachate
Stations		Stations		Stations	Stations	Stations	Stations
Perimeter boreholes at 45m intervals.	To be agreed. Note 1	D1	To be agreed. Note 3 Note 8	N1	SW7a	W1	To be agreed. Note 7
Site office & other buildings		D2		N2	SW3	BH5	
One boreholes per hectare within the waste mass		D3		N3 Note 4	SW4a	BH09	
		D4		N4	SW2	BH12	
		D5		N5		BH14	
		D6		N6		BH15	
		D7 Note 2		N7		BH16	
						BH17	
						BH18	
						To be agreed. Note 5	
						Private wells	

Landfill Gas within Waste and Boundary Locations	Landfill Gas Flare/Utilisation Plant	Dust Deposition	Odour & PM ₁₀	Noise	Surface Water	Ground Water	Leachate
Stations		Stations		Stations	Stations	Stations	Stations
						within 250m Note 6	

Note 1: Landfill gas-monitoring stations for landfill gas combustion plant and flare to be agreed.

Note 2: Dust monitoring location to be located adjacent to relocated noise monitoring location N3

Note 3: Three PM₁₀ monitoring locations (one upwind and two downwind) to be agreed within three months of the date of grant of this licence.

Note 4: Noise monitoring station N3 to be relocated immediately north to the nearest boundary of the facility

Note 5: Three BH locations to be agreed with the Agency, and should include one monitoring borehole along the southern boundary of the north west part of the facility

Note 6: Subject to the agreement of the owners / occupiers.

Note 7: To be agreed with the Agency within 3 months of the date of grant of licence. Monitoring to include leachate composition analysis for leachate holding lagoon/tank, and at least 2 monitoring points per 5 Ha/cell. All other locations should be monitored for levels and should include monitoring point at lowest collection point.

Note 8: Odour monitoring should be carried out at the following locations: (i) waste excavation areas (ii) waste recovery area (iii) one upwind and (iv) two downwind locations. The locations should be agreed with the Agency.

D.2 Landfill Gas

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

Parameter	Monitoring Frequency		Analysis Method ^{Note1} /Technique ^{Note2}
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH ₄) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO ₂)% v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O ₂) % v/v	Monthly	Weekly	Electrochemical cell
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	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/Odour/PM10 Monitoring

Table D.3.1 Dust Monitoring Frequency and Technique

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year ^{Note 2}	Standard Method ^{Note 1}
PM ₁₀	Annually	See ^{Note 3, 4}
Odour	Bi-annually	Olfactometric ^{Note 4}

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

Note 2: Twice during the period May to September.

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

Note 4: Monitoring for odour, and PM₁₀ shall be carried out prior to the commencement of waste activities at the facility and thereafter on an annual basis.

D.4 Noise

Table D.4.1 Noise Monitoring Frequency and Technique

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) _{EQ} [30 minutes]	Biannually	Standard ^{Note 1}
L(A) ₁₀ [30 minutes]	Biannually	Standard ^{Note 1}
L(A) ₉₀ [30 minutes]	Biannually	Standard ^{Note 1}
Frequency Analysis(1/3 Octave band analysis)	Biannually	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}	GROUNDWATER	LEACHATE ^{Note 3}
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Continuous
Ammoniacal Nitrogen	Quarterly	Quarterly	Annually
BOD	Quarterly	Not Applicable	Annually
COD	Quarterly	Not Applicable	Annually
Chloride	Quarterly	Quarterly	Annually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Annually
PH	Quarterly	Quarterly	Annually
Total Suspended Solids	Quarterly	Not Applicable	Not Applicable
Temperature	Quarterly	Quarterly	Quarterly
Metals / non metals ^{Note 3}	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
List I/II organic substances ^{Note 4}	Once off ^{Note 5}	Annually ^{Note 5}	Once off ^{Note 5}
Mercury	Annually	Annually	Annually
Sulphate	Annually	Annually	Annually
Total Alkalinity	Annually	Annually	Not applicable
Total P/orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Annually	Annually	Annually
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Faecal Coliforms ^{Note 6}	Not Applicable	Annually	Not Applicable
Total Coliforms ^{Note 6}	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually ^{Note 7}	Not Applicable	Not Applicable

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

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

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

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

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

Note 6: In the case where groundwater is used for drinking water, if there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22oC and 37oC and faecal streptococci.

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

D.6 Meteorological Monitoring

Table D.6.1 Meteorological Monitoring:

Data to be obtained from a location agreed with the Agency.

Parameter	Monitoring Frequency	Analysis Method/Technique
Precipitation Volume	Daily	Standard
Temperature (min/max.)	Daily	Standard
Wind Force and Direction	Daily	Standard
Evaporation	Daily	Standard
Evapotranspiration ^{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)	Utilisation Plant	Analysis Method ^{Note1} /Technique ^{Note2}
	Monitoring Frequency	Monitoring Frequency	
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
NO _x	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 Emissions to Sewer

Emission Point Reference No.: To be agreed in advance with the Agency.

Table D.8.1 Sewer Monitoring - Parameters/Frequency

Parameter	Monitoring Frequency	Analysis Method/Technique ^{Note 1}
Flow	Continuous	Flow meter/recorder
BOD	Monthly (24 hour composite)	Standard Method ^{Note 2}
COD	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".

SCHEDULE E : Recording and Reporting to the Agency

Report	Reporting Frequency ^{Note 1}	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.
Dust Monitoring	Three times a year	Ten days after the period being reported on
PM₁₀ Monitoring	Annually	One month after end of the year being reported on.
Noise Monitoring	Bi-annually	One month after end of the year being reported on.
Odour Monitoring	Bi-annually	One month after end of the year being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

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

SCHEDULE F : Criteria for Inert Waste Quality

F.1 Waste for Restoration Purposes

Only waste soil, which satisfies the criteria in *Schedules F.3 Acceptance Criteria* and *F.4: Limit values for pollutant content for inert waste* may be used for restoration purposes at the facility, unless otherwise agreed with the Agency.

