



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

WASTE LICENCE PROPOSED DECISION

Waste Licence	84-1
Register Number:	
Applicant:	Southern Excavations Ltd.
Location of Facility:	Aghfarrell, Brittas, Co. Dublin

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Reasons for the Decision

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

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

Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Act to grant this Waste Licence to Southern Excavations Ltd. to carry on the waste activities listed below at Aghfarrell, Brittas, Co. Dublin subject to eleven No. conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

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

- Class 1. Deposit on, in or under land (including landfill):
This activity is limited to the deposition of subsoil, topsoil (primarily), brickwork, stone, rock, slate, clay, natural sand, pottery and china, and is the principle activity.
- Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
This activity is limited to storage at the sorting area of the waste materials prior to deposit in or under land. It also consists of the storage of timber materials prior to removal off-site for disposal.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996

- Class 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):
This activity is limited to the use of any subsoil, topsoil and clay either on-site in the capping of the landfill or additional landscaping or off-site for horticultural, agricultural and construction uses.
- Class 3. Recycling or reclamation of metals and metal compounds:
This activity is limited to the removal of metal from reinforced concrete and transferral to a waste metal contractor for reuse or recycling.
- Class 4. Recycling or reclamation of other inorganic materials:
This activity is limited to the crushing of concrete or brick material for reuse on and off site. On site reuse will be in road construction and off-site use will be in the construction industry.
- Class 11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:
This activity is limited to the re-use on-site of the crushed concrete and the recovered topsoil materials.
- Class 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:
This activity is limited to storage of any subsoil, topsoil, clay, concrete, brickwork, tarmacadam materials and metals prior to subjection to any of the recycling processes. It also consists of the storage of timber material prior to removal off-site for re-use.

INTERPRETATION

Act	The Waste Management Act, 1996 (No. 10 of 1996).
Aerosol	A suspension of solid or liquid particles in a gaseous medium.
Adequate lighting	20 lux measured at ground level.
Agreement	Agreement in writing.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
Application	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
BATNEEC	Best Available Technology Not Entailing Excessive Cost as defined in section 5 (2) of the Act.
Biodegradable waste	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard.
Commercial waste	As defined in Section 5 (1) of the Act.
Condition	A condition of this licence. In any case where this licence refers to a numbered condition, the reference shall be taken to mean the condition and any sub-condition therein which the context of the reference requires that reference is made to
Containment boom	A boom which can contain spillages and prevent these from entering drains or watercourses.
Cover material	Bricks, earth, soil, sub-soil, stone, rock or other similar natural materials; or other cover material the use of which has been agreed with the Agency.
Daytime	0800 hrs to 2200 hrs.
Documentation	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EIS	Environmental Impact Statement.
Emission	As defined in Section 5 (1) of the Act.

Emission Limit Value	Those limits, including concentration limits and deposition levels established in Schedule F.
Environmental Pollution	As defined in Section 5 (1) of the Act.
European Waste Catalogue (EWC)	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
Facility	That area or areas defined under Condition 1.2
Green waste	Waste wood, plant matter and other vegetation.
Hazardous Waste	As defined in Section 4 (2) of the Act.
Household Waste	As defined in Section 5 (1) of the Act.
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.
Incident	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
Industrial waste	As defined in Section 5 (1) of the Act.
Landfill	As defined in Section 5 (1) of the Act.
Landfill Gas	Gases generated from the landfilled waste.
Leachate	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
LEL (Lower Explosive Limit)	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
Licence	A Waste Licence issued in accordance with the Act.
Licensee	Southern Excavations Ltd., Bridge St., Cappamore, Co. Limerick
List I/II Organics	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
Liquid Waste	Any waste in liquid form and containing less than 2% dry matter.
Maintain	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
Mobile Plant	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
Monthly	At least 12 times per year, at approximately monthly intervals.

Municipal Waste	Municipal waste as defined in Section 5 (1) of the Act.
Night-time	2200 hrs.to 0800 hrs.
Non-hazardous waste	Non-Hazardous Waste is any waste, which is not a hazardous waste as defined in the Act.
Quarterly	A period of three calendar months, the first period of which commences on the date of grant of this licence
Recovery	As defined in Section 4 (4) of the Act.
Representative Sample	The sample taken has to demonstrate the same properties as the average of the total of one specific type of waste, which is delivered to a landfill within one day to be assessed. The quantity ratio of the various individual materials must correspond to that of the total waste accepted.
Sample(s)	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments
Sludge	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
Specified Emissions	Those emissions listed in Schedule F: Emission Limits of this licence.
Specified Engineering Works	Those engineering works listed in Schedule D: Specified Engineering Works of this licence.
Submit	Unless the context of this licence indicates otherwise, submit in writing to the Agency for its agreement
Treated Sludge	Sludge which has undergone biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use.
Trigger Level	A parameter value which when achieved or exceeded requires certain actions to be taken.
Waste	As defined in Section 4(1) of the Act.
Waste disposal activity	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
Waste recovery activity	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
White Goods	Refrigerators, cookers, ovens and other similar appliances.
Working Day	9.00 a.m. to 5.30 p.m. Monday to Friday.
Working Face	The area of the site in which waste other than cover material or material for the purposes of the construction of specified engineering works is being deposited.

Part II CONDITIONS

CONDITION 1 SCOPE

- 1.1. Waste activities at the facility shall be restricted to those listed and described in Part I Activities Licensed and required by the licence.
- 1.2. Waste activities shall be restricted to the area of land outlined in red on Drawing No. B.2.2 of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red.
- 1.3. Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary. Every plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency.
- 1.4. This licence is for the purposes of waste licensing under the Waste Management Act 1996 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.5. Where the Agency considers that a non-compliance with the Conditions of this licence has occurred, it may serve a notice on the licensee specifying:
 - a) that only those wastes as specified, if any, in the notice are to be accepted at the facility after the date set down in the notice;
 - b) that the licensee shall undertake the works stipulated in the notice, and/or otherwise comply with the requirements of the notice as set down therein, within the time-scale contained in the notice; and,
 - c) that the licensee shall carry out any other requirement specified in the notice.

