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

WASTE LICENCE

Waste Licence	10-1
Register Number:	
Applicant:	Meath County Council
Location of Facility:	Basketstown Landfill
	Basketstown, Summerhill, Co. Meath

Table of Contents

	Page No.
REASONS FOR THE LICENCE	1
PART I: ACTIVITIES LICENSED	1
INTERPRETATION	2
PART II: CONDITIONS	4
CONDITION 1 SCOPE	4
CONDITION 2 MANAGEMENT OF THE ACTIVITY	5
CONDITION 3 NOTIFICATION AND RECORD KEEPING	7
CONDITION 4 SITE INFRASTRUCTURE	8
CONDITION 5 WASTE ACCEPTANCE AND HANDLING	12
CONDITION 6 ENVIRONMENTAL NUISANCES	13
CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS	14
CONDITION 8 RESTORATION AND AFTERCARE	16
CONDITION 9 ENVIRONMENTAL MONITORING	16
CONDITION 10 CONTINGENCY ARRANGEMENTS	17
CONDITION 11 CHARGES AND FINANCIAL PROVISIONS	18
SCHEDULE A Waste Activities	20
SCHEDULE B Content of the Environmental Management Programme	21
SCHEDULE C Content of the Annual Environmental Report	22
SCHEDULE D Recording and Reporting to the Agency	23
SCHEDULE E Specified Engineering Works	25
SCHEDULE F Monitoring	26
SCHEDULE G Emission Limits	33

Reasons for the Licence

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

In reaching this decision the Agency has considered the application and supporting documentation received from the applicant, and all submissions and objections received, and the reports of its inspectors.

Part I: Activities Licensed

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 grant this Waste Licence to Meath County Council, County Buildings, Railway Road, Navan, Co. Meath to carry on the waste activities listed below at Basketstown Landfill, Summerhill, Co. Meath subject to eleven 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);

Class 4: Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons;

*Licensed Waste Recovery Activities, in accordance with the Fourth Schedule
of the Waste Management Act, 1996 as amended in May 1998.*

Class 2: Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes);

Class 3: Recycling or reclamation of metals and metal compounds;

Class 4: Recycling or reclamation of other inorganic materials;

Class 9: Use of any waste principally as a fuel or other means to generate energy.

INTERPRETATION

Act	The Waste Management Act, 1996 (No. 10 of 1996).
Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
BATNEEC	Best Available Technology Not Entailing Excessive Cost as defined in section 5 (2) of the Act.
Commercial waste	As defined in Section 5 (1) of the Act.
Containment boom	A boom which can contain spillages and prevent these from entering drains or watercourses.
Daytime	0800 hrs to 2200 hrs.
Emission	As defined in Section 5 (1) of the Act.
Environmental Pollution	As defined in Section 5 (1) of the Act.
European Waste Catalogue (EWC)	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Those areas defined under Condition 1.2
Hazardous Waste	As defined in Section 4 (2) of the Act.
Household Waste	As defined in Section 5 (1) of the Act.
Industrial waste	As defined in Section 5 (1) of the Act.
Incident	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
Landfill	A waste disposal facility used for the deposit of waste onto or under land as defined in Section 5 (1) of the Act.
Landfill Gas	Gases generated from the landfilled waste.
Leachate	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
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.

List I	Substances listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	Substances listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Monthly	At least 12 times per year, at approximately monthly intervals.
Municipal Waste	Municipal waste as defined in Section 5 (1) of the Act.
Night-time	2200 hrs to 0800 hrs.
Non hazardous waste	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
Recovery	As defined in Section 4 (4) of the Act.
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
Specified Emissions	Those emissions listed in Schedule G of this licence.
Specified Engineering Works	Those engineering works listed in Schedule F of this licence.
The Licensee	Meath County Council.
Trigger Level	A parameter value which when achieved or exceeded requires certain actions to be taken.
Waste	As defined in Section 4(1) of the Act.
Waste disposal activity	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
Waste recovery activity	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
Working Day	08:30 to 17.00 Monday to Friday inclusive and 8.30 to 16.30 on Saturdays.
Working Face	The area of the site in which waste other than cover material is being deposited.

PART II: CONDITIONS

CONDITION 1 SCOPE

- 1.1 The waste activities authorised by this licence are listed and described in *Schedule A: Waste Activities*. Waste activities at the facility shall be restricted to those listed in Schedule A and any restrictions set down therein.
- 1.2 The area of the facility is that outlined in red on the Site Plan, Figure B.2.1 of further information submitted on the 30th June 1998 and the shaded area defined as the old landfill in Drawing B.2.2 Site Plan (2. Revision) submitted on the 31st August 1998. A scaled Site Plan of the above shall be sent to the Agency within three months of the date of grant of the licence and shall be uniquely referenced.
- 1.3 Waste activities shall be restricted to the facility as in Condition 1.2 above.
- 1.4 Wherever a Condition of this licence requires the licensee to submit a plan, programme, or proposal to the Agency for its agreement, the licensee shall subsequently modify such documentation in accordance with, and within the time stated in, any written instructions from the Agency. The actions described therein shall be carried out within any timescale specified in writing by the Agency but shall not be undertaken without the prior written agreement of the Agency.
- 1.5 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.
- 1.6 Where the Agency considers that a non-compliance with the conditions of this licence has occurred, it may serve a notice on the licensee specifying:
 - 1.6.1 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;
 - 1.6.2 that the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice; and,
 - 1.6.3 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 confirmation is received from the Agency that the notice is withdrawn.

