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:	204-1
Applicant/Licensee:	BROWNFIELD RESTORATION IRELAND LTD.
Location of Facility:	WHITESTOWN LOWER, CO. WICKLOW

Updated : 01 July 2005

INTRODUCTION

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

This waste licence application is for activities associated with the cleanup and remediation of an unauthorised landfill of approximately **240,000 tonnes** (applicant's estimate) of mixed construction and commercial waste (all non-hazardous) emplaced during the 1970s to 2001 at three areas (Zones A, B, & C) at a working sand and gravel pit of area 15ha, in Whitestown Lower, Co. Wicklow. The application is also for the operation of a non-hazardous landfill. The application details the establishment of various waste infrastructure including a lined landfill facility, and a composting facility to process the previously deposited wastes and imported wastes for commercial recovery/disposal. All reclaimed (excavated) waste shall be run through a mobile recovery unit and imported (received) waste, via plant in a waste treatment building. The site of the proposed development is located approximately 2.5 km south west of Donard, the nearest town, and 8 km north of Baltinglass.

In summary Brownfield Restoration Ireland Ltd. proposes the following remedial strategy and waste activities:

- Emplace a sequence of vertical barrier walls around the entire facility to prevent recharge to the Carrigower River via the existing illegal waste landfill;
- Protect the river from spills or plugs of contamination that may be caused during waste excavation;
- Operation of a mobile waste recovery unit for the excavation and treatment of previously deposited wastes at the gravel pits;
- Waste treatment building (Resource Recovery Building [RRB]);
- In-vessel composting facility;
- Engineered lined landfill facility (6 cells/phases) for disposal of the residual waste and other imported household, commercial and industrial wastes that cannot be recycled;
- Restoration of all lands for agricultural purpose in the future.

Overall the applicant proposes a processing capacity of at least **180,000 tonnes** per annum made up approximately by the following waste streams:

On site or imported Commercial, C&D and Household Wastes	160,000 t/a
Source Separated Recyclable Wastes	10,000 t/a
Source Separated Organic Wastes	10,000 t/a
	Total 180,000 t/a

The recovered products will be marketed and/or used for on-site engineering or aggregate to produce several potentially saleable or reusable products such as topsoil, subsoil, stone, compost, bricks, crushed aggregate, scrap metal, wood, glass etc. Residual materials that cannot be reused, will be disposed at new engineered landfill cells, to which this proposed decision limits to a total of **FOUR cells/phases of which Phase 1 shall accept inert waste only.**

The licence sets out in detail the conditions under which Brownfield Restoration Ireland Ltd 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 Waste Management Acts 1996 to 2003, (the Acts), 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. All or part of a period of twelve consecutive months.
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.(any changes should be reflected in "Night-time" definition)
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.
HFO	Heavy Fuel Oil.
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: a) an emergency; b) any emission which does not comply with the requirements of this licence; c) any exceedence of the daily duty capacity of the waste handling equipment; d) any trigger level specified in this licence which is attained or exceeded; and, e) 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 2003.
Installation	A stationary technical unit or plant where the activity concerned referred to in the First Schedule of EPA Acts 1992 and 2003 is or will be carried on, and shall be deemed to include any directly associated activity, which has a technical

	connection with the activity and is carried out on the site of the activity.
Intermediate Cover	Term used to describe the placement of material (minimum 300mm if soil is used) for a period of time prior to restoration or prior to further disposal of waste.
Landfill Footprint	Refers to the area of the facility where the waste is disposed of by placement on the ground or on other waste.
IPPC	Integrated Pollution Prevention & Control.
K	Kelvin.
kPa	Kilo Pascals.
Landfill Directive	Council Directive 1999/31/EC.
Leq	Equivalent continuous sound level.
Licensee	Brownfield Restoration Ireland Ltd
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	Wicklow 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.
MBT	**Mechanical Biological Treatment (National Strategy for Biodegradable Waste).**
Monthly	A minimum of 12 times per year, at approximately monthly intervals.
Night-time	2200 hrs to 0800 hrs.
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.
PER	Pollution Emission 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	**Mixed waste produced after all materials suitable for recycling and biological treatment have been separated out, and residues from recycling and biological treatment operations and other waste that are unsuitable for recycling.**
Sanitary Authority	Wicklow 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.
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.
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.
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.
Construction and Demolition Waste	Wastes that arise from construction, renovation and demolition activities: Chapter 17 of the EWC or as otherwise may be agreed.
Green waste	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
Hours of Waste Acceptance	The hours during which the installation/facility is authorised to accept waste
Inert waste	Waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater.
Initial Development Works	Means such works, actions or constructions as may be specified, which for the 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 prior to the commencement of construction of the landfill cells.
Landfill Directive	Council Directive 1999/31/EC and Council Decision 2003/33/EC

