Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

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

WASTE LICENCE
Recommended Decision

Licence Register Number:	W0231-01
Applicant:	Fingal County Council
Location of Facility:	Nevitt, Lusk, Co. Dublin

INTRODUCTION

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

This licence is for the purposes of permitting Fingal County Council to develop and operate an engineered landfill facility and public recycling facility.

The principal activity at the site will be the disposal of non-hazardous waste into lined cells. Up to 500,000 tonnes of waste will be accepted per annum. In line with the requirements of the Landfill Directive (1999/31/EC), waste must be subject to prior treatment before acceptance at the facility. Leachate and landfill gas will be collected and treated on site, with leachate receiving further off-site treatment. The public recycling facility will accept up to 8,800 tonnes of waste per annum. Other items to be accepted at the public recycling facility will include textiles, glass, aluminium and steel cans, wood, metal, plastic, oil, batteries, WEEE, paints, green waste and household C & D waste.

Other activities at the site will include temporary storage of bottom ash from non-hazardous waste to energy plants, primary treatment of leachate, flaring of landfill gas and combustion of landfill gas to generate electricity. Primary-treated leachate will be discharged to public sewer for treatment at a wastewater treatment plant operated by Fingal County Council, or alternatively taken in closed tankers to a treatment plant with sufficient available capacity.

The disposal area covers an area of approximately 57 hectares, with an additional site area to be used for screening/landscaping, for the provision of a new county road and for site infrastructure (e.g. offices, leachate treatment, gas treatment).

Part of the site has also been used historically for the disposal of waste, and is reported to consist mainly of construction and demolition waste, though other materials reported as part of the application also include ash/cinders, organic material, newspaper and crockery. The licence requires this area to be excavated with the waste to be transferred into the new lined cells (inert construction and demolition waste may be employed in site construction activities).

The design capacity of the landfill is 9,400,000 tonnes with an estimated operational lifetime of up to 30 years. 20 – 25 cells will be developed with an average cell capacity of 400,000 tonnes.

The licence sets out in detail the conditions under which Fingal County Council will operate and manage this facility.

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Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 and 2003 / Waste Management Acts 1996 to 2005, unless otherwise defined in this section.

Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve monthly intervals.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BAT	Best Available Techniques.
Bi-annually	All or part of a period of six consecutive months.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand.
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Containment boom	A boom which can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0800 hrs to 2200 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved Oxygen.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.

EMP	Environmental Management Programme.
Emission Limits	Those limits, including concentration limits and deposition rates established in *Schedule B* of this licence.
Environmental Damage	Has the meaning given it in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	Any site or premises used for the purposes of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
GC/MS	Gas Chromatography/Mass Spectroscopy.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Heavy Metals	This term is to be interpreted as set out in "Parameters of Water Quality, Interpretation and Standards" published by the Agency in 2001. ISBN 1-84095-015-3.
Hours of Operation	The hours during which the facility is authorised to be operational.
Hours of Waste Acceptance	The hours during which the facility is authorised to accept waste.
ICP	Inductively Coupled Plasma Spectroscopy.
Incident	The following shall constitute an incident for the purposes of this licence: (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any exceedence of the daily duty capacity of the waste handling equipment; (iv) any trigger level specified in this licence which is attained or exceeded; and, (v) any indication that environmental pollution has, or may have, taken place.
Industrial Waste	As defined in Section 5(1) of the Waste Management Acts 1996 to 2005.
Inert Waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Initial	Means such works, actions or constructions as may be specified, which for the

Development Works	purposes of environmental protection and safe construction and operation of the facility, have to be carried out in the initial stages of site development, and in any case in advance, of the commencement of construction of the landfill cells.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilo Pascals.
Landfill Directive	Council Directive 1999/31/EC.
Landfill Footprint	The area of the facility where waste is placed for burial.
Leq	Equivalent continuous sound level.
Licensee	Fingal County Council, PO Box 174, Fingal County Hall, Main Street, Swords, Co. Dublin.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
List I	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 76/464/EEC and 80/68/EEC and amendments.
Local Authority	Fingal County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
Mass Flow Limit	An Emission Limit Value which is expressed as the maximum mass of a substance which can be emitted per unit time.
Mass Flow Threshold	A mass flow rate, above which, a concentration limit applies.
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
NMP	Nutrient Management Plan.
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Oil Separator	Device installed according to the International Standard I.S.EN 858-2:2003 (Separator systems for light liquids, (e.g. oil and petrol)-Part 2:Selection of nominal size, installation, operation and maintenance.
PRTR	Pollutant Release and Transfer Register.
Quarterly	All or part of a period of three consecutive months beginning on the first day of January, April, July or October.
Regional Fisheries Board	Eastern Regional Fisheries Board.
Residual Waste	**In the context of landfill is waste that has been subjected to pre-treatment (including, *inter alia*, pre-segregation, sorting, mechanical-biological treatment, energy recovery) to extract, to the maximum practical and**

	available extent having regard to BAT, the recyclable/reusable components and energy benefit.
Water Services Authority	Fingal County Council.
Sanitary Effluent	Waste water from facility toilet, washroom and canteen facilities.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
SOP	Standard Operating Procedure.
Specified Emissions	Those emissions listed in *Schedule B: Emission Limits* of this licence.
Standard Method	A National, European or internationally recognised procedure (eg, I.S. EN, ISO, CEN, BS or equivalent), as an in-house documented procedure based on the above references, a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or, an alternative method as may be agreed by the Agency.
Storm Water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
TA Luft	Technical Instructions on Air Quality Control - TA Luft in accordance with art. 48 of the Federal Immission Control Law (BImSchG) dated 15 March 1974 (BGBI. I p.721). Federal Ministry for Environment, Bonn 1986, including the amendment for Classification of Organic Substances according to section 3.1.7 TA.Luft, published in July 1997.
TOC	Total Organic Carbon.
Trade Effluent	Trade Effluent has the meaning given in the Water Pollution Acts 1977 and 1990.
Trigger Level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
WEEE	Waste Electrical and Electronic Equipment
Weekly	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with at least one measurement in any one week.
WWTP	Waste Water Treatment Plant.

Decision & Reasons for the Decision

The Environmental Protection 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 will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

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

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2005, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Fingal County Council, PO Box 174, Fingal County Hall, Main Street, Swords, Co. Dublin to carry on the waste activities listed below at Nevitt, Lusk, Co. Dublin subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purposes of Article 48 of the Waste Management Licensing Regulations 2004 (SI 395) this facility is classed as a non-hazardous waste landfill.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2005

Class 4.	**Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.**
Class 5.	**Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.**
Class 6.	**Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 7 to 10 of this Schedule.**
Class 7.	**Physico-chemical treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 8 to 10 of this Schedule (including evaporation, drying and calcination).**
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 Acts 1996 to 2005

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.**
Class 11.	**Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.**
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.**

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

1.1 Waste activities at this facility shall be restricted to those listed and described in Part I Activities Licensed, and shall be as set out in the licence application or as modified under Condition 1.5 of this licence and subject to the conditions of this licence.

1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations*, of this licence.

1.3 The facility shall be controlled, operated, and maintained and emissions shall take place as set out in this licence. All programmes required to be carried out under the terms of this licence, become part of this licence.

1.4 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in red on Drawing No. Mi2001 (Figure B.2.1) of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.

1.5 Waste Acceptance Hours and Hours of Operation, **unless otherwise agreed in writing with the Agency.**

1.5.1 Landfill

(i) Waste shall be accepted at the facility for disposal at the landfill only between the hours of 0800 and 1630 Monday to Saturday inclusive.

(ii) Landfill operations shall be carried out only between the hours of 0730 and 2000 Monday to Friday inclusive, 0730 to 1830 on Saturdays, and 0800 to 16:30 on Sundays and Public Holidays.

1.5.2 Public Recycling Facility

(i) Waste shall be accepted at the public recycling facility only between the hours of 0800 to 1630 Monday to Friday and 0800 to 1600 Saturday and Sunday.

