Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Biffa Waste Services Limited

Poplars Landfill Site and Anaerobic Digestion Facility
Lichfield Road
Cannock
Staffordshire
WS11 8NQ

Variation application number

EPR/BW0584IL/V006

Permit number

EPR/BW0584IL

Poplars Landfill Site and Anaerobic Digestion Facility Permit number EPR/BW0584IL

Introductory note

This introductory note does not form a part of the notice.

Under the Environmental Permitting (England & Wales) Regulations 2010 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

Schedule 1 of the notice specifies the conditions that have been varied and schedule 2 comprises a consolidated permit which reflects the variations being made. All the conditions of the permit have been varied and are subject to the right of appeal.

The Industrial Emissions Directive (IED) was transposed in England and Wales by the Environmental Permitting (England and Wales)(Amendment) Regulations 2013 on 27 February 2013. This variation implements the changes brought about by the IED for “existing facilities operating newly prescribed activities” and completes the transition of this facility from a waste operation to an IED Installation.

The Poplars Landfill Site has operated since the 1970’s and is situated approximately 1.5km south-east of Cannock. The site receives up to 1 125 000 tonnes per year of non-hazardous waste for disposal. The landfill comprises 17 phases with progressive capping and restoration carried out as each cell is completed. Conditions are included relating to the capping, monitoring and aftercare of the landfill during the post-closure phase.

Associated activities taking place on the landfill site include the collection, management and discharge of clean, uncontaminated surface water from the landform to the adjacent watercourse. Landfill leachate is discharged to a leachate treatment plant and the final effluent disposed to sewer under consent from Severn Trent Water.

Landfill gas generated as the waste breaks down is collected and drawn into an associated landfill gas utilisation facility and gas flare. This activity has a different operator and is de-coupled from the main landfill activity and is therefore separately permitted.

The Poplars Anaerobic Digestion Facility operates as a wet, mesophilic process treating up to 120,000 tonnes of organic waste per year. Outputs from the anaerobic digestion process include biogas which is used for the generation of electricity and digestate for use as a restoration material / soil conditioner.

The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	**Date**	**Comments**
Application BW0584IL	Received 21/11/03	
Response to Schedule 4 request for information	Request dated 12/01/05	Response dated 22/03/05
Response to request for information	Request dated 25/07/05	Response dated 30/08/05
Response to Schedule 4 request for information	Request dated 11/12/06	Response dated 24/01/07
Response to request for information	Request dated 11/07/08	Response dated 22/07/08
Response to request for information	Request dated 04/08/08	Response dated 08/09/08
Permit determined	16/04/09	
Variation application EPR/BW0584IL/V002	Received 07/09/09	Duly made 18/10/09
Variation EPR/BW0584IL/V002 determined	17/05/10	
Variation application EPR/BW0584IL/V003	Received 16/09/10	
Variation EPR/BW0584IL/V003 determined	01/12/10	
Agency variation determined EPR/BW0584IL/V004	30/12/13	Agency variation to implement the changes introduced by IED for the landfill facility
Application EPR/BW0584IL/V005 (variation)	Duly made 25/02/14	Application to vary the permit to include an additional 0.5MWe SI gas engine and to reposition gas flare and odour control equipment on the AD facility.
Variation determined EPR/BW0584IL (EAWML 401084)	12/03/14	Varied permit issued.
Application EPR/BW0584IL/V006 (variation and consolidation)	Duly made 29/09/14	Application to vary and consolidate the permit and implement the changes introduced by IED for the AD facility.
Variation determined EPR/BW0584IL Billing ref: KP3436WC	10/02/16	Varied and consolidated permit issued

Other Part A installation permits relating to this installation		
Operator	**Permit number**	**Date of issue**
Infinis (Re-Gen) Limited	UP3730LU	30/06/06
Biffa Waste Services Limited	EPR/BP3436VS	02/10/14

Superseded or partially superseded licenses/authorisations/consents relating to this installation			
Holder	**Reference number**	**Date of issue**	**Fully or Partially Superseded**
Biffa Waste Services Limited	7/F/93/0506 (EAWML/42359)	26/03/93	Partially Superseded Waste Management License
Poplars Resource Management Company Limited (Discharge Consent)	T/03/35354/T	26/01/99	Fully Superseded

Other existing licences/authorisations/registration relating to this site		
Operator	**Permit number**	**Date of issue**
Poplars Resource Management Company Limited	7/K/93/0511 (EAWML/42360)	26/03/93
Biffa Waste Services Limited	EPR/YE5945NX/A00 Bulk exemption registration: (S1 - Storage of Waste in Secure Containers (Non-agricultural Waste only)) (S2 - Storage of Waste in a Secure Place (Non-agricultural Waste only)) (T4 - Preparatory treatments (baling, sorting, shredding etc) (Non-agricultural Waste only))	Registered on 21/09/15

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

Permit number

EPR/BW0584IL

Issued to

Biffa Waste Services Limited ("the operator")

whose registered office is

Coronation Road
Cressex
High Wycombe
Buckinghamshire
HP12 3TZ

company registration number 00946107

to operate regulated facilities at

Poplars Landfill Site and Anaerobic Digestion Facility
Lichfield Road
Cannock
Staffordshire
WS11 8NQ

to the extent set out in the schedules.

The notice shall take effect from 10/02/2016

Name	Date
Rebecca Warren	**10/02/2016**

Authorised on behalf of the Environment Agency

Schedule 1

All conditions have been varied by the consolidated permit as a result of the application made by the operator.

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/BW0584IL

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BW0584IL/V006 authorising,

Biffa Waste Services Limited ("the operator"),

whose registered office is

Coronation Road
Cressex
High Wycombe
Buckinghamshire
HP12 3TZ

company registration number 00946107

to operate installations at

Poplars Landfill Site and Anaerobic Digestion Facility
Lichfield Road
Cannock
Staffordshire
WS11 8NQ

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Rebecca Warren	**10/02/2016**

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

1.1.1 The operator shall manage and operate the activities:

(a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and

(b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated 16 April 2009 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.

1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:

(a) the costs of setting up and operating the landfill;

(b) the costs of the financial provision required by condition 1.2.1; and

(c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

1.3.1 The operator shall:

(a) take appropriate measures to ensure that energy is used efficiently in the activities;

(b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and

(c) take any further appropriate measures identified by a review.

1.4 Multiple operator installations

1.4.1 Where the operator notifies the Environment Agency under condition 4.3.1 (a) or 4.3.1 (c), the operator shall also notify without delay the other operator(s) of the installation of the same information.

1.5 Efficient use of raw materials

1.5.1 The operator shall:

(a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;

(b) maintain records of raw materials and water used in the activities;

(c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and

(d) take any further appropriate measures identified by a review.

1.6 Avoidance, recovery and disposal of wastes produced by the activities

1.6.1 The operator shall take appropriate measures to ensure that:

(a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and

(b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and

(c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.6.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

2 Operations

2.1 Permitted activities

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.1.2 Waste authorised by this permit shall be clearly distinguished from any other waste on the site.

2.2 The site

2.2.1 For the following activities referenced in schedule 1, table S1.1 (A1and A2), the activities shall not extend beyond the site, being the land shown edged in red on the landfill site plan at schedule 7 to this permit of the installation covered by this permit and that of the other operator of the installation.

2.2.2 For the following activities referenced in schedule 1, table S1.1 (A3), the activities shall not extend beyond the site, being the land shown edged in red on the AD site plan at schedule 7 to this permit.

2.3 Operating techniques

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 For the following activities referenced in schedule 1, table S1.1 (A3), any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

2.3.4 For the following activities referenced in schedule 1, table S1.1 (A3), waste shall only be accepted at the Anaerobic Digestion facility if:

(a) it is of a type and quantity listed in schedule 2 table S2.3; and

(b) it conforms to the description in the documentation supplied by the producer and holder.

2.3.5 For the following activities referenced in schedule 1, table S1.1 (A3), the operator shall ensure that where waste produced by the activities is sent to a relevant waste operation, that operation is provided with the following information, prior to the receipt of the waste:

(a) the nature of the process producing the waste;

(b) the composition of the waste;

(c) the handling requirements of the waste;

(d) the hazardous property associated with the waste, if applicable; and

(e) the waste code of the waste.

2.3.6 For the following activities referenced in schedule 1, table S1.1 (A3), the operator shall ensure that where waste produced by the Anaerobic Digestion facility is sent to a landfill site, it meets the waste acceptance criteria for that landfill.

2.4 Improvement programme

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

2.5 Pre-operational conditions

2.5.1 The operations specified in schedule 1 table S1.4 shall not commence until the measures specified in that table have been completed.

2.6 Landfill engineering

2.6.1 No construction of any new cell shall commence until the operator has submitted construction proposals and the Agency has confirmed that it is satisfied with the construction proposals.

2.6.2 The construction of a new cell shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Agency.

2.6.3 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Agency has confirmed that it is satisfied with the CQA Validation Report.