Decision & Reasons for the Decisions

Reasons for the Decision

The Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003.

Recommended Determination

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 2003, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Brownfield Restoration Ireland Ltd to carry on the waste activity/activities listed below at Whitestown Lower, Co. Wicklow 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 2003

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 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 2003

Class 2.	**Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).**
Class 3.	**Recycling or reclamation of metals and metal compounds.**
Class 4.	**Recycling or reclamation of other inorganic materials.**
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 1.6 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.

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 Waste Acceptance Hours and Hours of Operation

Waste may be accepted at the facility for disposal at the landfill only between the hours of 0700 and 1830 Monday (Bank Holidays excluded) to Friday inclusive and 0800 and 1600 on Saturdays.

1.5 For the purposes of this licence, the facility authorised by this licence, is the area of land outlined in colourred on Drawing No. BRI/116 Rev. A of the application. Any reference in this licence to "facility" shall mean the area thus outlined in red. The licensed activity/activities shall be carried on only within the area outlined.

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

(a) 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

(b) 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 2003 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 purposes of Section 41(1) of the Waste Management Acts 1996 – 2003, is 5 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, **and prior to the disturbance/import of waste,** the facility manager and his/her deputy shall successfully complete the FAS waste management training programme or equivalent agreed with the Agency.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS) prior to the commencement of the activities. 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 prepare 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 targets. 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 disturbance/import of waste,** submit to the Agency for agreement an EMP, including a time schedule, for achieving the Environmental Objectives and Targets. Once agreed the EMP shall be established and maintained by the licensee. It shall include:

(b) designation of responsibility for targets;

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

(d) 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).

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 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 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 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.

2.3 Communications Programme

2.3.1 The licensee shall establish and maintain a Communications Programme to ensure members of the public can obtain information about the facility at all reasonable times, concerning the environmental performance of the facility. The communications programme shall reflect the level of activity on-site and shall be established and made available on-site one month prior to the commencement of waste activities.

2.3.2 **The licensee shall establish and maintain liaison with a Stakeholders Group composed of representatives (unless otherwise arranged with stakeholders) of the local community. The licensee shall convene monthly meetings in order to update the Stakeholders Group on works at the facility including progress, Agency correspondence, and any nuisance/emissions issues with particular emphasis on how they are to be addressed.**

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 **Waste shall not be disturbed, recovered, deposited, or imported to any part of the facility; (a) without the prior agreement of the Agency; and, (b) before the ELRA and Financial Provision required under Condition 12.3.2 is agreed by the Agency.**

3.2 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.

3.3 **The landfill footprint (maximum aerial extent of landfilling) shall be as indicated in Drawing No. BRI/106 Rev A of the EIS, to a maximum extent of Phase 4 only. The northwestern portion of the landfill facility boundary shall remain as per this drawing to include Resource Recovery Buildings and Composting infrastructure.**

3.4 **The construction of landfill cells and liner systems, and the landfilling of waste is not authorised at Phase 5 and Phase 6 as specified in Drawing No. BRI/108 Rev A of the EIS.**

3.5 Facility Notice Board

(i) The licensee shall provide and maintain an Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.
(ii) The board shall clearly show:-
- (a) the name and telephone number of the facility;
- (b) the normal hours of opening;
- (c) the name of the licence holder;
- (d) an emergency out of hours contact telephone number;
- (e) the licence reference number;
- (f) and where environmental information relating to the facility can be obtained.