(ii) Operations shall be carried out only between the hours of 0730 to 1830 and 0800 to 1630 on Public Holidays.

1.6 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in

(i) a material change or increase in:

- The nature or quantity of any emission,
- The abatement/treatment or recovery systems,
- The range of processes to be carried out,
- The fuels, raw materials, intermediates, products or wastes generated, or

(ii) any changes in:

- Site management infrastructure or control with adverse environmental significance,

shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.

1.7 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2005 only and nothing in this licence shall be construed as negating the licensee's statutory obligations or requirements under any other enactments or regulations.

1.8 Having regard to the nature of the activity and arrangements necessary to be made or made in connection with the carrying on of the activity, the specified period for the purposed of Section 49(1) of the Waste Management Acts 1996 to 2005 is 8 years.

Reason: To clarify the scope of this licence.

Condition 2. Management of the Facility

2.1 Facility Management

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

2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence. In addition, the facility manager and his/her deputy shall have successfully completed the FAS waste management training programme or equivalent agreed by the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall **establish and maintain** an Environmental Management System (EMS) in advance, of the commencement of the activity. The EMS shall be updated on an annual basis.

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

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall, prior to the acceptance of waste at the facility, **prepare and maintain** a Schedule of Environmental Objectives and Targets. The schedule shall as a minimum provide for a review of all operations and processes, including an evaluation of practicable options, for energy and resource efficiency, the use of cleaner technology, cleaner production, and the prevention, reduction and minimisation of waste, and shall include waste reduction/**diversion** targets **(as per Condition 8.1.3)**. The schedule shall include time frames for the achievement of set targets and shall address a five year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall, **prior to the commencement of waste activities, submit to the Agency for agreement** an EMP, including a time schedule, for achieving the Environmental Objectives and Targets prepared under Condition 2.2.2.2. Once agreed the EMP shall be **established and maintained** by the licensee. It shall include:

(i) designation of responsibility for targets;

(ii) the means by which they may be achieved;

(iii) the time within which they may be achieved.

The EMP shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER) (Condition 11.11).

A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorised persons of the Agency.

2.2.2.4 Documentation

(i) The licensee shall, prior to the acceptance of waste at the facility, **establish and maintain** an environmental management documentation system which shall be to the satisfaction of the Agency.

(ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.5 Corrective Action

The licensee shall, prior to the acceptance of waste at the facility, establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.6 Awareness and Training

The licensee shall, prior to the acceptance of waste at the facility, **establish and maintain** procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.7 Communications Programme

The licensee shall, prior to the acceptance of waste at the facility, **establish and maintain** a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility.

2.2.2.8 Maintenance Programme

The licensee shall, prior to the acceptance of waste at the facility, **establish and maintain** within six months of the date of grant of this licence a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.9 Efficient Process Control

The licensee shall, prior to the acceptance of waste at the facility, **establish and maintain** within six months of the date of grant of this licence a programme to ensure there is adequate control of processes under all modes of operation. The programme shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and

controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

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. Infrastructure and Operation

3.1 The licensee shall establish all infrastructure referred to in this licence, to the design set out in the Application documentation or as may be otherwise specified or varied by the conditions of this licence. Infrastructure specified in the application which relates to the environmental performance of the installation and is not specified in the licence, shall be installed in accordance with the schedule submitted in the application.

3.2 The landfill footprint (maximum lateral extent of landfilling) shall be as indicated in Drawing Reference No. Mi2001 (Figure B.2.1) of the application.

3.3 Wastes shall not be deposited in any cell without the prior agreement of the Agency.

3.4 Phased Construction Plan.

3.4.1 Three months in advance, of the commencement of site development, the licensee shall submit to the Agency for its agreement a construction schedule, sequence and timescale (Construction Plan) incorporating the requirements of this licence **and to give effect to the commitments in the application documentation**. This Plan shall have regard to the following development phases: (i) Initial Development Works (ii) Main infrastructure development works (pre acceptance of waste for disposal), and (iii) Future/planned works (in parallel with waste disposal, e.g. future cell development/phasing). The Construction Plan for cell development shall have regard to the sequencing necessary to provide short, medium and long term screening of the operational areas.

3.4.2 Unless otherwise agreed by the Agency, and so as to permit the necessary time for establishment and maturation of landscaping measures for impact mitigation, the operation of the facility shall commence (with the exception of operation of the public recycling facility) with landfilling at the southern boundary of the landfill footprint.

3.5 Surface Water Protection

3.5.1 The licensee shall carry out development and construction works having regard to the Eastern Regional Fisheries Board guidance document 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites'.

3.5.2 All in-stream and riparian works at the site shall be approved by the ERFB prior to implementation. The ERFB must be informed at least 3 weeks prior to the commencement of the works.

3.5.3 A leave-strip of at least 10 metres shall be maintained along remaining local watercourses (except in the case of the section of watercourse which is to be removed).

3.6 Specified Engineering Works

3.6.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works*, of this licence, to the Agency for its agreement at least two months in advance, of the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.

3.6.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.

3.6.3 Following the completion of any specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall, **as appropriate**, include the following information:-

(i) A description of the works;

(ii) As-built drawings of the works;

(iii) Records and results of all tests carried out (including failures);

(iv) Drawings and sections showing the location of all samples and tests carried out;

(v) Name(s) of contractor(s)/individual(s) responsible for undertaking the specified engineering works;

(vi) Records of any problems and the remedial works carried out to resolve those problems; and

(vii) Any other information requested in writing by the Agency.

3.7 Landfill Lining

3.7.1 Unless otherwise agreed in writing, the landfill lining system shall comprise:-

(i) A composite liner consisting of a 1m layer of compacted clay with a hydraulic conductivity of less than or equal to $1x10^{-9}m^3/m^2/s$ (or equivalent approved), overlain by a 2mm thick high density polyethylene (HDPE) layer;

(ii) A geotextile protection layer placed over the HDPE layer **(the choice of geotextile is to be proven by cylinder testing – submitted as part of the SEW *identified in Condition* 3.6)**;

(iii) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} $m^3/m^2/s$, of pre-washed, uncrushed, granular, rounded stone (16-32mm grain size) incorporating leachate collection drains;

(iv) The lining system on the base of the facility shall be laid to a minimum slope of 1:50, and

(v) The side walls shall be designed and constructed to achieve an equivalent protection.

3.7.2 A drainage layer shall be placed below the lining system so that shallow perched groundwater can be pumped during the construction and initial filling of the cells. The drainage layer shall comprise:

(i) A geotextile layer separating the engineered mineral liner from the drainage medium;

(ii) Up to 1 metre thick of gravel incorporating slotted collection pipes;

(iii) A pumping system from the drainage layer to the surface water management system.

3.8 Facility Security

3.8.1 Security and stockproof fencing and gates shall be installed and maintained. The base of the fencing shall be set in the ground. Subject to the implementation of the restoration and aftercare plan and to the agreement of the Agency, the requirement for such site security may be removed.

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

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

(i) A temporary repair shall be made by the end of the working day; and

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

3.9 Facility Roads and Hardstanding

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

3.9.2 The facility entrance and hardstanding areas, shall be appropriately paved and maintained in a fit and clean condition.

3.10 Facility Office

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

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

3.11 Construction and Demolition Waste Storage Area

In advance, of commencement of landfill construction activities involving approved imported recovered C & D waste streams, **or C & D waste excavated from the historical waste area (subject to characterisation of the excavated waste),** the licensee shall provide and maintain a construction and demolition waste storage area. This infrastructure shall at a minimum comprise the following:-

(i) An impermeable concrete slab; and

(ii) Collection and disposal/abatement infrastructure for all run-off.

3.12 Waste Inspection and Quarantine Areas

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

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

3.12.3 Drainage from these areas shall be directed to the leachate management system.

3.13 Weighbridge and Wheel Cleaner

3.13.1 The licensee shall provide and maintain a weighbridge and **two** wheel cleaners at the facility. **One of the wheel cleaners shall be for use by construction vehicles only.**

3.13.2 The wheel cleaners shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be directed to the leachate management system.