When the notice has been complied with, the licensee shall provide written confirmation that the requirements of the notice have been carried out. No waste, other than that which is stipulated in the notice, shall be accepted at the facility until written confirmation is received from the Agency that the notice is withdrawn.

Reason: <i>To clarify the scope of this licence.</i>

CONDITION 2 MANAGEMENT OF THE ACTIVITY

2.1 Environmental Management System

2.1.1 The licensee shall within three months prior to the commencement of waste activities, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement.

2.1.2 The EMS shall include as a minimum those elements specified in the Conditions 2.2 to 2.7 below:

2.2 Schedule of Environmental Objectives and Targets

2.2.1 The licensee shall, three months prior to the commencement of waste activities, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.

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

2.3 Environmental Management Programme

2.3.1 The licensee shall, three months prior to the commencement of waste activities, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.

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

2.4 Corrective Action

2.4.1 Prior to the acceptance of any waste at the facility the licensee shall establish and maintain written Corrective Action Procedures to ensure that corrective action is taken should specified requirements to this licence not be fulfilled.

2.5 Awareness and Training

2.5.1 Prior to the acceptance of any waste at the facility the licensee shall establish and maintain Awareness and Training Procedures for identifying training needs and for providing appropriate training, for personnel whose work is related to the licensed facility. Written records of training shall be maintained.

2.6 Management Structure

2.6.1 The licensee shall three months prior to the commencement of waste activities submit written details of the management structure of the facility for the agreement of the Agency. Any proposed changes in the management structure shall be submitted in writing to the Agency for its agreement. Written details of the management structure shall include the following information :

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- a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence;
 - b) a named contact person for communications with the Sanitary Authority
 - c) details of the responsibilities for each individual named under a) above;
 - d) details of the relevant experience, competence and qualifications held by each of the persons nominated under a) above; and
 - e) contingency arrangements for the absences of the named persons from the facility.

2.7 Communications

2.7.1 The licensee shall three months prior to the commencement of waste activities submit to the Agency for its agreement a Communications Programme to ensure that members of the public can obtain information concerning the environmental performance of the facility at all reasonable times.

2.8 Annual Environmental Report

2.8.1 The licensee shall submit to the Agency for its agreement, within thirteen months from the date of commencement of waste activities, and within one month of the end of each year thereafter, an Annual Environmental Report (AER).

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

2.9 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a suitably qualified and experienced deputy, shall be present at all times during the operation of the facility.

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

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

CONDITION 3 NOTIFICATION AND RECORD KEEPING

- 3.1 The licensee shall make written records of the following incidents:
- a) any nuisance caused by the activity
 - b) any emission which does not comply with the requirements of this licence;
 - c) any trigger level specified in this licence which is attained or exceeded;
 - d) any indication that environmental pollution has, or may have, taken place; and,
 - e) any emergency.
- 3.2 The written record shall include all aspects described in Condition 10.7 (a-e).
- 3.3 Unless otherwise instructed in writing by the Agency, the licensee shall:
- a) notify the Agency as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident;
 - b) submit the written record required by this condition to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident; and
 - c) in the event of any incident which relates to discharges to surface water, notify Eastern Regional Fisheries Board and South Dublin County Council as soon as practicable and in any case not later than 10:00am on the following working day after such an incident.
- 3.4 Should any further actions be taken after the date of written notification, as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.
- 3.5 Unless otherwise agreed by the Agency, all documentation submitted to the Agency shall:
- (a) be sent to the Agency's headquarters;
 - (b) comprise one original and three copies;
 - (c) be formatted in accordance with any written instruction or guidance issued by the Agency;
 - (d) include whatever information as is specified in writing by the Agency;
 - (e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
 - (f) be submitted in accordance to the relevant reporting frequencies specified by this licence; and
 - (g) in the case of results of any environmental monitoring, be accompanied by a written interpretation setting out their significance.

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- 3.6 Copies of all environmental monitoring data obtained by the licensee which relates to the facility shall be forwarded to the Agency at the frequencies set out in Schedule C: Recording and Reporting to the Agency of this licence.
- 3.7 All documentation and records required to be made under this licence, shall be retained by the licensee, unless otherwise agreed with the Agency.
- 3.8 The licensee shall provide additional copies of any documentation and records referred to in this licence to the Agency upon written request, within the time specified in writing by the Agency.
- 3.9 The licensee shall keep the following documents at the facility office referred to in Condition 4.5.
- a) the current waste licence relating to the facility;
 - b) the current EMS for the facility;
 - c) the previous year's AER for the facility;
 - d) all written procedures produced by the licensee which relate to the licensed activities.
- 3.10 The licensee shall maintain a written record for each load of waste arriving at the facility. The licensee shall record the following:
- a) the name of the carrier (including, if appropriate the waste carrier registration details);
 - b) the vehicle registration number;
 - c) the name of the producer(s)/collector(s) of the waste as appropriate;
 - d) a description of the waste including the associated EWC codes;
 - e) the quantity of the waste, recorded in tonnes;
 - f) the name of the person checking the load;
 - g) the date waste arrived at the facility;
 - h) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed; and,
 - i) written records of all inspections carried out in the waste inspection area required by Condition 4.7.
- 3.11 The licensee shall maintain a written record of the type and quantity, recorded in tonnes, of all wastes recovered or disposed of at the facility.
- 3.12 Provision shall be made for the transfer of environmental information specified by the Agency, in relation to the activities carried on under this licence, to the Agency's computer system within a timescale specified in writing by the Agency.
- 3.13 The licensee shall maintain a written record of all complaints relating to the operation of the activity. Each such record shall give details of the following:
- a) date and time of the complaint;
 - b) the name of the complainant;
 - c) details of the nature of the complaint;
 - d) actions taken on foot of the complaint and the results of such actions; and,
 - e) the response made to each complainant.
- 3.14 A written record shall be kept for each load of waste departing from the facility. The following shall be recorded:

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- a) the date on which filling of the container commenced;
 - b) the date on which the container was filled;
 - c) the number of sealed containers being stored overnight;
 - d) the vehicle registration number;
 - e) the destination of the waste (facility name and waste licence/permit number as appropriate);
 - f) a description of the waste (if recovered or rejected waste, the specific nature of the waste);
 - g) the quantity of waste, recorded in tonnes;
 - h) the name of the person checking the load; and,
 - i) the time and date of departure.
 - j) the name of the carrier (including, if appropriate the waste carrier registration details);

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

CONDITION 4 SITE INFRASTRUCTURE

4.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as instructed by the Agency.

