

## A ATTACHMENTS

### ATTACHMENT A.1 Non-Technical Summary

#### 1.0 INTRODUCTION

Following a meeting with the European Commission on 12 December 2007, the EPA instructed Wicklow County Council to make an application for a Waste Licence Review for Ballymurtagh Landfill.

The application is in response to the outcome of the European Court of Justice decision (ECJ Case 248/05) that Ireland had failed to fulfil its obligations under the provisions of the Groundwater Directive (80/68/EC) with respect, inter alia, to Ballymurtagh Landfill.

The EPA advised that the application should “concentrate on the aspects of risk to surface and groundwaters, currently and into the future, for the facility as constructed”.

The EPA also instructed that an Environmental Impact Statement (EIS) would be required for the review application. Unlike a normal supporting EIS, however, the EPA directed that the “*scope and detail of this EIS will on account of the unique circumstances, be narrow in focus and should concentrate on risks to surface and groundwater, and any other emissions management as may be relevant*”.

Furthermore, as it now forms part of the facility, the EPA directed that “the operation of the associated Civic Waste Facility be included in the review application and EIS”.

All of the environmental impacts in relation to the landfill have been assessed in the EIS in accordance with Irish and EU legislative procedures. As directed by the EPA, the EIS has concentrated on the risks to surface and groundwater and a comprehensive assessment of the groundwater and surface water regime at Ballymurtagh Landfill has been presented.

#### 2.0 SITE DESCRIPTION

Ballymurtagh Landfill is located in the townlands of Ballymurtagh, Ballygahan Upper, Ballygahan Lower, and Tinnahnich in the Vale of Avoca approximately 1.5 km north-west of the village of Avoca in Co. Wicklow as shown on the Site Location and Layout Plan in Attachment B.1(i). Wicklow County Council are the beneficial owners of the site and Avoca Mines Limited in receivership are the legal owners. The Wicklow County Council ownership boundary is marked in blue on Attachment B.1(i).

The landfill occupies a disused open pit of the closed Avoca mines known as the Ballymurtagh Open Pit which was excavated by Avoca Mines Ltd between 1973 and 1979 on the surface extension of the Pond Lode, which had been previously mined by underground methods.

The landfill was designed in 1987, twelve years prior to the EU Landfill Directive of 1999. The landfill was designed to operate under a ‘disperse and dilute’ method,

under determined advice that this method would not result in harm to the Avoca River. The engineered landfill included a bottom liner in the form of low-permeability mine tailings whose function would reduce or limit the risk of pollution to groundwater. The embankment constructed to the front of the landfill was also partially lined to a height of 5m with butyl rubber.

A Waste Licence was granted by the EPA to Wicklow County Council in April 2001 (EPA Licence Register W0011-01). The landfill was closed in 2002. Restoration commenced in 2004, capping was carried out in 2005 and landscape works was completed in 2006. Under the terms of the current Waste Licence, the landfill is subject to on-going environmental monitoring.

The 'Principal activity' between 1989 and 2002, was to 'deposit [waste] in, on or under land'. It is estimated that approximately 480,000 tonnes of waste were deposited at the site from the date it became operational in 1989 until waste acceptance ceased on the 31 December 2002.

The remaining activity at Ballymurtagh Landfill is at the Civic Amenity site, located on the old landfill access road and consists of temporary storage of household recyclables, pending collection to other recovery sites. Site operations are stipulated in the existing Waste Licence and are carried out with procedures for waste acceptance, waste handling, and transfer of materials. The Civic Waste Facility was opened in February 2003 after the closure of the landfill in December of 2002. The hours of opening at the Civic Waste Facility are Tuesday to Saturday from 10am to 1pm and 1pm to 4pm. The facility is closed on Mondays. A copy of the layout of the Civic Amenity Site is presented as Attachment D.1(iii).

The quantity of waste currently handled at the site is in the order of 600 tonnes per annum of household recyclables.

### **3.0 SITE INFRASTRUCTURE AND OPERATION**

Ballymurtagh Landfill was designed as a dilute and disperse facility with a base liner of consolidated tailings. It does not have a leachate collection system. However the capping of the landfill and the surface water drainage works assist in the prevention of the ingress of surface water with a consequential reduction in the generation of leachate. Levels of leachate and samples of leachate are monitored in accordance with the current Waste Licence for the facility.

The existing environment in terms of groundwater quality and the potential impacts of the landfill on surface and groundwater is the principal purpose of this Waste Licence Review Application. Water balance calculations, leachate generation and monitored leachate levels at the landfill are dealt with in detail in Sections 6 and 7 of the accompanying EIS.

A gas extraction system has been installed at Ballymurtagh Landfill in accordance with the current Waste Licence of the facility. The system consists of a network of wells, connected to a flaring system. A copy of the Gas Management System Plan for the facility is presented on Attachment D.5(i) .

The installation of capping at Ballymurtagh Landfill was completed in 2006. There is an annual slope stability assessment report carried out at the site. The Landfill Stability Report carried out in January 2009 concluded that the existing slopes at Ballymurtagh Landfill are stable.

#### **4.0 ENVIRONMENTAL EMISSIONS**

The landfill has been restored and the only emission to atmosphere is from the Gas Flare and the minor/fugitive emissions as reported to the EPA on an annual basis in the AER / PRTR Returns.

Surface water on-site is collected through the subsurface drainage system within the capping layer and then to the surface water retention pond and then to the Avoca River. The surface water layout is presented as Attachment E.2 (i).

Sanitary facilities at the site is provided by mobile toileting units where effluent is removed and disposed off site.

An assessment of the surface and groundwater at Ballymurtagh Landfill is the principal purpose of this Waste Licence Review Application and is dealt with in detail in Section 6 and 7 of the accompanying EIS.

Groundwater pathways in the landfill area are complex. There is no specific emission point to groundwater. Under natural conditions, groundwater flow would be from topographically higher areas to lower areas. However, the underground mine workings beneath the landfill site have significantly altered the hydrogeological conditions in the West Avoca mining area. Groundwater in the Avoca mines area flows towards the Avoca River valley whether through the adit systems or diffusively in bedrock and subsoils.

The landfill is restored and the last recorded complaint with regard to any emission from Ballymurtagh Landfill was in August 2005. Noise monitoring has continued at two noise sensitive locations NSL1 and NSL4 as agreed with the EPA in 2007. The most recent noise survey in March 2009 indicated that the only noise source at the site is from traffic on the main R752 road which runs adjacent to the site.

While gas flaring still occurs, the generator has been replaced by mains power and is no longer a source of noise. No noise emanating from the gas flare was audible at NSL1, the nearest noise sensitive location to the flare. The Civic Waste Facility continues at the site and occasional noise can be generated at low levels, which are not detectable at the noise sensitive locations NSL1 and 4.

#### **5.0 EMISSIONS CONTROL SYSTEMS**

Abatement of emissions to atmosphere is through the active venting and on-site flaring system. The current landfill gas control infrastructure and monitoring is in accordance with the existing Waste Licence for the facility. A Gas Flare Emissions Report is carried out biannually demonstrating the effectiveness of this abatement control system. A copy of the gas control infrastructure plan for the site is presented as Attachment F.1(i)

The surface water retention pond provides abatement in terms of suspended solids for the one emission point to surface water. Water quality test results carried out in 2006 and 2007 of the surface water discharge show that this discharge was within the EPA surface water quality standards and therefore no further abatement measures are considered necessary.

The landfill was designed to operate under a 'disperse and dilute' method. The landfill included a base liner in the form of low-permeability mine tailings whose function was to reduce or limit the risk of pollution to groundwater.

All environmental monitoring and sampling is carried out in accordance with Schedule E and F of the existing Waste Licence of the facility. The monitoring programme has been modified over the years with authorisation from the Agency. The current monitoring locations are presented on the Monitoring Points Plan in Attachment F.2(iii) and on the Location of Private Wells Plan F2.(iv).

Dust monitoring ceased when the restoration of the landfill was completed and noise monitoring was reduced to two noise sensitive locations in accordance with EPA letter W0011-1/gc06e.doc

Landfill Gas monitoring is carried out daily at the inlet to the flare and weekly at the site office. Monthly monitoring is undertaken at all of the gas monitoring locations as indicated on the Monitoring Points Plan presented on Attachment F.2(iii).

The landfill is closed and restored. Environmental nuisances are therefore limited to litter control, odour control, vermin control, fire control and road cleansing. The current control measures as outlined in the AER and the EMP for 2008 are implemented at the facility.