<i>Reason: To clarify the scope of this licence.</i>
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CONDITION 2 MANAGEMENT OF THE ACTIVITY

2.1 Environmental Management System

2.1.1 The licensee shall within twelve months from the date of grant of this licence, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the written 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 agreement.

2.1.2 The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.9 below:

2.2 Schedule of Environmental Objectives and Targets

2.2.1 The licensee shall, within twelve months from the date of grant of this licence, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.

2.2.2 The Schedule shall address a five year period as a minimum and shall be reviewed and submitted annually to the Agency for its agreement.

2.3 Environmental Management Programme

2.3.1 The licensee shall, not later than twelve months from the date of grant of this licence, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.

2.3.2 The EMP shall include, as a minimum, the information specified in *Schedule B: Content of the Environmental Management Programme*. The EMP shall be reviewed and submitted to the Agency for its agreement annually.

2.4 Mass Balance of Specified Substances (MBSS)

2.4.1 The licensee shall, at a date to be agreed in writing with the Agency, and having regard to any Regulations made under Section 64 of the Waste Management Act, 1996, submit to the Agency for its agreement a Mass Balance of Specified Substances (MBSS), which shall include a list of substances and the methodology to be used in their determination.

2.4.2 Following agreement on 2.4.1 above the MBSS shall be reviewed and submitted to the Agency annually.

2.5 Corrective Action

2.5.1 The licensee shall establish and maintain written Corrective Action Procedures to ensure that corrective action is taken should specified requirements to this licence not be fulfilled.

2.6 Awareness and Training

2.6.1 The licensee shall establish and maintain Awareness and Training Procedures for identifying training needs and for providing appropriate training, for personnel whose work is related to the licensed facility. Written records of training shall be maintained.

2.7 Responsibilities

2.7.1 Within twelve months from the date of grant of this licence, the licensee shall submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement. 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;
- b) details of the responsibilities for each individual named under a) above;
- c) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- d) contingency arrangements for the absences of the named persons from the facility.

2.8 Communications

2.8.1 Within twelve months from the date of grant of this licence, the licensee shall submit for agreement to the Agency a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

2.9 Annual Environmental Report

2.9.1 The licensee shall submit to the Agency for its agreement, within twelve months from the date of grant of this licence, and within one month of the end of the year thereafter, an Annual Environmental Report (AER).

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

2.10 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 suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

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

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

CONDITION 3 NOTIFICATION AND RECORD KEEPING

- 3.1 The licensee shall make written records of the following incidents:
- a) any emission which results in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any relevant enactment;
 - b) any emission which does not comply with the requirements of this licence;
 - c) any trigger level specified in this licence or in the EMS which is attained or exceeded;
 - d) any malfunction of any environmental control system;
 - e) any indication that contamination has, or may have, taken place;
 - f) the cessation of waste activities at the facility for a period in excess of 28 days, and their recommencement;
 - g) any occurrence with the potential for environmental pollution; and,
 - h) any emergency.
- 3.2 The written record shall include all aspects described in Condition 10.5
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall notify the Agency by telephone and facsimile if available, as soon as practicable and in any case not later than 10.00am the following working day after the occurrence of any incident.
- 3.4 Unless otherwise instructed in writing by the Agency, the licensee shall submit the written record to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident.
- 3.5 Should any further actions be taken after the date of notification, 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.
- 3.6 Copies of all reports, monitoring and analysis results and interpretations, shall be forwarded to the Agency's Headquarters unless an alternative location is agreed in writing with the Agency. The format of all reports and method of reporting shall be in accordance with any written instructions or guidance of the Agency.
- 3.7 Copies of all records and reports set out in Schedules A to F shall be forwarded to the Agency at the reporting frequencies set out in those Schedules.
- 3.8 In the event of any incident which relates to discharges to surface water, the licensee shall notify the Eastern Regional Fishery Board as soon as practicable by telephone and in writing (by facsimile if available) and in any case not later than 10:00am on the following working day after such an incident.
- 3.9 All written reports submitted to the Agency shall be certified accurate and representative by the licensee.
- 3.10 Unless otherwise agreed in writing with the Agency, all written records, reports and other documents required to be maintained under this licence, shall be retained by the licensee.

- 3.11 The licensee shall provide copies of any written records, reports and other documents referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.12 The licensee shall keep the following documents at the facility office shown in Drawing B.2.2 July. 98:
- a) the current waste licence relating to the facility;
 - b) any previous waste licence in respect of the facility;
 - c) the current EMS for the facility;
 - d) the previous year's AER for the facility;
 - e) all written procedures produced by the licensee which relate to the licensed activities.
- 3.13 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:
- a) the name of the carrier;
 - b) the vehicle registration number;
 - c) the name of the producer(s)/collector(s) of the waste as appropriate;
 - d) a description of the waste;
 - e) the quantity of the waste, recorded in tonnes;
 - f) the name of the person checking the load; and,
 - g) 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.
- 3.14 The licensee shall maintain a written record of all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the following:
- a) date and time of the complaint;
 - b) the name of the complainant;
 - c) details of the nature of the complaint;
 - d) actions taken on foot of the complaint and the results of such actions; and,
 - e) the response made to each complainant.

Reason : To provide for the notification of incidents, to update information on the activity and to provide for the keeping of records.