3.6 Wastes shall not be deposited in any new cell without the prior written agreement of the Agency.

3.7 Phased Construction Plan.

3.7.1 Threehree months prior to 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.

3.7.2 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 Phases 1 and 2 (as indicated in Drawing Reference No. BRI/103 Rev. B).

3.8 Specified Engineering Works

3.8.1 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 prior to the intended date of

commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.

3.8.2 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.

3.8.3 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:-

(a) A description of the works;

(b) As-built drawings of the works;

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

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

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

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

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

3.9 Landfill Lining

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

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

3.9.2 A geotextile protection layer placed over the HDPE layer;

3.9.3 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;

3.9.4 The lining system on the base of the facility shall be laid to a minimum slope of 1:50;

3.9.5 The side walls shall be designed and constructed to achieve an equivalent protection;

3.9.6 The formation level of the composite liner shall be constructed at least two metres above the rockhead, and in any event the formation level of the liner shall be no lower than the 'formation base contour' specified in Drawing No. BRI/116 Rev A; and

3.9.7 **The soils below the formation level shall consist of a 2m layer(s) of clay with a hydraulic conductivity of less than or equal to $1x10^{-7}m^3/m^2/s$.**

3.10 Facility Security

3.10.1 Two metre high security and stockproof fencing and gates shall be installed and maintained around the entire boundary of the facility apart from the boundaries that lie on or at the south east side and adjacent to the wet grassland. All fencing and gates shall be finished as to blend in with the general environment. 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.

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

3.10.3 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.

3.11 Facility Roads and Hardstanding

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

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

3.11.3 New entrance infrastructure and proposed queuing lanes shall be provided and mainatained, and shall be contained within the facility boundary.

3.12 Facility Office

3.12.1 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.

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

3.13 Construction and Demolition Waste Storage Area

3.13.1 Prior to commencement of landfill construction activities involving approved imported recovered C & D waste streams, 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 infrastructure for all run-off.

3.14 Waste Inspection and Quarantine Areas

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

3.14.2 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.

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

3.15 Weighbridge and Wheel Cleaner

3.15.1 The licensee shall provide and maintain a weighbridge and wheel cleaners at the facility.

3.15.2 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.

3.16 Leachate Management Infrastructure

3.16.1 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.

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

3.17 Landfill Gas Management

3.17.1 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.

3.17.2 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.

3.18 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.

3.19 **Sampling equipment shall be operated and maintained such that sufficient sample is collected to meet both internal monitoring requirements and those of the Agency. A separate composite sample or homogeneous sub-sample (of sufficient volume as advised) should be retained for Agency use. Volatile sample duplicates/sub-samples shall be refrigerated immediately after collection and retained in a refrigerator. The storage of all duplicates/sub-samples shall be at the facility or at the laboratory of receipt for a maximum of two months under a chain of custody or as required by the Agency.**

3.20 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.

3.21 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.

3.22 Silt Traps and Oil Separators

3.22.1 The licensee shall install and maintain silt traps and oil separators at the facility. All storm water discharges from the facility hardstanding and service areas shall pass through a silt trap and oil separator prior to discharge. All storm water discharges from the borrow pits shall pass through a silt trap prior to discharge. The separator shall be a Class I full retention separator and shall be in accordance with EN 858-1:2002 (separator systems for light liquids).

3.22.2 The licensee shall install and maintain silt lagoons at the facility to ensure that all other storm water discharges from the facility pass through the lagoons prior to discharge.

3.22.3 **The licensee shall ensure that the final design of the surface water treatment & polishing lagoons includes the necessary flow control and retention options to achieve the specified emission standards. This detail including supporting calculations, is to be included with the Specified Engineering Works proposal for the surface water management system.**

3.23 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) within three months from the date of their commissioning.

3.24 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.

3.25 Groundwater

3.25.1 A groundwater management system as proposed by the applicant (Article 16(1) response May 2005) and specified in Drawing No. BRI/116 Rev A, shall be constructed and agreed prior to any waste excavation in Zones A, B, and C.

3.25.2 A groundwater cut-off wall shall provide a barrier to assist in collection and diversion of groundwater on the upgradient side of the proposed engineered landfill and shall provide a downgradient barrier to any leakage of leachate through the landfill base.