3.14 Leachate Management Infrastructure

3.14.1 Leachate management infrastructure shall be provided and maintained at the facility as described in the Application documentation, or as may be varied by a licence condition.

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

3.15 Landfill Gas Management

3.15.1 Landfill Gas management infrastructure shall be provided and maintained at the facility as described in the Application documentation, or as may be varied by a licence condition.

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

3.15.3 Landfill gas collected at the site shall, as soon as is practicable, be employed for the generation of energy/electricity. The feasibility of landfill gas utilisation shall be reported annually as part of the AER.

3.16 Groundwater

3.16.1 All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines 'Decommissioning Redundant Boreholes and Wells' (or as otherwise may be agreed by the Agency).

3.16.2 Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".

3.17 The licensee shall establish all infrastructure referred to in this licence in advance, of the commencement of the licensed activities or as required by the conditions of this licence.

3.18 Facility Notice Board

3.18.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200mm by 750mm.

3.18.2 The board shall clearly show:-

(i) The name and telephone number of the facility;

(ii) The normal hours of opening and operation;

(iii) The name of the licence holder;

(iv) An emergency out of hours contact telephone number;

(v) The licence reference number; and

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

3.18.3 A plan of the facility clearly identifying the location of each storage and treatment area shall be displayed as close as is possible to the entrance to the facility. The plan shall be displayed on a durable material such that it is legible at all times. The plan shall be replaced as material changes to the facility are made.

3.19 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.

3.20 In the case of composite sampling of aqueous emissions from the operation of the facility, a separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be refrigerated immediately after collection and retained as required for EPA use.

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

3.22 Tank, Container and Drum Storage Areas

3.22.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds should be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).

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

(i) 110% of the capacity of the largest tank or drum within the bunded area; or
(ii) 25% of the total volume of substance which could be stored within the bunded area.

3.22.3 All drainage from bunded areas shall be treated as hazardous waste unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

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

3.22.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.

3.23 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.

3.24 Silt Traps and Oil Separators

The licensee shall install and maintain silt traps and oil separators at the facility to ensure that **all** storm water discharges from the facility pass through a silt trap and oil separator in advance, of discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 858-2:2003 (separator systems for light liquids).

3.25 Firewater Retention

3.25.1 The licensee shall carry out a risk assessment to determine if the activity should have a fire-water retention facility. The licensee shall submit the assessment and a report to the Agency on the findings and recommendations of the assessment within six months from the date of grant of this licence.

3.25.2 In the event that a significant risk exists for the release of contaminated fire-water, the licensee shall, based on the findings of the risk assessment, prepare and implement, with the agreement of the Agency, a suitable risk management programme. The risk management programme shall be fully implemented within three months from date of notification by the Agency.

3.25.3 In the event of a fire or a spillage to storm water, the site storm water shall be diverted to the containment pond or leachate management system. The licensee shall examine as part of the response programme in Condition 3.25.2 above the provision of automatic diversion of storm water to the containment pond. The licensee shall have regard to any guidelines issued by the Agency with regard to firewater retention.

3.25.4 The licensee shall have regard to the Environmental Protection Agency Draft Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities when implementing Conditions 3.25.1 and 3.25.2 above.

3.26 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separator, shall be fitted with high liquid level alarms (or oil detectors as appropriate).

3.27 The provision of a catchment system to collect any leaks from flanges and valves of all over ground pipes used to transport material other than water shall be examined. This shall be incorporated into a schedule of objectives and targets set out in Condition 2.2 of this licence for the reduction in fugitive emissions.

3.28 All wellheads shall be adequately protected to prevent contamination or physical damage.

3.29 The licensee shall, within six months of the date of grant of this licence, install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.

3.30 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency, which records the parameters **as detailed in Schedule C.6**. The proposed location should be submitted to the Agency for agreement within six months from the date of grant of this licence.

3.31 **Sanitary effluent arising on-site shall be treated at the on-site leachate treatment plant.**

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

Condition 4. Interpretation

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

4.1.1 In the case of landfill gas flare:

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

4.1.2 In the case of landfill gas combustion plant:

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

4.2 Emission limit values for emissions to atmosphere in this licence shall be interpreted in the following way:

4.2.1 Continuous Monitoring:

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

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

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

4.2.2 For Non-Continuous Monitoring

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

(ii) For flow, no hourly or daily mean value, calculated on the basis of appropriate spot readings, shall exceed the relevant limit value.

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

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

4.3.1 Continuous monitoring:

(i) No flow value shall exceed the specified limit.

(ii) No pH value shall deviate from the specified range.

(iii) No temperature value shall exceed the specified limit value.

(iv) No other continuously monitored parameter shall exceed the specified limit value.

4.3.2 Composite Sampling:

(i) No pH value shall deviate from the specified range.

(ii) For parameters other than pH and flow, eight out of ten consecutive composite results, based on flow proportional composite sampling, shall not exceed the emission limit value. No individual result similarly calculated shall exceed 1.2 times the emission limit value.

4.3.3 Discrete Sampling

For parameters other than pH and temperature, no grab sample value shall exceed 1.2 times the emission limit value.

4.4 Where the ability to measure a parameter is affected by mixing before emission, then, with agreement from the Agency, the parameter may be assessed before mixing takes place.

4.5 Noise

Noise from the facility shall not give rise to sound pressure levels (Leq,T) measured at **noise sensitive locations** of the facility which exceed the limit values.

4.6 Dust

Dust from the activity shall not give rise to deposition levels which exceed the specified limit value.

Reason: To clarify the interpretation of limit values fixed under the licence.

Condition 5. Emissions

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

5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.

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

5.4 In advance, of the acceptance of waste for disposal, the licensee shall submit to the Agency for approval, evidence to demonstrate that sufficient and suitable capacity is available for off-site treatment of primary-treated leachate generated at the site.

5.5 The licensee shall ensure that all or any of the following:–

- vermin
- birds
- flies
- mud
- dust
- litter,

associated with the activity do not result in an impairment of, or an interference with amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

5.6 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.

5.7 The licensee shall at no time discharge or permit to be discharged into the sewer any liquid matter or thing that is or may be liable to set or congeal at average sewer temperature or is capable of giving off any inflammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.

5.8 Non-trade effluent wastewater (e.g. firewater, accidental spillages) which occur on site shall not be discharged to sewer without the prior authorisation of the Water Services Authority.

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

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

5.11 **Materials classifiable as 'hazardous wastes' under the Waste Management Acts, 1996 to 2005, shall not be discharged to foul sewer.**

5.12 **Effluent shall be screened prior to discharge to remove gross solids and avoid blockages in the sewer.**

Reason:	*To provide for the protection of the environment by way of control and limitation of emissions and to provide for the requirements of the Water Services Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2005.*

Condition 6. Control and Monitoring

6.1 Telemetry

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

6.1.2 This system shall include for:-

(i) Recording of leachate levels in the lined cells and lagoon;

(ii) Recording of levels in the surface water lagoon and flows to the perimeter stream(s);

(iii) Quality of the surface water at the inlet to the surface water management system and being discharged to the perimeter streams; and

(iv) Permanent gas monitoring system to be installed in the site office and any other enclosed structures at the facility.

6.2 Leachate Management

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

6.2.2 The level of leachate in the pump sumps shall be monitored as outlined in *Schedule C.2.3 Leachate Monitoring*, of this licence.

6.2.3 The frequency of leachate removal from the leachate holding tank (effluent balance tank after treatment step) shall be such that a minimum freeboard of 0.5m shall be maintained in the tank at all times. The required freeboard shall be clearly indicated in the tank.