2.6.4 No construction of landfill infrastructure shall commence until the operator has submitted relevant construction proposals or a written request to use previous construction proposals and the Agency has confirmed that it is satisfied with the construction proposals.

2.6.5 The construction of the landfill infrastructure shall take place only in accordance with the approved construction proposals unless:

(a) any change to the approved construction proposals would have no impact on the performance of any element of the design; or

(b) a change has otherwise been agreed in writing by the Agency.

2.6.6 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.

2.6.7 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.4 and 2.6.5 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Agency as soon as practicable.

2.6.8 For the purposes of conditions 2.6.1, 2.6.3 and 2.6.4, the Agency shall be deemed to be satisfied where it has not, within the period of 4 weeks from the date of receipt of the relevant construction proposals or CQA Validation Report, either;

(a) confirmed whether or not it is satisfied; or

(b) informed the operator that it requires further information.

2.7 Waste acceptance for disposal by landfilling

2.7.1 For the following activities referenced in schedule 1, table S1.1 (A1 and A2), wastes shall only be accepted for disposal if:

(a) they are listed in schedule 2 (table S2.2), and

(b) they are non-hazardous waste, and

(c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm), and

(d) they are not shredded used tyres, and

(e) they are not liquid waste (including waste waters but excluding sludge), and

(f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown, and

(g) all the relevant waste acceptance procedures have been completed, and

(h) they fulfil the relevant waste acceptance criteria, and

(i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria, and

(j) they are wastes which have been treated, except for; inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment.

(k) Any code beginning with 07 05 and 16 03 shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.7.2 For the following activities referenced in schedule 1, table S1.1 (A1 and A2), the operator shall visually inspect:

(a) without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill; and

(b) waste at the point of deposit;

and shall satisfy itself that it conforms to the basic characterisation documentation submitted by the holder.

2.7.3 For the following activities referenced in schedule 1, table S1.1 (A1 and A2), where the operator has taken samples to establish that the waste is in conformity with the documentation submitted by the holder then the samples taken shall be retained for at least one month and results of any analysis for at least two years.

2.7.4 For the following activities referenced in schedule 1, table S1.1 (A1 and A2), the operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

2.7.5 For the following activities referenced in schedule 1, table S1.1 (A1), the total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on drawing ESID8 Landfill Gas Management and Pre-Settlement Contours revision 1 dated 18.01.07 Changes to Monitoring Locations and Gas Infrastructure.

2.7.6 For the following activities referenced in schedule 1, table S1.1 (A1), the quantity of waste that is deposited in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.

2.7.7 For the following activities referenced in schedule 1, table S1.1 (A1 and A2), the operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, date of delivery and, where practicable, origin if any waste that is received for disposal or recovery and of the identity of the producer, or in the case of municipal waste and multiple collection vehicles, of the collector of such waste. Any information regarded by the operator as commercially confidential shall be clearly identified in the record.

2.8 Leachate levels

2.8.1 The limits for the level of leachate listed in schedule 3 table S3.1 shall not be exceeded.

2.9 Closure and aftercare

2.9.1 The operator shall maintain a closure and aftercare management plan.

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.2, S3.3 and S3.4.

3.1.2 The limits given in schedule 3 shall not be exceeded, save that compliance with an emission limit shall include incorporation of the uncertainty allowance stated in Agency guidance LFTGN 05 and LFTGN 08.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2 Emissions to groundwater

3.2.1 There shall be no emission from the activities into groundwater of any Hazardous substances (as defined by the Groundwater Regulations) contrary to those Regulations.

3.2.2 There shall be no emission from the activities into groundwater of any Non-hazardous substances (as defined in the Groundwater Regulations) so as to cause pollution (as defined in those Regulations).

3.2.3 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in schedule 3 table S3.5 shall not be exceeded.

3.2.4 The operator shall submit to the Agency a review of the Hydrogeological Risk Assessment:

(a) between 9 and 6 months prior to the sixth anniversary of the granting of the permit, and

(b) between 9 and 6 months prior to every subsequent 6 years after the sixth anniversary of the granting of the permit.

3.3 Emissions of substances not controlled by emission limits

3.3.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.3.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;

(b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.3.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3.4 The limits for landfill gas arising from the landfill installation set out in schedule 3, tables S3.6 and S3.12 shall not be exceeded.

3.4 Odour

3.4.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.4.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;

(b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Noise and vibration

3.5.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.5.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;

(b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.6 Monitoring

3.6.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

(a) leachate specified in tables S3.1 and S3.9;

(b) point source emissions specified in tables S3.2, S3.3 and S3.4;

(c) groundwater specified in tables S3.5 and S3.11;

(d) landfill gas specified in tables S3.6, S3.7, S3.8 and S3.12;

(e) surface water specified in table S3.10;

(f) noise specified in table S3.13;

(g) process monitoring specified in table S3.14.

3.6.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.

3.6.3 For the following activities referenced in schedule 1, table S1.1 (A3), monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.6.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.

3.6.4 A topographical survey of the site referenced to ordnance datum shall be carried out:

(a) annually, and

(b) prior to the disposal of waste in any new cell or new development area of the landfill, and

(c) following closure of the landfill or part of the landfill

The topographical survey shall be used to produce a plan of a scale adequate to show the surveyed features of the site.

3.6.5 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.2, S3.3, and S3.4 unless otherwise agreed in writing by the Environment Agency.

3.7 Pests

3.7.1 The activities shall not give rise to the presence of pests which are likely to cause pollution, hazard or annoyance outside the boundary of the site. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved pests management plan, have been taken to prevent or where that is not practicable, to minimise the presence of pests on the site.

3.7.2 The operator shall:

(a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;

(b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.8 Fire prevention

3.8.1 The operator shall take all appropriate measures to prevent fires on site and minimise the risk of pollution from them including, but not limited to, those specified in any approved fire prevention plan.

3.8.2 The operator shall:

(a) if notified by the Environment Agency that the activities are giving rise to a risk of fire, submit to the Environment Agency for approval within the period specified, a fire prevention plan which prevents fires and minimises the risk of pollution from fires;

(b) implement the fire prevention plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

4 Information

4.1 Records

4.1.1 All records required to be made by this permit shall:

(a) be legible;

(b) be made as soon as reasonably practicable;

(c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and

(d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:

(i) the results of groundwater monitoring;

(ii) ambient air monitoring for landfill;

(iii) sub-surface landfill gas monitoring;

(iv) leachate levels, quality and quantities;

(v) landfill gas generation and collection;

(vi) waste types and quantities;

(vii) topographical surveys;

(viii) the specification and as built drawings of the basal, sidewall and capping engineering systems;

(ix) off-site environmental effects; and

(x) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 For the following activities referenced in schedule 1, table S1.1 (A1 and A2) a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to the landfill installation and any agreed amendments thereto;

(b) the energy consumed at the landfill site, reported in the format set out in schedule 4 table S4.3;

(c) the annual production/treatment data set out in schedule 4 table S4.2;

(d) the topographical surveys required by condition 3.6.4 other than those submitted as part of a CQA validation report;

(e) the volumetric difference (reported in cubic metres) between the most recent topographical survey and the previous annual topographical survey i.e. the additional volume of the landfill void that is occupied by waste;

(f) an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys; and

(g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey.

4.2.3 For the following activities referenced in schedule 1, table S1.1 (A3), a report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production/treatment data set out in schedule 4 table S4.2; and

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule.

4.2.4 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

(a) in respect of the parameters and emission points specified in schedule 4 table S4.1;

(b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.4; and

(c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.5 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

4.2.6 Within 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.

4.2.7 The operator shall submit to the Environment Agency a bi-annual report of the efficiency of the biofilter in the first year of operations. This shall include but not be limited to, the assessment of the efficiency to reduce odours, the summary of maintenance and any re-commissioning planned or conducted, assessment of back pressure, venting and cracking. Thereafter the operator shall submit the report within one month of the end of each year, unless otherwise agreed in writing by the Environment Agency.

4.3 Notifications

4.3.1 In the event:

(a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately —

(i) inform the Environment Agency,

(ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and

(iii) take the measures necessary to prevent further possible incidents or accidents;

(b) of a breach of any permit condition the operator must immediately —

(i) inform the Environment Agency, and

(ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;

(c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.

4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.

4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:

Where the operator is a registered company:

(a) any change in the operator's trading name, registered name or registered office address; and

(b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.

Where the operator is a corporate body other than a registered company:

(c) any change in the operator's name or address; and

(d) any steps taken with a view to the dissolution of the operator.

In any other case:

(e) the death of any of the named operators (where the operator consists of more than one named individual);

(f) any change in the operator's name(s) or address(es); and

(g) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

(a) the Environment Agency shall be notified at least 14 days before making the change; and

(b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “immediately”, in which case it may be provided by telephone.