4.2 Site Notice Board

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

4.2.2 The board shall clearly show:

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name, address and telephone number of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the name, address and telephone number of the operator of the facility;
- f) the licence reference number;
- g) where and when environmental monitoring information relating to the facility can be obtained.

4.3 Site Security

4.3.1 Security and stockproof fencing and gates shall be installed and maintained as described in Article 16 reply dated the 17th April 2000. The security fence and gates shall be at the locations shown on Drawing No. D.1.1. Rev.1. The base of the fencing shall be set in the ground.

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

- a) a temporary repair shall be made by the end of the working day; and,

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- b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days or as otherwise agreed with the Agency.
- 4.3.3 Gates shall be locked shut when the facility is unsupervised.
- 4.4 Site Roads and Hardstanding
- 4.4.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility. The site roads and all hardstanding areas shall drain to an oil interceptor and grit chamber as detailed in Attachment H.9, unless otherwise agreed in advance with the Agency.
- 4.4.2 The facility entrance area and the access road to the facility shall be paved and maintained in accordance with Attachment D.1 (b) of the licence application.
- 4.4.3 Traffic control within the facility shall be in accordance with Attachment F.6 of the licence application, unless otherwise agreed in advance with the Agency.
- 4.5 The licensee shall provide and maintain an office on the facility, at the location shown in Drawing No. D.1.1. Rev. 1. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.
- 4.6 The licensee shall provide and maintain a working telephone and facsimile machine in the office specified in Condition 4.5 above.
- 4.7 Inspection
- 4.7.1 A Waste Inspection Area and a Waste Quarantine Area shall be provided and maintained at a location agreed in advance with the Agency.
- 4.7.2 The licensee shall ensure that 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 suitably and clearly segregated from each other.
- 4.7.3 Drainage from these areas shall be directed to a holding tank prior to discharge to the river.
- 4.8 The licensee shall provide and maintain a weighbridge at the facility. The location of the weighbridge shall be as shown on Drawing No. D.1.1 Rev. 1, unless otherwise agreed with the Agency.
- 4.9 Wheelwash/wheelcleaner
- 4.9.1 The licensee shall establish and maintain a wheelwash/wheelcleaner at the facility. The location of the wheelwash shall be as shown on Drawing No. D.1.1. Rev.1, unless otherwise agreed with the Agency.
- 4.9.2 The wheelwash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel cleaner and disposed of at the working face or to a skip. The wheelwash water shall drain only to an oil interceptor and grit chamber or as otherwise agreed with the Agency.
- 4.10 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 4.11 Waste Water

4.11.1 The licensee shall provide and maintain an on-site system at the facility for the treatment of sewage arising on-site. The location of the on-site system shall be as shown on Drawing No. D.1.1 Rev.1 and to the specification in Attachment D.1 of the licence application, unless otherwise agreed with the Agency.

4.11.2 An examination of the current on-site system shall be carried out within one month of the date of commencement of development at the facility by a competent person to be agreed with the Agency. If the examination indicates that the construction does not satisfy the requirements of SR6 then a replacement system shall be installed. Any percolation area shall satisfy the criteria set out in SR6 Septic Tank Systems (NSAI 1991) or any subsequent standard.

4.12 Storage Areas

4.12.1 Prior to any fuel/oil being stored on site the licensee shall provide and maintain a bunded fuel storage area at the facility. The location of the fuel storage area shall be as shown on Drawing No. D.1.1 Rev. 1. unless otherwise agreed with the Agency. Fuels/oil shall only be stored at the agreed location.

4.12.2 All tank and drum storage areas shall be rendered impervious to the materials stored therein. In addition, tank and drum storage areas shall, as a minimum be bunded, either locally or remotely, to a volume not less than the greater of the following:

(a) 110% of the capacity of the largest tank or drum within the bunded area; or

(b) 25% of the total volume of substance which could be stored within the bunded area.

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

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

4.12.5 The integrity and water tightness of all the bunds, tanks and containers and their resistance to penetration by water or other materials stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency following its installation and prior to its use as a fuel storage area. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. The licensee shall also submit to the Agency for its agreement in each case a written report on the storage of fuels at the facility. The licensee shall maintain a written record of all integrity tests and any maintenance or remedial work arising from them.

4.12.6 All tanks and containers shall be labelled to clearly indicate their contents.

4.13 Specified Engineering Works

4.13.1 The licensee shall submit written proposals for all Specified Engineering Works, as defined in Schedule D: Specified Engineering Works, 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.

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

4.13.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall

be made available to the Agency on request. The report shall include the following information;

- a) a description of the works;
- b) as-built drawings of the works;
- c) records and results of all tests carried out (including failures);
- d) where relevant a drawing and sections showing the location of all samples and tests carried out;
- e) where relevant daily records sheets/diary;
- f) name(s) of contractor(s)/individual(s) responsible for undertaking the engineering works;
- g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
- h) records of any problems and the remedial works carried out; and
- i) any other information requested in writing by the Agency.

