



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

## WASTE LICENCE

<b>Waste Licence</b>	81-1
<b>Register Number:</b>	
<b>Applicant:</b>	KTK Sand and Gravel Limited
<b>Location of Facility:</b>	Brownstown, Kilcullen, Co. Kildare

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## Reasons for the Decision

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 the report of its inspector.

## 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 KTK Sand and Gravel Limited, Brownstown, Kilcullen, Co. Kildare to carry on the waste activities listed below at Brownstown and Carnalway subject to 11 No. 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 5:* Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.

*Class 11:* Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule:

*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.

### *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.

*Class 4:* Recycling or reclamation of other inorganic materials.

*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.

# INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>BATNEEC</b>	Best Available Technology Not Entailing Excessive Cost as defined in section 5 (2) of the Act.
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Daytime</b>	0800 hrs to 2200 hrs.
<b>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.
<b>European Waste Catalogue (EWC)</b>	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.
<b>Facility</b>	That area or areas defined under Condition 1.2
<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.
<b>Industrial waste</b>	As defined in Section 5 (1) of the Act.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Landfill</b>	As defined in Section 5 (1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.

<b>LEL (Lower Explosive Limit)</b>	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.
<b>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	KTK Sand and Gravel Limited
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 20% dry matter
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Monthly</b>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	2200 hrs to 0800 hrs.
<b>Non hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>Recovery</b>	As defined in Section 4 (4) of the Act.
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment.
<b>Specified Emissions</b>	Those emissions listed in Schedule G of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in Schedule E of this licence.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>Working Day</b>	08:30 to 18:00 Monday to Friday inclusive and 10:00 to 16:00 on Saturdays.
<b>Working Face</b>	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 Waste activities shall be restricted to the area of land outlined in red on Drawing No. KTK/O1 "Site Location" April 1998 of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red.
- 1.3 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.
- 1.4 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.
- 1.5 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:
  - a) 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;
  - b) 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,
  - c) 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 eighteen 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 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 2.8 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, within 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 Corrective Action

2.4.1 Prior to the acceptance of any waste at the facility, 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.

### 2.5 Awareness and Training

2.5.1 Prior to the acceptance of any waste at the facility, 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.

### 2.6 Management Structure

2.6.1 Within nine 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) a named contact person for communications with the Sanitary Authority
- c) details of the responsibilities for each individual named under a) above;
- d) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
- e) contingency arrangements for the absences of the named persons from the facility.

## 2.7 Communications

- 2.7.1 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.

## 2.8 Annual Environmental Report

- 2.8.1 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).
- 2.8.2 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.

- 2.9 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.

- 2.10 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 In the event of any incident which relates to discharges to surface water, or which affects the interests of the local authority, the licensee shall notify the Eastern Regional Fishery Board and/or Kildare County Council 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.
- 3.7 Copies of all reports, monitoring and analysis results and interpretations required by this licence, shall be forwarded to the Agency's Headquarters or to such other alternative location as agreed with the Agency at the reporting frequencies set out in this licence. The format of all reports and method of reporting shall be in accordance with any written instructions or guidance of the Agency. All monitoring results must be accompanied by a written interpretation of those results setting out their significance. Each report and drawing, including each modification, shall be identified with a unique code. An original and three copies of all reports and results shall be provided to the Agency.
- 3.8 All written reports submitted to the Agency shall be certified accurate and representative by the licensee.

- 3.9 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.
- 3.10 Unless otherwise agreed in advance in writing with the Agency, the licensee must give at least fourteen days notice to the Agency of the following events:
- a) the cessation of waste disposal activities at the facility for a period in excess of twenty-eight days;
  - b) the re-commencement of waste disposal activities at the facility following a period of cessation referred to at a) above.
- 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 referred to in Condition 4.5.
- 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 A written record shall be kept of each consignment of leachate removed from the facility. The record shall include the following:
- a) the name of the carrier;
  - b) the date and time of removal of leachate from the facility;
  - c) the volume of leachate, in cubic metres, removed from the facility on each occasion;
  - d) the name and address of the Waste Water Treatment Plant to which the leachate was transported;
  - e) any incidents or spillages of leachate during its removal or transportation.

- 3.15 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 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 Security and stockproof fencing and gates shall be installed and maintained as described in Part 4.4 "Infrastructure" of Volume I of the EIS dated April 1998 which accompanied the application. The security fence and gates shall be at the locations shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998.
- 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 shut when the facility is unsupervised.

#### 4.4 Site Roads and Hardstanding

4.4.1 The Paved Haul Road shall be provided and maintained at the location shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998. The road shall be to the following specification; 40mm wearing course of macadam, 60mm base course of macadam and 200 mm Clause 804 granular fill.