Schedule 1 – Operations

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
A1 (landfill)	Section 5.2 Part A(1) (a), The disposal of waste in a landfill.	Landfill for non-hazardous waste	Receipt, handling, storage and disposal of wastes, consisting of the types and quantities specified in conditions 2.7, as an integral part of landfilling.
A2 (leachate treatment)	Section 5.4 A(1) (a) (i) Biological treatment	Storage and treatment of landfill leachate, process effluent and contaminated surface water run-off in a facility with a capacity of >50 tonnes/ day and subsequent discharge to sewer	Leachate, process effluent and surface water arising from the site. Landfill leachate and process effluent arising from off-site sources as agreed in writing by the Agency
A3 (anaerobic digestion)	S5.4 A(1) (b) (i) Recovery or a mix of recovery and disposal of non hazardous waste with a capacity exceeding 75 tonnes per day (or 100 tonnes per day if the only waste treatment activity is anaerobic digestion) involving biological treatment.	R3: Recycling/reclamation of organic substances which are not used as solvents	From receipt of waste through to digestion and recovery of by-products (digestate). Anaerobic digestion of waste in 5 tanks followed by burning of biogas produced from the process. Waste types suitable for acceptance are limited to those specified in Table S2.3. The treatment capacity of any plant shall not exceed 10 tonnes per day of animal waste.
	Directly Associated Activity		
A4 (landfill)	Leachate management	Recirculation of leachate	Recirculation of leachate only in cells that are compliant with leachate head limits in Table S3.1 (Limit from 1 November 2011).
A5 (landfill)	Landfill gas flaring	Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
A6 (landfill)	Fuel storage	Storage of fuel for operation of plant and equipment.	Fuel storage tank.
A7 (landfill and anaerobic digestion)	Water discharges to controlled waters	Discharges of clean, uncontaminated site drainage from the landfill and anaerobic digestion facility.	From surface water management system to point of entry to controlled waters.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
A8 (anaerobic digestion)	Electrical power supply	R1:Use principally as a fuel to generate energy	From the receipt of biogas produced at the on-site anaerobic digestion process to combustion with the release of combustion gases. Combustion of biogas in 4 spark ignition engines with a maximum aggregate volumetric flow rate of 24,480 Nm^3/hr , (Approx. 16MWth, 6.5MWe).
A9 (anaerobic digestion)	Storage of waste pending recovery or disposal	R13: Storage of waste pending the operations numbered R1 and R3 (excluding temporary storage, pending collection, on the site where it is produced) D15: Storage pending any of the operations number D01 to D14 (excluding temporary storage pending collection on the site where it is produced).	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery and/or disposal. Storage of waste in an enclosed building, and in a buffer or intermediate storage tank, fitted with appropriate odour abatement on an impermeable surface with sealed drainage. Waste types suitable for acceptance are limited to those specified in Table S2.3
A10 (anaerobic digestion)	Physical treatment for the purpose of recycling	R3: Recycling/reclamation of organic substances which are not used as solvents	From the receipt of waste to despatch for anaerobic digestion or despatch off site for recovery. Pre-treatment of waste in enclosed building and on impermeable surface with sealed drainage system including shredding, sorting, screening, compaction, baling, mixing and maceration. Post-treatment of digestate in an enclosed building and on an impermeable surface with sealed drainage system, including screening to remove contraries, centrifuge or pressing and addition of thickening agents (polymers) or drying. Heat treatment (pasteurisation) of waste in 3 tanks for the purpose of recovery. Gas cleaning by biological or chemical scrubbing.

Table S1.1 activities			
Activity reference	**Activity listed in Schedule 1 of the EP Regulations**	**Description of specified activity and WFD Annex I and II operations**	**Limits of specified activity and waste types**
			Waste types suitable for acceptance are limited to those specified in Table S2.3.
A11(anaerobic digestion)	Emergency flare operation	D10: Flaring of biogas for disposal in an appliance	From the receipt of biogas produced at the on-site anaerobic digestion process to incineration with the release of combustion gases. Use of an auxiliary flare required only during periods of breakdown or maintenance of the gas engines.
A12 (anaerobic digestion)	Raw material storage	Storage of raw materials.	From the receipt of raw materials to despatch for use within the facility
A13 (anaerobic digestion)	Gas storage	Storage of biogas produced from on-site anaerobic digestion of permitted waste in a gas holder or roof space of digesters.	From the receipt of biogas produced at the on-site anaerobic digestion process to despatch for use within the facility.
A14 (anaerobic digestion)	Digestate storage	Storage of solid digestate in an enclosed building.	From the receipt of digestate produced from the on-site anaerobic digestion process to despatch for use off-site.
A15 (anaerobic digestion)	Process water collection and storage	Collection and storage of process water and centrate in a storage tank and intermediate storage tank.	From the collection of process water and centrate to re-use within the facility or off-site disposal.

Table S1.2 Operating techniques		
Description	**Parts**	**Date Received**
Permit application	The response to questions 2.1, 2.2, 2.3, 2.4 and 2.5 of the Application excluding the answers to the following questions; 2.2.2, 2.2.4, 2.2.5 and 2.2.6 2.3.17, 2.3.20, 2.3.21 and 2.3.22 2.3.32, 2.3.33	21 November 2003
Schedule 4 response dated 22 March 2005	All except the answer to questions; 32 and 33.	22 March 2005
In response to request for information dated 25 July 2005 letter dated 30 August 2005 and Landfill Gas Management Plan (August 2005)	All	30 August 2005
Schedule 4 response dated 24 January 2007	All	26 January 2007
In response to request for information dated 11 July 2008 letter dated 22 July 2008 and enclosures	All	28 July 2008
In response to request for information dated 04 August 2008 e-mail received 08 September 2008 including permeability results and attachments.	All	08 September 2008
Variation application EPR/BW0584IL/V002	Part II and Part III, sections C2 to C6 of the application document in response to section 2 - Operating techniques, Part C of the application with the following exclusions: - the proposed alternative bund construction, which shall be of reinforced concrete; - the proposed sulphur dioxide emission limit value of 350 mg/Nm^3 for the biogas engines, which shall be 200 mg/Nm^3; - the proposed >800^oC combustion temperature of the biogas flare, which shall be ≥ 1000^oC specification and have a residence time of ≥ 0.3 seconds; and - the proposal that the flare should not have any emission limit values imposed insofar as demonstration with emission limit values is only required if the annual use of the flare is greater than 10% of the time	07 September 2009
Variation application EPR/BW0584IL/V003	The responses to questions in Part C2 and Part C3 of the application form.	16/09/2010
Variation application EPR/BW0584IL/V005	Responses to the questions in Section 3, Part C3 of application form and supporting documentation in Section II and III.	11/02/2014

Table S1.3 Improvement programme requirements		
Reference	**Requirement**	**Date**
IC1 [17/05/10]	**Leachate management plan** Measures and a plan of action shall be devised to reduce the leachate heads to a maximum corresponding to the limits specified in table S3.1 (Limit from 1 November 2011) by 1 November 2011, for all phases with leachate heads that are above those limits. Measures are to include a review of capacity if the leachate disposal facilities in connection with the leachate head reduction plan. The plan shall include the submission of interim limits for leachate head and shall also include yearly targets for leachate head aimed art the progressive reduction of leachate head in order to achieve the limits in table S3.1 (Limit from 1 November 2011). The plan shall include the submission of quarterly written progress reports comprising monitoring records of monthly leachate levels in each phase to the Agency. Recirculation of leachate is not permitted in phases until the leachate heads have been reduced to below the limit in table S3.1 (Limit from 1 November 2011). The leachate management action plan shall be presented in writing to the Agency for written approval. Once approved the plan shall be implemented. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the plan.	Improvement condition IC1 [17/05/10] has been partially completed. The limits to be set in Table S3.1 will be established as part of the Landfill Permit Review
IC2a [17/05/10]	**Perimeter borehole gas report** The operator shall submit proposals to undertake further investigation to comprehensively assess the gases present in perimeter boreholes to identify their origin. This shall include: • Timetable for undertaking investigation • Proposed trace gases and gases other than methane and carbon dioxide to be investigated and provide full justification. The proposals should include gases with the following characteristics - Persistent gases - Carbon ring based compounds such as benzene - Gases often found in mine gas such as helium and ethane [Proposed gases should not be volatile, be easily broken down or have short half-lives.] • An investigation of all perimeter boreholes including samples taken from boreholes for laboratory analysis where methane levels have in the last 6 months have exceeded 1% v/v during routine monitoring. • An analysis of samples of landfill gas from the closest corresponding gas extraction or monitoring well (bulk or mean samples from the gas compound intake are not acceptable) for comparison to gases found in perimeter boreholes. The proposals shall be submitted for approval in writing by the Agency. Once approved the investigation shall be implemented.	Improvement condition IC2a [17/05/10] has been completed
IC2b [17/05/10]	On completion of the investigation detailed in the proposals in improvement condition IC2a [17/05/10] above, the operator shall produce a report on whether the gases found in the perimeter boreholes could originate from the landfill or from another environment including adjacent made ground or mines. The report shall be submitted for approval by the Agency. The report shall have regard for the Agency's:	Improvement condition IC2b [17/05/10] has been completed