CONDITION 4 SITE INFRASTRUCTURE

- 4.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as agreed in advance in writing with the Agency.
- 4.2 Site Notice Board
- 4.2.1 Within three months from the date of grant of this licence, the licensee shall provide and maintain a notice board on the facility so that it is legible to persons

outside the main entrance to the facility. The minimum dimensions of the identification board shall be 1200 mm by 750 mm.

4.2.2 The board shall clearly show:

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name, address and telephone number of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the name, address and telephone number of the operator of the facility;
- f) the licence reference number.

4.3 Site Security

4.3.1 Within three months of the date of grant of the licence, the licensee shall submit details of security fencing and gates to the Agency for its agreement.

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

- a) a temporary repair shall be made by the end of the working day; and,
- b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days or as otherwise agreed in writing with the Agency.

4.3.3 Gates shall be locked when the facility is unsupervised.

4.4 Site Roads

4.4.1 The access road and haul roads within the site shall be provided and maintained to the specification described in attachment D.1.2 of the application.

4.5 Within six months from the date of grant of this licence, the licensee shall submit to the Agency for agreement proposals for the location and design of a Public Tipping Area. The permanent public tipping area shall be installed within a timeframe agreed by the Agency.

4.6 The licensee shall provide and maintain an office on the facility, at the location shown in Drawing No. B.2.2 July. 98 and referred to therein as the facility office. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

4.7 The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.6 above.

4.8 Within six months from the date of grant of this licence, the licensee shall provide and maintain a Waste Inspection Area at the facility, at a location agreed in writing in advance with the Agency. This area shall be constructed and maintained in a manner suitable for the inspection of waste.

4.9 Unless otherwise agreed in writing in advance with the Agency the Bring Facility (recycling) and Oil Recycling Area shall be within the location shown in Figure D.1.2 June 98 and referred to therein as Bring Facility and Oil Recycling Area.

4.10 The Public Tipping Area, Waste Inspection Area and the Bring Facility and Oil Recycling Area referred to in Conditions 4.5, 4.8 and 4.9 shall:

- a) be constructed with a hard impervious base graded to a longitudinal cross-sectional fall;
 - b) be contained by an impervious bund not less than 100 mm high; and,
 - c) drain only to a sump.
- 4.11 Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, details for the storage of fridges on site and the procedures for de-gassing of CFC's from these fridges.
- 4.12 The licensee shall provide, maintain and calibrate a weighbridge at the location shown in Drawing No. B.2.2 July. 98.
- 4.13 Wheelwash
- 4.13.1 Within four months from the date of grant of this licence, the licensee shall install a wheelwash facility following agreement in advance in writing by the Agency.
 - 4.13.2 Following installation the licensee shall inspect the wheelwash facility on a daily basis and drain as required. Accumulated silt shall be removed and disposed of at the working face as required.
- 4.14 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 4.15 The licensee shall maintain the puraflo system and percolation areas shown in Figure D.1.2 June 1998 in accordance with the details outlined in D.1.1 of further information submitted on 19 Jan 1998.
- 4.16 Fuel Storage
- 4.16.1 Within six months of the date of grant of this licence, the licensee shall with the prior written agreement of the Agency provide bunded fuel storage area(s). Unless contained in mobile plant at the facility, fuels shall be stored at these agreed locations.
 - 4.16.2 Prior to the construction of the bunded fuel storage area as detailed in D.1.3 of further information submitted 28 November 1997, fuel shall be stored in a bunded tank to a specification agreed in advance in writing with the Agency.
 - 4.16.3 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, tank and drum storage areas shall, as a minimum be bunded, either locally or remotely, to a volume not less than 110% of the capacity of the largest tank or drum within the bunded area.
 - 4.16.4 All drainage from bunded areas shall be diverted for collection and safe disposal.
 - 4.16.5 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
 - 4.16.6 The integrity and water tightness of all the bunds, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency within six months of the date of grant of this licence. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels on site. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
 - 4.16.7 All tanks and containers shall be labelled to clearly indicate their contents.

4.17 Specified Engineering Works

4.17.1 The licensee shall submit a written report on any proposed specified engineering works as defined in *Schedule E: Specified Engineering Works*, to the Agency for its agreement prior to any works being carried out. No such works shall be carried out without the prior written agreement of the Agency.

4.17.2 All specified engineering works shall be supervised by a competent person(s) agreed in writing in advance by the Agency and that person, or persons, shall be present at all times during which relevant works are being undertaken.

4.17.3 Following the completion of all specified engineering works, the licensee shall submit a construction quality assurance validation report to the Agency. The validation 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) where relevant a drawing and sections showing the location of all samples and tests carried out;
- e) daily records sheets/diary;
- f) name(s) of contractor(s)/individual(s) responsible for undertaking the 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; and
- i) any other information requested in writing by the Agency.

4.18 In the event that monitoring of local wells (identified through Condition 9.5) 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 incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency, written proposals for the provision of an alternative supply of water to those affected.

4.19 The licensee shall submit a report to the Agency for its agreement, on the extent of historical landfilling and future development of cells IIIb and IIIc , including the plans for the lining of the cells with a composite liner. The latter report shall be submitted to the Agency within three months of the date of grant of the licence. No additional waste shall be placed in Cells IIIb and IIIc until the latter report has been agreed by the Agency.