4.4.2 A hardstanding area shall be provided and maintained at the location and in accordance with the detail shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998. The hardstanding shall be to the following specification; 150mm concrete slab overlying 200 mm Clause 804 granular fill.

4.5 The licensee shall provide and maintain an office on the facility, at the location shown in Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

4.6 The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.5 above.

4.7 A Waste Inspection Area shall be provided at the location shown in Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998. The area shall be constructed in accordance with the details provided in Section 4.4.7 "Waste Inspection Area" of Volume I of the EIS submitted as part of the application. The licensee shall ensure that this area 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 suitably and clearly segregated from each other.

4.8 The licensee shall provide and maintain a weighbridge at the facility. Unless otherwise agreed in writing with the Agency the location of the weighbridge shall be as shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998.

4.9 The licensee shall establish and maintain a wheelwash at the facility in accordance with the specification shown in Drawing No. KTK/106 "Wheelwash Plans and Sections" 10/3/1998. Unless otherwise agreed in writing with the Agency the location of the wheelwash shall be as shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998. The wheel wash shall be inspected on a daily basis and drained as required. Accumulated silt shall be removed and disposed of at the working face. The wheelwash water shall drain only to the leachate holding tank.

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

4.11 The licensee shall establish and maintain a sewage treatment plant at the facility for the treatment of sewerage arising on-site. Unless otherwise agreed in writing with the Agency the location of the treatment plant shall be as shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998.

#### 4.12 Fuel Storage

- 4.12.1 The licensee shall provide a bunded fuel storage area at a location to be agreed in writing with the Agency. Fuels shall only be stored at this agreed location. Mobile tankers shall be kept in this bunded area.
- 4.12.2 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 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.
- 4.12.3 All drainage from bunded areas shall be diverted for collection and safe disposal.
- 4.12.4 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.
- 4.12.5 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.
- 4.12.6 All tanks and containers shall be labelled to clearly indicate their contents.
- 4.13 Specified Engineering Works
- 4.13.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in *Schedule E: Specified Engineering Works*, to the Agency for its agreement prior to any such works being carried out. No such works shall be carried out without the prior agreement of the Agency.
- 4.13.2 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.
- 4.13.3 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.

#### 4.14 Landfill Lining:

4.14.1 The landfill liner shall be a composite liner consisting of a basal soil layer of at least 1m in thickness with a permeability of less than  $1 \times 10^{-9}$  m/s overlain by a 2mm thick high density polyethylene (HDPE) layer. The side walls shall be designed and constructed to achieve an equivalent protection.

4.14.2 Formation levels of the cells shall be as shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998.

#### 4.15 Leachate Management

4.15.1 Unless otherwise agreed in writing with the Agency, leachate management at the facility shall be carried out as described in Attachment D.4.j of the application and specified in Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 1998.

4.15.2 Leachate levels in the waste shall not exceed a level of 1.0m over the HDPE liner at any point.

#### 4.16 Landfill Gas Management:

4.16.1 Within twelve months of the date of grant of this licence, a proposal for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.

4.16.2 Within six months of the date of grant of this licence, a proposal for the active collection and flaring of landfill gas shall be submitted to the Agency for its agreement.

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

#### 4.17 Capping

4.17.1 Within twelve months of the date of grant of this licence, a proposal for temporary and final capping shall be submitted to the Agency for its agreement.

*Reason: To provide for the protection of the environment*

## CONDITION 5 WASTE ACCEPTANCE AND HANDLING

- 5.1. No hazardous waste, liquid wastes, sludges, vegetable matter wastes, food stuff wastes or garden wastes 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.1.3 and E.1.4 of the application shall be disposed of in the landfill unless the prior written agreement of the Agency has been obtained.
- 5.3. Waste Acceptance Procedures shall be carried out in accordance with "Attachment E Waste Acceptance Procedures" of the application.
- 5.4. A minimum of 1 in 10 waste loads shall tip into the Waste Inspection Area for an inspection of the waste unless otherwise agreed in advance with the Agency. A record of all inspections shall be maintained. All other 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. Such waste shall be stored in the Waste Quarantine Area only and may be stored for a maximum of twenty-four hours.
- 5.5. The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 220,000 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 without the prior 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 17.30 Monday to Friday inclusive and 10.00 to 15.30 on Saturdays unless otherwise agreed in writing in advance with the Agency.
- 5.9. Unless the prior written agreement of the Agency is given, the following shall apply at the landfill:
  - a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials;
  - b) the working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3; and,
  - c) all waste deposited at the working face shall be compacted as soon as is practicable and at any rate prior to the end of the working day.
- 5.10. The working face of the operational cell shall, at the end of each day, be covered with material suitable to minimise any nuisances occurring. 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. Within nine months of the date of grant of this licence, a proposal for the recovery of construction and demolition waste at the facility shall be submitted to the Agency for approval.