6.2.4 **Unless discharged to sewer for further off-site treatment, primary treated leachate stored in the leachate holding tank shall be disposed of by tankering off-site in fully enclosed road tankers to an appropriate treatment plant.**

6.2.5 Recirculation of leachate or other contaminated water shall only be undertaken within cells which have been lined to the satisfaction of the Agency. **Recirculation shall not commence at a cell until the final capping for that cell is in place.**

6.3 The licensee shall monitor **and record** meteorological conditions as specified in *Schedule C.6 Ambient Monitoring,* of this licence. **Records shall be maintained on site and shall be available for inspection by Local Authority and Agency personnel at all reasonable times.**

6.4 Landfill Gas

6.4.1 In advance, of the commencement of waste disposal activities the licensee shall submit for agreement a specification for the construction, location and installation phasing of landfill gas monitoring locations.

6.4.2 At least two rounds of landfill gas sampling (one during falling atmospheric pressure) in locations external to the disposal cells should be completed in advance, of commencement of filling of any new area.

6.4.3 Flares shall be operated to ensure a burn chamber residence time of minimum 0.3 sec and burn temperature of minimum 1000°C.

6.4.4 In order to minimise release of untreated landfill gas, the landfill gas flare shall be capable of operating with a gas support fuel (e.g. natural gas) to allow effective treatment of landfill gas in the event that the landfill gas itself cannot support combustion. Alternative appropriate techniques may be employed with the written prior approval of the Agency.

6.4.5 In relation to landfill derived gases the following shall constitute a trigger level:

(i) Methane greater than 1% v/v; or,

(ii) Carbon Dioxide greater than 1.5% v/v,

measured in any monitoring borehole, service duct, manhole or other point as may be specified, located external to the body of waste.

6.4.6 A methane gas monitoring system fitted with an alarm and recording system shall be installed upstream of the discharge point to foul sewer and shall be calibrated and maintained by the licensee. These records shall be maintained and made available for inspection by the Agency at all reasonable times. Prior to initial discharge of treated leachate to sewer, alarm levels shall be agreed in writing with the Water Services Authority. The trigger levels shall be notified to the Agency in writing prior to initial release of treated leachate to the sewer system.

6.5 Litter Control

6.5.1 The measures and infrastructure as described in the Application documentation Attachment E.6 for licence register W0231-01 shall be applied to control litter at the facility. **A Standard Operating Procedure for litter management shall be developed prior to the acceptance of waste at the facility and submitted to the Agency for approval. This should include a form for recording details of litter patrols. These records should be maintained on site and be available for inspection by the Agency at all reasonable times.**

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

(i) A temporary repair shall be made by the end of the working day; and

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

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

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

6.6 Odour Control

6.6.1 Leachate holding tanks/lagoons/sumps shall be effectively sealed. There shall be no direct emissions to air from the leachate treatment system, headspace gases from the treatment/holding tanks shall be vented to an appropriate odour abatement system prior to release to atmosphere. The proposed treatment method shall be agreed with the Agency prior to commencement of waste acceptance at the facility.

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

6.6.3 Where it is proposed to take biological sludges at the facility, these must be subject to pre-treatment (e.g. lime stabilisation) in advance, of acceptance at the facility.

6.6.4 When siting and operating landfill gas infrastructure regard shall be had to the potential for, and mitigation of, odour nuisance. This matter is to be addressed in the relevant Specified Engineering Works proposals as required by Condition 3.6.

6.6.5 The licensee shall submit to the Agency, within twelve months of the date of grant of this licence, a detailed odour management procedure for minimisation of odour generation at the site, including procedures for:

(i) **Acceptance and management of odorous waste deliveries;**
(ii) **Acceptance and management of biological sludges;**
(iii) **Minimisation of odour from the leachate collection and treatment system, including during maintenance work;**
(iv) **Investigation of odour complaints;**
(v) **Day-to-day operational practices to minimise odorous emissions;**
(vi) **Operator training in relation to odour management;**
(vii) **Minimisation of odour from the gas collection and flaring/utilisation system, including measures to be taken and potential impacts in the event of equipment failure;**
(viii) **Minimisation of odour due to excavation of waste.**

6.7 In dry weather,

(i) site roads and any other areas used by vehicles,
(ii) **soil stockpiles and**
(iii) **ash storage areas**

shall be sprayed with water as and when required to minimise or prevent airborne dust nuisance.

6.8 In advance, of exiting the facility, all waste **and construction** vehicles shall use the wheelwash.

6.9 Bottom Ash Temporary Storage

6.9.1 Prior to acceptance of waste-to-energy plant bottom ash for temporary storage at the facility the licensee shall submit, for approval by the Agency, details of the location of the proposed ash storage cells and a

procedure for acceptance and management (handling/loading/unloading) of the bottom ash in order to prevent dust nuisance. The licensee should also submit a full characterisation of the waste using the EPA Hazardous Waste Classification Tool.

6.9.2 Fly ash (air pollution control residues) or other hazardous class ashes shall not be accepted at the facility.

6.9.3 Appropriate dust control measures shall be put in place to minimise dust generation during loading, unloading and storage operations.

6.10 Prior to installation of landfill gas engine(s) the licensee shall determine the most appropriate location for the engine(s). A dispersion modelling assessment shall be used for this purpose. Details of the proposed location(s), including the dispersion modelling report, shall be submitted to the Agency for approval prior to installation of the engine(s).

6.11 Bird Control

Birds shall be prevented from gathering on and feeding at the facility by the use of birds of prey and/or other bird scaring techniques. The birds of prey and/or other techniques shall be in place at least two weeks in advance, of any waste being disposed of and shall maintain their presence every day, from before dawn to after dark, until the waste activities cease and all the waste is capped to the written satisfaction of the Agency.

6.12 Ecological Monitoring

6.12.1 Ecological monitoring of the site, as referred to in Section 3.11.4.2 of the EIS, shall be carried out prior to the commencement of site development and each year thereafter. The scope of the monitoring and the method of carrying out the monitoring should be decided in consultation with the National Parks and Wildlife Service of the Department of the Environment, Heritage and Local Government and agreed in advance with the Agency.

6.12.2 A report on the ecological monitoring required above shall be submitted to the Agency each year as part of the Annual Environmental Report.

6.13 Operational Controls

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

6.13.2 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.

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

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

6.13.5 Operational procedures shall be developed to minimise the potential for development of low permeability horizons within the waste body due to the use of low permeability daily and intermediate cover.

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

6.13.7 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the

construction and installation of necessary infrastructure or otherwise only with the prior agreement from the Agency.

6.13.8 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.

6.13.9 Scavenging shall not be permitted at the facility.

6.13.10 Unless otherwise agreed by the Agency, all sludges shall be covered immediately with other waste.

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

6.13.12 No smoking shall be allowed at the facility.

6.14 Stability Assessment

The licensee shall carry out a stability assessment of the side slopes of the facility annually. The results of this assessment shall be reported as part of the AER.

6.15 Groundwater

6.15.1 **Prior to the acceptance of waste at the facility**, the licensee shall submit to the Agency for its agreement, groundwater monitoring trigger levels in accordance with the requirements of Directive 1999/31/EC.

6.15.2 The trigger levels as specified in Condition 6.15.1 for groundwater shall be measured at monitoring boreholes as detailed in *Schedule C.6 Ambient Monitoring*, of this licence.

6.15.3 A proposal for the locations of four additional boreholes for ongoing monitoring of groundwater, as detailed in *Schedule C.6 Ambient Monitoring*, of this licence, shall be submitted to the Agency for agreement within six months of the date of grant of this licence.

6.15.4 The licensee shall prepare an annual review of the local hydrogeology based on the result of groundwater level monitoring as detailed in *Schedule C.6 Ambient Monitoring*, of this licence. This shall include groundwater level contour plots. This report shall be submitted annually as part of the AER.

6.16 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C Control and Monitoring* of this licence:

6.16.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.

6.16.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.

6.16.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.

6.16.4 Where analysis is sub-contracted it shall be to a competent laboratory.

6.17 **The licensee shall complete and document a baseline environmental monitoring programme in line with the requirements of the Agency *Landfill Monitoring Manual,* including the environmental monitoring parameters as detailed in this licence. A report on the baseline monitoring shall be submitted to the Agency prior to commencement of construction at the site.**

6.18 Sampling and analysis of all pollutants as well as reference measurement methods to calibrate automated measurement systems shall be carried out in accordance with CEN-

standards. If CEN standards are not available, ISO, national or international standards which will ensure the provision of data of an equivalent scientific quality shall apply.