3.25.3 The groundwater cut-off wall shall consist of a collector drain, comprising a stone backfilled excavation and a bentonite/cement slurry cut-off wall.

3.25.4 **The formation level of the cut-off wall shall be below the water table and excavations for the cut-off wall will be at least 1 metre into bedrock.**

3.25.5 Any groundwater/leachate arising shall discharge to the leachate holding tank.

3.25.6 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).

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

3.26 The licensee shall, one month prior to the intended date of commencement of the excavation of waste, 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.

3.27 The licensee shall operate a weather monitoring station on the site at a location agreed by the Agency, which records conditions of wind speed and wind direction.

3.28 Tank and Drum Storage Areas

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

3.28.2 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.

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

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

3.28.5 The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee at least once every three years. This testing shall be carried out in accordance with any guidance published by the Agency.

3.29 Waste handling, ventilation and processing plant

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

a) 100% duty capacity;

b) 20% standby capacity available on a routine basis; and

c) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

3.29.2 Prior to the commencement of waste activities the licensee shall provide a report for the agreement of the Agency detailing the duty and standby capacity

in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per Schedule A: Limitations, of this licence.

3.29.3 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.

3.30 Wastewater Treatment System

3.30.1 The licensee shall provide and maintain a Wastewater Treatment system at the facility for the treatment of trade effluent arising on-site. The percolation area shall satisfy the criteria set out in the Wastewater Treatment Manual, Treatment Systems for Single Houses, published by the Environmental Protection Agency **and any loading issues arising out the proposed surface water system.**

3.30.2 Unless treated on the facility, trade effluent stored in the on-site storage tanks shall be tankered off-site in fully enclosed road tankers to an agreed Wastewater Treatment Plant and disposed of there.

3.31 Compost facility

Unless otherwise agreed in writing, the composting facility shall at a minimum comprise the following:

3.31.1 Green Waste Composting

A green waste composting area and associated infrastructure at the location shown on Drawing No. BRI/103 Rev. B.

3.31.2 Biodegradable Waste Composting

(a) An enclosed biodegradable waste composting building (RRB) and associated infrastructure at the location shown on Drawing No. Drawing No. BRI/103 Rev. B;

(b) The licensee shall provide and maintain an odour abatement system in the composting building which satisfies the following requirements:-

i. Installation and maintenance of integrity and negative pressure throughout the building to ensure no significant escape of odours or dust.

ii. Installation of an odour management system.

iii. Provision of 100% duty capacity and 20% stand by capacity, back ups and spares must be provided for the air handling, ventilation and abatement plant.

iv. **Emissions from the biofilter shall not exceed those ELV's as set out in *Schedule B: Emission Limits,* of this licence.**

3.31.3 All trade effluent, leachate and/or excess water from composting operations shall drain to the wastewater treatment system.

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

Condition 4. Interpretation

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

4.1.1 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.

4.1.2 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.

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

4.2.1 In the case of landfill gas flare:

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

4.2.2 In the case of landfill gas combustion plant:

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

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 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

4.5.1 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 value(s).

4.6 Dust and Particulate Matter

Dust and particulate matter from the activity shall not give rise to deposition levels which exceed the limit value(s).

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

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

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

5.5 **Prior to the excavation of waste,** the licensee shall submit to the Agency for approval, evidence to demonstrate that an agreement is in place regarding leachate removal (from the site) and treatment.

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.

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 Sanitary Authority in accordance withSection 52 of the Waste Management Acts 1996 to 2003.*

Condition 6. Control and Monitoring

6.1 Telemetry

6.1.1 Prior to 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
(iii) 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 1.0m 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 C2.3.*

6.2.3 The frequency of leachate removal from the leachate holding tank 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 treated on the facility, leachate stored in the leachate storage lagoon shall be disposed of by tankering off-site in fully enclosed road tankers.

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.

6.3 A visual examination of surface water discharges shall be carried out daily. A log of such inspections shall be maintained.

6.4 The licensee shall monitor meteorological conditions as specified in *Schedule C.3.*

6.5 Landfill Gas

6.5.1 Prior to 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.

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

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

6.5.4 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.