- 5.12. Within six months of the date of grant of this licence, a proposal for the recovery of commercial waste, including cardboard, at the facility shall be submitted to the Agency for approval.
- 5.13. 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.
- 5.14. 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.
- 5.15. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without prior written agreement from the Agency
- 5.16. No smoking shall be allowed on the facility other than in the Office/Canteen as shown on Drawing No. KTK/05 "Site Plan; Base Development and Leachate Collection System" April 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 described in Section 4.12.4 "Litter Control" of the EIS included with the 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 odours do not result in significant impairment of, or significant interference with amenities or the environment beyond the facility boundary.

- 6.9. The licensee shall ensure that birds and vermin do not give rise to nuisance at the facility or the immediate area of the facility. The method used by the licensee to control birds and vermin at the facility shall not cause environmental pollution.

*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. The licensee shall ensure that the activities shall be carried out in a manner such that noise does not result in significant impairment of, or significant interference with, the environment beyond the facility boundary.
- 7.3. 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.
- 7.4. 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.
- 7.5. There shall be no clearly audible tonal component in the noise emissions from the activity at the facility boundary.
- 7.6. 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.
- 7.7. All surface water collected from the hardstanding areas of the proposed facility and from lined cells will be diverted to the leachate holding tank and treated as leachate.
- 7.8. There shall be no direct emissions to groundwater.
- 7.9. All leachate tankered from the facility shall be transported to Athy Wastewater Treatment Plant and disposed of there unless otherwise agreed in advance with the Agency. Permission for the disposal of leachate that the Wastewater Treatment Plant shall be obtained from the Sanitary Authority on an annual basis. The quantity disposed of shall be restricted to 55m<sup>3</sup> per day unless the prior agreement of the Sanitary Authority is obtained. Disposal procedures for the leachate at the treatment plant shall be in accordance with any written requirements of the Sanitary Authority.

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

## CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. The final profile of the facility shall be as shown in Drawing No. KTK/06 "Proposed Final Contours" April 1998.
- 8.2. The Restoration and Aftercare Plans for the facility shall be as stated in Attachments G.1 and G.2 of the application.
- 8.3. Completed areas of the landfill shall be profiled so that no depressions exist in which water may accumulate.
- 8.4. 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.
- 8.5. 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. Monitoring locations shall be those as set out in Table J.2 "Monitoring Points and Grid Reference Locations" of the application.
- 9.3. Within six months of the date of grant of this licence, proposals for the inclusion of all private wells, within 500m of the facility, in the monitoring programme set out in *Schedule F* and for the establishment of a meteorological monitoring station shall be submitted to the Agency for its agreement.
- 9.4. Within six months from the date of grant of this licence, the licensee shall submit a written proposal on monitoring of leachate levels within the filled waste to the Agency for its agreement. The report shall include a drawing showing all leachate monitoring locations. The drawing shall also contain a unique reference number and a twelve figure national grid reference for each monitoring point
- 9.5. 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.
- 9.6. Ionic balances shall be carried out on groundwater and surface water monitoring results.
- 9.7. 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.
- 9.8. 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.

- 9.9. 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.
- 9.10. 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.
- 9.11. 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. Contingency Arrangements for the facility shall be as detailed in Attachment K.1 "Contingency Arrangements" of the application.
- 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 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.
- 10.6. In the event that monitoring of local wells indicates that the facility is affecting the quantity and/or quality of the water supply 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.

*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 £ 12,005 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 2000 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 1999, the licensee shall pay a pro rata amount from the date of this licence to 31st December 1999. 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. Environmental Liabilities**

- 11.2.1. 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 agreement within six months of date of grant of this licence.
- 11.2.2. Within nine months of the date of grant of this licence, 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. Such provision shall be maintained by the licensee unless otherwise agreed in writing by the Agency.
- 11.2.3. The amount of financial provision, held under condition 11.2.2 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.
- 11.2.4. The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under condition 11.2.2, forward to the Agency written proof of such indemnity.

### **11.3. Sanitary authority charges**

- 11.3.1. Sanitary authority charges of £1 per cubic metre of leachate at 500ppm COD shall be made payable to the Sanitary Authority directly. Monitoring costs incurred by the Sanitary Authority in monitoring the leachate 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.