	• Guidance on the management of landfill gas • Guidance for the monitoring of trace components in landfill gas; The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the report.	
IC3a [17/05/10]	**Landfill gas risk assessment** On approval of the perimeter borehole gas report by the Agency, the Landfill Gas Risk Assessment shall be reviewed to take into account the conclusion of the above report. In addition the operator shall undertake a review of the methane and carbon dioxide emission limits in external boreholes to assess: • The applicability of the methane and carbon dioxide as suitable species to assess landfill gas migration. • The applicability of the emission limits • The background concentration s of methane and carbon dioxide in order to set emission limits for methane and carbon dioxide where appropriate with justification The review shall include revisions, where necessary, of the GASSIM model, mitigation risk assessment scenarios such as decreased engine and flare availability and/or effect of introduction of additional flares. The impact of these scenarios on lateral and surface emissions shall be discussed. Permeability of the cap input parameters shall reflect realistic worst case scenarios. The review shall have regard for the Agency's: • Guidance on the management of landfill gas • Guidance for the monitoring of trace components in landfill gas	Improvement condition IC3a [17/05/10] has been partially completed. The limits to be set in Table S3.6 will be established as part of the Landfill Permit Review
IC3b [17/05/10]	The Operator shall submit the revised risk assessment and propose limits for methane and carbon dioxide (and any other species deemed appropriate after the investigation in improvement conditions IC2a and IC3a of this table) for approval in writing by the Agency. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the risk assessment	Improvement condition IC3b [17/05/10] has been completed
IC4 [17/05/10]	**Fugitive emissions monitoring.** The Operator shall submit written proposals to the Environment Agency to monitor and control surface and fugitive gas emissions. In addition, the proposals should include an action plan to be enacted in the event that limits in Schedule 3 Table S3.7 and S3.12 are breached. The proposals shall include but not be limited to the monitoring of: • Landfill gas surface emissions • Ambient air • Odour • Meteorological conditions All proposals should be in accordance with the Environment Agency's guidance as follows: • "Guidance on the management of landfill gas" (LFTGN 03) • "Guidance for the monitoring of landfill gas surface emissions." (LFTGN 07) Once approved by the Agency the proposals shall be implemented. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the proposals.	Improvement condition IC4 [17/05/10] has been completed
IC5 [15/05/10]	**Leachate, contaminated surface water and process effluent** The Operator shall undertake an assessment of the impact on the water environment from the disposal of the leachate, contaminated surface water and process effluent discharged from the installation. The Operator shall use the methodology prescribed in the Agency's guidance 'Environmental Assessment and Appraisal of BAT' (Ref. IPPC H1) in making this assessment. The Operator shall identify substances present in the effluent that are considered significant in the context of any disposal point and final discharge and	Improvement condition IC5 [17/05/10] has been partially completed. The limits to be set in Table S3.3 will be established as part of the

	submit proposed emission limit values for those substances. The assessment and proposed limits shall be presented to the Agency in the form of a report. The report shall also include an effluent monitoring plan for key substances identified in the assessment and an action plan to reduce those substances in the effluent or plans for alternate disposal methods to prevent the discharge of those substances to the water environment. The report shall also identify the point of discharge of the effluent and an appropriate sample point. The Operator shall implement any measures as approved in writing by the Agency. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the report.	Landfill Permit Review
IC6a [17/05/10]	**Particulate Monitoring** The Operator shall carry out a site specific desk top exposure risk assessment which should, as a minimum, determine whether (and to what level) the installation is affecting local air quality, and/or whether it could contribute to an Environmental Quality Standard (EQS) benchmark being exceeded at local receptors (including National Air Quality Standards, World Health Organisation quality guidelines, air quality criteria fro particulate-phase pollutants from waste facilities). Appropriate guidance to use includes Technical Guidance Document (Monitoring) M17 'Monitoring of particulate matter in ambient air around waste facilities' ISBN: 1 844 322610 and Monitoring Methods for Ambient Air, Technical Guidance Notes M8 and M9 ISBN: 0113101759 and ISBN:0113101767	Improvement condition IC6a [17/05/10] has been completed
IC6b [17/05/10	If the exposure risk assessment indicates significant pollution being caused by the activities at the installation, the Operator shall devise an appropriate monitoring programme in order to measure emissions of airborne dust from the installation. The programme should address the following: - parameters to monitor - monitoring techniques - monitoring strategy - monitoring frequencies - period of review The above monitoring programme shall be submitted to the Agency for approval. The programme shall be implemented following the written approval of the Agency. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the report.	Improvement condition IC6b [17/05/10] has been completed
IC6c [17/05/10]	Following completion of the monitoring programme carried out in accordance with improvement condition IC6b above the Operator shall review their control measures for dust in order to determine whether the 'best available techniques' (BAT) are being used to control emissions using the Agency's H1 IPPC guidance. This should include the monitoring method which is used to inform the decision to take certain actions. Once BAT has been determined the applicant should devise an emissions projection to determine an Emission Limit Value which shall initiate further investigations or control measures if it is exceeded. However if it is difficult to assess the overall emissions, an equivalent parameter such as continuous monitoring close to the emitting activity or site boundary may be appropriate. The review of control measures shall be submitted in writing to the Agency. Appropriate guidance to use includes Technical Guidance Document (Monitoring) M17 'Monitoring of particulate matter in ambient air around waste facilities' ISBN: 1 844 322610 and Monitoring Methods for Ambient Air, Technical Guidance Notes M8 and M9 ISBN: 0113101759 and ISBN:0113101767	Improvement condition IC6c [17/05/10] has been completed
IC7 [17/05/10]	**Review of further noise mitigation measures** If the night time noise rating level, from the commissioning survey undertaken in accordance with table S3.13, be greater than a facade level of 45 dB $L_{Aeq\ 5\ mins}$ at	01 July 2016

	a sensitive receptor, then: - a revised noise management plan shall be submitted to the Agency for approval. The revised noise management plan shall include proposals for further noise mitigation measures and / or noise monitoring, together with dates fro implementation of individual measures. Once approved in writing by the Agency, the plan shall be implemented in accordance with the timescales specified in the plan. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the plan.	
IC8 [17/05/10]	**Odour monitoring and modelling review** The operator shall undertake an odour commissioning survey of emissions from the biofilters (by Dynamic Dilution Olfactometry monitoring to BS EN 13725:2003). Following completion of the odour monitoring, the operator shall submit a report to the Agency that: - details the monitoring results; - where the emissions from the biofilters are greater than the predicted emission concentration of 500 OU_E / emission rate of 18.5 OU_E /m^2/s, contains further detailed dispersion modelling; and - where the dispersion modelling above predicts a ground level concentration of 1.5 OU_E/m^3 or more at a receptor, contains a revised odour management plan with proposals for further odour mitigation measures, together with dates for implementation for individual measures. Once approved in writing by the Agency, the revised odour management plan shall be implemented in accordance with the timescales specified in that plan. The notification requirements of condition 2.4.2 shall be deemed to have been complied with on submission of the plan.	Improvement condition IC8 [17/05/10] has been completed

Table S1.4 Pre-operational measures for future development		
Reference	**Operation**	**Pre-operational Measures**
1	Prior to the development of phases G, H, I, J, C2.	Written proposals for the decommissioning and sealing of any borehole which lies beneath the footprint of the proposed development including borehole 1350 shall be submitted for approval in writing by the Agency. Once approved the boreholes shall be decommissioned and sealed in accordance with the agreed proposals.
2	Prior to the development of phases H, and I.	Written proposals for the decommissioning and sealing of any mine shaft which lies beneath the footprint of the proposed development shall be submitted for approval in writing by the Agency. Once approved shafts shall be decommissioned and sealed in accordance with the agreed proposals.
3	Prior to the submission of detailed designs of the lining and leachate management system of phases G, H, I, J, and C2 in compliance with condition 2.6.1 of this permit.	A revised hydrogeological risk assessment (HRA) and stability risk assessment (SRA) shall be submitted. A revised plan shall be provided at an appropriate scale showing the accurate boundary positions of each of the existing phases . The hydrogeological risk assessment shall include revised conceptual hydrogeological model(s) taking account of changes in groundwater levels and flows around the site as a result of the progressive development of landfill phases in the drift/backfill and also caused by sealing of borehole 1350 and the mine shafts. The HRA shall; • Include a detailed review of the hydraulic conductivity of the mined and faulted Middle Coal Measures (MCM) in the new phase area • Include site specific values for modelling parameters including the determinand partition coefficients for the geological materials concerned and infiltration values for open waste and restored waste which shall be fully justified • Incorporate data acquired under improvement conditions 1,2 and 3 of Schedule 1 Table S1.3 • For hydraulically contained new phases include details of the minimum hydraulic head difference between the leachate levels and groundwater in the drift/backfill to minimise outward diffusion through the landfill lining system • Include an assessment of the impact on groundwater and surface water receptors • Include a review of groundwater trigger levels • Include hydrogeological completion criteria for new phases The SRA shall include for new phases detailed stability risk assessments of the sub-grades, side slopes and lining systems. Particular attention should be paid to side wall stability that will undergo changing groundwater levels and flow directions in the drift/backfill due to the development of the phases, the sealing of boreholes and the sealing/stabilisation of the mine shafts
4	Prior to the construction of phases G, H, I, J, C2.	The design of the lining and leachate management systems of phases G, H, I, J, and C2 submitted under condition 2.6.1 shall be supported by confirmation that the risk assessments supplied in pre operational condition 3 above remain valid or by a detailed revised HRA and SRA.
5	Recirculation of Leachate	Prior to the Operator undertaking measures to re-circulate leachate, a revised leachate management plan shall be submitted to the Agency. The Operator shall provide the Agency within the revised leachate management plan the following details: • The associated impact of leachate abstraction/re-circulation upon landfill gas quality, quantity and rate of production. • Detection, location and monitoring of Oxygen ingress into the contained extraction system via the leachate recirculation system