6.6 Litter Control

6.6.1 The measures and infrastructure as described in the Application documentation shall be applied to control litter at the facility.

6.6.2 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.

6.6.3 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.

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

6.7 Odour Control

6.7.1 Leachate holding tanks/lagoons shall be covered, and head gases vented to treatment as may be required by the Agency.

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

6.7.3 When siting and operating landfill gas infrastructure regard shall be had to the potential for, and mitigation of, odour nuisance.

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

6.9 Prior to exiting the facility, all waste vehicles shall use the wheelwash/wheel cleaners.

6.10 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 prior to 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.

6.11 Operational Controls

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

6.11.2 The working face of the **lined** 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.

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

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

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

6.11.6 Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works **associated with the excavation of previously deposited wastes at Zones A, B, and C,** construction and installation of necessary infrastructure, or otherwise only with the prior agreement from the Agency.

6.11.7 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.

6.11.8 Scavenging shall not be permitted at the facility.

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

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

6.11.11 No smoking shall be allowed at the facility.

6.11.12 The floor of the resource recovery building shall be cleaned on a weekly basis and on a daily basis where putrescible waste is handled. The floor of the storage bays for recovered wastes shall be washed down and cleaned on each occasion such bays are emptied, or as a minimum on a weekly basis.

6.11.13 There shall be no casual public access to the facility.

6.11.14 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.

6.12 Prior to the commencement of the activities, the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.

6.13 Monitoring Locations

Prior to the commencement of licensed activities, the licensee shall submit to the Agency an **updated** appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in this licence including any noise sensitive locations and private wells to be monitored. The drawing shall include the eight-digit national grid reference of each monitoring point.

6.14 Nuisance Monitoring

The licensee shall, at a minimum of daily inspect the facility and its immediate surrounds for nuisances caused by litter, vermin, birds, flies, mud, dust and odours. The licensee shall maintain a record of all nuisance inspections.

6.15 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.

6.16 Topographical Survey

A topographical survey shall be carried out prior to the disturbance/import of waste. The survey shall include a measurement of the remaining available void space (broken down into actual available void space and any estimated void space which will be generated by future quarrying activities). It shall be repeated annually thereafter. The survey shall be in accordance with any written instructions issued by the Agency.

6.17 Grassland Management

Within three months of the date of grant of this licence, the licensee shall operate a Management Plan and implement a programme for the wet grassland area to include as a minimum, the installation of the following elements: Willow species

tree planting programme for the floodplain; ongoing maintenance and monitoring programme of floodplain; prevention of access by domestic grazing animals in the area.

Reason: *To provide for the protection of the environment by way of treatment and monitoring of emissions.*

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 following commencement of waste activities. 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 arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection weighed, documented and be directed to the Waste Resource Recovery Building or designated storage/recovery areas. Each load of waste arriving at the Waste Resource Recovery Building shall be inspected upon tipping within this building. Only after such inspections shall the waste be processed for disposal or recovery.**

8.2 **Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in the designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid odour nuisance,** the attraction of vermin and any other nuisance or objectionable condition.

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

8.4 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 which will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.

8.5 The licensee shall ensure that waste prior to 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.

8.6 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.

8.7 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 **unless otherwise agreed by the Agency**.

8.8 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C* of this licence.

8.9 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 non-hazardous waste.

8.10 Waste Acceptance and Characterisation Procedures

8.10.1 Only pre-treated wastes are acceptable for disposal as set out in Article 6 (a) of the Landfill Directive.

8.10.2 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.

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

8.10.4 No hazardous wastes or liquid wastes shall be disposed of at the facility.

8.10.5 Prior to commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. These procedures shall include details of the pre-treatment of all waste to be carried out prior to 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.

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

8.10.7 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).

8.11 Inert Waste

Inert waste accepted at the facility shall comply with the standards established in the EU Decision (2003/33/EC).