## **6.0 ENVIRONMENTAL IMPACT OF THE FACILITY**

The existing environment in terms of air quality and the potential impacts of atmospheric emissions associated with the facility are detailed in Section 9 of the accompanying EIS.

Since the landfill was capped in 2006 there have been no complaints with respect to atmospheric emissions from local residents demonstrating the effectiveness of the abatement measures employed at the facility. Routine monitoring for landfill gas is carried out in accordance with the current Waste Licence W0011-01. Weekly maintenance checks of the gas extraction system and the landfill gas flare minimises flare shutdowns and reduces the potential for odour emissions.

A dispersion modelling report on emissions from the Flare was carried out in February 2004, prior to capping of the landfill. This modelling exercise demonstrated that under normal operating conditions, the emissions from the combustion of landfill gas at the Ballymurtagh Landfill flare unit did not have an adverse impact on the local ambient air quality in the vicinity of the landfill or specifically, at local residents situated in proximity to the landfill site. The report also recommended that the height of the flare outlet be increased to optimise dispersion. Following landfill capping in 2006, the flare outlet was raised approximately 1m.

The existing environment in terms of surface water quality and the potential impacts of the landfill on surface and groundwater is the principal purpose of this Waste Licence Review Application and is dealt with in detail in Sections 6 and 7 of the accompanying EIS.

A multivariate statistical method known as a Principal Component Analysis (PCA) has been carried out on water quality data collected since the mid-1990s, when long-term monitoring began at the landfill. The PCA was carried out to help distinguish between the impacts of the landfill from those of the mine workings. Details are provided in Section 7 of the EIS.

The groundwater quality in the entire West Avoca mining area, including the landfill, is impaired and impacted by acid mine drainage. The impacts to groundwater have been documented prior to the landfill being constructed. Impacts on both sides of the river are of a similar nature, whereby contamination to groundwater and the Avoca River are attributed to mine waste and underground mine workings.

The existing environment in terms of noise and the potential impacts of noise from Ballymurtagh Landfill is presented in Section 4.2 of the accompanying EIS. In accordance with the current Waste Licence, noise monitoring is carried out on an annual basis at NSL1 and NSL4, the noise sensitive locations indicated on the Monitoring Points Plan in Attachment F.2(ii). Monitoring of noise emissions over recent years under the W0011-01 has found that Ballymurtagh Landfill has no impact at these noise sensitive locations.

The existing environment in terms of ecology and the potential impacts of the landfill on the ecology of the site and the surrounding area are discussed in Section 8 of the accompanying EIS.

Overall, the site and area in general has benefited ecologically from the infilling of the open pit, a legacy of decades of open cast mining at Avoca and a difficult environment for fauna and flora of many types. The planned revegetation of the landfill capping has improved the habitat, both for fauna and flora. This will continue to improve with time, to a point where the landfill site is completely integrated with its surrounding environment.

## **7.0 ACCIDENT PREVENTION AND EMERGENCY RESPONSE**

The annual Environmental Management Plan for Ballymurtagh Landfill reviews and outlines the accident and emergency response procedures for the facility on a yearly basis. Included are the Emergency Response procedures, the Environmental Incident Reporting Procedure and the Corrective Action Procedure.

## **8.0 RESTORATION AND AFTERCARE**

The Restoration and Aftercare Plan in 2003 set out the framework to successfully restore Ballymurtagh Landfill and integrate the facility with the surrounding environment. Capping of the facility was completed in 2005 and planting of the final configuration with ecologically appropriate species, tolerant to the site conditions as woodland, heathland and wild grasses was carried out in 2006. The restored landfill is mainly a grassland habitat.

Wicklow County Council continues to oversee the aftercare of the facility in accordance with the existing Licence and relevant EPA Landfill Manuals. An Environmental Management Plan is prepared annually, outlining the aftercare requirements of the landfill including a programme to achieve a Schedule of Objectives and Targets. The most recent Environmental Management Plan for Ballymurtagh Landfill was submitted to the EPA in 2008. The final landscaping plan is included as Attachment K.1(i).

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## **B ATTACHMENTS**

### **ATTACHMENT B.1 Site Ownership**

Wicklow County Council are the beneficial owners of the site and Avoca Mines Limited in receivership are the legal owners. See Attachment B1(i) for Wicklow County Council ownership boundary marked in blue.

#### **Attachment B.1(i) Site Location and Layout Map**

**ATTACHMENT B.2 Site Location and Layout Map.** See Attachment B.1(i)

### **ATTACHMENT B.3 Current Waste Licence**

A copy of the current Waste Licence Registration Number (W0011-01) is included with Attachment B.3(i)

#### **Attachment B.3(i) Copy of Current Waste Licence**

**ATTACHMENT B.4 Not Applicable – No Effluent Discharges**

**ATTACHMENT B.5 Not Applicable – Not within SFADCo Area**

### **ATTACHMENT B.6 Notices and Advertisements**

**Attachment B.6(i) Copy of Site Notice**

**Attachment B.6(ii) Location of Site Notice**

**Attachment B.6(iii) Complete Newspaper with Advertisement**

### **ATTACHMENT B.7 Type of Waste Activity**

As per the Third and Fourth Schedule of the Waste Management Acts 1996 to 2008 the principal and other activities are described as presented in Attachment B.7(i)

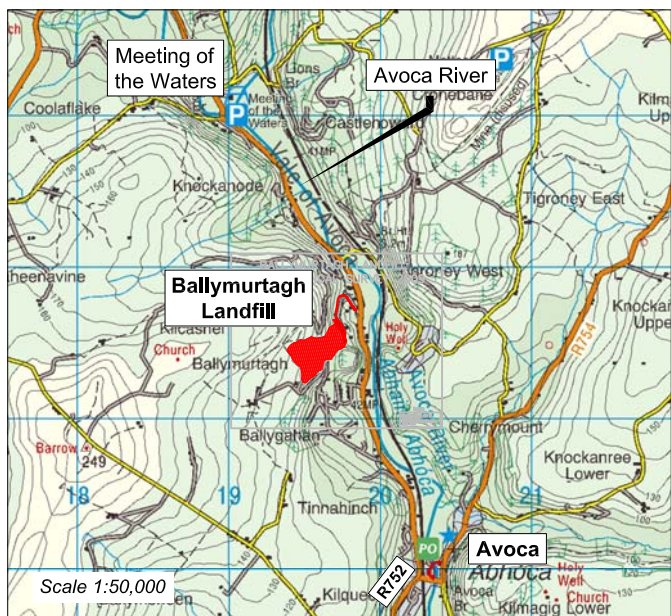
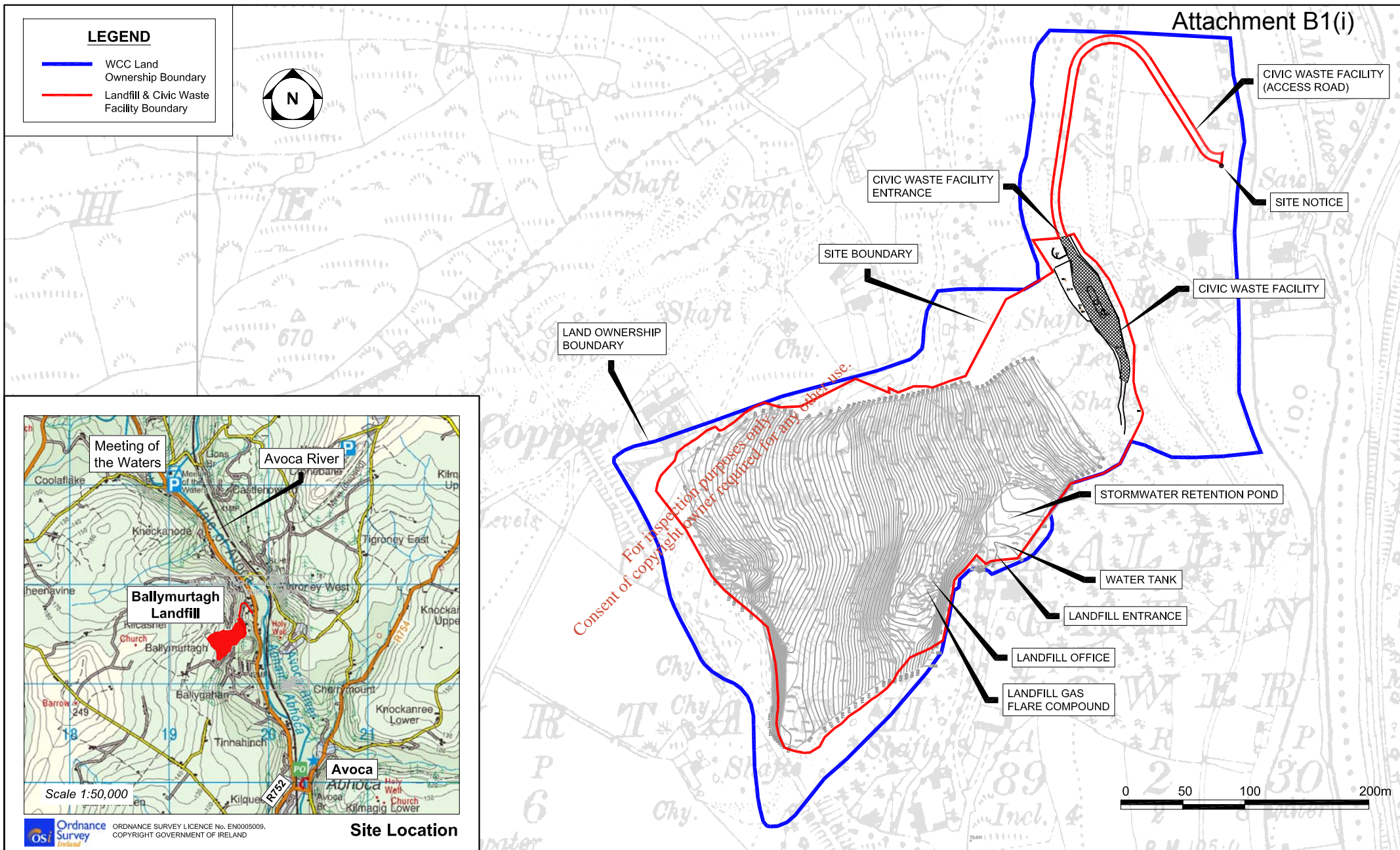
**Attachment B.7(i) Type of Waste Activity**