Table S1.4 Pre-operational measures for future development		
Reference	**Operation**	**Pre-operational Measures**
		and setting of allied intervention trigger levels. • An assessment of spatial separation distances between each system in order to minimise any 'zone of influence/synergistic effects.' The content of this management, monitoring and action plan shall also be based upon the Environment Agency's guidance (or any amendments thereto) published in September 2004 entitled: LFTGN 03 "Guidance on the management of landfill gas." Leachate re-circulation shall not be implemented without the prior written approval of the Agency.

Table S1.5 Annual waste input limits for disposal by landfill	
Category	**Limit Tonnes/ Year**
Non-hazardous waste	700,000
Inert waste	550,000

Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Fuel oil	Sulphur content not exceeding 0.1% by mass.

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
01	**WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS**
01 01	**wastes from mineral excavation**
01 01 01	wastes from mineral metalliferous excavation
01 01 02	wastes from mineral non-metalliferous excavation
01 03	**wastes from physical and chemical processing of metalliferous minerals**
01 03 06	tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	dusty and powdery wastes other than those mentioned in 01 03 07
01 03 09	red mud from alumina production other than the wastes mentioned in 01 03 10
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
01 04 10	dusty and powdery wastes other than those mentioned in 01 04 07
01 04 11	wastes from potash and rock salt processing other than those mentioned in 01 04 07
01 04 12	tailings and other wastes from washing and cleaning of minerals other than those mentioned in 01 04 07 and 01 04 11
01 04 13	wastes from stone cutting and sawing other than those mentioned in 01 04 07
01 05	**drilling muds and other drilling wastes**
01 05 04	freshwater drilling muds and wastes
01 05 07	barite-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
01 05 08	chloride-containing drilling muds and wastes other than those mentioned in 01 05 05 and 01 05 06
02	**WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING**
02 01	**wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing**
02 01 01	sludges from washing and cleaning
02 01 03	plant-tissue waste
02 01 04	waste plastics (except packaging)
02 01 06	animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	wastes from forestry
02 01 09	agrochemical waste other than those mentioned in 02 01 08
02 01 10	waste metal
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning
02 02 03	materials unsuitable for consumption or processing
02 02 04	sludges from on-site effluent treatment
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
02 03 03	wastes from solvent extraction
02 03 04	materials unsuitable for consumption or processing
02 03 05	sludges from on-site effluent treatment
02 04	**wastes from sugar processing**
02 04 01	soil from cleaning and washing beet
02 04 02	off-specification calcium carbonate
02 04 03	sludges from on-site effluent treatment
02 05	**wastes from the dairy products industry**
02 05 01	materials unsuitable for consumption or processing
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	materials unsuitable for consumption or processing
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	wastes from spirits distillation
02 07 03	wastes from chemical treatment
02 07 04	materials unsuitable for consumption or processing
02 07 05	sludges from on-site effluent treatment
03	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD**
03 01	**wastes from wood processing and the production of panels and furniture**
03 01 01	waste bark and cork
03 01 05	sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 01	waste bark and wood
03 03 02	green liquor sludge (from recovery of cooking liquor)
03 03 05	de-inking sludges from paper recycling
03 03 07	mechanically separated rejects from pulping of waste paper and cardboard
03 03 08	wastes from sorting of paper and cardboard destined for recycling
03 03 09	lime mud waste
03 03 10	fibre rejects, fibre-, filler- and coating-sludges from mechanical separation
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	**WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES**
04 01	**wastes from the leather and fur industry**
04 01 01	fleshings and lime split wastes
04 01 02	liming waste
04 01 06	sludges, in particular from on-site effluent treatment containing chromium
04 01 07	sludges, in particular from on-site effluent treatment free of chromium
04 01 08	waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
04 01 09	wastes from dressing and finishing
04 02	**wastes from the textile industry**
04 02 09	wastes from composite materials (impregnated textile, elastomer, plastomer)
04 02 10	organic matter from natural products (for example grease, wax)
04 02 17	dyestuffs and pigments other than those mentioned in 04 02 16
04 02 20	sludges from on-site effluent treatment other than those mentioned in 04 02 19
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
05	**WASTES FROM PETROLEUM REFINING, NATURAL GAS PURIFICATION AND PYROLYTIC TREATMENT OF COAL**
05 01	**wastes from petroleum refining**
05 01 10	sludges from on-site effluent treatment other than those mentioned in 05 01 09
05 01 13	boiler feedwater sludges
05 01 14	wastes from cooling columns
05 01 16	sulphur-containing wastes from petroleum desulphurisation
05 01 17	bitumen
05 06	**wastes from the pyrolytic treatment of coal**
05 06 04	waste from cooling columns
05 07	**wastes from natural gas purification and transportation**
05 07 02	wastes containing sulphur
06	**WASTES FROM INORGANIC CHEMICAL PROCESSES**
06 03	**wastes from the MFSU of salts and their solutions**
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 16	metallic oxides other than those mentioned in 06 03 15
06 05	**sludges from on-site effluent treatment**
06 05 03	sludges from on-site effluent treatment other than those mentioned in 06 05 02
06 09	**wastes from the MFSU of phosphorous chemicals and phosphorous chemical processes**
06 09 02	phosphorous slag
06 09 04	calcium-based reaction wastes other than those mentioned in 06 09 03
06 11	**wastes from the manufacture of inorganic pigments and opacificiers**
06 11 01	calcium-based reaction wastes from titanium dioxide production
06 13	**wastes from inorganic chemical processes not otherwise specified**
06 13 03	carbon black
07	**WASTES FROM ORGANIC CHEMICAL PROCESSES**
07 01	**wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals**
07 01 12	sludges from on-site effluent treatment other than those mentioned in 07 01 11
07 02	**wastes from the MFSU of plastics, synthetic rubber and man-made fibres**
07 02 12	sludges from on-site effluent treatment other than those mentioned in 07 02 11
07 02 13	waste plastic
07 02 15	wastes from additives other than those mentioned in 07 02 14
07 02 17	wastes containing silicones other than those mentioned in 07 02 16
07 03	**wastes from the MFSU of organic dyes and pigments (except 06 11)**
07 03 12	sludges from on-site effluent treatment other than those mentioned in 07 03 11
07 04	**wastes from the MFSU of organic plant protection products (except 02 01 08 and 02 01 09), wood preserving agents (except 03 02) and other biocides**
07 04 12	sludges from on-site effluent treatment other than those mentioned in 07 04 11
07 05	**wastes from the MFSU of pharmaceuticals**
07 05 12	sludges from on-site effluent treatment other than those mentioned in 07 05 11
07 05 14	solid wastes other than those mentioned in 07 05 13
07 06	**wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics**
07 06 12	sludges from on-site effluent treatment other than those mentioned in 07 06 11
07 07	**wastes from the MFSU of fine chemicals and chemical products not otherwise specified**
07 07 12	sludges from on-site effluent treatment other than those mentioned in 07 07 11
08	**WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS**
08 01	**wastes from MFSU and removal of paint and varnish**
08 01 12	waste paint and varnish other than those mentioned in 08 01 11