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, within six months of date of grant of this licence, ensure that a documented Accident Prevention Policy 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, within six months of date of grant of this licence, 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 **In the event of a breakdown of equipment or any other occurrence which results in the closure of the transfer station building, any waste arriving at or already collected at the facility shall be transferred directly to appropriate landfill sites or any other appropriate facility until such time as the transfer station building is returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.**

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

(i) isolate the source of any such emission;

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

(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) provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed with the Agency to:-

- identify and put in place measures to avoid reoccurrence of the incident; and
- 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 The licensee shall restore the facility on a phased basis. The Restoration and Aftercare Plans for the facility shall be based on the plans submitted as Volume 1, Section 2.14 of the EIS subject to any alterations required to comply with the conditions of this licence and any recommendations from the NPWS and the Community Liaison Committee. Within twelve months of the commencement of waste activities the licensee shall submit to the Agency a revised Restoration and Aftercare Plan to reflect changes due to:

(i) the requirements of this licence;

(ii) the revised landfill footprint as specified in Condition 3.3.

10.2 Landscaping

10.2.1 The final (post settlement) height of the facility shall be a maximum of 170mOD (Malin Head) as shown in Drawing No. BRI/109 Rev A., 'Final Landform Restoration Levels and Post Facility Infrastructure' of the EIS Volume III.

10.2.2 The surface profile shall be graded to allow the return of the lands for agricultural purposes on completion of the works required by the licence.

10.2.3 Landscaping of the facility shall be as described in the application documentation **and as amended by this licence.**

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

10.3 Final Capping

10.3.1 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.

10.4 Where tree planting is to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Combined topsoil and subsoil depths shall be a minimum of 1m.

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 Prior to the acceptance for 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 Section L.3.1 of the application documentation.

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 written 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 costings for the plan and a statement as to how these costs will be underwritten.

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 prior to the intended date of commencement of **handling** of waste for Scheduled Disposal/Recovery activities at the facility (wastes used in the facility construction excepted).

11.2 The licensee shall notify the Agency by both telephone and either facsimile or electronic mail, 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:

11.2.1 Any release of environmental significance to atmosphere from any potential emission point including bypasses.

11.2.2 Any emission which does not comply with the requirements of this licence.

11.2.3 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.

11.2.4 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.

11.3 In the event of any incident which relates to discharges to sewer, having taken place, the licensee shall notify the Local and Sanitary Authority as soon as practicable, after such an incident.

11.4 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.

11.5 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.

11.6 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 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.

11.7 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.

11.8 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) **the previous year's** 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) **the previous two year's** relevant correspondence with the Agency;

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

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

11.9 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 D* and shall be prepared in accordance with any relevant guidelines issued by the Agency.

11.10 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:

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

11.10.2 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).

11.10.3 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.

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

11.10.5 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.

11.10.6 Details of any rejected consignments.

11.10.7 Details of any approved waste mixing.

11.10.8 The results of any waste analyses required under *Schedule C.*

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

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

11.12 **Prior to the development of any undisturbed area, and any works at the Carrigower river SAC and floodplain, the advice of the Heritage Section of the Department of the Environment, Heritage and Local Government shall be sought.**

11.13 Waste Recovery Reports

11.13.1 The licensee shall as part of their EMP prepare a report examining waste recovery options 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.

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 €19,651, 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 2003. The first payment shall be a pro-rata amount for the period from the date of this licence (date of commencement of enforcement) – for greenfield sites where the facility will not start within this period date of commencement of enforcement should be used 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 2003, 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 Environmental Liabilities

12.2.1 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)** or accidents/incidents, as may be associated with the carrying on of the activity.

12.2.2 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 **prior to the commencement of the waste activities.** 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.

12.2.3 Prior to 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.

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 Sanitary Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2003.

SCHEDULE A: Limitations

A.1 AUTHORISED PROCESSES

The following waste related processes are authorised:

i. Composting
ii. Mechanical-Biological Treatment (MBT)
iii. Shredding, crushing, bailing, repackaging processes
iv. C & D waste recovery (incl. crushing, screening, sorting, blending)
v. Landfilling of residual non-hazardous waste in Phases 2, 3, and 4 only.
vi. Landfilling of inert waste in Phase 1, and the other phases (2, 3, and 4) if necessary.
vii. Use of compost & inert waste in landfill operation
viii. Storage of waste
ix. Recovery of dry recyclables
x. Excavation of previously deposited wastes from Zones A, B, and C.