6.19 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.

6.20 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission or discharge.

6.21 The licensee shall ensure that groundwater monitoring well sampling equipment is available/installed on-site and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.

6.22 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer.

6.23 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.

6.24 The licensee shall prepare a programme, to the satisfaction of the Agency, for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques. This programme shall be included in the Environmental Management Programme.

6.25 The integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

6.26 The drainage system, bunds, silt traps, sedimentation forebay and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.

6.27 **An inspection for leaks on all flanges and valves on over-ground pipes used to transport materials other than water shall be carried out weekly.**

6.28 Storm water

6.28.1 Prior to the commencement of construction works, the applicant shall submit to the Agency for its agreement, proposals for continuous monitoring of water in the surface water settlement lagoons in accordance with Condition 6.1. **The minimum parameters required to be continuously monitored in emissions to receiving waters are included in Schedule C.2.2.** These proposals shall include the criteria/trigger levels, which will determine when the outlet from the surface water attenuation system shall be closed/diverted.

6.28.2 A visual examination of the storm water discharge shall be carried out daily. A log of such inspections shall be maintained.

6.28.3 In the event of the breach of a trigger level for storm water emissions the storm water discharge shall be diverted to the leachate collection system.

6.28.4 Procedures shall be put in place to ensure that maintenance of the storm water attenuation system shall not result in the release of any significant levels of contaminants to the receiving waters.

6.28.5 The discharge rate to receiving water shall be controlled so as not to have any impact on the passage of salmonids.

6.29 Noise

The licensee shall carry out a noise survey of the site operations **quarterly**. The survey programme shall be undertaken in accordance with the methodology specified in the 'Environmental Noise Survey Guidance Document' as published by the Agency.

6.30 Pollutant Release and Transfer Register (PRTR)

The licensee shall prepare and report a PRTR for the site. The substances and/or waste to be included in the PRTR shall be agreed by the Agency each year by reference to EC Regulation No.166/2006 concerning the establishment of the European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.

6.31 The licensee shall, within six months of the date of grant of this licence, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

6.32 The licensee shall permit authorised persons, of the Agency and Water Services Authority, to inspect, examine and test, at all reasonable times, any works and apparatus installed in connection with the leachate management system and to take samples of the effluent from the treatment system.

6.33 **The licensee shall submit a proposal to the Agency, within six months of the date of grant of this licence, for dust deposition monitoring locations at the site boundary (at least 4 locations), in addition to those proposed at off-site locations.**

6.34 **The licensee shall maintain 10 metres vertical thickness of clay beneath the landfill footprint after excavation. In the event that any additional investigations indicate 10 metres of clay is not present the licensee shall propose alternative measures to provide at least an equivalent level of protection. Technical certification of this obligation shall be submitted to the Agency prior to waste acceptance to the landfill area.**

6.35 **Excavation of Historical Waste Area**

6.35.1 The licensee shall submit to the Agency for approval, within twelve months of the date of grant of the licence, a detailed programme for the excavation, remediation and restoration of the historical landfill area at the site, and disposal of the waste into an engineered lined cell(s), including a schedule for completion of the programme.

6.35.2 Inert waste from the historical landfill area may be used on-site for construction purposes. This inert waste shall meet the standards specified in EU Council Decision 2003/33/EC.

6.36 **Test Programme**

6.36.1 The licensee shall prepare, to the satisfaction of the Agency, a test programme for abatement equipment installed to treat leachate generated at the facility. This programme shall be submitted to the Agency in advance of implementation.

6.36.2 This programme, following agreement with the Agency, shall be completed within three months of the commencement of operation of the abatement equipment.

6.36.3 The criteria for the operation of the abatement equipment as determined by the test programme shall be incorporated into the standard operating procedures.

6.36.4 The test programme shall, as a minimum:

(i) **Establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence.**

(ii) **Assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor**

6.36.5 **A report on the test programme shall be submitted to the Agency within one month of completion.**

Reason: To provide for the protection of the environment by way of treatment and monitoring of emissions and to provide for the requirements of the Water Services Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2005.

Condition 7. Resource Use and Energy Efficiency

7.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the **date of waste acceptance**. The audit shall be carried out in accordance with the guidance published by the Agency; "Guidance Note on Energy Efficiency Auditing". The energy efficiency audit shall be repeated at intervals as required by the Agency.

7.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

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

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

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

Condition 8. Materials Handling

8.1 Waste Acceptance and Characterisation Procedures

8.1.1 Pre-treated residual wastes shall only be accepted for disposal at the landfill facility. This requirement may, subject to the agreement of the Agency, not apply to inert **wastes for which treatment is not technically feasible nor to any other waste for which such treatment does not contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.**

8.1.2 **Prior to the acceptance of waste at the facility the licensee shall submit a proposal, for the agreement of the Agency, detailing the proposed pre-treatment method(s) for all waste types. The proposed pre-treatment method(s) shall be prioritised utilising available preferential waste management methods, including**

(i) **source segregation (to include, in particular, segregation of biodegradable organic fractions),**

(ii) **dry recyclables recovery,**

(iii) **Mechanical Biological Treatment (MBT) and**

(iv) **energy recovery.**

8.1.3 **Measures taken to divert waste from or reduce waste to landfill shall be reported annually as part of the Waste Recovery Report (Condition 11.4). Targets for increasing diversion of waste from/reduction of waste to landfill should also be developed and included in the Schedule of Environmental Objectives and Targets (Condition 2.2.2.2).**

8.1.4 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001, or as may be amended.

8.1.5 Whole used tyres (other than bicycle tyres and tyres with an outside diameter greater than 1400mm) shall not be disposed of at the facility. Shredded tyres shall not be disposed of at the facility.

8.1.6 No hazardous wastes (other than as may be permitted under Condition 8.4) or liquid wastes shall be disposed of at the facility.

8.1.7 In advance, of commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. These procedures shall include details of the pre-treatment of all waste to be carried out in advance **(as per Condition 8.1.2)**, of acceptance at the facility and shall also include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. The procedures shall have regard to the EU Decision (2003/33/EC) on establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive (1999/31/EC) on the landfill of waste.

8.1.8 Bulk gypsum wastes shall not be placed in any landfill cell accepting biodegradable waste.

8.1.9 In addition to the characterisation required under the Waste Acceptance Procedures, the licensee shall carry out analyses on a minimum of one sample per annum for each industrial sludge source being accepted at the facility. The results of these analyses shall be presented in the Annual Environmental Report (AER).

8.2 Inert Waste
Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/22/EC).

8.3 With the exception of use of recovered fuels as may be approved for this site by the Agency, no waste shall be burnt at the facility.

8.4 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

8.5 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported only from the site of the activity to the site of recovery/disposal in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.6 The licensee shall ensure that waste in advance, of transfer to another person shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.

8.7 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.

8.8 Waste shall be stored in designated areas, protected as may be appropriate, against spillage and leachate run-off. The waste is to be clearly labelled and appropriately segregated.

8.9 No waste classified as green list waste in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No.259/1993, as amended) shall be consigned for recovery without the agreement of the Agency.

8.10 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring* of this licence.

8.11 Unless approved in writing by the Agency the licensee is prohibited from mixing a hazardous waste of one category with a hazardous waste of another category or with any other non-hazardous waste.

8.12 Public Recycling Facility

8.12.1 All waste accepted at the Public Recycling Facility shall be deposited either:-

a) into a skip;

b) into a receptacle for recovery; or

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

8.12.2 The licensee shall assign and clearly label each container/bay at the Public Recycling Facility to indicate their contents.

8.12.3 At the end of the working day the area in the immediate vicinity of waste containers/bays at the Public Recycling Facility shall be cleared of waste.

Reason: To provide for the appropriate handling of materials and the protection of the environment.