**ATTACHMENT B.8 Not Applicable – SEVESO II Directive**

Consent of copyright owner required for any other use.

**LEGEND**

- WCC Land Ownership Boundary
- Landfill & Civic Waste Facility Boundary



**Site Location**

**NOTES**

1. Verifying Dimensions.  
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.  
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.  
Hard copies, dxf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipient's drawing production, or setting out on site.
4. Datum: Ordnance Survey Datum, Malin Head


No.	Date	Sub. Ck.	Amendment / Issue	App
A03	Nov '09	RH/PL	Issue for Approval	PL
A02	Nov '09	RH/PL	Issue for Approval	PL
A01	Oct '09	RH/PL	Issue for Approval	PL

**Client**



Wicklow County Council  
County Buildings,  
Wicklow,  
Co. Wicklow

Drawn By	Checked By	Approved By	Date
RH	PL	PL	Oct '09



West Plar  
Business Campus  
Dun Laoghaire  
Co. Dublin, Ireland

T +353 1 4882900  
F +353 1 2835676  
W [www.rpsgroup.com/ireland](http://www.rpsgroup.com/ireland)  
E [ireland@rpsgroup.com](mailto:ireland@rpsgroup.com)

Project	Sheet Size	Scale
Ballymurtagh Landfill	A4	NTS

Drawing Number	Rev
Title	
SITE LOCATION & LAYOUT PLAN	



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

**WASTE LICENCE**

For inspection purposes only.  
Consent of copyright owner required for any other use.

<b>Waste Licence Register Number:</b>	11-1
<b>Licensee:</b>	Wicklow County Council
<b>Location of Facility:</b>	Ballymurtagh Landfill, Ballygahan Upper, Ballygahan Lower, Tinnahinch, Co. Wicklow

## **Table of Contents**

	Page No.
<b>REASONS FOR THE DECISION</b>	<b>1</b>
<b><i>PART I ACTIVITIES LICENSED</i></b>	<b>1</b>
<b>INTERPRETATION</b>	<b>3</b>
<b><i>PART II CONDITIONS</i></b>	<b>6</b>
<b>CONDITION 1 SCOPE</b>	<b>6</b>
<b>CONDITION 2 MANAGEMENT OF THE ACTIVITY</b>	<b>6</b>
<b>CONDITION 3 NOTIFICATION AND RECORD KEEPING</b>	<b>8</b>
<b>CONDITION 4 SITE INFRASTRUCTURE</b>	<b>10</b>
<b>CONDITION 5 WASTE MANAGEMENT</b>	<b>14</b>
<b>CONDITION 6 ENVIRONMENTAL NUISANCES</b>	<b>17</b>
<b>CONDITION 7 EMISSIONS AND ENVIRONMENTAL IMPACTS</b>	<b>18</b>
<b>CONDITION 8 RESTORATION AND AFTERCARE</b>	<b>19</b>
<b>CONDITION 9 ENVIRONMENTAL MONITORING</b>	<b>20</b>
<b>CONDITION 10 CONTINGENCY ARRANGEMENTS</b>	<b>21</b>
<b>CONDITION 11 CHARGES AND FINANCIAL PROVISIONS</b>	<b>22</b>
<b>SCHEDULE A : Content of the Environmental Management Programme</b>	<b>24</b>
<b>SCHEDULE B : Content of the Annual Environmental Report</b>	<b>24</b>
<b>SCHEDULE C : Recording and Reporting to the Agency</b>	<b>25</b>
<b>SCHEDULE D : Specified Engineering Works</b>	<b>26</b>
<b>SCHEDULE E : Monitoring</b>	<b>27</b>
<b>SCHEDULE F : Emission Limits</b>	<b>32</b>
<b>SCHEDULE G : Waste Acceptance</b>	<b>34</b>

## 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 and the objection received and the reports of its inspectors.

## Part I Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act, 1996, the Environmental Protection Agency (the Agency), under Section 40(1) of the said Act hereby grants this Waste Licence to Wicklow County Council to carry on the waste activities listed below at Ballymurtagh Landfill, Ballygahan Upper, Ballygahan Lower, Tinnahinch, Co. Wicklow subject to eleven conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

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

<b>Class 1.</b>	<b>Deposit on, in or under land (including landfill):</b> This activity is limited to landfill of non-hazardous material.
<b>Class 2.</b>	<b>Land treatment, including biodegradation of liquid or sludge discards in soils:</b> This activity is limited to the disposal of treated sewage sludges.
<b>Class 6.</b>	<b>Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule:</b> This activity is limited to the composting of green wastes.
<b>Class 7.</b>	<b>Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule:</b> This activity is limited to the treatment of leachate generated on-site.
<b>Class 13.</b>	<b>Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced:</b> This activity is limited to storage of Construction and Demolition waste prior to use as daily cover, in on-site construction works or for restoration.

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

<b>Class 2.</b>	<b>Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes):</b> This activity is limited to the use of green wastes for composting.
<b>Class 3.</b>	<b>Recycling or reclamation of metals and metal compounds:</b> This activity is limited to the recycling of glass and metals.
<b>Class 4.</b>	<b>Recycling or reclamation of other inorganic materials:</b> This activity is limited to recycling of materials.
<b>Class 9.</b>	<b>Use of any waste principally as a fuel or other means to generate energy:</b> This activity is limited to landfill gas utilisation.
<b>Class 11.</b>	<b>Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:</b> This activity is limited to the use of construction/demolition waste including topsoil/subsoil for use as cover, in on-site construction works.
<b>Class 13.</b>	<b>Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:</b> This activity is limited to the storage of inert material prior to its use as cover, in on-site construction works and in capping and restoration.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

## INTERPRETATION

<b>Act</b>	The Waste Management Act, 1996 (No. 10 of 1996).
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Agreement</b>	Agreement in writing.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence, including any other material submitted to the Agency in writing by the licensee between the date of the application and the date of grant of this licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>BAT</b>	Best Available Technology
<b>Commercial waste</b>	As defined in Section 5 (1) of the Act.
<b>Condition</b>	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.
<b>Containment boom</b>	A boom which can contain spillages and prevent these from entering drains or watercourses.
<b>Cover material</b>	Bricks, crushed concrete, tarmac, 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.
<b>Daytime</b>	8.00 a.m. to 10.00 p.m.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>Emission</b>	As defined in Section 5 (1) of the Act.
<b>Emission Limit Value</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule F: Emission Limits</i> of this licence.
<b>Environmental Pollution</b>	As defined in Section 5 (1) of the Act.