*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 <sup>Note 1</sup>	
<b>Class 1.</b>	<p><b>Deposit on, in or under land (including landfill):</b></p> <p>This activity is limited to the disposal of the waste types specified in Condition 5.1.</p>
<b>Class 5</b>	<p><b>Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.</b></p> <p>This activity is limited to the disposal of the waste types specified in Condition 5.1.</p>
<b>Class 11</b>	<p><b>Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.</b></p> <p>This activity is limited to the blending and mixture of certain types of waste, e.g. heavy and light wastes, prior to disposal.</p>
<b>Class 13</b>	<p><b>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 was produced.</b></p> <p>This activity is limited to the storage of waste, prior to disposal at an alternative appropriate facility, of wastes not acceptable for disposal at this facility.</p>

**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 <sup>Note 1</sup>	
<b>Class 3</b>	<p><b>Recycling or reclamation of metals and metal compounds.</b></p> <p>This activity is limited to receipt, holding and collection of metals and wire found in construction and demolition wastes</p>
<b>Class 4</b>	<p><b>Recycling or reclamation of other inorganic materials.</b></p> <p>This activity is limited to receipt, holding and reusing inert construction and demolition wastes such as clay, topsoil, broken concrete and asphalt.</p>
<b>Class 13</b>	<p><b>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.</b></p> <p>This activity is limited to the storage of inert materials prior to processing and reuse and storage of metals, wire etc.</p>

**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 Plan 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 as specified in writing by the Agency



# SCHEDULE C Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>NOTE 1</sup>

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 site and 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, including plans 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, and 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 site.

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Meteorological 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 facility operation.

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

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

**NOTE 1 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 <sup>Note1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year reported on.
<b>Annual Environment Report (AER)</b>	Annually	Eighteen months from the date of grant of licence and one month after the end of each year thereafter.
<b>Record of incidents</b>	As they occur	Within three days of the incident.
<b>Bund, tank and container integrity assessment</b>	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.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Monitoring of landfill gas</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Dust Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Noise Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Monitoring of Surface Water Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Groundwater Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Leachate</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Meteorological Monitoring</b>	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
<b>Environmental Management System</b>	Item (I) within eighteen months and the remainder, except (iv), within twelve months of the date of grant of the licence.
<ul style="list-style-type: none"> <li>(i)EMS Proposals</li> <li>(ii)Schedule of Objectives and Targets</li> <li>(iii)Environmental Management Programme</li> <li>(iv)Management Structure</li> <li>(v)Communication Programme</li> <li>(vi)Annual Environmental Report</li> </ul>	Within nine months of the date of grant of the licence
<b>Infrastructure</b>	Within twelve months of the date of grant of this licence for (iii).
<ul style="list-style-type: none"> <li>(i)Contingency proposals for alternative supply of water to residents if necessary</li> <li>(ii)Location of bunded fuel area</li> <li>(iii) Capping</li> </ul>	As specified by the Agency if required in accordance with Condition 10.6 of the licence Prior to the acceptance of any wastes at the facility
<b>Surface water, Groundwater, Landfill Gas and Leachate</b>	Within six months of the date of grant of this licence for (i) and within twelve months for (ii).
<ul style="list-style-type: none"> <li>(i)Active Landfill Gas Control System:Flare</li> <li>(ii)Proposals for landfill gas utilisation</li> </ul>	
<b>Waste Acceptance Procedures</b>	
<ul style="list-style-type: none"> <li>(i) Recovery of C &amp; D Waste</li> <li>(ii) Recovery of Commercial Waste</li> </ul>	Within nine months of date of grant of this licence. Within six months of date of grant of this licence.
<b>Environmental Monitoring</b>	Within six months of the date of grant of this licence for (I) and (ii).
<ul style="list-style-type: none"> <li>(i) A proposal to include all private wells within 500m of the facility in the monitoring programme</li> <li>(ii) A proposal for the monitoring of leachate levels within the waste</li> </ul>	

# SCHEDULE E Specified Engineering Works

## Specified Engineering Works

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

Design and construction of side wall lining.

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.

Bunding of fuel and oil storage areas.

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.

Restoration and Aftercare Works.

Any other works notified in writing by the Agency.

## SCHEDULE F Monitoring

Monitoring to be carried out at the locations specified in Condition 9.2.