4.20 Landfill Gas Management:

4.20.1 Landfill Gas generated at the site shall be vented to the atmosphere in accordance with the landfill gas management scheme set down in Attachment D.4 and shown in Drawing No. C.6.1 June 1998 unless otherwise agreed in writing in advance with the Agency.

4.20.2 Within six months of the date of grant of this licence, the licensee shall submit proposals to the Agency for agreement for the utilisation of landfill gas at the facility.

4.20.3 Within six months of the date of grant of this licence, the licensee shall submit details of an active landfill gas control system (having examined the potential for gas utilisation), incorporating flaring, to the Agency for agreement and shall establish and maintain such a system as agreed in writing with the Agency.

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

4.21 Leachate Management

4.21.1 Within six months of the date of grant of this licence, the licensee shall submit proposals to the Agency for agreement for leachate management at the facility for the protection of surface waters and groundwater including timescales and objectives and targets relating to discharges.

4.21.2 Within six months of the date of this licence the licensee shall submit to the Agency for its agreement proposals for the design and installation of a treatment facility for Tobernabeenog spring and the spring drain. The treatment facility shall be installed within a timeframe agreed by the Agency.

4.22 Groundwater Management

4.22.1 Within six months of the date of grant of this licence, the licensee shall submit proposals to the Agency, for approval, for a groundwater management plan to ensure the ongoing protection of the groundwater resources in the vicinity of the site.

4.23 Surface Water Management

4.23.1 Within six months of the date of grant of this licence the licensee shall submit to the Agency for its agreement an ongoing management programme for control of surface water run off from the facility during construction, operation and restoration.

4.24 Capping

4.24.1 Unless otherwise agreed in advance in writing with the Agency the facility shall be subject to the temporary and permanent capping works in the manner as described in D.2.1 and D.6.3 of further information submitted on 30 June 1998. Capping should be carried out in accordance with the details and timescale provided in Section G.1 submitted as further information in June 1998.

Reason: To provide for the protection of the environment

CONDITION 5 WASTE ACCEPTANCE AND HANDLING

5.1 No hazardous waste shall be disposed of in the landfill.

5.2 Subject to Condition 5.1 only those Waste Types and quantities listed in Tables E.1.1 , E.1.2 and E.1.3 of the Waste Licence application shall be disposed of in the landfill unless the prior written agreement of the Agency has been obtained.

5.3 Within six months of the date of grant of this licence, the licensee shall submit for agreement to the Agency written procedures for the acceptance of waste (to distinguish between inert and non-hazardous) and shall outline the procedures for dealing with hazardous wastes.

5.4 Wastes shall be checked at the working face to ensure that they comply with the requirements of the licence. Any wastes deemed to be in contravention of this licence and /or unsuitable for disposal at this facility shall be removed for disposal at an appropriate alternative facility.

- 5.5 The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 60,000 tonnes per annum, unless otherwise agreed in writing in advance with the Agency.
- 5.6 Wastes shall not be deposited in any cell or part of the landfill after the date of grant of this licence without the prior written agreement of the Agency.
- 5.7 Scavenging shall not be permitted at the facility.
- 5.8 Waste shall only be accepted at the facility between the hours of 8.30 to 17.00 Monday to Friday inclusive and 8.30 to 16.30 on Saturdays unless subject to the prior written agreement of the Agency.
- 5.9 Unless subject to the prior written agreement of the Agency the following shall apply at the landfill:
- a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials; and,
 - b) the working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3.
- 5.10 Unless subject to the prior written agreement by the Agency, cover material of the type described in Attachment E.3.5 - Environmental Nuisances and response D.6.3 further information submitted 30 June 1998 shall be placed on the deposited waste progressively throughout each day, or at a minimum, at the end of the day in the manner set down in Attachment E. 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.
- 5.11 A steel wheeled compactor or other such vehicle as agreed in writing with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.12 In order to prevent the formation of voids, all hollow objects and large articles deposited on the site shall be crushed, broken up, flattened or otherwise treated.
- 5.13 Unless subject to prior written agreement by the Agency, wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over.
- 5.14 No smoking shall be allowed on the facility other than in the Facility Office as shown on Drawing No. B.2.2. July 1998.

Reason: To provide for the acceptance and management of wastes authorised under this waste licence

CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1 The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2 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.

- 6.3 The measures and infrastructure as described in Attachment F.5 of the waste licence application shall be applied to control litter at the facility.
- 6.4 All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed and appropriately disposed of on a daily basis.
- 6.5 Any waste placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed by the licensee immediately and in any event by 10:00am of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriate facility.
- 6.6 The licensee shall ensure that all waste being delivered to the facility is appropriately covered.
- 6.7 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.
- 6.8 The licensee shall ensure that the activities shall be carried out in a manner such that emissions including odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the facility boundary.
- 6.9 Within six months of the date of grant of this licence, the licensee shall submit proposals, to prevent, control, eradicate infestation of insects, pests and vermin.
- 6.10 The licensee shall ensure that birds do not give rise to nuisance at the facility or the immediate area of the facility. The licensee shall submit, within three months of the date of grant of the licence, in writing to the Agency for its agreement a bird control scheme.
- 6.11 The use of crow bangers shall be restricted to between the hours of 8.30am to 18.00 Monday to Friday inclusive and 8.30 to 17.30 on Saturdays and Sundays subject to the prior written agreement of the Agency.