<b>European Waste Catalogue (EWC)</b>	The EWC is a harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 94/3/EC and any subsequent amendment published in the Official Journal of the European Community.
<b>Facility</b>	That area or areas defined under Condition 1.2
<b>Hazardous Waste</b>	As defined in Section 4 (2) of the Act.
<b>Household Waste</b>	As defined in Section 5 (1) of the Act.
<b>Inert waste</b>	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.
<b>Incident</b>	Any reference to an incident in this licence means an incident as defined in Condition 3.1.
<b>Industrial waste</b>	As defined in Section 5 (1) of the Act.
<b>Landfill</b>	As defined in Section 5 (1) of the Act.
<b>Landfill Gas</b>	Gases generated from the landfilled waste.
<b>Leachate</b>	Any liquid percolating through the deposited waste and emitted from or contained within a landfill as defined in Section 5 (1) of the Act.
<b>LEL (Lower Explosive Limit)</b>	The lowest percentage concentration by volume of a mixture of flammable gas with air which will propagate a flame at 25°C and atmospheric pressure.
<b>Licence</b>	A Waste Licence issued in accordance with the Act.
<b>Licensee</b>	Wicklow County Council
<b>List I/II Organics</b>	Substances classified pursuant to EC Directives 76/464/EEC and 80/68/EEC.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter.
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing and repair as may be necessary to adequately perform its function.
<b>Mobile Plant</b>	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
<b>Monthly</b>	At least 12 times per year, at approximately monthly intervals.
<b>Municipal Waste</b>	Municipal waste as defined in Section 5 (1) of the Act.
<b>Night-time</b>	10.00 p.m. to 8.00 a.m.

<b>Non-hazardous waste</b>	Non-Hazardous Waste is any waste which is not a hazardous waste as defined in the Act.
<b>Quarterly</b>	A period of three calendar months, the first period of which commences on the date of grant of this licence.
<b>Recovery</b>	As defined in Section 4 (4) of the Act.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments
<b>Sludge</b>	The accumulation of solids resulting from chemical coagulation, flocculation and/or sedimentation after water or wastewater treatment with between 2% and 14% dry matter.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule F: Emission Limits</i> of this licence.
<b>Specified Engineering Works</b>	Those engineering works listed in <i>Schedule D: Specified Engineering Works</i> of this licence.
<b>Submit</b>	Unless the context of this licence indicates otherwise, submit in writing to the Agency for its agreement.
<b>Treated Sludge</b>	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.
<b>Trigger Level</b>	A parameter value which when achieved or exceeded requires certain actions to be taken.
<b>Waste</b>	As defined in Section 4(1) of the Act.
<b>Waste disposal activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Third Schedule thereto.
<b>Waste recovery activity</b>	Includes the activities referred to in Section 4 of the Act and listed in the Fourth Schedule thereto.
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>Working Day</b>	8.30 a.m. to 6.00 p.m. Monday to Friday.
<b>Working Face</b>	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 **Figure No. 02 Rev B "Ownership Map" Nov 1997** 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:** To clarify the scope of this licence.

### CONDITION 2 MANAGEMENT OF THE ACTIVITY

- 2.1 Environmental Management System
  - 2.1.1 The licensee shall within nine months from the date of grant of this licence, submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for 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, within nine months from the date of grant of this licence, submit to the Agency for its agreement a Schedule of Objectives and Targets. The objectives should be specific and the targets measurable.

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

2.3 Environmental Management Programme

2.3.1 The licensee shall, within six months from the date of grant of this licence, submit to the Agency for its agreement an Environmental Management Programme (EMP). The EMP shall include a time-scale for achieving the Schedule of Objectives and Targets and shall comply with any other guidance issued by the Agency.

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

2.4 Corrective Action

2.4.1 Within three months of the date of grant of this licence 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 Within three months of the date of grant of this licence 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 management structure of the facility shall be as outlined in L5. Management Structure & Organisational Chart. Any proposed changes in the management structure shall be submitted to the Agency for its agreement. This includes changes in any of the following:

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

2.7 Communications

2.7.1 Within three months from the date of grant of this licence, the licensee shall 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 grant of this licence, 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* of this licence, 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 a.m. 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) notify the Eastern Regional Fisheries Board, for incidents relating to possible discharges to surface water, as soon as practicable and in any case not later than 10.00 a.m. 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 with 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.
- 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 Unless otherwise agreed with the Agency, the licensee shall retain all documentation and records required to be made under this licence.
- 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 For all loads of waste arriving at the facility, other than those arriving at the civic waste facility, the licensee shall record the following:
- a) the date;
  - b) the name of the carrier (including if appropriate, the waste carrier registration details);
  - c) the vehicle registration number;
  - d) the name of the producer(s)/collector(s) of the waste as appropriate;
  - e) a description of the waste including the associated EWC codes;
  - f) the quantity of the waste, recorded in tonnes;

- g) the name of the person checking the load; and,
  - 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.
- 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 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.
- 3.13 The licensee shall assign and clearly label a unique reference code to each container at the Civic Waste Facility. A written record shall be kept for each load of waste departing from the facility. The following shall be recorded:
- 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 name of the carrier;
  - e) the vehicle registration number;
  - f) the destination of the waste (facility name and waste licence/permit number as appropriate);
  - g) a description of the waste (if recovered or rejected waste, the specific nature of the waste);
  - h) the quantity of waste recorded in tonnes;
  - i) the name of the person checking the load; and,
  - j) the time and date of departure.
- 3.14 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.

**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 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 Within three months of the date of grant of the licence, all defects in the existing site gates and fences shall be temporarily rectified to prevent trespassing to the facility.

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

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

4.5 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.

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 to be agreed 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.

4.8 The licensee shall maintain the weighbridge at the facility.

#### 4.9 Wheelwash

- 4.9.1 The licensee shall maintain the wheelwash/dry wheel shake out at the facility.
- 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.
- 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 Unless otherwise agreed in advance by the Agency, the licensee shall establish and maintain a treatment system at the facility for all sewage arising on site. The treatment system shall satisfy the recommendations set out in the Agency's guidance document "Wastewater Treatment Manuals – Treatment Systems for Single Houses".
- 4.12 Storage Areas
- 4.12.1 The licensee shall provide and maintain a bunded fuel storage area at the facility. Fuels 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. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.
- 4.12.6 All tanks and containers shall be labelled to clearly indicate their contents.
- 4.13 Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement, details for the storage of fridges at the facility.
- 4.14 Specified Engineering Works
- 4.14.1 The licensee shall submit written proposals for all 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.

- 4.14.2 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.
- 4.14.3 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.
- 4.15 Landfill Gas Management:
- 4.15.1 Within six months of the date of grant of this licence a proposal, including a feasibility study proposal, for the utilisation of landfill gas as an energy resource shall be submitted to the Agency for its agreement.
- 4.15.2 Flare unit efficiency shall be tested within six months of the date of grant of this licence and once every three years thereafter.
- 4.15.3 Within nine months of the date of grant of the licence, the open gas flare unit shall be upgraded to an enclosed flare unit.
- 4.15.4 The licensee shall maintain all gas wells, pipework, valves, pumps, flares and other infrastructure that form part of the landfill gas management scheme in a safe and fully operational manner.
- 4.15.5 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment's 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.
- 4.16 Capping
- 4.16.1 Within six months of the date of grant of the licence the licensee shall ensure that all completed areas are covered by an intermediate cover of at least 300 mm.
- 4.16.2 Final capping shall consist of the following:
- (i) top soil (150 – 300 mm);
  - (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  $1 \times 10^{-4}$  m/s;

- (iv) compacted mineral layer of a minimum 0.6m thickness with a permeability of less than  $1 \times 10^{-9}$  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.

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.

#### 4.17 Surface Water Management

4.17.1 The licensee shall ensure effective control of surface water run off from the facility during operation and restoration.

4.17.2 Within six months of the date of grant of this licence the licensee shall submit a management plan for the control of surface water run off from the facility during construction, operation, restoration and potential contingency events. The plan, as a minimum, shall include:

- (i) an assessment of the need for a storm water retention pond or other measures for the collection and storage of surface water from the facility prior to discharge to the perimeter streams via silt traps or a reed bed system;
- (ii) the installation of an outlet facility for preventing surface water discharges in the event that monitoring should indicate contamination of the surface water;
- (iii) the prevention of leachate seepage into the surface water drains;
- (iv) the collection/diversion of run off arising from capped and restored areas; and
- (v) the installation of surface water perimeter drains.