Condition 9. Accident Prevention and Emergency Response

9.1 The licensee shall, **in advance, of the commencement of the activity**, ensure that a documented Accident Prevention Procedure is in place which will address the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. This procedure shall be reviewed annually and updated as necessary.

9.2 The licensee shall, **in advance, of the date of commencement of the activity,** ensure that a documented Emergency Response Procedure is in place, which shall address any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall be reviewed annually and updated as necessary.

9.3 Incidents

9.3.1 In the event of an incident the licensee shall immediately:-

(i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;

(ii) isolate the source of any such emission;

(iii) evaluate the environmental pollution, if any, caused by the incident;

(iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;

(v) identify the date, time and place of the incident;

(vi) notify the Agency and other relevant authorities.

9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency to:-

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

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

Reason: To provide for the protection of the environment.

Condition 10. Closure, Restoration and Aftercare

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

10.2 The licensee shall restore the facility on a phased basis. Unless otherwise agreed, filled cells shall be permanently capped within twenty-four months of the cells having been filled to the required level.

10.3 Finished Levels/Profile

10.3.1 Landscaping of the facility shall be as described in the Application documentation.

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

10.3.3 Final contours and landscaping should be such that the finished slopes of the facility are structurally stable, resistant to erosion, and protective of pollution control and monitoring infrastructure.

10.4 Final Capping

Unless otherwise agreed by the Agency, the final capping shall consist of the following:-.

(i) Top soil (150 - 300mm);

(ii) Subsoils, such that total thickness of top soil and subsoils is at least 1m;

(iii) Drainage layer of 0.5m thickness having a minimum hydraulic conductivity of $1x10^{-4}$ m/s or a geosynthetic material that provides equivalent transmissivity;

(iv) Compacted mineral layer of a minimum 0.6m thickness with a permeability of less than $1x10^{-9}$ m/s or a geosynthetic material (e.g. GCL) or similar that provides equivalent protection; and

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

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

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

10.7 Closure, Restoration & Aftercare Management Plan (CRAMP):

10.7.1 In advance, of the acceptance of waste for disposal at the site, the licensee shall prepare for agreement by the Agency, a fully detailed and costed plan for the

closure, restoration and long-term aftercare of the site or part thereof. This plan shall have regard to the commitments given in the application documentation for Licence Register W0231-01 (as may be varied herein).

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

10.8 The CRAMP shall include as a minimum, the following:-

10.8.1 A scope statement for the plan.

10.8.2 The criteria, including those specified in this licence, which define the successful closure & restoration of the facility or part thereof, and which ensures minimum impact to the environment.

10.8.3 A programme to achieve the stated criteria.

10.8.4 Where relevant, a test programme to demonstrate the successful implementation of the plan.

10.8.5 Details of the long-term supervision, monitoring, control, maintenance and reporting requirements for the restored facility,

10.8.6 Details of the costings for the plan and the financial provisions to underwrite those costs.

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

Reason: To make provision for the proper closure of the activity ensuring protection of the environment.

Condition 11. Notifications, Records and Reports

11.1 The licensee shall notify the Agency, in writing, one month in advance, of the intended date of commencement of acceptance of waste for Scheduled Disposal/Recovery activities at the facility (wastes used in the facility construction excepted).

11.2 In relation to landfilling activities, the licensee shall notify the Agency of any wastes presented at but not accepted to the facility.

11.3 In advance, of the development of any undisturbed area, the advice of the Heritage Section of the Department of the Environment, Heritage and Local Government shall be sought.

11.4 Waste Recovery Reports

The licensee shall as part of their EMP prepare a report examining waste recovery options which shall be submitted to the Agency for its agreement in the AER. This report shall address methods to contribute to the achievement of the recovery targets stated in national and European Union waste policies and shall include the following:-

(i) proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill as specified in the Landfill Directive;

(ii) the separation of recyclable materials from the waste;

(iii) the recovery of Construction and Demolition Waste;

(iv) the recovery of metal waste;

(v) inert waste to be used for cover/restoration material at the facility.

11.5 The licensee shall notify the Agency by both telephone and facsimile, if available, to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:

(i) Any release of environmental significance to atmosphere from any potential emission point including bypasses.

(ii) Any emission which does not comply with the requirements of this licence.

(iii) Any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control & Monitoring* which is likely to lead to loss of control of the abatement system.

(iv) Any incident with the potential for environmental contamination of surface water or groundwater, or posing an environmental threat to air or land, or requiring an emergency response by the Local Authority.

The licensee shall include as part of the notification, date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any emissions.

11.6 In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the Eastern Regional Fisheries Board as soon as practicable after such an incident.

11.7 The licensee shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to: manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall as soon as practicable following incident notification, submit to the Agency the incident record.

11.8 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant, (if provided), and give details of the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.

11.9 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.

11.10 The licensee shall as a minimum keep the following documents at the site:-

(i) the licences relating to the facility;

(ii) the current EMS for the facility;

(iii) the previous year's AER for the facility;

(iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;

(v) relevant correspondence with the Agency;

(vi) up to date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;

(vii) up to date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;

(viii) Any elements of licence application or EIS documentation referenced in this licence.

and this documentation shall be available to the Agency for inspection at all reasonable times.

11.11 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule F: Annual Environmental Report* of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.

11.12 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:

(i) The tonnages and EWC Code for the waste materials imported and/or sent off-site for disposal/recovery.

(ii) The names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number).

(iii) Details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required.

(iv) Written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site.

(v) Details of all wastes consigned abroad for Recovery and classified as 'Green' in accordance with the EU Transfrontier Shipment of Waste Regulations (Council Regulation EEC No. 259/1993, as amended). The rationale for the classification must form part of the record.

(vi) Details of any rejected consignments.

(vii) Details of any approved waste mixing.

(viii) The results of any waste analyses required under *Schedule C: Control & Monitoring,* of this licence.

(ix) The tonnages and EWC Code for the waste materials recovered/disposed on-site.

11.13 The licensee shall submit report(s) as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.

11.14 **The licensee shall submit results of effluent monitoring to the Water Services Authority on an annual basis.**

Reason: To provide for the collection and reporting of adequate information on the activity.

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €26,840, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2005. The first payment shall be a pro-rata amount for the period from the **date of commencement of enforcement** to the 31st day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2005, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.

12.2 Water Services Authority Charges

The licensee shall pay to the Water Services Authority such sum as may be determined from time to time, having regard to the variations in the cost of providing drainage and the variation in effluent reception and treatment costs. Payment to be made on demand.

12.3 Environmental Liabilities

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

12.3.2 The licensee shall arrange for the completion, by an independent and appropriately qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA), which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the CRAMP. A report on this assessment shall be submitted to the Agency for agreement in advance, of the commencement of the activity. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every three years following initial agreement: review results are to be notified as part of the AER.

12.3.3 In advance, of the commencement of the activity, the licensee shall, to the satisfaction of the Agency, make financial provision to cover any liabilities identified in Condition 12.3.2. The amount of indemnity held shall be reviewed and revised as necessary, but at least annually. Proof of renewal or revision of such financial indemnity shall be included in the annual 'statement of measures' report identified in Condition 12.3.1.

12.3.4 Unless otherwise agreed, any revision to that part of the indemnity dealing with restoration and aftercare liabilities (refer Condition 10.7.1), 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.

The licensee shall have regard to the Environmental Protection Agency Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision when implementing Conditions 12.3.2 and 12.3.3 above.

12.4 Cost of landfill of waste

In accordance with the provisions of Section 53A of the Waste Management Acts 1996 to 2005, the licensee shall ensure the costs in the setting up, operation of, provision of financial security and closure and after-care for a period of at least 30 years shall be covered by the price to be charged for the disposal of waste at the facility. The statement required under Section 53A(5) of said Acts is to be included as part of the AER.

12.5 Community Fund

The Licensee shall pay €1 (Index Linked) for every tonne of waste accepted for disposal in the landfill, into a secure and dedicated community support and development fund. In advance, of the commencement of waste disposal activities the Licensee shall establish a community managed charitable trust (or equivalent) to manage and discharge this fund for the benefit of the social and physical environment of the local community.