Reason: To provide for the control of nuisances

CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS

- 7.1 No specified emission from the facility shall exceed the emission limit values set out in *Schedule G: Emissions* of this licence. There shall be no other emissions of environmental significance.
- 7.2 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.
- 7.3 There shall be no clearly audible tonal component in the noise emissions from the activity at the facility boundary.
- 7.4 The following are the trigger levels for landfill gas emissions from the facility measured in any service on or immediately adjacent to the facility and/or at any other point located outside the body of the waste:
 - a) Methane, greater than or equal to 1.0% v/v; and

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

7.5 There shall be no direct emissions to groundwater.

7.6 Within three months of the date of grant of this licence, the licensee shall submit calculations determining the quantities of leachate arising from rainfall percolation through the cap, as specified in Condition 4.23.1, and through the uncapped area or waste constituting the working face, as defined in Condition 5.9, to the Agency for agreement. Within nine months from the date of grant of this licence, and annually thereafter, the licensee shall submit a written report to the Agency for agreement estimating the quantities of leakage which have already occurred since commencement of the activity and those expected to occur in the next twelve months. The trigger levels for indirect discharges to groundwater shall be those quantities agreed with the Agency .

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

CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. Unless otherwise agreed in advance in writing with the Agency, the final profile of the facility shall be as shown in Drawing No. G.1.1 June 98.
- 8.2. Unless otherwise agreed in advance in writing with the Agency the Restoration and Aftercare Plan for the facility shall be carried out in accordance with the plan submitted as part of G.1 of further information on the 30 June 1998. The licensee shall update these schemes when required in writing by the Agency and submit proposed amendments to the Agency for its agreement.
- 8.3. Within nine months of the date of grant of this licence, the licensee shall submit a proposal to preserve the structure of the Tobernabeenog spring well to the Agency for its agreement. Duchas (National Monuments and Historic Properties Division) should be consulted as to the scope of the works to be carried out.
- 8.4. Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate.
- 8.5. No material or object that is incompatible with the proposed restoration of the site shall be present within one metre of the final soil surface levels.
- 8.6. In areas where tree planting is proposed to be carried out above waste filled areas a synthetic barrier shall be used to augment the clay cap and topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance in writing with the Agency.

Reason: To provide for the restoration and aftercare of the facility.

CONDITION 9 ENVIRONMENTAL MONITORING

- 9.1. The licensee shall carry out such monitoring and at such frequencies as set out in *Schedule F: Monitoring* and as specified in the Conditions of this licence.
- 9.2. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for agreement monitoring proposals to detect off-site migration of landfill gas with particular regard to the possible increase in migration following the placement of the capping layer.
- 9.3. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement details of the permanent gas monitoring system to be installed in the site office.
- 9.4. The licensee shall within six months of the grant of this licence, submit to the Agency for agreement noise monitoring proposals for the nearest noise sensitive location. Such proposals shall address the establishment of noise levels (day time and night time) at the proposed monitoring locations as a result of the operations on site including any bird control measures agreed by the Agency as referred to in Condition 6.10 during and outside of normal operations at the facility.
- 9.5. Within three months from the date of grant of this licence, the licensee shall submit to the Agency a drawing showing the location of all private wells within 500m of the facility. All such private wells, subject to well owner agreement, shall be included in the monitoring programme set out in *Schedule F*.

- 9.6. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency.
- 9.7. Ionic balances shall be carried out on groundwater and surface water monitoring results.
- 9.8. 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 or discharge or environmental parameter.
- 9.9. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations 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.
- 9.10. Unless otherwise agreed in writing with the Agency, a written record shall be kept of the names, qualifications and a summary of relevant experience of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
- 9.11. The licensee shall maintain all sampling and monitoring points so that they may be used for the representative sampling and monitoring of emissions from the facility.
- 9.12. A topographical survey including the void space shall be carried out within three months of the date of grant of this licence. It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

Reason: To ensure compliance with the requirements of other conditions of this licence by provision of a satisfactory system of measurement and monitoring of emissions

CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1. 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 situation which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment.
- 10.2. 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.
- 10.3. All significant spillages, including all spillages of greater than 100 litres, other than water, occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 10.4. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 10.5. In the event that any monitoring, sampling or observations indicate that an incident has, or may have, taken place, 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;
- c) isolate the source of the 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) identify and put in place measures to avoid reoccurrence of the incident, and;
- g) identify and put in place any other appropriate remedial action.

Reason: To provide for the protection of the environment.

CONDITION 11 CHARGES AND FINANCIAL PROVISIONS

11.1. Agency Charges

- 11.1.1. The licensee shall pay to the Agency an annual contribution of £ 13,966 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 1999 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Consumer Price Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 1998, the licensee shall pay a pro rata amount from the date of this licence to 31st December 1998. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 11.1.2. In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased due to an incident occurring on or adjacent to the facility and associated with the facility, the licensee shall contribute such sums as determined by the Agency to defraying its costs.

11.2. Financial Provision for Closure, Restoration and Aftercare

- 11.2.1. The licensee shall from a date to be set by the Agency establish and maintain a fund, or other form of approved security, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 8.2. The type of fund and means of its release/recovery shall be agreed in writing by the Agency prior to its establishment.
- 11.2.2. The fund shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.
- 11.2.3. The licensee shall revise the cost of aftercare and restoration annually and any details of the necessary adjustments to the fund must, within two weeks of the

revision, be forwarded to the Agency for agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

- 11.2.4. 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.