#### 4.18 Groundwater management.

4.18.1 Within six months of the date of grant of this licence, the licensee shall submit a proposal to the Agency to examine the feasibility of controlling groundwater discharges and the impact of same on the Avoca river taking account of the GSI Hydrogeological Study, February 1994.

#### 4.19 Civic Waste Facility

4.19.1 The licensee shall relocate the Civic Waste Facility from its temporary location to the location as outlined on **Figure BALL-EIS-005 Rev. A** within six months of the date of grant of this licence.

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

## CONDITION 5 WASTE MANAGEMENT

5.1. No hazardous wastes shall be disposed of at the facility.



- 5.2. Subject to Condition 5.1, and any requirements of Condition 5.3, only those waste types and quantities listed in *Schedule G: Waste Acceptance* of this licence shall be recovered or disposed of at the facility unless the prior agreement of the Agency has been obtained.
- 5.3. Compost facility
- In the event of the licensee establishing a compost facility, subject to Condition 4.14, only green waste shall be composted at the facility unless otherwise agreed with the Agency. The quantity of compost and waste held at the composting facility shall not exceed 1000 cubic metres at any one time.
- 5.4. Waste Acceptance Procedures and Waste Characterisation
- 5.4.1. Within three months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement detailed written procedures for the acceptance and handling of all wastes.
- 5.4.2. Testing shall be performed on a minimum of two samples per annum for all industrial sludges/solids being accepted at the facility and the results included in the AER.
- 5.4.3. Within three months of the date of grant of this licence, the licensee shall submit a proposal concerning the acceptance, handling and processing of wastes for deep burial. The proposal shall include provisions to ensure that excavations of waste to allow deep burial do not cause odour or other nuisances.
- 5.5. 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.
- 5.6. The quantity of wastes to be accepted for disposal at the landfill, shall not exceed 42,000 tonnes per annum.
- 5.7. Wastes shall not be deposited in any cell or part of the landfill without the prior agreement of the Agency.
- 5.8. Scavenging shall not be permitted at the facility.
- 5.9. Waste shall only be accepted at the facility between the hours of 9.00 a.m. to 5.30 p.m. Monday to Saturday inclusive with the exclusion of Bank Holidays. The Civic Waste Facility may accept waste from 8.30 a.m. to 6.00 p.m. Monday to Saturday.
- 5.10. Unless the prior agreement of the Agency is given, the following shall apply at the landfill:
- only one working face shall exist at the landfill at any one time for the deposit of waste other than cover or restoration materials;
  - 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,
  - 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.

- 5.11. The working face of the operational cell shall, at the end of each day, be covered with material suitable to minimise any nuisances occurring.
- 5.12. 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. Within three months of the date of grant of this licence, cover material shall be placed across the whole landfill so that no waste other than cover material or material suitable for specified engineering works is exposed.
- 5.13. The landfill shall be filled in accordance with a phase sequence to be agreed in advance with the Agency. The Agency shall be informed in writing at least one month prior to the licensee entering into a new phase.
- 5.14. Sludges
- Treated sewage sludges shall only be accepted at the facility between the hours of 9.00 a.m. and 2.00 p.m. Monday to Friday inclusive. The quantity of sludges to be accepted at the facility, shall not exceed 2,000 tonnes per annum. Sludges shall only be permitted to be disposed of at the facility from producers who hold a disposal permit issued by the licensee. Copies of such permits shall be available for inspection at the facility and shall be presented by the producer on delivery of the sludge consignment to the facility. All sludge shall be covered immediately with other waste.
- 5.15. A steel wheeled compactor or other such vehicle as agreed with the Agency shall be used for compacting all waste other than that used for restoration or construction purposes.
- 5.16. 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.
- 5.17. Wastes once deposited and covered shall not be excavated, disturbed or otherwise picked over with the exception of works associated with the construction and installation of the gas collection system or without the prior agreement from the Agency.
- 5.18. No smoking shall be allowed on the facility other than in the site offices as shown on **Figure No. 3." Site Plan"**.
- 5.19. Waste sent off-site for recovery or disposal shall only be conveyed to a waste contractor to be 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.
- 5.20. Civic Waste Facility
- a) Unless the prior agreement of the Agency is given only household waste and waste for recovery shall be accepted at the Civic Waste Facility. The Civic Waste Facility shall only be used by private vehicles. The Civic Waste Facility shall not be used as a transfer station for disposal of waste by commercial waste disposal contractors or local authority waste collection vehicles.
  - b) The quantity of waste to be accepted at the Civic Waste Facility shall not exceed 10,000 tonnes per annum unless otherwise agreed with the Agency.
  - c) No hazardous waste (excluding waste oil, batteries, fluorescent tubes, paint, household chemicals collected for recovery or disposal off-site), asbestos, liquid waste, sludge or offal shall be deposited at the Civic Waste Facility.

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

## CONDITION 6 ENVIRONMENTAL NUISANCES

- 6.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, 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 F5 of the Waste Licence Application shall be applied to control litter at the facility.
- 6.3.2. Notwithstanding Condition 6.3.1, prior to the disposal of any waste in any cell, litter fencing shall be installed and maintained around the perimeter of the active tipping area.
- 6.3.3. All litter control infrastructure shall be inspected on a daily basis and the licensee shall remedy any defect in the litter netting as follows:
- a) a temporary repair shall be made by the end of the working day; and,
  - b) a repair to the standard of the original netting shall be undertaken within three working days or as otherwise agreed with the Agency.
- 6.3.4. Within three months of the date of grant of this licence the licensee shall submit to the Agency for its agreement proposals for the operation of the facility in adverse wind conditions.
- 6.3.5. All loose litter accumulated within the facility and its environs, excluding that which is deposited at 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 10.00 a.m. 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. 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.
- 6.7. 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.
- 6.8. Prior to exiting the facility, all waste vehicles, other than cars exiting the Civic Waste Facility, shall use the wheelwash.

- 6.9. The licensee shall, within three months, submit to the Agency for its agreement a programme for the control and eradication of vermin and fly infestations at the facility. This programme 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. No recirculation of leachate or other contaminated water shall be undertaken.
- 7.3. All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.
- 7.4. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 7.5. Landfill Gas
- 7.5.1. 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:
- Methane, greater than or equal to 1.0% v/v; and
  - Carbon dioxide, greater than or equal to 1.5% v/v.
- 7.5.2. 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 :-
- in the case of landfill gas flare:
 

Temperature 273 K, pressure 101.3 kPa, dry gas at 3% oxygen; and
  - in the case of landfill gas combustion plant:
 

Temperature 273 K, pressure 101.3 kPa, dry gas; 5% oxygen.
- 7.5.3. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way:-
- 7.5.3.1. Continuous monitoring
- 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.

#### 7.5.3.2. 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 all other parameters, no 30 minute mean value shall exceed the emission limit value.
- (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.

#### 7.6. Emissions to Surface Water

7.6.1. Surface water discharges from the facility shall not result in any significant deterioration in the quality of the receiving waters.

7.7. There shall be no direct emissions to groundwater.

#### 7.8. Disposal of Leachate

Any leachate or other contaminated water removed from the facility shall be transported to a wastewater treatment plant whose name and location has been agreed in advance by the Agency.

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

## CONDITION 8 RESTORATION AND AFTERCARE

- 8.1. Within six months of the date of grant of this licence, the licensee shall submit to the Agency for its agreement a revised and updated Restoration and Aftercare Plan for the facility. The revised Plan shall take into consideration the cessation of disposal activities at the landfill facility. The Plan should be based on the information submitted as part of the application. In preparing the Plan the licensee shall have regard to the requirements of the Landfill Directive (1999/31/EC) and the guidance published in the Agency's *Landfill Manual: "Landfill Restoration and Aftercare"*. A schedule detailing the various stages of restoration, including timescales, shall be included in the Plan. The Restoration and Aftercare Plan must include stability assessment of the slopes of the facility and proposed slope stabilisation measures.
- 8.2. The restored height of the completed landfill shall be as detailed on **Drawings No. 99.007 01 & No. 99.007 02.**
- 8.3. 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 a location to be agreed with the Agency.