### F.1 Landfill Gas

Table F.1.1 Landfill Gas Monitoring

Parameter	Monitoring Frequency		Analysis Method <sup>Note 1</sup> /Technique <sup>Note 2</sup>
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH <sub>4</sub> ) % v/v	Monthly	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Monthly	Weekly	Infrared analyser/ flame ionisation detector
Oxygen(O <sub>2</sub> ) %v/v	Monthly	Weekly	Infrared analyser
Atmospheric Pressure	Monthly	Weekly	Standard
Temperature	Monthly	Weekly	Standard

Note1: All monitoring equipment used should be intrinsically safe.

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

### F.2 Dust

Table F.2.1 Dust Monitoring

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Annual <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>

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.

### F.3 Noise

Table F.3.1 Noise Monitoring Frequency and Technique:

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>Eq</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard <sup>Note 1</sup>

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

## F.4 Surface Water, Groundwater and Leachate

Table F.4.1 Water and Leachate - Parameters /Frequency

Parameter <sup>(Note 1)</sup>	SURFACE WATER* Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection	Weekly	Not Applicable	Not Applicable
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly	Quarterly	Biannually
BOD	Quarterly	Not Applicable	Biannually
COD	Quarterly	Not Applicable	Biannually
Chloride	Quarterly	Quarterly	Biannually
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly	Quarterly	Biannually
Odour/visual inspection	Not Applicable	Quarterly	Biannually
pH	Quarterly	Quarterly	Biannually
Total Suspended Solids	Quarterly	Not Applicable	Biannually
Temperature	Quarterly	Quarterly	Biannually
Boron	Not Applicable	Quarterly	Biannually
Cadmium	Quarterly	Quarterly	Biannually
Calcium	Quarterly	Quarterly	Biannually
Chromium (Total)	Quarterly	Quarterly	Biannually
Copper	Quarterly	Quarterly	Biannually
Cyanide (Total)	Not Applicable	Quarterly	Biannually
Fluoride	Not Applicable	Quarterly	Biannually
Iron	Quarterly	Quarterly	Biannually
Nickel	Quarterly	Quarterly	Biannually
Lead	Quarterly	Quarterly	Biannually
List I/II organic substances (Note 2)	Quarterly	Quarterly	Biannually
Magnesium	Quarterly	Quarterly	Biannually
Manganese	Quarterly	Quarterly	Biannually
Mercury	Quarterly	Quarterly	Biannually
Phosphorus	Quarterly	Quarterly	Biannually

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

Parameter <sup>(Note 1)</sup>	SURFACE WATER* Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Potassium	Quarterly	Quarterly	Biannually
Sulphate	Quarterly	Quarterly	Biannually
Sodium	Quarterly	Quarterly	Biannually
Total Alkalinity	Quarterly	Quarterly	Biannually
Total Phosphorus or orthophosphate	Annually	Annually	Biannually
Total Oxidised Nitrogen	Quarterly	Quarterly	Biannually
Total Organic Carbon	Quarterly	Quarterly	Biannually
Residue on evaporation	Not Applicable	Quarterly	Biannually
Arsenic	Not Applicable	Quarterly	Not Applicable
Barium	Not Applicable	Quarterly	Not Applicable
Selenium	Not Applicable	Quarterly	Not Applicable
Silver	Not Applicable	Quarterly	Not Applicable
Phenol	Not Applicable	Quarterly	Not Applicable
Zinc	Quarterly	Quarterly	Biannually
Faecal Coliforms <sup>(Note 3)</sup>	Quarterly	Quarterly	Not Applicable
Total Coliforms <sup>(Note 3)</sup>	Quarterly	Quarterly	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 such 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. 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).

Note 3. 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.5 Meteorological Monitoring

Table F.5.1 Meteorological Monitoring:  
At a location on the facility to be 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	Daily	Standard
Humidity	Daily	Standard
Atmospheric Pressure	Daily	Standard

## SCHEDULE G Emission Limits

**G.1 Dust Deposition:** (Measured at the noise monitoring points indicated in Table J.2 "Monitoring Points and Grid Reference Locations" of the application).

Level (mg/m <sup>2</sup> /day) <sup>Note 1</sup>
240

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

**G.2 Noise Emissions:** (Measured at the perimeter of the facility).

Day dB(A) L <sub>Aeq</sub> (15 minutes)	Night dB(A) L <sub>Aeq</sub> (15 minutes)
55	45

**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

**G.4 Leachate Tankered to the Wastewater Treatment Plant**

pH	COD <sup>Note1</sup>
6 to 8	25,000ppm

Note 1: The limit may be altered subject to the prior written agreement of the Sanitary Authority

Sealed by the Agency on the 12<sup>th</sup> day of April 1999.

**PRESENT when the seal of the Agency  
was affixed hereto:**

\_\_\_\_\_  
Anne Butler, Director/Authorised Person