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

SCHEDULE A Waste Activities

Activities authorised by the licence shall be restricted to those described below.

WASTE MANAGEMENT ACT, 1996: THIRD SCHEDULE <small>Note 1</small>	
Class 1.	Deposit on, in or under land: This activity is limited to the disposal of non hazardous waste.
Class 4.	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of sludges, fire water and surface water at the facility.

Note 1: Any reference to an activity Class is to be taken as being from the Third Schedule of the Waste Management Act, 1996, unless otherwise stated.



WASTE MANAGEMENT ACT, 1996: FOURTH SCHEDULE <small>Note 1</small>	
Class 2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) This activity is limited to the storage prior to recycling of waste oils at the location shown in Figure D.1.2 June 98
Class 3.	Recycling or reclamation of metals and metal compounds: This activity is limited to can recycling at the bring facilities and scrap metal storage as shown in Figure D.1.2 June 98.
Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to bottle glass, clothing, and car batteries recycling at the bring facilities as shown in Figure D.1.2. June 98.
Class 9	Use of any waste principally as a fuel or other means to generate energy This activity is limited to gas utilisation as part of the measures adopted for landfill gas control.

Note 1: Any reference to an activity Class is to be taken as being from the Fourth Schedule of the Waste Management Act, 1996, unless otherwise stated.



SCHEDULE B Content of the Environmental Management Programme

Environmental Management Programme

Items specified to be contained in an Environmental Management Programme in the Landfill Operational Practices Manual published by the Agency, or otherwise as agreed in writing with the Agency

Timescale for achieving the objectives and targets listed in the Schedule of Objectives and Targets

Designation of Responsibility for Achieving Targets and Objectives

Other items to be specified in writing by the Agency

3/4 3/4

SCHEDULE C 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 during the reporting period.

Total accumulated quantities of waste deposited.

Calculated remaining capacity of the site.

Year in which final capacity is expected to be reached.

Area occupied by waste.

Methods of deposition of waste.

Summary report on emissions (Certified results/data sheets to be attached as Appendices)

Summary of results and interpretations of environmental monitoring.

Plan of all monitoring locations including 12 digit grid references.

Resource and energy consumption summary.

Proposed development of the site 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.

Proposed development works to be undertaken during the coming year.

Progress on restoration of completed cells/ phases.

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

Estimated annual and cumulative quantity of landfill gas emitted from the site.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Meteorological Report.

Mass Balance of Specified Substances - Proposal.

Mass Balance of Specified Substances - Report.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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

Tank, pipeline and bund testing and inspection report.

Reported incidents summary.

Complaints summary.

Report on financial provision made under this licence.

Report on management and staffing structure of the facility.

Report on programme for public information.

* Content to be revised subject to the written agreement of the Agency after cessation of waste acceptance at the facility.

SCHEDULE D Recording and Reporting to the Agency

Table D.1 Recurring Reports

Report	Reporting Frequency ^{Note 1}	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Mass Balance of Specified Substances	Annually	To be agreed in writing with the Agency
Annual Environment Report (AER)	Annually	Eighteen 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 three days of the incident.
Specialised Engineering Works reports	As they arise	Prior to the works commencing.
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 being reported on.
Site and Void Survey	Annually	One month after end of the year being reported on.
Indirect discharges to groundwater	Annually	Six months from the date of grant of licence and one month after the each year being reported on.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Annually	One month after end of the year being reported on.
Noise Monitoring	Annually	One month after end of the year 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 Volumes	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate levels and Composition	Quarterly	Ten days after end of the quarter being reported on.
Meteorological Monitoring	Annually	One month after end of the year being reported on.

Note 1: Unless altered at the request of the Agency

Table D.2 Once-off Reports

Report and Contents	Report Submission Date
Environmental Management System	Item (i) within six months, Item (iv) at a date to be agreed with the Agency and the remainder within twelve months of the date of grant of the licence.
<ul style="list-style-type: none"> (i) Report Proposals (ii) Schedule of Objectives and Targets (iii) Environmental Management Programme (iv) Mass Balance of Specified Substances (v) Management Structure (vi) Communication Programme (vii) Annual Environmental Report 	
Infrastructure	Within six months for (i) to (v) of the date of grant of this licence and within three months for (vi) .
<ul style="list-style-type: none"> (i) Proposals for the design of the Public Tipping Area and access road (ii) Waste inspection Area proposals (iii) Details of fridge storage and CFC de-gassing procedures (iv) Bunded Fuel Storage area (v) Integrity and water tightness testing report (vi) Details of security fencing and gates (vii) Specified engineering works 	Prior to any works in Schedule E being carried out
Surface water, Groundwater, Landfill Gas and Leachate	Within six months for (i) to (vi) and nine months for (vii) to (x) of the date of grant of this licence.
<ul style="list-style-type: none"> (i) Active Landfill Gas Control System (ii) Leachate Management (iii) Treatment Facility for Tobernabeenog Spring and spring drain proposals (iv) Groundwater Management Proposals (v) Surface Water Runoff Management Proposals (vi) Proposals for landfill gas utilisation (vii) Groundwater Infiltration Calculations (viii) Proposals to protect the structure of Tobernabeenog Spring Well. (ix) Off site migration of Landfill Gas monitoring proposals (x) Proposals for permanent landfill gas monitoring system for the site office 	<p>Within six months of the date of grant of this licence.</p> <p>Within nine months of the date of grant of this licence.</p>
Waste Acceptance Procedures	Within six months of the date of grant of this licence.
Nuisances	Within six months for (i) and (ii) of the date of grant of this licence.
<ul style="list-style-type: none"> (i) Noise Monitoring Proposals (ii) Proposals to control, eradicate, infestation of insects, pests and vermin (iii) Bird Control Scheme 	within three months of the date of grant of this licence
Final Profile	Within three months of the date of grant of this licence.
(i) Site Survey of available void space	
Emergency Response Procedures	Within six months of the date of grant of this licence.