4.14 Landfill Lining:

- 4.14.1 The landfill liner for all cells shall at a minimum meet the following requirements;

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

4.15 Landfill Gas Management:

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

4.16 Capping

- 4.16.1 The sequence for the temporary restoration of the facility shall be in accordance with Attachments D.6 and G.1 of the licence application unless otherwise agreed with the Agency. The licensee shall submit to the Agency for its agreement details of the proposed daily and intermediate capping systems prior to commencement of waste activities. In addition, details of the final capping system shall be submitted to the Agency for its agreement within six months of the commencement of waste activities.
- 4.16.2 Unless otherwise agreed with the Agency final capping shall at a minimum consist of the following:
 - top soil layer of 500mm
- 4.16.3 Filled cells shall be permanently capped to the specifications agreed with the Agency in accordance with Condition 4.16.2 within twelve months of the cells having been filled to the required level.
- 4.16.4 The licensee shall submit to the Agency for its agreement, at least three months prior to commencement of capping works, details of surface water control relating to run-off water arising from cap and restoration areas.

4.17 Surface Water Management

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- 4.17.1 Surface water management at the facility shall be carried out as described in Attachments D.1 (k), D.4 and H.9.1 of the licence application, unless otherwise agreed with the Agency. Any proposed surface water diversions shall only be undertaken following consultation and agreement with the Agency and the Eastern Regional Fisheries Board.
- 4.17.2 The licensee shall install a grit chamber, with sufficient holding capacity, The grit chamber and oil interceptor shall be maintained to ensure their effective operation.
- 4.17.3 The licensee shall control surface water run off from the facility during construction, operation and restoration.
- 4.18 Groundwater Management
- 4.18.1 The licensee shall ensure the ongoing protection of the groundwater resources from activities carried on at this facility.
- 4.19 Waste Component Separation, Recovery and Storage Area
- 4.19.1 The licensee shall construct a construction and demolition waste recovery area including an area for crushing of concrete and the areas specified in Condition 4.19.3. The area shall be constructed such that there is appropriate bunding to provide visual, dust and noise screening. The waste recovery area shall be covered by hardstanding and shall comply with Condition 4.4.1. The stockpiles of all recovery materials shall be located and maintained such that there is no dust or noise nuisance and that appropriate surface water drainage control measures are put in place.
- 4.19.2 The licensee shall submit to the Agency for its agreement, at least three months prior to commencement of waste activities a plan indicating waste separation and storage areas for concrete, topsoil, subsoil, metals, tarmacadam materials and timber.
- 4.19.3 The storage of soils shall be in such a manner to maximise the preservation of the soil structure for future use within the facility. Soils removed during site preparation other than those to be reused for site construction purposes shall be stored at the agreed location.
- 4.19.4 Timber shall be removed off site for recovery at regular intervals. It shall not be stored for a period longer than six months.
- 4.20 Access Road
- 4.20.1 Traffic awaiting access to the landfill shall queue along the facility access road only. No traffic queuing shall be allowed on the public road.

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

CONDITION 5 WASTE MANAGEMENT

- 5.1. This facility shall accept only inert waste for disposal.
- 5.2. Waste Types
- 5.2.1. Subject to Condition 5.1, and any requirements of Condition 5.3, only C&D waste types and quantities listed in Schedule G: Waste Acceptance shall be recovered or disposed of at the facility unless the prior agreement of the Agency has been obtained. Wastes that exceed the limit values set in Schedule G.4 shall not be landfilled at the facility.
- 5.2.2. Only construction and demolition waste from excavations and waste removal activities by Southern Excavation Ltd. shall be accepted at the facility.
- 5.2.3. The waste analysis testing (Schedule G) shall use standardised and internationally accepted procedures and carried out by a competent laboratory and details shall be submitted to the Agency for its agreement prior to waste acceptance at the facility.
- 5.3. Waste Acceptance and Waste Characterisation Procedures
- 5.3.1. In addition to the procedures outlined in Attachments E.1 and E.2, the licensee shall submit to the Agency for its agreement detailed written procedures for the acceptance, verification and handling of all wastes prior to the commencement of waste activities. The written procedures shall at a minimum include the requirements of Level 1, 2, and 3 characterisation testing (Schedule G.3).
- 5.3.2. The licensee shall undertake a comprehensive assessment of all wastes to be disposed of in the landfill. The assessment shall include at a minimum the items outlined in Schedule G.3. Waste disposal at the facility shall only be permitted if a comprehensive assessment satisfies the criteria set out in Schedule G.
- 5.3.3. In addition to the above, all wastes accepted for disposal at the landfill shall undergo the Level 3: On-site verification. At a minimum Level 3 requires that all wastes shall be checked at the working face to ensure that they comply with the requirements of the licence. Any wastes deemed to be in contravention of this licence and/or unsuitable for recovery or disposal at this facility shall be removed for recovery or disposal at an appropriate alternative facility. Such waste shall be stored in the Waste Quarantine Area only. A record of all inspections shall be maintained.
- 5.4. The quantity of wastes to be accepted at the facility shall not exceed 200,000 tonnes per annum, unless otherwise agreed in advance with the Agency. In addition, unless otherwise agreed with the Agency, the following recycling targets in line with the Government's publication "Changing Our Ways" apply to the facility;
- 5.4.1. Prior to 2003
30% of all waste accepted at the facility shall be recycled, recovered or reused.
- 5.4.2. From 2003 to 2013
50% of all waste accepted at the facility shall be recycled, recovered or reused.
- 5.4.3. Post 2013
85 % of all waste accepted at the facility shall be recycled, recovered or reused.

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- 5.5. Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.6. Scavenging shall not be permitted at the facility.
- 5.7. Waste shall only be accepted at the facility between the hours below unless otherwise agreed in advance with the Agency. Wastes shall not be accepted on bank holidays.

March to October

between the hours of 0800 to 1800 Monday to Friday inclusive and 0800 to 1430 on Saturdays and

November to February

between the hours of 0800 to 1700 Monday to Friday inclusive and 0800 to 1430 on Saturdays.