- 8.4. 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.
- 8.5. 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.
- 8.6. 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.
- 8.7. The restoration of the landfill facility shall be completed within two years after the cessation of disposal activities, unless otherwise agreed with the Agency.
- 8.8. Within nine months of the date of grant of this licence a detailed landscaping plan shall be submitted to the Agency for its agreement. The plan shall contain proposals for the planting of trees and shrubs, seeding of other areas, details of leachate and gas management/monitoring points (including method of access), site security measures and any other matter notified in writing by the Agency. It shall include a timetable for the commencement and completion of 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* of this licence and as specified in the Conditions of this licence.
- 9.2. Within six months from the date of grant of this licence, the licensee shall install additional monitoring points to detect off-site migration of landfill gas where the facility boundary adjoins residential properties.
- 9.3. All private wells, subject to the agreement of the well owners, within 500m of the facility shall be included in the monitoring programme set out in *Schedule E: Monitoring* of this licence.
- 9.4. Within three months from the date of grant of this licence, the licensee shall implement a monitoring programme for leachate levels within the filled waste. The programme shall include a drawing showing all leachate monitoring locations. The drawing shall also contain a unique reference number and a twelve figure national grid reference for each monitoring point.
- 9.5. Within six months from the date of grant of this licence, the licensee shall implement a monitoring programme for both the surface water discharged from the facility (and the flow in the discharge streams and rivers) with reference to Condition 4.17. The programme shall, at minimum, include and fulfil the requirements of *Schedule E.4: Surface Water Monitoring* of this licence.
- 9.6. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and off-site points as required by the Agency. All ditches and drains located around the perimeter of the facility are to be kept clear such that monitoring can be carried out successfully.
- 9.7. 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.

- 9.8. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers instructions (if any) so that all monitoring results accurately reflect any emission or discharge or environmental parameter.
- 9.9. The licensee shall amend the frequency, locations, methods and scope of monitoring, sampling, analyses and investigations only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.
- 9.10. 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 unless otherwise agreed with the Agency.
- 9.11. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the date of grant of this licence.
- 9.12. 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.
- 9.13. An assessment of the ecology of the restored landfill and adjoining habitats shall be undertaken and submitted to the Agency within one year of cessation of waste acceptance at the landfill. The scope, content and details of the contractor carrying out the assessment shall be submitted to the Agency for its agreement prior to the assessment. A progress report on the ecology of the restored landfill should be reported annually in the Annual Environmental Report.
- 9.14. Within six months of the date of grant of this licence, 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.
- 9.15. All landfill gas monitoring equipment used for monitoring landfill gas under the requirements of this licence shall be certified as being intrinsically safe.
- 9.16. Within three months of the date of grant of this licence, the licensee shall submit to the Agency an updated appropriately scaled drawing(s) showing the location of all existing monitoring locations that are stipulated in this licence.
- 9.17. All on-site monitoring points as described in Condition 9.1 shall be tagged in situ with their agreed sampling point codes within ten months of the granting of this licence.

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

## CONDITION 10 CONTINGENCY ARRANGEMENTS

- 10.1. The licensee shall, within six months of the date of grant of this licence, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment.
- 10.2. Unless otherwise agreed with the Agency, Contingency Arrangements for the facility shall be as detailed in Attachment K.1 "Contingency Arrangements" of the waste licence application.

- 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 9.3) indicates that the facility is having a significant adverse effect on the quantity and/or quality of the water supply this shall be treated as an incident. The licensee shall provide an alternative adequate and safe 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 recurrence of the incident; and
    - ii) identify and put in place any other appropriate remedial action.
- 10.8. In the event that monitoring of the side 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.

**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 £11,425 (€14,506) 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 2002 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 2001 the licensee shall pay a pro rata amount from the date of this licence to 31<sup>st</sup> December 2001. 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 from a date to be set by the Agency establish and maintain a fund, or written guarantee, that is adequate to assure the Agency that the licensee is at all times financially capable of implementing the Restoration and Aftercare Plan required by Condition 8.1. The type of fund and means of its release/recovery shall be agreed by the Agency prior to its establishment.

11.2.2 The fund shall be maintained in an amount always sufficient to underwrite the current Restoration and Aftercare Plan.

11.2.3 The licensee shall revise the cost of restoration and aftercare annually and any details of the necessary adjustments to the fund must, within two weeks of the revision, be forwarded to the Agency for its agreement. Any adjustment agreed by the Agency shall be effected within four weeks of said written agreement.

11.2.4 Unless otherwise agreed, any revision to the fund shall be computed using the following formula:

$$\text{Cost} = (\text{ECOST} \times \text{WPI}) + \text{CiCC}$$

Where:

Cost = Revised restoration and aftercare cost

ECOST = Existing restoration and aftercare cost

WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

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

## SCHEDULE A : 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 <sup>Note 1</sup>

Reporting Period.

Waste activities carried out at the facility.

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

Calculated remaining capacity of the 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.

Volume of leachate produced and volume of leachate transported / discharged off-site.

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.

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.

Progress report on the ecology of the restored landfill.

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 <sup>Note1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	One month after the end of the year being reported on.
<b>Annual Environment Report (AER)</b>	Annually	Thirteen months from the date of grant of licence and one month after the end of each year thereafter.
<b>Record of incidents</b>	As they occur	Within five days of the incident.
<b>Bund, tank and container integrity assessment</b>	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Monitoring of landfill gas</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Surface Water Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Groundwater Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Leachate</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Meteorological Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Dust Monitoring</b>	Three times a year	Ten days after the period being reported on.
<b>Noise Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Slope Stability Monitoring</b>	Annually	One month after end of the year being reported on.
<b>Inclinometer monitoring</b>	Quarterly	Ten days after end of the quarter being reported on

Note 1: Unless altered at the request of the Agency

## SCHEDULE D : Specified Engineering Works

Specified Engineering Works
Development of Phases and future Cells of the facility including preparatory works and lining.
Landfill cap installation, including temporary and intermediate capping, installation and all other containment works (including any containment works relating to leachate control).
Fencing and site security works.
Bunding of fuel and oil storage areas.
Installation of Civic Waste Facility.
Installation of Waste Inspection and Waste Quarantine Areas.
Installation of landfill gas management and monitoring systems.
Installation of leachate management, detection, storage, treatment, monitoring and control systems.
Installation of alternative drinking water supplies.
Surface water management works.
Restoration and Aftercare Works.
Nuisance control measures.
Any future composting of organic wastes.
Any component separation on site.
Any other works notified in writing by the Agency.

## 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 Ball-Mon-001 Rev. B and Ball-EIS-004 of the application.

Table E.1.1 Perimeter Monitoring Locations

STATION
G1
G2
G3.
G4
G5
MW
86/9 (V5)
Deep Ballygahan Adit
Ballymurtagh Road Adit

Table E.1.2 Landfill Gas Monitoring Frequency and Technique

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

Note 1: 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 to be agreed with the Agency

Table E.2.1 Dust Monitoring Frequency and Technique

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

Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). 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 to be agreed with the Agency.

Table E.3.1 Noise Monitoring Locations

STATION
NSL 1
NSL 2
NSL 3
NSL 4

Table E.3.2 Noise Monitoring Frequency and Technique

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

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

### E.4 Surface Water, Groundwater and Leachate

Surface water monitoring locations shall be those as set out in Figure Ball-Mon-001 Rev. B of the application and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.1 Surface Water Monitoring Locations

STATION
SW1
SW2
SW3
SW4
SW5

Groundwater monitoring locations shall be those as set out in Figure Ball-Mon-001 Rev. B of the application and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.2 Groundwater Monitoring Locations

STATION
BH86/9 (V5)
BH96/3
BH96/5A
BH96/6
MW
Twin Shafts
RC1
RC2
RC3
RC4
RC5
RC6

Leachate monitoring locations shall be agreed with the Agency and of the parameters and frequencies outlined in Table E.4.4.