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
08 01 14	sludges from paint or varnish other than those mentioned in 08 01 13
08 01 16	aqueous sludges containing paint or varnish other than those mentioned in 08 01 15
08 01 18	wastes from paint or varnish removal other than those mentioned in 08 01 17
08 02	**wastes from MFSU of other coatings (including ceramic materials)**
08 02 01	waste coating powders
08 02 02	aqueous sludges containing ceramic materials
08 03	**wastes from MFSU of printing inks**
08 03 07	aqueous sludges containing ink
08 03 13	waste ink other than those mentioned in 08 03 12
08 03 15	ink sludges other than those mentioned in 08 03 14
08 03 18	waste printing toner other than those mentioned in 08 03 17
08 04	**wastes from MFSU of adhesives and sealants (including waterproofing products)**
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09
08 04 12	adhesive and sealant sludges other than those mentioned in 08 04 11
08 04 14	aqueous sludges containing adhesives or sealants other than those mentioned in 08 04 13
09	**WASTES FROM THE PHOTOGRAPHIC INDUSTRY**
09 01	**wastes from the photographic industry**
09 01 07	photographic film and paper containing silver or silver compounds
09 01 08	photographic film and paper free of silver or silver compounds
09 01 10	single-use cameras without batteries
09 01 12	single-use cameras containing batteries other than those mentioned in 09 01 11
10	**WASTES FROM THERMAL PROCESSES**
10 01	**wastes from power stations and other combustion plants (except 19)**
10 01 01	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)
10 01 02	coal fly ash
10 01 03	fly ash from peat and untreated wood
10 01 05	calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 15	bottom ash, slag and boiler dust from co-incineration other than those mentioned in 10 01 14
10 01 17	fly ash from co-incineration other than those mentioned in 10 01 16
10 01 19	wastes from gas cleaning other than those mentioned in 10 01 05, 10 01 07 and 10 01 18
10 01 21	sludges from on-site effluent treatment other than those mentioned in 10 01 20
10 01 23	aqueous sludges from boiler cleansing other than those mentioned in 10 01 22
10 01 24	sands from fluidised beds
10 01 26	wastes from cooling-water treatment
10 02	**wastes from the iron and steel industry**
10 02 01	wastes from the processing of slag
10 02 02	unprocessed slag
10 02 08	solid wastes from gas treatment other than those mentioned in 10 02 07
10 02 10	mill scales
10 02 14	sludges and filter cakes from gas treatment other than those mentioned in 10 02 13
10 02 15	other sludges and filter cakes
10 03	**wastes from aluminium thermal metallurgy**
10 03 02	anode scraps
10 03 05	waste alumina
10 03 16	skimmings other than those mentioned in 10 03 15
10 03 18	carbon-containing wastes from anode manufacture other than those mentioned in 10 03 17
10 03 20	flue-gas dust other than those mentioned in 10 03 19
10 03 22	other particulates and dust (including ball-mill dust) other than those mentioned in 10 03 21
10 03 24	solid wastes from gas treatment other than those mentioned in 10 03 23
10 03 26	sludges and filter cakes from gas treatment other than those mentioned in 10 03 25

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
10 03 28	wastes from cooling-water treatment other than those mentioned in 10 03 27
10 03 30	wastes from treatment of salt slags and black drosses other than those mentioned in 10 03 29
10 04	**wastes from lead thermal metallurgy**
10 04 10	wastes from cooling-water treatment other than those mentioned in 10 04 09
10 05	**wastes from zinc thermal metallurgy**
10 05 01	slags from primary and secondary production
10 05 04	other particulates and dust
10 05 11	dross and skimmings other than those mentioned in 10 05 10
10 06	**wastes from copper thermal metallurgy**
10 06 01	slags from primary and secondary production
10 06 02	dross and skimmings from primary and secondary production
10 06 04	other particulates and dust
10 06 10	wastes from cooling-water treatment other than those mentioned in 10 06 09
10 07	**wastes from silver, gold and platinum thermal metallurgy**
10 07 01	slags from primary and secondary production
10 07 02	dross and skimmings from primary and secondary production
10 07 03	solid wastes from gas treatment
10 07 04	other particulates and dust
10 07 05	sludges and filter cakes from gas treatment
10 07 08	wastes from cooling-water treatment other than those mentioned in 10 07 07
10 08	**wastes from other non-ferrous thermal metallurgy**
10 08 04	particulates and dust
10 08 09	other slags
10 08 11	dross and skimmings other than those mentioned in 10 08 10
10 08 13	carbon-containing wastes from anode manufacture other than those mentioned in 10 08 12
10 08 14	anode scrap
10 08 16	flue-gas dust other than those mentioned in 10 08 15
10 08 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 08 17
10 08 20	wastes from cooling-water treatment other than those mentioned in 10 08 19
10 09	**wastes from casting of ferrous pieces**
10 09 03	furnace slag
10 09 06	casting cores and moulds which have not undergone pouring other than those mentioned in 10 09 05
10 09 08	casting cores and moulds which have undergone pouring other than those mentioned in 10 09 07
10 09 10	flue-gas dust other than those mentioned in 10 09 09
10 09 12	other particulates other than those mentioned in 10 09 11
10 09 14	waste binders other than those mentioned in 10 09 13
10 10	**wastes from casting of non-ferrous pieces**
10 10 03	furnace slag
10 10 06	casting cores and moulds which have not undergone pouring, other than those mentioned in 10 10 05
10 10 08	casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07
10 10 10	flue-gas dust other than those mentioned in 10 10 09
10 10 12	other particulates other than those mentioned in 10 10 11
10 10 14	waste binders other than those mentioned in 10 10 13
10 11	**wastes from manufacture of glass and glass products**
10 11 03	waste glass-based fibrous materials
10 11 05	particulates and dust
10 11 10	waste preparation mixture before thermal processing, other than those mentioned in 10 11 09
10 11 12	waste glass other than those mentioned in 10 11 11
10 11 16	solid wastes from flue-gas treatment other than those mentioned in 10 11 15
10 11 18	sludges and filter cakes from flue-gas treatment other than those mentioned in 10 11 17

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
10 11 20	solid wastes from on-site effluent treatment other than those mentioned in 10 11 19
10 12	**wastes from manufacture of ceramic goods, bricks, tiles and construction products**
10 12 01	waste preparation mixture before thermal processing
10 12 03	particulates and dust
10 12 05	sludges and filter cakes from gas treatment
10 12 06	discarded moulds
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)
10 12 10	solid wastes from gas treatment other than those mentioned in 10 12 09
10 12 12	wastes from glazing other than those mentioned in 10 12 11
10 12 13	sludge from on-site effluent treatment
10 13	**wastes from manufacture of cement, lime and plaster and articles and products made from them**
10 13 01	waste preparation mixture before thermal processing
10 13 04	wastes from calcination and hydration of lime
10 13 06	particulates and dust (except 10 13 12 and 10 13 13)
10 13 07	sludges and filter cakes from gas treatment
10 13 10	wastes from asbestos-cement manufacture other than those mentioned in 10 13 09
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10
10 13 13	solid wastes from gas treatment other than those mentioned in 10 13 12
10 13 14	waste concrete and concrete sludge
11	**WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY**
11 01	**wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphatising, alkaline degreasing, anodising)**
11 01 10	sludges and filter cakes other than those mentioned in 11 01 09
11 01 14	degreasing wastes other than those mentioned in 11 01 13
11 02	**wastes from non-ferrous hydrometallurgical processes**
11 02 03	wastes from the production of anodes for aqueous electrolytical processes
11 02 06	wastes from copper hydrometallurgical processes other than those mentioned in 11 02 05
11 05	**wastes from hot galvanising processes**
11 05 01	hard zinc
11 05 02	zinc ash
12	**WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS**
12 01	**wastes from shaping and physical and mechanical surface treatment of metals and plastics**
12 01 01	ferrous metal filings and turnings
12 01 02	ferrous metal dust and particles
12 01 03	non-ferrous metal filings and turnings
12 01 04	non-ferrous metal dust and particles
12 01 05	plastics shavings and turnings
12 01 13	welding wastes
12 01 15	machining sludges other than those mentioned in 12 01 14
15	**WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**
15 01	**packaging (including separately collected municipal packaging waste)**
15 01 01	paper and cardboard packaging
15 01 02	plastic packaging
15 01 03	wooden packaging
15 01 04	metallic packaging
15 01 05	composite packaging

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
15 01 06	mixed packaging
15 01 07	glass packaging
15 01 09	textile packaging
15 02	**absorbents, filter materials, wiping cloths and protective clothing**
15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
16	**WASTES NOT OTHERWISE SPECIFIED IN THE LIST**
16 01	**end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08)**
16 01 06	end-of-life vehicles, containing neither liquids nor other hazardous components
16 01 12	brake pads other than those mentioned in 16 01 11
16 01 16	tanks for liquefied gas
16 01 17	ferrous metal
16 01 18	non-ferrous metal
16 01 19	plastic
16 01 20	glass
16 01 22	components not otherwise specified
16 02	**wastes from electrical and electronic equipment**
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13
16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15
16 03	**off-specification batches and unused products**
16 03 04	inorganic wastes other than those mentioned in 16 03 03
16 03 06	organic wastes other than those mentioned in 16 03 05
16 05	**gases in pressure containers and discarded chemicals**
16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
16 06	**batteries and accumulators**
16 06 04	alkaline batteries (except 16 06 03)
16 06 05	other batteries and accumulators
16 08	**spent catalysts**
16 08 01	spent catalysts containing gold, silver, rhenium, rhodium, palladium, iridium or platinum (except 16 08 07)
16 08 03	spent catalysts containing transition metals or transition metal compounds not otherwise specified
16 11	**waste linings and refractories**
16 11 02	carbon-based linings and refractories from metallurgical processes others than those mentioned in 16 11 01
16 11 04	other linings and refractories from metallurgical processes other than those mentioned in 16 11 03
16 11 06	linings and refractories from non-metallurgical processes others than those mentioned in 16 11 05
17	**CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 02	**wood, glass and plastic**
17 02 01	wood
17 02 02	glass
17 02 03	plastic
17 03	**bituminous mixtures, coal tar and tarred products**
17 03 02	bituminous mixtures other than those mentioned in 17 03 01