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

A.2 WASTE ACCEPTANCE

Table A.2 Waste Categories and Quantities

Only RESIDUAL Wastes shall be disposed of at the landfill facility as per Condition 8.10.1.

WASTE TYPES	Household & Commercial
	Non-Hazardous Industrial
	Construction & Demolition [Note 1]
	Inert [Note 1]
	Other [Note 2]
MAXIMUM (TONNES PER ANNUM)	180,000

Note 1: C & D or Inert waste/secondary materials 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.

Note 2: Any proposals to accept other compatible waste streams must be agreed in advance by the Agency and the total amount of waste must be within that specified.

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: (To be agreed by Agency in advance.)
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 indicated D1 – D5 (incl.) Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

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.: Outlets from landfill sedimentation lagoons

Name of Receiving Waters: Carrigower River

Parameter	Emission Limit Value
pH	Range 6 - 9
	Emission Limit Value (mg/l)
Suspended Solids	35
Ammonia (as NH_4)	0.5
DO	≥ 7

B.3. NOISE EMISSIONS

Day dB(A) L_{Aeq}(30 minutes)	Night 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 Pumps/engines
Extraction	Continuous with alarm/call-out	Pressure gauge or equivalent approved Pumps/engines

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	Weekly	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			
Carbon monoxide (CO)	Continuous	Continuous	Flue gas analyser/datalogger or equivalent approved
Nitrogen Oxides (Nox)	Biannually	Biannually	Flue gas analyser or equivalent approved
Sulphur dioxide (SO_2)	Biannually	Biannually	Flue gas analyser or equivalent approved
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 G1 - G8 (incl.) Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12);
And at least one monitoring point per cell (to be Agreed);
And other selected locations as may be specified.

Parameter	Monitoring Frequency	Analysis Method/Technique Note 2
Methane (CH_4)	Monthly	InfraRed Analyser/FID
Carbon Dioxide (CO_2)		InfraRed
Oxygen (O_2)		Electrochemical Cell
Atmospheric pressure & Trend		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.

C.2.1 CONTROL OF EMISSIONS TO WATER

Emission Control Location: Surface Water Sedimentation Lagoons

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.: Outlet from Sedimentation Lagoons

PARAMETER[Note 1]	SURFACE WATER Monitoring Frequency
Visual Inspection/Odour [Note 2]	Daily
Lagoon Level	Daily
Dissolved Oxygen	Daily & Always Prior to Discharge
Electrical Conductivity	Daily
Ammoniacal Nitrogen	Prior to Discharge
Chloride	Prior to Discharge
pH	Prior to Discharge
Total Suspended Solids	Prior to Discharge
BOD	Quarterly
COD	Quarterly
Metals / non metals [Note 3]	Annually
List I/II organic substances (Screen) [Note 4]	Annually
Mercury	Annually
Sulphate (SO_4)	Annually
Nitrate	Annually
Total P/orthophosphate	Annually
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).

C2.3 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	Weekly
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 AMBIENT MONITORING

Air Monitoring

Location: Measured at the monitoring points indicated D1 – D5 (incl.) Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

Parameter	Monitoring Frequency	Analysis Method/Technique
Dust deposition	Monthly	Bergerhoff

Groundwater Monitoring and Carrigower River Monitoring

Location: (a) Groundwater Wells indicated MW3 – MW10 (incl.)
(b) Surface Water Monitoring Points SW2 – SW5 (incl.)

Drawing Ref: Fig J-1 Rev. A (or as may be amended under Condition 6.12).

Parameter [Note 1]	Monitoring Frequency
Visual Inspection/Odour [Note 2]	Monthly
Groundwater Level (wells)	Monthly
Electrical Conductivity	Monthly
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
Nitrate	Annually
Total P/orthophosphate	Annually
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).

Meteorological Monitoring

Location : At the facility at a location to be agreed, or from an agreed representative station in the region.