- 5.8. Unless the prior agreement of the Agency is given, the following shall apply at the landfill:
- a) only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials;
 - b) the working face of the landfill shall be no more than 2.5 metres in height after compaction, no more than 25 metres wide and have a slope no greater than 1 in 3; and,
 - c) all waste deposited at the working face shall be compacted as soon as is practicable and at any rate prior to the end of the working day.
- 5.9. Any cover material at any location within the facility which is eroded, washed off or otherwise removed shall be replaced by the end of the working day.
- 5.10. Notwithstanding Condition 5.8 above, the landfill shall be filled in accordance with the five phase sequence outlined in Article 16 reply dated the 17th May 2000. The Agency shall be informed in writing at least one month prior to the licensee entering into a new phase.
- 5.11. In order to prevent the formation of voids, all large hollow objects and other large articles deposited at the facility shall be crushed, broken up, flattened or otherwise treated.
- 5.12. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over without prior agreement from the Agency.
- 5.13. No smoking shall be allowed on the facility (other than in the office as shown on Drawing No. D.1.1 Rev.1).
- 5.14. Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor, as agreed by the Agency. The ultimate recovery or disposal facility for all wastes shall be agreed in advance with the Agency. All wastes removed off-site for recovery or disposal shall be transported from the facility to the consignee in a manner which will not adversely affect the environment.

<p>Reason: <i>To provide for the acceptance and management of wastes authorised under this waste licence.</i></p>
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CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1. The licensee shall, at a minimum of one-week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours. Written records shall be made of all inspections and any actions taken as a result of these inspections.
- 6.2. The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- 6.3. Litter Control
 - 6.3.1. The measures and infrastructure as described in Attachment F.3 shall be applied to control litter at the facility.
 - 6.3.2. Prior to the commencement of waste activities, the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.
 - 6.3.3. All loose litter accumulated within the facility and its environs, excluding that which is deposited on the working face, shall be removed subject to the agreement of the landowners and appropriately disposed of on a daily basis.
- 6.4. Any waste placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed by the licensee immediately and in any event by 10:00am of the next working day, after such waste is discovered. Such waste shall be disposed of at an appropriate facility.
- 6.5. The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.
- 6.6. Dust Control
 - 6.6.1. In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.
 - 6.6.2. From the commencement of construction activities the Dust Control Measures outlined in Attachment C.1: Section 3 of Report K802-A shall be implemented at the facility.
 - 6.6.3. The licensee shall maintain the access road free of all debris.
- 6.7. The licensee shall ensure that vermin, birds, flies, mud, dust and odours do not give rise to nuisance at the facility or the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution or contravene any national statutory protection granted in respect of protected species.
- 6.8. Prior to exiting the facility, all waste vehicles shall use the wheelwash.
- 6.9. The licensee shall apply the vermin and fly control measures outlined in Attachment F.7 of the application. Notwithstanding these measures within three months of the date of commencement of waste activities, the licensee shall submit to the Agency for its agreement a programme for the control and eradication of vermin and fly infestations at the facility. These proposals should include as a minimum, details on the rodenticide(s) and insecticide(s) to be used, operator training, mode and frequency of application and measures to contain sprays within the facility boundary.

Reason: *To provide for the control of nuisance.*

CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS

- 7.1. No specified emission from the facility shall exceed the emission limit values set out in Schedule F: Emission Limits of this licence. There shall be no other emissions of environmental significance.
- 7.2. All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 7.3. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 7.4. Landfill Gas
- 7.4.1. The following are the trigger levels for landfill gas emissions from the facility measured in any service on, at or immediately adjacent to the facility and/or at any other point located outside the body of the waste:
- a) Methane, greater than or equal to 1.0% v/v; and
 - b) Carbon dioxide, greater than or equal to 1.5% v/v.
- 7.5. Emissions to Surface Water
- 7.5.1. Emissions to surface water from the facility shall only be made to Brittas River at the emission point agreed in advance with the Agency.
- 7.5.2. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.
- 7.6. There shall be no direct emissions to groundwater.

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

CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. The Restoration and Aftercare Plans for the facility shall be based on the plan submitted as part of Attachment G of the licence application and shall be submitted to the Agency within twelve months of date of commencement of waste activities.
- 8.2. The final profile of the facility shall be as shown in Drawing No.G.1.1., unless otherwise agreed in advance or instructed by the Agency.
- 8.3. 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.

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- 8.4. 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.
 - 8.5. Where tree planting is proposed to be carried out above waste-filled areas, a synthetic barrier shall be used to augment the clay cap. Topsoil and subsoil depths shall be a minimum of 1m unless otherwise agreed in advance with the Agency.
 - 8.6. Landscaping as described in Attachment G: of the licence application shall be undertaken, unless otherwise agreed in advance with the Agency. The licensee shall submit, within six months of the commencement of waste activities, to the Agency the timeframe for carrying out such works.

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

CONDITION 9 ENVIRONMENTAL MONITORING

- 9.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in Schedule E: Monitoring and as specified in the Conditions of this licence.
- 9.2. Prior to the commencement of waste activities, the licensee shall install a permanent gas monitoring system in the site office and any other enclosed structures at the facility.
- 9.3. Prior to the commencement of waste activities, submit to the Agency for its agreement additional noise monitoring locations for the waste separation area.
- 9.4. Prior to the commencement of waste activities, the licensee shall include all private wells and livestock water supplies, subject to the agreement of the well owners, within 500m of the facility, in the monitoring programme set out in Schedule E: Monitoring, Table E.4.2.
- 9.5. Prior to the commencement of the development, the licensee shall submit a monitoring programme for surface water discharged from the facility and the flow in the tributary (adjacent to the facility) of the Brittas River. The programme shall, at minimum, include and fulfil the requirements of Schedule E.4.1: Surface Water Monitoring.
- 9.6. Prior to the commencement of waste activities the licensee shall carry out an investigation to the potential sources of barium within and in the vicinity of the facility. The licensee shall within one month of the completion of the investigation submit a report to the Agency on the findings of the investigation and actions to be taken in relation to those findings.
- 9.7. Prior to the commencement of waste activities the licensee shall make arrangements for representative meteorological data to be collated for the facility to fulfil the requirements of Schedule E.5: Meteorological Monitoring.
- 9.8. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency. All ditches and drains located around the perimeter of the facility are to be kept clear such that access for monitoring is available at all times.
- 9.9. The licensee shall maintain all sampling and monitoring points, and clearly label and name (including national grid number) all sampling and monitoring locations, so that they may be used for representative sampling and monitoring.
- 9.10. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturer instructions (if any) so that all monitoring results accurately reflect any emission or discharge or environmental parameter.