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
17 04	**metals (including their alloys)**
17 04 01	copper, bronze, brass
17 04 02	aluminium
17 04 03	lead
17 04 04	zinc
17 04 05	iron and steel
17 04 06	tin
17 04 07	mixed metals
17 04 11	cables other than those mentioned in 17 04 10
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
17 05 08	track ballast other than those mentioned in 17 05 07
17 06	**insulation materials and asbestos-containing construction materials**
17 06 04	insulation materials other than those mentioned in 17 06 01 and 17 06 03
17 09	**other construction and demolition wastes**
17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03
18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection(for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 07	chemicals other than those mentioned in 18 01 06
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 06	chemicals other than those mentioned in 18 02 05
19	**WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 01	**wastes from incineration or pyrolysis of waste**
19 01 02	ferrous materials removed from bottom ash
19 01 12	bottom ash and slag other than those mentioned in 19 01 11
19 01 14	fly ash other than those mentioned in 19 01 13
19 01 16	boiler dust other than those mentioned in 19 01 15
19 01 18	pyrolysis wastes other than those mentioned in 19 01 17
19 01 19	sands from fluidised beds
19 02	**wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	premixed wastes composed only of non-hazardous wastes
19 02 06	sludges from physico/chemical treatment other than those mentioned in 19 02 05
19 02 10	combustible wastes other than those mentioned in 19 02 08 and 19 02 09
19 03	**stabilised/solidified wastes**
19 03 05	stabilised wastes other than those mentioned in 19 03 04
19 03 07	solidified wastes other than those mentioned in 19 03 06
19 04	**vitrified waste and wastes from vitrification**
19 04 01	vitrified waste
19 05	**wastes from aerobic treatment of solid wastes**
19 05 01	non-composted fraction of municipal and similar wastes
19 05 02	non-composted fraction of animal and vegetable waste

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
19 05 03	off-specification compost
19 06	**wastes from anaerobic treatment of waste**
19 06 04	digestate from anaerobic treatment of municipal waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	**wastes from waste water treatment plants not otherwise specified**
19 08 01	screenings
19 08 02	waste from desanding
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats
19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11
19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09	**wastes from the preparation of water intended for human consumption or water for industrial use**
19 09 01	solid waste from primary filtration and screenings
19 09 02	sludges from water clarification
19 09 03	sludges from decarbonation
19 09 04	spent activated carbon
19 09 05	saturated or spent ion exchange resins
19 09 06	solutions and sludges from regeneration of ion exchangers
19 10	**wastes from shredding of metal-containing wastes**
19 10 01	iron and steel waste
19 10 02	non-ferrous waste
19 10 04	fluff-light fraction and dust other than those mentioned in 19 10 03
19 10 06	other fractions other than those mentioned in 19 10 05
19 11	**wastes from oil regeneration**
19 11 06	sludges from on-site effluent treatment other than those mentioned in 19 11 05
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 01	paper and cardboard
19 12 02	ferrous metal
19 12 03	non-ferrous metal
19 12 04	plastic and rubber
19 12 05	glass
19 12 07	wood other than that mentioned in 19 12 06
19 12 08	textiles
19 12 09	minerals (for example sand, stones)
19 12 10	combustible waste (refuse derived fuel)
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**separately collected fractions (except 15 01)**
20 01 01	paper and cardboard
20 01 02	glass
20 01 08	biodegradable kitchen and canteen waste
20 01 10	clothes
20 01 11	textiles
20 01 25	edible oil and fat
20 01 28	paint, inks, adhesives and resins other than those mentioned in 20 01 27
20 01 30	detergents other than those mentioned in 20 01 29

Table S2.2 Permitted waste types for disposal by landfilling	
Waste Code	**Description**
20 01 34	batteries and accumulators other than those mentioned in 20 01 33
20 01 36	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35
20 01 38	wood other than that mentioned in 20 01 37
20 01 39	plastics
20 01 40	metals
20 01 41	wastes from chimney sweeping
20 01 99	nappy waste arising from domestic sources
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste
20 02 02	soil and stones
20 02 03	other non-biodegradable wastes
20 03	**other municipal wastes**
20 03 01	mixed municipal waste
20 03 02	waste from markets
20 03 03	street-cleaning residues
20 03 04	septic tank sludge
20 03 06	waste from sewage cleaning
20 03 07	bulky waste

Table S2.3 Permitted waste types and quantities for treatment by anaerobic digestion	
Maximum quantity	**The total quantity of waste accepted shall not exceed 120,000 tonnes per annum** **The maximum throughput of animal waste shall be <10 tonnes per day**
Waste Code	**Description**
02	**WASTES FROM AGRICULTURE, HORTICULTURE, AQUACULTURE, FORESTRY, HUNTING AND FISHING, FOOD PREPARATION AND PROCESSING**
02 01	**primary production wastes**
02 01 01	sludges from washing and cleaning - food processing waste, food washing waste
02 01 02	animal tissue waste − Category 3 animal by-products (ABP) including blood, animal flesh, fish processing waste, fish carcasses, poultry waste − Category 2 ABP – paunch contents
02 01 03	plant tissue waste - husks, cereal dust, waste animal feeds
02 01 06	animal faeces, urine, manure including spoiled straw
02 01 07	wastes from forestry
02 01 99	residues from commercial mushroom cultivation
02 02	**wastes from the preparation and processing of meat, fish and other foods of animal origin**
02 02 01	sludges from washing and cleaning - process water, food washing waste
02 02 02	animal tissue waste − Category 3 ABP including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
02 02 03	materials unsuitable for consumption or processing − Coffee, food processing waste, jam, kitchen waste, fruit, vegetable oil, tobacco, tea, vegetable waste − waste fat from processing of meat or fish
02 02 99	sludges from gelatine production − animal gut contents
02 03	**wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation**
02 03 01	sludges from washing, cleaning, peeling, centrifuging and separation
02 03 02	wastes from preserving agents
02 03 04	materials unsuitable for consumption or processing (other than those containing dangerous substances)

Table S2.3 Permitted waste types and quantities for treatment by anaerobic digestion	
Maximum quantity	**The total quantity of waste accepted shall not exceed 120,000 tonnes per annum** **The maximum throughput of animal waste shall be <10 tonnes per day**
Waste Code	**Description**
02 03 05	Effluent from the processes referred to in sources of waste
02 03 99	sludge from production of edible fats and oils − seasoning residues, molasses residues, residues from production of potato, corn or rice starch
02 04	**wastes from sugar processing**
02 04 03	sludges from on-site effluent treatment - biological sludge
02 04 99	other biodegradable waste from sugar processing
02 05	**wastes from the dairy products industry**
02 05 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) − Solid and liquid dairy products, milk, food processing wastes, yoghurt, whey
02 05 02	sludges from on-site effluent treatment
02 06	**wastes from the baking and confectionery industry**
02 06 01	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) - food condemned, food processing wastes, biscuits, chocolate, yeast, bread, bakery wastes
02 06 02	wastes from preserving agents
02 06 03	sludges from on-site effluent treatment
02 07	**wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)**
02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials − brewing waste, food processing waste, fermentation waste
02 07 02	wastes from spirits distillation − spent grains, fruit and potato pulp − sludge from distilleries
02 07 04	biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) - brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice
02 07 99	spent grains, hops and Whisky filter sheets / cloths
03	**WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARBOARD**
03 03	**wastes from pulp, paper and cardboard production and processing**
03 03 02	green liquor sludge − paper sludge, green liquor
03 03 08	wastes from sorting of paper and cardboard destined for recycling − cardboard, newspaper, tissues, paper
03 03 10	fibre rejects and sludges − paper pulp (de-inked only), paper fibre
04	**WASTES FROM THE LEATHER, FUR AND TEXTILE INDUSTRIES**
04 01	**Wastes from the leather and fur industry**
04 01 01	fleshings and lime split wastes
04 01 05	tanning liquor free of chromium
04 01 07	sludges not containing chromium
04 02	**waste from the textile industry**
04 02 10	organic matter from natural products, e.g. grease, wax
04 02 21	wastes from unprocessed textile fibres
04 02 22	wastes from processed textile fibres
15	**WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FLITER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED**
15 01	**waste packaging, absorbents, filter materials, wiping cloths and protective clothing**
15 01 01	paper and cardboard packaging - must conform to BS EN 13432 - no man made substances.
15 01 03	wooden packaging
15 01 05	composite packaging - must conform to BS EN 13432