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

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

SCHEDULE D: Specified Engineering Works

Specified Engineering Works
Development of the facility including: – preparatory works – groundwater barriers and cut-off walls – landfill lining. – installation of waste handling, processing, recycling/recovery infrastructure as well as any abatement system(s). – installation of increased waste processing capacity – new entrance infrastructure and proposed queuing lanes. Installation of dust/odour system. Installation of Compost Facility. Installation of Landfill Gas Management Infrastructure. Installation of Leachate Management Infrastructure. Installation of any other Groundwater Control Infrastructure. Installation of Surface Water Management Infrastructure. Landfill capping including intermediate and final. 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 Enforcment
Regional Inspectorate
Richview
Clonskeagh
Dublin **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	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Quarterly	Ten days after end of the quarter being reported on.
Drawing with Monitoring locations	-	Prior to commencement of waste disposal
Schedule of Objectives & Targets	-	3 months prior to commencement of development
Phased Construction Plan	-	Prior to commencement of development
Leachate Disposal Agreement	-	Prior to 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
Pollution emission register – report for previous year
Pollution emission register – proposal for current year
Noise monitoring report summary
Meteorological data summary
Ambient monitoring summary
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.
Statement of measures in relation to prevention of environmental damage and remedial actions (Environmental Liabilities).
Any amendments to the CRAMP.
Detailed Statement, with mass balance, of C & D wastes and compost used in construction
Any other items specified by the Agency.

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

SCHEDULE G: Standards for Compost Quality

The following criteria are deemed a quality standard for the use of compost as a soil improver and should not be deemed as criteria for fertiliser. In addition N, P, K, NH_4-N, NO_3-N, pH and dry matter content should also be measured. Use of compost is subject to the "European Parliament and Council Regulation No. 1774/2002 laying down health rules concerning animal by-products not intended for human consumption and associated National Legislation.

Compost shall be deemed unsatisfactory if more than 10% of samples fail the criteria below. No sample shall exceed 1.2 times the quality limit values set.

1. Maturity

Compost shall be deemed to be mature if it meets two of the following requirements:

- C/N ratio ≤ 25;
- oxygen uptake rate ≤ 150 mg O_2/kg volatile solids per hour;
- germination of cress (Lepidium sativum) seeds and of radish (Raphanus sativus) seeds in compost must be greater than 90 percent of the germination rate of the control sample, and the growth rate of plants grown in a mixture of compost and soil must not differ more than 50 percent in comparison with the control sample; and
- Elimination of the following test organisms (used to evaluate composting system efficiency in removing plant pathogens and weed seeds during the composting process): Plasmodiophora brassicae, tobacco-mosaic-virus (TMV) and tomato seeds.

Guidance on test may be obtained from the German document LAGA M10 'Quality Criteria and Application Recommendations for Compost'.

2. Foreign Matter

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

Foreign matter content as a percentage of oven-dried mass	≤1.5%
Foreign matter, maximum dimensions, in mm	25 mm

3. Trace Elements

Maximum Trace Element Concentration Limits for Compost[Note 2]

Trace Elements	(mg/kg, dry mass)
Arsenic (As) [Note 1]	15
Cadmium (Cd)	1.5
Chromium (Cr)	100
Copper (Cu)	100
Mercury (Hg)	1
Molybdenum (Mo) [Note 1]	5
Nickel (Ni)	50
Lead (Pb)	150
Selenium (Se) [Note 1]	2
Zinc (Zn)	350

Note 1: Monitoring of these parameters required if waste from an industrial source.
Note 2: The above alone should not be taken as an indication of suitability for addition to soil as the cumulative metal additions to soil should be first calculated.

4. Pathogens

Pathogenic organism content must not exceed the following limits:

- Escherichia coli ⩽1,000 CFU/g
- Salmonella species absent in 25 g sample.

5. Monitoring

The licensee shall submit to the Agency for its agreement, prior to commencement of compost operations, details of methods of analyses, methods of sampling and sample numbers.

The analyses shall be carried out:

(a) every six months for plants producing more than 500 and up to 1,000 tonnes of treated biowaste per year;

(b) at intervals of at least every 1,000 tonnes of treated biowaste produced or every 3 months, whichever comes first, for plants producing more than 1,000 and up to 10,000 tonnes of treated biowaste per year;

(c) every month for plants producing more than 10,000 tonnes of treated biowaste per year.

Signed on behalf of the said Agency _____
on the xx day of xxxxxx, 2005 xxxxxxxx, **Authorised Person**