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- 9.11. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
 - 9.12. A written record shall be kept of the names, qualifications and a summary of relevant experience of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.
 - 9.13. A topographical survey including the void space shall be carried out within six months of the commencement of waste activities. It shall be repeated annually thereafter. The survey method shall be agreed in advance with the Agency.
 - 9.14. An annual biological assessment of Brittas River shall be undertaken. This assessment shall use the EPA Q-rating system for the assessment of rivers and streams. The report shall include a drawing showing the location of monitoring points, each identified by a unique number and a twelve figure grid reference.
 - 9.15. Prior to any development of the undisturbed ground surface area and the soil heaps in the northern area, the advice and guidance of Dúchas the Heritage Service shall be sought. If considered necessary by the Agency and Dúchas, archaeological monitoring shall be carried out. On completion of such development a report of the results of any archaeological monitoring shall be submitted to the Agency and copied to Dúchas.
 - 9.16. All environmental monitoring shall commence no later than two months after the commencement of waste activities, unless otherwise specified by this licence or agreed by the Agency.
 - 9.17. Monitoring infrastructure which proves to be unsuitable for its purpose shall be replaced within three months of monitoring results indicating that the monitoring infrastructure is damaged or unsuitable, unless otherwise agreed in advance with the Agency.
 - 9.18. Prior to the commencement of waste activities and annually thereafter, the licensee shall carry out a stability assessment of the side slopes of the facility and provide a report on that assessment to the Agency.
 - 9.19. All landfill gas monitoring equipment used for monitoring landfill gas under the requirements of this licence shall be certified as being intrinsically safe.
 - 9.20. All on-site monitoring points as described in Condition 9 shall be tagged in site with their agreed sampling point codes within six months of the commencement of waste activities.

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

CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1. Prior to the commencement of waste activities, the licensee shall submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment.
- 10.2. Contingency Arrangements for the facility shall be as detailed in Attachment K of the licence application, unless otherwise agreed with the Agency.
- 10.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.
- 10.4. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.
- 10.5. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency. Immediate action shall be taken to extinguish it and the appropriate authorities notified.
- 10.6. In the event that monitoring of local wells (identified in Condition 9) and livestock water supplies indicates that the facility is having a significant adverse effect the quantity and/or quality of the water supply this shall be treated as an incident. The licensee shall submit to the Agency for its agreement and within a time specified in writing by the Agency, written proposals for the provision of an alternative supply of water to those affected.
- 10.7. Unless otherwise notified in writing by the Agency, in the event that any monitoring, sampling, complaints or observations indicate that an incident has, or may have, taken place, the licensee shall immediately:
 - a) identify the date, time and place of the incident;
 - b) carry out an immediate investigation to identify the nature, source and cause of the incident and any emission;
 - c) isolate the source of the emission;
 - d) evaluate the environmental pollution, if any, caused by the incident;
 - e) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
 - f) provide a proposal to the Agency for its agreement within one month to:
 - i) identify and put in place measures to avoid reoccurrence of the incident;
and
 - ii) identify and put in place any other appropriate remedial action.
- 10.8. In the event that monitoring of the slide slopes of the facility indicate that there may be a risk of slope failure, this will be treated as an incident and a proposal for remediation action submitted to the Agency for its agreement within one month of the date of the monitoring being carried out.

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- 10.9. The licensee shall carry out a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities and shall, within six months of the commencement of waste activities submit a report, including recommendations on the risk assessment to the Agency for its agreement. The Chief Fire Officer of South Dublin County Council shall be consulted by the licensee during this assessment.

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

CONDITION 11 CHARGES AND FINANCIAL PROVISIONS

11.1 Agency Charges

- 11.1.1 The licensee shall pay to the Agency an annual contribution of £ 14,382 or such sum as the Agency from time to time determines, towards the cost of monitoring the activity or otherwise in performing any functions in relation to the activity, as the Agency considers necessary for the performance of its functions under the Waste Management Act, 1996. The licensee shall in 2001 and subsequent years, not later than January 31 of each year, pay to the Agency this amount updated in accordance with changes in the Public Sector Average Earnings Index from the date of the licence to the renewal date. The updated amount shall be notified to the licensee by the Agency. For 2000, the licensee shall pay a pro rata amount from the date of this licence to 31st December 2000. This amount shall be paid to the Agency within one month of the date of grant of this licence.
- 11.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased or decreased the licensee shall contribute such sums as determined by the Agency to defraying its costs.

11.2 Financial Provision for Closure, Restoration and Aftercare

- 11.2.1 The licensee shall arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for its agreement within six months of date of grant of this licence.
- 11.2.2 Within nine months of the date of grant of this licence, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.
- 11.2.3 The amount of financial provision, held under condition 11.2.2 shall be reviewed and revised as necessary, but at *least annually*. Any proposal for such a revision shall be submitted to the Agency for its agreement.
- 11.2.4 The licensee shall *within two weeks of purchase, renewal or revision* of the financial provision required under condition 11.2.2, forward to the Agency written proof of such indemnity.

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

SCHEDULE A : Content of the Environmental Management Programme

Environmental Management Programme

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

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

Designation of Responsibility for Achieving Targets and Objectives

Other items specified by the Agency

SCHEDULE B :Content of the Annual Environmental Report

Annual Environmental Report Content ^{NOTE 1}

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.

Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.

Methods of deposition of waste.

Summary report on emissions.

Summary of results and interpretations of environmental monitoring, including plans and any updates of all monitoring locations including 12 digit grid references.

Resource and energy consumption summary.

Proposed development of the facility and timescale of such development.

Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.

Report on restoration of completed cells/ phases.

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

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

Estimated annual and cumulative quantity of indirect emissions to groundwater.

Monthly water balance calculation and interpretation.

Report on the use of the recovered materials.