Reason:	*To provide for adequate financing for monitoring and financial provisions for measures to protect the environment and to provide for the requirements of the Water Services Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2005.*

SCHEDULE A: Limitations

A.1

The following waste related processes are authorised:

i. Landfilling
ii. Management of leachate and surface water at the facility
iii. Use of compost and inert waste in landfill operation
iv. Leachate treatment by settlement, filtration or chemical precipitation or other physico-chemical means
v. Utilisation of landfill gas collected at the facility
vi. Storage of waste, including temporary storage of unacceptable waste in the quarantine area
vii. Storage of metals and metal compounds, including WEEE
viii. Mixing of sludge with other wastes during landfilling
ix. Packaging, sorting and transfer of waste (public recycling facility)

No addition to these processes are permitted unless agreed in advance with the Agency.

A.2 Waste Acceptance

Table A.1 Waste Categories and Quantities

WASTE TYPE [Note 1]	MAXIMUM (TONNES PER ANNUM) [Note 2,3]
Residual Household and Commercial Waste	348,000
Residual Non-Hazardous C & D waste	50,000
Treated Sewage Sludge	10,000
Industrial non-hazardous sludges	2,000
Industrial non-hazardous solids	90,000
TOTAL	500,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within that specified.

Note 2: The individual limitation on waste streams may be varied with the agreement of the Agency subject to the overall total limit staying the same.

Note 3: These figures exclude the quantities of waste which may be transferred into the engineered landfill from the historical waste disposal area. Some of this material may also be employed for construction purposes. **In addition, C & D or Inert waste imported to the site for use in the *construction are not included in these limitations.* A detailed statement (with mass balance) of waste used in construction should be included as part of the AER.**

SCHEDULE B: Emission Limits

B.1 Emissions to Air

Landfill Derived Gas Concentration Limits:
(Measured in any building on or adjacent to the facility and perimeter boreholes).

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

Emission Limits Values for Landfill Gas Plant:

Emission Point Reference numbers: A1-1 (Flare) - Utilisation plant Ref. No. to be agreed with the Agency
Minimum discharge height: 5m

Parameter	Flare (enclosed) Emission Limit Value Note 1	Utilisation Plant Emission Limit Value Note 1
Nitrogen oxides (NO_x)	150 mg/m^3	500 mg/m^3
Particulates	Not applicable	130 mg/m^3

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

Dust Deposition Limits:

Measured at the monitoring points A1, A3, A4, A5, A6 and A7 **and at agreed boundary locations (see Condition 6.33).**

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

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

B.2 Emissions to Water

Emission Point Reference No.: SW1 - Outlet from surface water attenuation facility

Name of Receiving Waters: Corduff River

Parameter	Emission Limit Value (mg/l)
Suspended Solids	25
Ammonia (NH_4)	1
BOD (mg/l O_2)	5

B.3 Emission to Sewer

Emission Point Reference No.: SE1

Location: **To be agreed with the Agency prior to installation of plant**

Volume to be emitted: Maximum in any one day: 200 m^3

Parameter	Emission Limit Value
Temperature	42°C (daily mean)
pH	6 – 10
	mg/l
BOD	100
COD	500
Suspended Solids	600
Sulphates (as SO_4)	400
Oils, fats and greases	100
Mineral Oils	10
Detergents	100
Phosphates (as PO_4 –P)	100
Ammonium (as N)	100
Arsenic (as As)	0.5
Chromium (as Cr)	1.0
Copper (as CU)	1.0
Nickel (as Ni)	1.0
Zinc (as Zn)	5.0
Lead (as Pb)	0.5
Mercury (Hg)	0.1
Cadmium (as Cd)	0.1
Chloride (as Cl-)	2000
Cyanide (as CN-)	1.0
Fluoride (as F-)	1.0

B.4. Noise Emissions

Daytime dB(A) L_{Aeq}(30 minutes)	Night-time dB(A) L_{Aeq}(30 minutes)
55 Note 1	45 Note 1

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise sensitive location.

SCHEDULE C: Control & Monitoring

C.1.1 Control of Emissions to Air

Emission Point Reference No.: **Flare Stacks & Generation Plant**

Description of Treatment: Gas Extraction & Combustion

Control Parameter	Monitoring	Key Equipment[Note 1]
Continuous burn	Continuous with alarm/call-out	Flame detector or equivalent approved
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.1.2 Monitoring of Emissions to Air

Emission Point Reference No.: Flare Stacks & Generation Plant

Parameter	Flare (enclosed) Monitoring Frequency	Utilisation Plant Monitoring Frequency	Analysis Method[Note1]/Technique
Inlet			
Methane (CH_4) % v/v	Continuous	**Continuous**	Infrared analyser or equivalent approved
Carbon dioxide (CO_2) % v/v	Continuous	Weekly	Infrared analyser or equivalent approved
Oxygen (O_2) % v/v	Continuous	Weekly	Electrochemical or equivalent approved
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Residence Time	Quarterly	Quarterly	To be agreed.
Outlet			
Volumetric Flow Rate	**Continuous**	**Continuous**	**Standard Method**
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (NO_x, as NO_2)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO_2)	Biannually	Biannually	Flue gas analyser or equivalent approved
Total Organic Carbon	Biannually	Biannually	Flame Ionisation Detector
Particulates	Not applicable	Annually	Isokinetic/Gravimetric or equivalent approved

Note 1: All monitoring equipment used should be intrinsically safe.

C.1.3 Monitoring of Landfill Gas Emissions

Location:

Perimeter Landfill Gas boreholes (see Condition 6.4)[Note 1]
And
At least one monitoring point per cell (to be Agreed)
And
Chamber upstream of the discharge point to foul sewer (See Condition 6.4)
And
Other selected locations as may be specified

Parameter	Monitoring Frequency			Analysis Method/Technique Note 2
	Boreholes and Cells	Facility Office	Sewer Discharge	
Methane (CH_4)	Monthly	Continuous	Continuous	Standard method
Carbon Dioxide (CO_2)	Monthly	Continuous		Standard method
Oxygen (O_2)	Monthly	Continuous	Continuous	Standard method
Atmospheric Pressure and Trend	Monthly	Continuous		Standard method
Temperature	Monthly	Continuous		Standard method

Note 1: All perimeter monitoring boreholes must be installed to the standards specified in the Agency Guidance on Landfill Monitoring.
Note 2: Or other method agreed with the Agency.

C.2.1 Control of Emissions to Water

Emission Control Location: SW1 Outlet from surface water attenuation facility to Corduff River System

Description of Treatment: Sedimentation

Control Parameter	Monitoring	Key Equipment Note 1
Residence time & Flow restriction	Flow rate, depth	Flow meter, overflow alarm, emergency storage

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.

C.2.2 Monitoring of Emissions to Water

Emission Point Reference No.: **SW1** Outlet from surface water attenuation facility to Corduff River System

PARAMETER Note 1	SURFACE WATER Monitoring Frequency
Visual Inspection/Odour Note 2	Daily
Lagoon Level	Daily
Flow	**Continuous**
Dissolved Oxygen	**Continuous**
Electrical Conductivity	**Continuous**
Total Suspended Solids	**Continuous**
Ammonia (NH_4)	Weekly
Chloride	Weekly
pH	**Quarterly**
BOD	Quarterly
COD	Quarterly
Metals / non metals Note 3	Annually
List I/II organic substances (Screen) Note 4	Annually
Mercury	Annually
Sulphate (SO_4)	Quarterly
Faecal Coliforms	Annually
Total Coliforms	Annually

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

Note 2: Where there is evident gross contamination, additional samples should be analysed and the full suite of parameters shown tested.

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

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

C.2.3 Leachate Monitoring

Location: Leachate Holding Tank, Leachate Sumps and Leachate Monitoring Points in the Cells.