F.2 Recovery of C&D Waste

Only waste, which satisfies the criteria in *Schedules F.3 Acceptance Criteria* and *F.4: Limit values for pollutant content for inert waste* will be deemed inert, unless otherwise agreed with the Agency.

F.3 Acceptance Criteria

The general characterisation and testing must be based on the following three level hierarchy:

Level 1: Basic Characterisation

This constitutes a thorough determination, according to standardised analysis and behaviour testing methods, of the short and long-term leaching behaviour and/or characteristic properties of the waste.

Level 2: Compliance Testing

This constitutes periodical testing by simpler standard analysis and behaviour-testing methods to determine whether a waste complies with condition and /or specific reference criteria. The tests focus on key variables and behaviour identified by basic characterisation.

Level 3: On-site verification

This constitutes rapid check methods to confirm that a waste is the same as that which has been subjected to compliance testing and that which is described in the accompanying documents. It may merely consist of a visual inspection of a load of waste before and after unloading at the facility or after the waste recovery process.

All waste loads of inert waste arriving at the facility must provide the following information (if available):

Waste owner	Amount of waste
Source and origin of waste	Existing data on the waste
Description of the waste	Physical form
Waste Type and EWC code	Colour
Type of process producing the waste	Odour

All wastes accepted for restoration purposes at the facility and recovered C&D waste which is to be classified as inert shall undergo the Level 3: On-site verification at a minimum.

In addition to the above a representative load of inert waste accepted at the facility from every excavation/demolition/waste removal works and from the C&D recovery process at the facility is subjected to a comprehensive assessment which must satisfy Level 1 characterisation.

The comprehensive assessment must at a minimum include the following:

1. A chemical analysis of a representative sample. At least one sample per 1,000 tonnes or portion thereof must be taken for chemical analysis for each excavation or demolition works for inert waste accepted at the facility and for C&D waste recovered at the facility. However, in relation to acceptance of inert waste at the facility, if the comprehensive assessment is undertaken prior to the commencement of excavation or clearance activity, the licensee may reduce the number of samples for chemical analysis to one for each 7,500 tonnes or portion thereof. The sampling location must be identified on a sampling grid and enclosed in the comprehensive assessment.
2. An evaluation of the acceptability of the waste for restoration purposes at the landfill including observance of limits for total pollutants contents in *Schedule F.4: Limit values for pollutant content for inert waste* of this licence below.

3. A statement of any pre-treatment requirement (if any).
4. Evidence that the waste displays no hazardous properties.

For waste to be accepted at the facility and for waste to be excavated from the facility, if as a result of examinations undertaken in the course of excavation or clearance activity, the suspicion of contamination should arise, the type and concentration of the contamination must be determined, and its extent established through additional sampling.

Wastes of unknown origin or with insufficient waste description must be subjected to a chemical analysis.

In addition to the assessment above representative samples upon delivery of wastes must be taken for compliance testing purposes (Level 2). The tests shall focus on key variables and behaviour identified by the chemical analysis.

A representative sample shall be taken from one in every 100 loads of waste accepted at the facility and for one in every ten loads of recovered waste at the facility. This sample shall be subjected to Level 2 testing. Part of this sample shall be retained at the facility for three months and be available for inspection/analysis by the Agency. The results of this analysis must be submitted to the Agency for agreement before the first batch of material is taken off-site.

F.4 Limit values for pollutant content for inert waste.

The following limit values relate to the average amount of constituent substances in the waste. The mean value of all individual measuring values from one bulk sample must not exceed the limit value concerned.

Parameter	Limit Value (mg/kg mass, not including pH value and Electrical Conductivity)	
	Total Pollutant Contents	Eluate
PH		6 –13
Electrical conductivity		300
Dry residue		25,000
Arsenic (as As)	200.0	0.75
Aluminium (as Al)		20.0
Barium (as Ba)		20.0
Lead (as Pb)	500.0	2.0
Boron (as b)		30.0
Cadmium (as Cd)	10.0	0.5
Chromium, total (as Cr)	500.0	2.0
Chromium, hexavalent (as Cr)		0.5
Cobalt (as Co)	100.0	2.0
Copper (as Cu)	500.0	10.0
Nickel (as Ni)	500.0	2.0
Mercury (as Hg)	3.0	0.05
Silver (as Ag)		1.0
Zinc (as Zn)	1500.0	20.0
Tin (as Sn)		10.0
Ammonium (as N)		40.0
Chloride (as Cl)		5000.0
Cyanide, easily liberatable (as Cn)		1.0
Fluoride (as F)		50.0
Nitrate (as N)		500.0
Nitrite (as N)		10.0

Phosphate (as P)		50.0
Sulphate (as SO ₄)		5000.0
TOC (as C)	30,000.0 ^{Note 1}	500.0
Total hydrocarbons	100.0	50.0
EOX		3.0
Total PAH ^{Note 2}	2.0	

Note 1: The TOC limit value is complied with as long as the loss on ignition does not exceed 5% per weight.

Note 2: For determining the total of PAH, the following 6 compounds must be added to a sum:
flouranthene, benzoic(a)pyrene, benzoic(b)flouranthene, benzoic(k)flouranthene, benzoic(g,h,I)perylene, indenoic(1,2,3,-
c,d)pyrene.

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.

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

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Annual water balance calculation and interpretation.

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

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

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

Report on training of staff.

Any other items specified by the Agency.

Signed on behalf of the said Agency
on the 11th day of October 2002

Lawrence Kavanagh, **Authorised Person**