Schedule of Environmental Objectives and Targets for the forthcoming year.

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

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

Tank, pipeline and bund testing and inspection report.

Reported incidents and Complaints summaries.

Review of Nuisance Controls.

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

Any other items specified by the Agency.

NOTE 1 Content to be revised subject to the agreement of the Agency after cessation of waste acceptance at the facility.

SCHEDULE C :Recording and Reporting to the Agency

Table C.1 Recurring Reports

Report	Reporting Frequency ^{Note1}	Report Submission Date
Environmental Management System Updates	Annually	One month after the end of the year reported on.
Annual Environment Report (AER)	Annually	Thirteen months from the date of commencement of the development and one month after the end of each year thereafter.
Record of incidents	As they occur	Within five days of the incident.
Bund, tank and container integrity assessment	Every three years	Six months from the date of installation of the bunds, tanks and containers and one month after end of the three year period being reported on.
Specified Engineering Works reports	As they arise	Prior to the works commencing.
Monitoring of landfill gas	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Surface Water Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Groundwater Quality	Quarterly	Ten days after end of the quarter being reported on.
Monitoring of Leachate	Quarterly	Ten days after end of the quarter being reported on.
Dust Monitoring	Three times a year	Ten days after the period being reported on
Noise Monitoring	Annually	One month after end of the year being reported on.
Any other monitoring	As they occur	Within ten days of obtaining results.

Note 1: Unless altered at the request of the Agency

SCHEDULE D :Specified Engineering Works

Specified Engineering Works	
<p>Development of Phases and future Cells of the facility including preparatory works and lining.</p> <p>Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control).</p> <p>Fencing and site security works.</p> <p>Bunding of fuel and oil storage areas.</p> <p>Installation of grit chamber, holding tank and oil interceptors.</p> <p>Installation of landfill gas management and monitoring systems including permanent systems.</p> <p>Installation of alternative drinking water supplies.</p> <p>Installation of groundwater control and/or monitoring systems.</p> <p>Surface water management works including diversion of surface water drainage and silt controls.</p>	<p>Screening for the waste component separation and concrete crusher.</p> <p>Waste inspection and quarantine areas.</p> <p>Weighbridge.</p> <p>Wheelwash/wheelcleaner.</p> <p>Restoration and Aftercare Works.</p> <p>Nuisance control measures.</p> <p>Any waste component separation on site.</p> <p>Any other works notified in writing by the Agency.</p>

SCHEDULE E :Monitoring

Monitoring to be carried out as specified below.

E.1 Landfill Gas

Landfill gas monitoring locations shall be those as set out in Table E.1.1 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.1.2.

Table E.1.1 Perimeter Monitoring Locations

STATION
GP 1
GP 2
GP 3
GP 4
Site Office

Table E.1.2 Landfill Gas Monitoring Frequency and Technique

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

Note1: All monitoring equipment used should be intrinsically safe.

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

E.2 Dust

Dust monitoring locations shall be those as set out in Table E.2.1 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.2.2.

Table E.2.1 Dust Monitoring Locations

STATION
D 1
D 2

Table E.2.2 Dust Monitoring Frequency and Technique

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

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

Note 2: Twice during the period May to September, or as otherwise specified in writing by the Agency. With the agreement of the Agency monitoring can cease once landfill restoration is complete.

E.3 Noise

Noise monitoring locations shall be those as set out in Table E.3.1 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.3.2.

Table E.3.1 Noise Monitoring Locations

STATION
N 1
N 2
N 3
N 4
N 5

Table E.3.2 Noise Monitoring Frequency and Technique

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

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

E.4 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Table E.4.1 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.1 Surface Water Monitoring Locations

STATION
SW 1
SW 2
SW 3
SW 4
SW 5

Additional monitoring points to be included subject to Condition 9.8 (Discharge of diverted surface water to the tributary of the Brittas River). At minimum, diverted surface water shall be monitored monthly (unless flow in that month does not allow such monitoring) for parameters denoted by Note 4 in Table E.4.4, at a monitoring location to be agreed with the Agency.

Groundwater monitoring locations shall be those as set out in Table E.4.2 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.2 Groundwater Monitoring Locations

STATION
MW 1
MW 2
MW 3
MW 4
Monitoring points Identified as part of Condition 9.4.

Leachate monitoring locations shall be those as set out in Table E.4.3 and shown on Drwg. No. J1.0 Environmental Monitoring submitted as part of the application and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.3 Leachate Monitoring Locations

LEACHATE INSPECTION MANHOLES
Location in each cell to be agreed in advance with the Agency

Table E.4.4 Water and Leachate - Parameters /Frequency

Parameter ^{Note 1}	SURFACE WATER Monitoring Frequency	GROUNDWATER Monitoring Frequency	LEACHATE Monitoring Frequency
Visual Inspection/Odour	Weekly	Quarterly	Monthly
Groundwater Level	Not Applicable	Monthly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Monthly
Ammoniacal Nitrogen	Biannually ^{Note 4}	Monthly ^{Note 5}	Not Applicable
BOD	Biannually ^{Note 4}	Not Applicable	Not Applicable
COD	Biannually	Not Applicable	Not Applicable
Chloride	Biannually	Quarterly	Not Applicable
Dissolved Oxygen	Biannually	Quarterly	Not Applicable
Electrical Conductivity	Biannually ^{Note 4}	Monthly ^{Note 5}	Not Applicable
pH	Biannually ^{Note 4}	Monthly ^{Note 5}	Not Applicable
Total Suspended Solids	Quarterly ^{Note 4}	Not Applicable	Not Applicable
Temperature	Biannually ^{Note 4}	Monthly	Not Applicable
Boron	Not Applicable	Annually	Not Applicable
Cadmium	Not Applicable	Annually	Not Applicable
Barium	Quarterly	Quarterly	Not Applicable
Calcium	Biannually	Quarterly	Not Applicable
Chromium (Total)	Not Applicable	Annually	Not Applicable
Copper	Not Applicable	Annually	Not Applicable
Cyanide (Total)	Not Applicable	Annually	Not Applicable
Fluoride	Not Applicable	Annually	Not Applicable
Iron	Not Applicable	Annually	Not Applicable
Lead	Not Applicable	Annually	Not Applicable
List I/II organic substances ^{Note 2}	Not Applicable	Annually	Not Applicable
Magnesium	Not Applicable	Annually	Not Applicable
Manganese	Biannually	Quarterly	Not Applicable
Mercury	Not Applicable	Annually	Not Applicable
Potassium	Not Applicable	Quarterly	Not Applicable
Sulphate	Biannually	Quarterly	Not Applicable
Sodium	Biannually	Quarterly	Not Applicable
Total Alkalinity	Not Applicable	Annually	Not Applicable
Total Phosphorus / orthophosphate	Biannually ^{Note 4}	Annually	Not Applicable
Total Oxidised Nitrogen	Not Applicable	Quarterly	Not Applicable
Total Organic Carbon	Not Applicable	Annually	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Not Applicable	Annually	Not Applicable
Phenols	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms ^{Note 3}	Not Applicable	Annually	Not Applicable
Total Coliforms ^{Note 3}	Not Applicable	Annually	Not Applicable
Biological Assessment	Annually ^{Note 5}	Not Applicable	Not Applicable