PARAMETER Note 1	LEACHATE Note 2 Monitoring Frequency
Visual Inspection/Odour	Daily
Leachate Level	**Continuous**
BOD	Quarterly
COD	Quarterly
Chloride	Annually
Ammoniacal Nitrogen	Annually
Electrical Conductivity	Annually
pH	Annually
Metals / non metals Note 3	Annually
Cyanide (Total)	Annually
Fluoride	Annually
List I/II organic substances Note 4	Annually
Mercury	Annually
Sulphate	Annually
Total P/orthophosphate	Annually
Total Oxidised Nitrogen	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.
Note 2: Visual Inspection and Leachate Levels to be monitored at all leachate monitoring points in the cells, Collection sumps and holding tank. Leachate composition to be monitored at the leachate holding tank.
Note 3: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.
Note 4: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).

C.3.1 Control of Emissions to Sewer

Emission Point Reference No.: SE1

Description of Treatment: Waste Water Treatment

Control parameters and equipment to be agreed with the Agency, prior to installation, as detailed in Condition 6.36.

C.3.2 Monitoring of Emissions to Sewer

Emission Point Reference No.: SE1

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow	Continuous	On-line flow meter with recorder
Temperature	Monthly (grab sample)	Temperature probe
pH	Monthly (grab sample)	pH electrode/meter
Chemical Oxygen Demand	Monthly (grab sample)	Standard Method
Biochemical Oxygen Demand	Monthly (grab sample)	Standard Method
Suspended Solids	Monthly (grab sample)	Standard Method
Sulphates	Monthly (grab sample)	Standard Method
Oils, fats & greases	Monthly (grab sample)	Standard Method
Mineral Oils	Monthly (grab sample)	Standard Method
Detergents	Monthly (grab sample)	Standard Method
Phosphates	Monthly (grab sample)	Standard Method
Ammonium	Monthly (grab sample)	Standard Method
Metals (as per Schedule B.3)	Monthly (grab sample)	Standard Method
Chloride	Monthly (grab sample)	Standard Method
Cyanide	Monthly (grab sample)	Standard Method
Fluoride	Monthly (grab sample)	Standard Method
Organic Compounds Note 2	Biannually (grab sample)	Standard Method

Note 1: *Grab samples shall be collected from the post-treatment balance tank, prior to discharge.*

Note 2: Screening for priority pollutant list substances (such as US EPA volatile and/or semi-volatile compounds).

C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Stabilised Ash for removal from the site	Quarterly	pH	Standard Method
	Quarterly	Metals Note 2	Standard Method
	Annually	Dioxins/Furans	Standard Method
Other Note 1			

Note 1: Analytical requirements to be determined on a case by case basis **(e.g. in the case of materials excavated from the historic landfill area and not suitable for landfill in a lined cell at the facility)**

Note 2: Metals to include as a minimum: Mercury (Hg), Cadmium (Cd), Thallium (Tl), Arsenic (As), Lead (Pb), Chromium (Cr), Copper (Cu), Nickel (Ni) and Zinc (Zi).

C.5 Noise Monitoring

There is no additional noise monitoring required in this schedule.

C.6 Ambient Monitoring

Air Monitoring

Location: **A1 & A3 to A7** and at boundary locations as detailed in Condition 6.33

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Quarterly [Note 1]	Bergerhoff – VDI2119

Note 1: At least twice during the months May to September

Groundwater Monitoring

Location: Groundwater Wells:- BRC1, BRC2, ER7, ER12, BRC3, HR12, HR1a, plus 4 additional locations as required in Condition 6.15

And,

Discharge from the drainage layer put in place beneath the main liner system (see Condition 3.7.2), prior to entering the surface water attenuation system.

PARAMETER [Note 1]	GROUNDWATER Monitoring Frequency
Visual Inspection/Odour [Note 2]	Monthly
Groundwater Level (wells) [Note 5]	Monthly
Dissolved Oxygen	Monthly
Electrical Conductivity	**Daily (for discharge from the drainage layer beneath the main liner)** **Monthly otherwise**
Ammoniacal Nitrogen	Monthly
Chloride	Monthly
pH	Monthly
Sulphate (SO_4)	Monthly
Metals / non metals [Note 3]	Annually
List I/II organic substances (Screen) [Note 4]	Annually
Mercury	Annually
Cyanide (total)	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually

Note 1: Where appropriate all the analyses shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Where there is evident gross contamination, additional samples should be analysed and the full suite of parameters shown tested.

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

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

Note 5: **Quarterly monitoring of the groundwater levels in the bedrock monitoring wells developed as part of the initial site investigations (wells as per Figure 3.18.5 of Volume 2 of the EIS) shall be completed and assessed as per Condition 6.15.**

Receiving Water Monitoring

Location: SW1, SW3, SW4, SW5, SW6, SW8

Parameter	Monitoring Frequency	Analysis Method/Technique
Biological Quality (Q) Rating/Q Index	Annually [Note 1]	To be agreed by the Agency
Parameters in Schedule C.2.2	Visual Inspection Weekly All others quarterly unless specified as annually in C.2.2	Standard Methods
Flow [Note 2]	Continuous	Flow meter and recorder

Note 1: Monitoring period - June to September.

Note 2: Flow to be measured continuously at one location only in receiving water, *upstream of discharge point* SW1. This location shall be agreed with the Agency prior to installation. Data to be reported as part of the AER.

Meteorological Monitoring

Location : At the facility at a location to be agreed.

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

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

SCHEDULE D: Specified Engineering Works

Specified Engineering Works
Development of the facility including preparatory works and lining and **stability calculations**.
Final capping.
Installation of Landfill Gas Management Infrastructure.
Installation of Leachate Management Infrastructure.
Installation of Groundwater Control Infrastructure.
Installation of Surface Water Management Infrastructure.
Any other works notified in writing by the Agency.

SCHEDULE E: Reporting

Completed reports shall be submitted to:

The Environmental Protection Agency
Office of Environmental Enforcement
Regional Inspectorate
McCumiskey House
Richview
Clonskeagh Road
Dublin 14 **or** Any other address as may be specified by the Agency

Reports are required to be forwarded as required in the licence and as may be set out below:

Report	Reporting Frequency Note1	Report Submission Date
Annual Environment Report (AER)	Annually	By 31st March of each year.
Record of incidents	As they occur	Within five days of the incident.
Specified Engineering Works reports	As they arise	In advance, of the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of emissions to sewer	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Drawing with Monitoring locations	-	In advance, of commencement of waste disposal.
Schedule of Objectives & Targets	-	3 months in advance, of commencement of development.
Phased Construction Plan	-	In advance, of commencement of development.
Leachate Disposal Agreement	-	In advance, of commencement of waste disposal.

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

SCHEDULE F: Annual Environmental Report

Annual Environmental Report Content Note 1
Emissions from the installation/facility.
Waste management record.
Waste (sludge) analysis.
Waste Recovery Report.
Topographical survey.
Remaining void, projected completion date.
Resource consumption summary.
Complaints summary.
Schedule of Environmental Objectives and Targets.
Environmental management programme – report for previous year.
Environmental management programme – proposal for current year.
Pollutant Release and Transfer Register – report for previous year.
Pollutant Release and Transfer Register – proposal for current year.
Noise monitoring report summary.
Meteorological data summary.
Ambient monitoring summary, **including ecological assessment**.
Current monitoring location reference drawing.
Tank and pipeline testing and inspection report.
Reported incidents summary.
Energy efficiency audit report summary.
Report on progress made and proposals being developed to minimise generation of leachate for disposal.
Development / Infrastructural works summary (completed in previous year or prepared for current year).
Report on management and staffing structure of the installation/facility.
Report on the programme for public information.
Reports on financial provision made under this licence.
Statement on the costs of Landfill.
Review of Environmental Liabilities.
Any amendments to the CRAMP.
Detailed Statement, with mass balance, of C & D wastes and compost used in construction.
Review of quarterly bedrock well level monitoring data/hydrogeology review.
Flow data for watercourse receiving surface water emissions.
Slope Stability Assessment.
Landfill gas utilisation feasibility assessment.
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Signed on behalf of the said Agency _____
on the xx day of June, 2007 xxxxxxxx, **Authorised Person**