Table E.4.3 Leachate Monitoring Locations

LEACHATE INSPECTION MANHOLES
RC2
RC3
RC4
RC5
V9

Table E.4.4 Water and Leachate - Parameters /Frequency

Parameter <sup>Note 1</sup>	SURFACE WATER	GROUNDWATER	LEACHATE
	Monitoring Frequency	Monitoring Frequency	Monitoring Frequency
Visual Inspection/Odour <sup>Note 2</sup>	Weekly	Quarterly	Quarterly
Groundwater Level	Not Applicable	Quarterly	Not Applicable
Leachate Level	Not Applicable	Not Applicable	Weekly
Ammoniacal Nitrogen	Quarterly <sup>Note 6</sup>	Quarterly	Quarterly
BOD	Quarterly <sup>Note 6</sup>	Not Applicable	Quarterly
COD	Quarterly	Not Applicable	Quarterly
Chloride	Quarterly	Quarterly	Quarterly
Dissolved Oxygen	Quarterly	Quarterly	Not Applicable
Electrical Conductivity	Quarterly <sup>Note 6</sup>	Quarterly	Quarterly
pH	Quarterly <sup>Note 6</sup>	Quarterly	Quarterly
Total Suspended Solids	Quarterly <sup>Note 6</sup>	Not Applicable	Not Applicable
Temperature	Quarterly <sup>Note 6</sup>	Quarterly	Quarterly
Boron	Not Applicable	Annually	Annually
Cadmium	Annually	Annually	Annually
Calcium	Annually	Annually	Annually
Chromium (Total)	Annually	Annually	Annually
Copper	Annually	Annually	Annually
Cyanide (Total)	Not Applicable	Annually	Annually
Fluoride	Not Applicable	Annually	Annually
Iron	Annually	Quarterly	Annually
Lead	Annually	Annually	Annually
List I/II organic substances <sup>Note 3</sup>	Note 7	Annually	Note 7
Magnesium	Annually	Annually	Annually
Manganese	Annually	Annually	Annually
Mercury	Annually	Annually	Annually
Potassium	Annually	Quarterly	Annually
Sulphate	Annually	Annually	Annually
Sodium	Annually	Quarterly	Annually
Total Alkalinity	Annually	Annually	Annually <sup>Note 5</sup>
Total Phosphorus / orthophosphate	Annually <sup>Note 6</sup>	Annually	Annually
Total Oxidised Nitrogen	Annually	Quarterly	Quarterly
Total Organic Carbon	Not Applicable	Quarterly	Not Applicable
Residue on evaporation	Not Applicable	Annually	Not Applicable
Zinc	Annually	Annually	Annually
Phenols	Not Applicable	Quarterly	Not Applicable
Faecal Coliforms <sup>Note 4</sup>	Not Applicable	Quarterly	Annually
Total Coliforms <sup>Note 4</sup>	Not Applicable	Quarterly	Annually

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



- Note 3: 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).
- Note 4: In the case where groundwater is extracted for drinking water, 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 5: Only to be analysed in instances of on-site treatment of leachate.
- Note 6: Discharge of diverted surface water/groundwater, at a monitoring location to be agreed in accordance with Condition 9.7, shall be monitored on a monthly basis for these parameters unless flow in that month does not allow such monitoring.
- Note 7: Once off for List I/II organic substances and thereafter as required by the Agency.

### ***E.5 Meteorological Monitoring***

Table E.5.1 Meteorological Monitoring:  
Data to be obtained from a climatological station to be agreed with the Agency

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

For inspection purposes only.  
Consent of copyright owner required for any other use.

### E.6 Landfill Gas Flare / Combustion Plant

Monitoring of the landfill gas flare or combustion plant under Condition 4.15 shall be carried out at monitoring points to be agreed with the Agency prior to the operation of the plant.

Table E.6.1 Landfill Gas Flare / Combustion Plant Monitoring

Parameter	Monitoring Frequency	Analysis Method <sup>Note1</sup> /Technique <sup>Note2</sup>
Inlet		
Methane (CH <sub>4</sub> ) % v/v	Weekly	Infrared analyser/flame ionisation detector
Carbon dioxide (CO <sub>2</sub> )%v/v	Weekly	Infrared analyser/ flame ionisation detector
Oxygen (O <sub>2</sub> ) %v/v	Weekly	Infrared analyser
Outlet		
Volumetric Flow rate	Biannually	Pitot Tube Method
SO <sub>2</sub>	Biannually	Flue gas analyser
NO <sub>x</sub>	Biannually	Flue gas analyser
CO	Continuous	Flue gas analyser
Particulates	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Annually	Adsorption/Desorption / GC /GCMS <sup>(Note 3)</sup>
Hydrochloric acid	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Impinger / Ion Chromatography

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

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

Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum.

## SCHEDULE F : Emission Limits

**F.1 Noise Emissions:** (Measured at the monitoring points to be agreed with the Agency).

Day dB(A) L <sub>Aeq</sub> (30 minutes)	Night dB(A) L <sub>Aeq</sub> (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.3 Dust Deposition Limits:** (Measured at the monitoring points to be agreed with the Agency).

Level (mg/m <sup>2</sup> /day) <sup>Note 1</sup>
350

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

**F.4 Surface Water Discharge Limits:** Measured at the monitoring points identified on Drawing BALL-MON-002

Level (Suspended Solids mg/l)
35 mg/l

**F.5 Emission Limits Values for Landfill Gas Flare and/or Utilisation Plant**

Emission Point reference nos: (to be agreed with the Agency)

Location: Landfill Gas Combustion Plant and flarestacks

Minimum discharge height:5m

Parameter	Emission Limit Value
Nitrogen oxides as (NO <sub>2</sub> )	500 mg/m <sup>3</sup>
CO	650 mg/m <sup>3</sup>
Particulates	130 mg/m <sup>3</sup>
TA Luft Organics Class I <sup>(Note 1)</sup>	20 mg/m <sup>3</sup> (at mass flows > 0.1 kg/hr)
TA Luft Organics Class II <sup>(Note 1)</sup>	100 mg/m <sup>3</sup> (at mass flows > 2 kg/hr)
TA Luft Organics Class III <sup>(Note 1)</sup>	150 mg/m <sup>3</sup> (at mass flows > 3kg/hr)
Hydrogen Chloride	50 mg/m <sup>3</sup> (at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m <sup>3</sup> (at mass flows > 0.05 kg/h)

Note 1: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

## SCHEDULE G : Waste Acceptance

Table G.1 Waste Categories and Quantities

WASTE TYPE	MAXIMUM TONNES PER ANNUM
Household	40,000
Treated Sludges	2,000
<b>TOTAL</b>	<b>42,000</b>

Sealed by the seal of the Agency on this  
3rd day of April, 2001.

PRESENT when the seal of the Agency  
was affixed hereto:

---

**Anne Butler      Authorised Person**

Consent of copyright owner required for any other use.

**APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW  
OF A WASTE LICENCE  
FOR BALLYMURTAGH LANDFILL.**

**PUBLIC NOTICE**

**NOTICE IS HEREBY GIVEN** in accordance with Articles 6 and 7 of the Waste Management Licensing Regulations (S.I. No. 395 of 2004) that Wicklow County Council, County Buildings, Wicklow will apply to the Environmental Protection Agency, Johnstown Castle, Co. Wexford for a review of the Waste Licence for Ballymurtagh Landfill, located in the townlands of Ballymurtagh, Ballygahan Upper, Ballygahan Lower and Tinnahinch, County Wicklow.

(National Grid Reference 319760.00E, 181 520.00N)

**NATURE OF THE DEVELOPMENT**

AS PER THE THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2008:

**The Principal Activity** at Ballymurtagh Landfill has been

Third Schedule :-

**Class 1:** "Deposit on, in or under land (including landfill)".

The landfill accepted waste for disposal between 1989 and 2002. During this time approximately 480,000m<sup>3</sup> of municipal waste were deposited at the site. A Waste Licence for Ballymurtagh landfill, Register W0011-01, was granted by the EPA to Wicklow County Council in 2001. Waste acceptance for landfilling ceased in December 2002 and there is currently a 'nil import' to the landfill site. The facility has been capped and landscaped since 2006 and is subject to ongoing environmental monitoring and aftercare.

The outcome of the European Court of Justice Decision in 2007 (ECJ Case 248/05) against Ireland, with respect, inter alia, to Ballymurtagh Landfill, was that the existing Waste Licence required a review with an accompanying Environmental Impact Statement, EIS. Wicklow County Council is applying to the EPA for this Waste Licence Review.

The current activity at Ballymurtagh Landfill is at the Civic Amenity site, located on the old landfill access road and consists of temporary storage of household recyclables, pending collection to other recovery sites.

**Other Activities** carried out are:-

Fourth Schedule:-

**Class 2:** Recycling or Reclamation of organic substances which are not used as solvents.

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

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

The quantity of waste currently handled at the site is in the order of 600 tonnes per annum of household recyclables.