SCHEDULE E Specified Engineering Works

Specified Engineering Works

Development of Phases and future Cells of the facility including preparatory works.

Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control)

Fencing and site security works.

Installation of landfill gas management and monitoring systems

Installation of leachate management, detection, storage, treatment, monitoring and control systems

Installation of alternative drinking water supplies

Installation of groundwater control and/or monitoring systems

Surface water management works

Installation of bunded fuel storage areas

Restoration and Aftercare Works

Any other works notified in writing by the Agency.



SCHEDULE F Monitoring

F.1 Landfill Gas

Monitoring Points:

- Gas vents (Phase 1 and 2), 2 gas vents per cell (Refer to Figure C.6.1 June 1998)
- Perimeter Monitoring Locations:
 - GW1 (OS 285029, 251412)
 - GW 2 (OS 286015, 251774)
 - GW3 (OS 285906, 251854)
 - GW4 (OS 285688, 251720)
 - GW5 (OS 284952, 251408)
- Site office

The frequency, locations and method of sampling and analysis is listed in Table F.1:

Table F.1 Landfill Gas Monitoring

Parameter	Monitoring Frequency		Analysis Method ¹ /Technique ²
	Perimeter Boreholes/Gas Vents/Wells within the waste	Site Office	
Methane (CH₄) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO₂) % v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen (O₂) %v/v	Monthly	Weekly	Infrared analyser
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard

¹ All monitoring equipment used should be intrinsically safe.

² or other methods agreed in advance with the Agency.

3/4 3/4

F.2 Dust

Dust Monitoring locations: D1, D2, D3, D4 and D5. Refer to Figure 1 in Attachment C.1 of information submitted Jan 1998.

Table F.2.1 Dust Monitoring Locations

STATION	EASTING	NORTHING
D1	285046	251471
D2	285184	251380
D3	285406	251565
D4	285620	251606
D5	eastern monitoring point to be agreed in advance with the Agency	

The frequency of sampling and analysis is listed in the following table:

Table F.2.2 Dust Monitoring

Parameter (mg/m ² /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Annual ^{Note 2}	Standard Method ^{Note 1}

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute)

Note 2: During the period May to September, or as otherwise specified in writing by the Agency.

3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4

F.3 Noise

Noise Monitoring Locations: To be agreed following an assessment of the noise survey required in Condition 9.4 of this Licence.

The frequency of sampling and analysis is listed in Table F.3:

Table F.3 Noise Monitoring

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

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

F.4 Surface Water

F.4.1 Surface Water

Monitoring Locations: S3, S4, S5 (Tobernabeenog) and S6. Refer to Figure C9.2R of further information submitted in June 1998.

S3 (OS 285824, 251245)

S4 (OS 285346, 250934)

S5 (OS 285511, 251363)

S6 (OS 286116, 251227)

The frequency of sampling and analysis is listed in Table F.4.1.

Table F.4.1 *Water and Leachate - Parameters /Frequency*

Parameter (Note 1)	SURFACE WATER** Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection	Weekly	N/A	N/A
Groundwater Level	N/A*	Monthly	N/A
Ammoniacal Nitrogen	Quarterly	Quarterly	Quarterly
BOD	Quarterly	N/A	Quarterly
COD	Quarterly	N/A	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	N/A
Electrical Conductivity	Quarterly	Quarterly	Quarterly
Odour/visual inspection	N/A	Quarterly	Quarterly ^(Note 2)
pH	Quarterly	Quarterly	Quarterly
Total Suspended Solids	Quarterly	N/A	Quarterly
Temperature	Quarterly	Quarterly	Quarterly
Boron	N/A	Quarterly	Quarterly
Cadmium	Quarterly	Quarterly	Quarterly
Calcium	Quarterly	Quarterly	Quarterly
Chromium (Total)	Quarterly	Quarterly	Quarterly
Copper	Quarterly	Quarterly	Quarterly
Cyanide (Total)	N/A	Quarterly	Quarterly
Fluoride	N/A	Quarterly	Quarterly
Iron	Quarterly	Quarterly	Quarterly
Nickel	Quarterly	Quarterly	Quarterly
Lead	Quarterly	Quarterly	Quarterly
List I/II organic substances (Note 3)	Quarterly	Quarterly	Quarterly
Magnesium	Quarterly	Quarterly	Quarterly
Manganese	Quarterly	Quarterly	Quarterly
Mercury	Quarterly	Quarterly	Quarterly