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

- Note 2: 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 (US Environmental Protection Agency method 525 or equivalent, and pesticides (US Environmental Protection Agency method 608 or equivalent). In cases where large quantities of harbour dredgings have been accepted at the facility it is recommended to analyse for organotin compounds. Where there is reason to suspect organophosphorous contamination it is recommended to also scan for these compounds.
- Note 3: If there is evidence of bacterial contamination, the analysis at up gradient and downgradient monitoring points should include enumeration of total bacteria at 22°C and 37°C and faecal streptococci.
- Note 4: Discharge of diverted surface water, at a monitoring location to be agreed in accordance with Condition 9.5, shall be monitored on a monthly basis for these parameters unless flow in that month does not allow such monitoring.
- Note 5: Appropriate biological methods (such as EPA Q-Rating System to be used for the assessment of rivers and streams).

E.5 Meteorological Monitoring

Table E.5.1 Meteorological Monitoring:

Data to be obtained from the nearest approved Met. Eireann Station.

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

SCHEDULE F :Emission Limits

F.1 Noise Emissions: (Measured at the monitoring points indicated in Table E.3.1).

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

F.2 Landfill Gas Concentration Limits: (Measured in any building on or adjacent to the facility).

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

F.4 Dust Deposition Limits: (Measured at the monitoring points indicated in Table E.2.1).

Level (mg/m ² /day) ^{Note 1}
350

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

F.5 Surface Water Discharge Limits: Measured at the monitoring points to be agreed in advance with the Agency.

Level (Suspended Solids mg/l)
25

SCHEDULE G : Waste Acceptance

G.1 Acceptable Waste Categories and Quantities

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Construction and Demolition	200,000

G.2 Acceptable Waste

Disposal

Only the inert wastes in Table G.2.1 are acceptable for disposal at the facility, unless otherwise agreed with the Agency. In addition the waste in Table G.2.1 below must satisfy the criteria in G.3 Acceptance Criteria and Table G.4 Limit values for pollutant content for inert waste landfills, of this licence.

Table G.2.1 Waste for Disposal

INERT OR INACTIVE WASTE	
Subsoil	Pottery and China
Clay	Brickwork
Stone, Rock and Slate	Natural Sand

Recovery

Only the wastes in Table G.2.2 are acceptable for recovery at the facility, unless otherwise agreed with the Agency.

Table G.2.2 Waste for Recovery

WASTE	
Topsoil	Solid Road Planings, Solid Tarmacadam, Solid Asphalt
Subsoil	Brickwork
Stone, Rock and Slate	Natural Sand
Clay	Concrete
Pottery and China	Timber
Metals	

G.3 Acceptance Criteria

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

Level 1: Basic Characterisation

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

Level 2: Compliance Testing

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

Level 3: On-site verification

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

All waste loads must provide the following information (if available) :

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

All wastes accepted for disposal at the landfill shall undergo the Level 3: On-site verification at a minimum.

In addition to the above a representative load from every excavation/demolition/waste removal works is subjected to a comprehensive assessment which must satisfy Level 1 characterisation.

The comprehensive assessment must at a minimum include the following:

1. A chemical analysis of a representative sample. At least one sample per 1,500 tonnes or portion thereof must be taken for chemical analysis for each excavation or demolition works. However, if the comprehensive assessment is undertaken prior to the commencement of excavation or clearance activity, the licensee may reduce the number of samples for chemical analysis to one for each 7,5000 t or portion thereof. The sampling location must be identified on a sampling grid and enclosed in the comprehensive assessment.
2. An evaluation of the acceptability of the disposal of the waste at the landfill including observance of limits for total pollutants contents in Schedule G.4 below.
3. A statement of any pre-treatment requirement (if any).
4. Evidence that the waste displays no hazardous properties upon disposal.

If as a result of examinations undertaken in the course of excavation or clearance activity, the suspicion of contamination should arise, the type and concentration of the contamination must be determined, and its extent established through additional sampling.

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

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

A representative sample shall be taken from one in every 100 loads of waste accepted at the facility. This sample shall be subjected to Level 2 testing. Part of this sample shall be retained at the facility for three months and be available for inspection/analysis by the Agency.

G.4 Limit values for pollutant content for inert waste landfills.

The following limit values relate to the average amount of constituent substances in the waste. The mean value of all individual measuring values from one bulk sample must not exceed the limit value concerned. (refer to Condition 5.2.3)

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

Nitrite (as N)		10.0
Phosphate (as P)		50.0
Sulphate (as SO ₄)		5000.0
TOC (as C)	30,000.0 ¹	500.0
Total hydrocarbons	100.0	50.0
EOX		3.0
Total PAH ²	2.0	

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

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

Given by the Agency on the 11th day of August 2000.

Signed on behalf of the said Agency
on the 11th day of August 2000

B. Sheehan Authorised Person