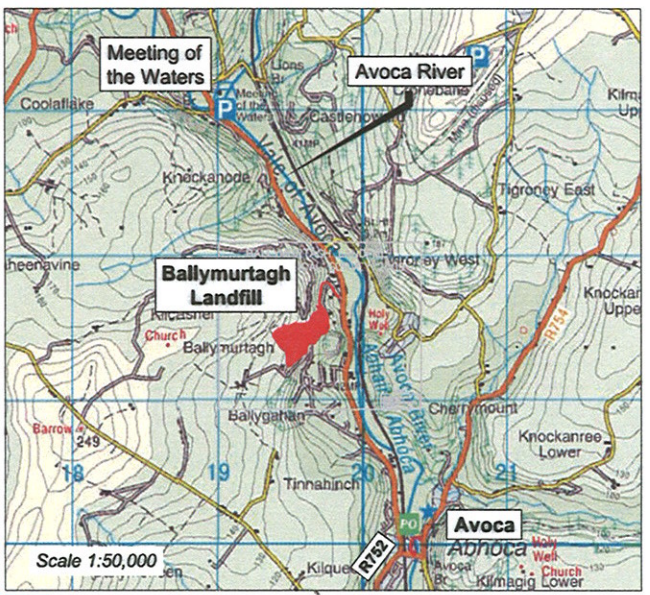
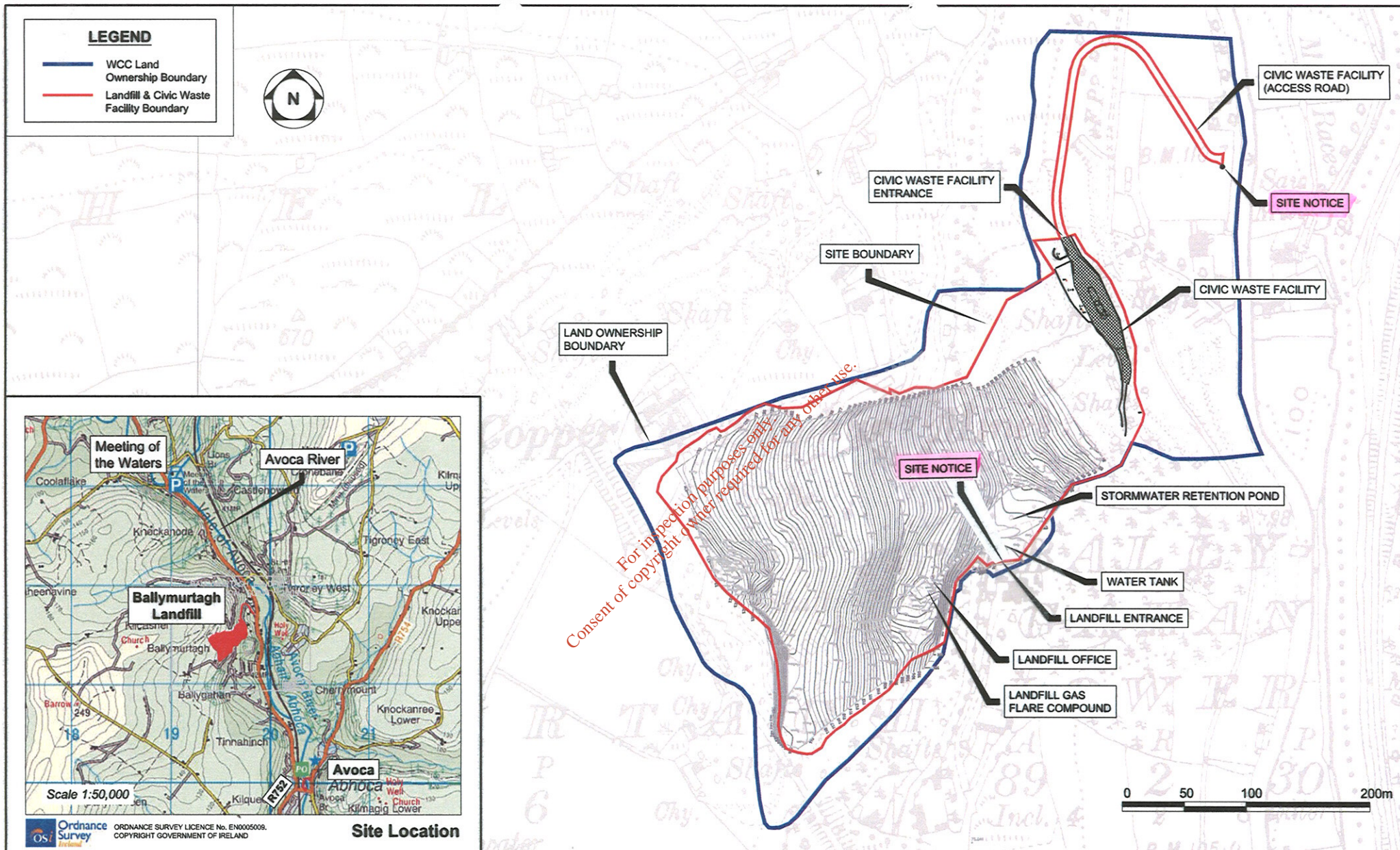
An Environmental Impact Statement will be submitted to the Agency with this application. A copy of:

- (i) the application for the review of the Waste Licence for Ballymurtagh Landfill, and
- (ii) the Environmental Impact Statement, and
- (iii) such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application

will as soon as is practicable after receipt by the Agency, be available for inspection or purchase, at the Headquarters of the Environmental Protection Agency, Johnstown Castle, Co. Wexford and also at the Offices of Wicklow County Council, County Buildings, Wicklow during normal office hours from the 27 November, 2009.

**PHILIP DUFFY,  
SENIOR EXECUTIVE OFFICER,  
WATER & ENVIRONMENTAL SERVICES.**


**27 NOVEMBER, 2009.**



- NOTES**
- Verifying Dimensions.  
The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
  - Existing Services.  
Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
  - Issue of Drawings.  
Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipient's own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to add the recipients drawing production, or setting out on site.
  - Datum: Ordnance Survey Datum, Mean High

No.	Date	Rev	Amendment / Issue	App
A03	Nov '09	01	Issue for Approval	[Signature]
A02	Nov '09	01	Issue for Approval	[Signature]
A01	Oct '09	01	Issue for Approval	[Signature]

Client



Wicklow County Council  
County Buildings,  
Wicklow,  
Co. Wicklow

Drawn By: RH  
Checked By: PL  
Approved By: PL  
Date: Oct. '09

RPS

West Pier  
Business Campus  
Dun Laoghaire  
Co. Dublin, Ireland

T +353 1 4882900  
F +353 1 2835676  
W www.rpsgroup.com/ireland  
E ireland@rpsgroup.com

Project: **Ballymurtagh Landfill**

Drawing Status: Approval  
Sheet Size: A4  
Scale: NTS

Drawing Number	Rev
Title	
<b>SITE LOCATION &amp; LAYOUT PLAN</b>	

## ATTACHMENT B.7      Type of Waste Activity

AS PER THE THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2008:

**The Principal Activity** at Ballymurtagh Landfill has been  
Third Schedule :-

**Class 1:** “Deposit on, in or under land (including landfill)”.

The landfill accepted waste for disposal between 1989 and 2002. During this time approximately 480,000m<sup>3</sup> of municipal waste were deposited at the site. A Waste Licence for Ballymurtagh landfill, Register W0011-01, was granted by the EPA to Wicklow County Council in 2001. Waste acceptance for landfilling ceased in December 2002 and there is currently a ‘nil import’ to the landfill site. The facility has been capped and landscaped since 2006 and is subject to ongoing environmental monitoring and aftercare.

The outcome of the European Court of Justice Decision in 2007 (ECJ Case 248/05) against Ireland, with respect, inter alia, to Ballymurtagh Landfill, was that the existing Waste Licence required a review with an accompanying Environmental Impact Statement, EIS. Wicklow County Council is applying to the EPA for this Waste Licence Review.

The remaining activity at Ballymurtagh Landfill is at the Civic Amenity site, located on the old landfill access road and consists of temporary storage of household recyclables, pending collection to other recovery sites.

**Other Activities** carried out are:-

Fourth Schedule:-

**Class 2:** Recycling or Reclamation of organic substances which are not used as solvents.

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

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

The quantity of waste currently handled at the site is in the order of 600 tonnes per annum of household recyclables.