Table F.4.1 (Continued) Water and Leachate - Parameters /Frequency

Parameter (Note 1)	SURFACE WATER** Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Potassium	Quarterly	Quarterly	Quarterly
Sulphate	Quarterly	Quarterly	Quarterly
Sodium	Quarterly	Quarterly	Quarterly
Total Alkalinity	Quarterly	Quarterly	Quarterly
Total Phosphorus or orthophosphate	Annually	Annually	Annually
Total Oxidised Nitrogen	Quarterly	Quarterly	Quarterly
Total Organic Carbon	Quarterly	Quarterly	Quarterly
Residue on evaporation	N/A	Quarterly	Quarterly
Arsenic	N/A	Quarterly	N/A
Barium	N/A	Quarterly	N/A
Selenium	N/A	Quarterly	N/A
Silver	N/A	Quarterly	N/A
Phenol	N/A	Quarterly	N/A
Zinc	Quarterly	Quarterly	Quarterly
Faecal Coliforms	N/A	Annually ^{Note 4}	Annually ^{Note 4}
Total Coliforms	N/A	Annually ^{Note 4}	Annually ^{Note 4}

* N/A means not applicable

** Where the receiving water body is protected under specific legislation (e.g. Bathing waters, Shellfish Waters) cognisance should be placed on the parameters listed and baseline and compliance monitoring should include any additional parameters required by the above legislation e.g. bacteriological analysis. Biological assessment may need to be considered in some instances.

Note 1. All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures. The testing laboratory and the testing procedures shall be agreed in writing with the Agency in advance.

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

Note 3. Representative samples of the leachate 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 methods include : volatiles (US EPA method 524 or equivalent), semi-volatiles (US EPA method 525 or equivalent, and pesticides (US EPA method 608 or equivalent). In addition, where there is record of significant quantities of harbour dredging being deposited at the landfill site analysis for organotins should be performed.

Note 4. If there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C, 37°C and faecal streptococci. The frequency should be increased to quarterly monitoring in cases where nearby wells may be of local importance for drinking water.

F.4.2 Flow Measurements

Monitoring Locations: F1, F2, F3 and F4. Refer to Figure C9.2R of further information submitted in June 1998.

F1 (OS 285969, 251250)

F2 (OS 285455, 251017)

F3 Dangan Bridge

F4 (OS 285826, 251295)

The frequency of flow measurement is listed in Table F.4.2.

Table F.4.2 Flow measurements - frequency of sampling and analysis

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow measurements	Quarterly	Standard method*

* To be agreed in advance with the Agency

F.4.3 Knightsbrook catchment

Monitoring Locations: Upstream and Downstream (precise locations to be agreed with the Agency)

Table F.4.3 Knightsbrook catchment - frequency of sampling and analysis.

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual Inspection of the river	Weekly	Not applicable
Biological Assessment	Bi-annually **	Appropriate biological methods (such as EPA Q-Rating System used for the assessment of rivers and streams)

** Assessment should be carried out in Spring and Autumn along the same reaches of the river.

F.4.4 Wetland Area

Monitoring Locations: to be agreed with the Agency.

Table F.4.4 Wetland area - frequency of sampling and analysis.

Parameter	Monitoring Frequency	Analysis Method/Technique
Vegetation survey	annual	standard methods*
Water level	quarterly	staff gauge
parameters as in Table F.4.1	see Table F.4.1	standard methods*

* To be agreed in advance with the Agency

3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4

F.5 Groundwater Monitoring

The frequency of sampling and analysis is listed in the Table F.4.1.

Monitoring Locations:

- BH5, BH7, BH9, BH11, BH12, BH15 (glaciofluvial layer) and BH13, BH14, BH16d and BH18 (limestone aquifer). Refer to Figure C.6.2 of further information submitted in June 1998.

BH 5 (grid reference to be supplied by licensee)

BH7 (OS 284626, 251594)

BH 9 (OS 284896, 251527)

BH11 (OS 284828, 251215)

BH12 (OS 284995, 251283)

BH15 (OS 284638, 251600)

BH 13 (OS 284831, 251217)

BH 14 (OS 284892, 251529)

BH 16d (OS 285720, 251726)

BH 18 (OS 285617, 251177)

- Private Wells (used or in use) within 500m of the facility including;

PW 2

PW 3

PW 4

Synnott's well

all others located during the well survey outlined in Condition 9.5.

3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4

F.6 Leachate Monitoring

Table F.6 Leachate Monitoring Locations and Frequency

Monitoring Medium	Parameters	Frequency		Monitoring Points
		Operational	Aftercare	
Leachate	Leachate levels	Weekly	Monthly	Six monitoring points to be agreed in advance with the Agency
	Leachate composition analysis as per Table F.4.1	As per Table F.4.1	At half the frequency specified in Table F.4.1 with a minimum of once per annum	Three monitoring points to be agreed in advance with the Agency

3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4 3/4

F.7 Meteorological Monitoring

The frequency of sampling and analysis is listed in the Table F.7:

Monitoring Location: Data to be obtained from Mullingar weather station.

Table F.7 Meteorological Monitoring

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

SCHEDULE G Emission Limits

G.1 Noise Emissions At Noise Sensitive Locations (4 No.) to be agreed in advance with the Agency.

Day dB(A) _{Leq} (30 minutes)	Night dB(A) _{Leq} (30 minutes)
55	45

G.2 Dust Deposition Measured at the dust monitoring points D1, D2, D3, D4 and D5 in Figure 1 of Attachment C.1 of information submitted 19 Jan 1998.

Level (mg/m ² /day) ^{Note 1}
240

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

G.3 Landfill Gas Emission Limits measured in any building on or adjacent to the facility

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

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Sealed by the seal of the Agency on the 1st day of April 1999.

PRESENT when the seal of the Agency was affixed hereto:

Padraic Larkin, Director/ Authorised Person