Table S2.3 Permitted waste types and quantities for treatment by anaerobic digestion	
Maximum quantity	**The total quantity of waste accepted shall not exceed 120,000 tonnes per annum** **The maximum throughput of animal waste shall be <10 tonnes per day**
Waste Code	**Description**
19	**WASTE FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE**
19 02	**wastes from physiochemical treatments of waste**
19 02 09	glycerol
19 02 10	combustible wastes
19 05	**wastes from the aerobic treatment of solid wastes**
19 05 01	non composted fraction of municipal and similar wastes
19 05 02	non composted fraction of animal and vegetable wastes
19 05 03	off-specification compost from source segregated biodgradable waste
19 06	**waste from anaerobic treatment of waste**
19 06 03	liquor from anaerobic treatment of municipal waste
19 06 04	digestate from anaerobic treatment of source segregated biodegradable waste
19 06 05	liquor from anaerobic treatment of animal and vegetable waste
19 06 06	digestate from anaerobic treatment of animal and vegetable waste
19 08	**wastes from wastewater treatment works**
19 08 05	sludges from treatment of urban waste water
19 08 09	grease and oil mixture containing only edible oils and fats
19 08 12	sludge from industrial biological treatment
19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	**MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS**
20 01	**municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions**
20 01 01	paper and cardboard
20 01 08	biodegradable kitchen and canteen waste
20 01 25	edible oil and fat
20 02	**garden and park wastes (including cemetery waste)**
20 02 01	biodegradable waste − animal faeces, manure, garden waste, green waste, horticultural waste, plant tissue, parks and garden waste, hedge and tree trimmings, grass cuttings and leafy materials
20 03	**other municipal wastes**
20 03 01	mixed municipal waste − separately collected biowastes
20 03 02	wastes from markets - markets − allowed only if source segregated biodegradable fractions. e.g plant material, fruit and vegetables.

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements

Monitoring point reference/ Description	Interim limit	Limit from 1 November 2011	Monitoring frequency	Monitoring method
Phase 1 3023, 3021	Limit set in accordance with improvement condition IC1 [17/05/10] in Schedule 1 Table S1.3	2m above base	Monthly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water".
Phase 2 3024, 3131		2m above base		
Phase 3A 3018, 3019		2m above base		
Phase 3B 3043		2m above base		
Phase 4 3009, 3014, 3025		2m above base		
Phase 5 3011, 3012		2m above base		
Phase 6 3040, 3041		2m above base		
Phase 7 3042		2m above base		
Phase 11 3016, 3017, 3027		2m above base		
Phase 10A 3044, 3045		2m above base		
Phase 10B 3046, 3047		2m above base		
Phase 9* 3038, 3039	2m above base			
Phase G* 3054, 3055				
Phase H* 3052, 3053*				
Phase I* 3050 3051				
Phase C2* 3048 3049*				
Phase J* 3056				

* Wells to be constructed when phase developed

Table S3.2 Point source emissions to water (other than sewer) – emission limits and monitoring requirements

Emission point Ref. & Location	Parameter	Source	Limit (incl unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Monitoring point 2005 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07 which is taken to be representative of the emission to Bentley Brook, tributary of Saredon Brook	Ammoniacal Nitrogen	Surface water drainage system	2 mg/l	Spot Sample	Monthly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water".
	Chloride		250 mg/l	Spot Sample		
	Oil and Grease		No visible oil or grease	Instantaneous		
	Suspended Solids		50 mg/l	Spot Sample		
	pH		>5 and <9 pH units	Instantaneous		
	BOD		15 mg/l	Spot sample		

Table S3.3 Point source emissions to sewer, effluent treatment plant or by tankering or other transfer off-site– emission limits and monitoring requirements						
Emission point Ref. & Location	**Parameter**	**Source**	**Limit (incl unit)**	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
To be determined in accordance with improvement condition IC5 [17/05/10] of Schedule 1 table S1.3		Landfill leachate, contaminated surface water and anaerobic digestion process effluent from on-site sources. Leachate and process effluent arising from off-site sources as agreed in writing by the Agency	To be determined in accordance with improvement condition IC5 [17/05/10] of Schedule 1 table S1.3			

Table S3.4 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location as identified on Drawing No: JSF4601, Jan 13 in Variation application EA/EPR/BW0584IL/V005	**Source**	**Parameter**	**Limit (mg/Nm^3) [1]**	**Reference period**	**Monitoring frequency**	**Monitoring standard or method**
A1- CHP Shared multi - flue stack	Exhausts of 4 CHP biogas gas spark ignition engines via a shared multi - flue 22m unimpeded vertical stack.	Nitrogen Oxides (NOx expressed as NO_2)	500	Hourly Mean	Annually[3]	In accordance with Agency guidance note M2 "Monitoring of stack emissions to air".
		Carbon Monoxide	1,400			
		Total Volatile Organic Compounds	1,000			
		Sulphur dioxide	200			
A4 - Waste Gas Burner biogas flare with a combustion temperature of at least 1,000°C and a residence time of at least 0.3 seconds	Combustion products from biogas flare via a 9m unimpeded vertical stack	Nitrogen Oxides (NOx expressed as NO_2)	150	Hourly Mean	Annually [2]	In accordance with Agency guidance note M2 "Monitoring of stack emissions to air".
		Carbon Monoxide	100			
		Total Volatile Organic Compounds	10			
		Sulphur dioxide	200			
A2 and A3 - emission from carbon packs	Air extracted from the process building exhausted to atmosphere via a wet scrubber, biofilter and then carbon packs	No parameters set	No limit set	-	No monitoring set	-
A5 - Emission from 2000 kW_{Th} standby boiler	Products from combustion of propane gas	No parameters set	No limit set	-	No monitoring set	-
A6 - Pressure release valves (PRVs)	Biogas	No parameters set	No limit set	-	No monitoring set	Any abnormal operation of PRVs to be reported to the Agency

[1] Limits do not apply at start up and shut down.

[2] Annual monitoring is only required when flare operates in excess of 10% of the time, taken on an annual assessment period.

[3] Within 3 months of commissioning any new engine and then annually thereafter.

Table S3.5 Trigger levels for emissions into groundwater and monitoring requirements					
Monitoring point reference as identified on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	**Parameter**	**Limit (including unit)**	**Reference Period**	**Monitoring frequency**	**Monitoring standard or method**
1010, 1090, 1140, 1190, 1260, 1320	Ammoniacal Nitrogen Chloride	30 mg/l 1000mg/l	Spot sample	Monthly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water"
1010	Cadmium	0.004mg/l	Spot sample		
1090		0.001mg/l	Spot sample		
1140		0.0025mg/l	Spot sample		
1190		0.0025mg/l	Spot sample		
1260		0.01mg/l	Spot sample		
1320		0.003mg/l	Spot sample		

Table S3.6 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Limit (including units) ***	**Monitoring frequency**	**Monitoring standard or method**
1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1081, 1090, 1091, 1100, 1110, 1120, 1210, 1220, 1270, 1280, 1290, 1300, 1310, 1320, 9801, 9802, 9803, 9804, 9805, 9806, 9811, 9812, 9813, 9814 on drawing ESID 8 dated 11/11/03 revision 1 dated 18/01/07.	Methane	1%v/v	Weekly	Infra red gas analyser
	Carbon Dioxide	Limit in accordance with improvement condition IC 3a [17/05/10]		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Meteorological data	No limit		
1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1230, 1240, 1250, 1260, 9807, 9808, 9809, 9810 on drawing ESID 8 dated 11/11/03 revision 1 dated 18/01/07.	Methane	Limit in accordance with improvement condition IC 3a [17/05/10]	Weekly	Infra red gas analyser
	Carbon Dioxide	Limit in accordance with improvement condition IC 3a [17/05/10]		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Meteorological data	No limit		
1330, 1340, 1350, 1360, 1370, 9815, 9816, 9817, 9818, 9819, 9820, 9821 on drawing ESID 8 dated 11/11/03 revision 1 dated 18/01/07.	Methane	1%v/v	Monthly	Infra red gas analyser
	Carbon Dioxide	Limit in accordance with improvement condition IC 3a [17/05/10]		
	Oxygen	No limit		
	Atmospheric pressure	No limit		

* The limits specified take account of the agreed background concentrations as detailed in documents supplied to comply with improvement condition IC 3a [17/05/10].

Table S3.7 Landfill gas from capped surfaces - monitoring requirements				
Monitoring point Ref. /description	**Parameter**	**Monitoring frequency**	**Other specifications**	**Monitoring Standard or method**
Permanently capped zones	Average Methane flux	Annually	Where a rate of 0.001 mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate.	Flame ionisation detector walkover, flux box or as otherwise agreed in writing by the Agency*.
Temporarily capped zones	Average Methane flux	Annually	Where a rate of 0.1 mg/m^2/second is exceeded appropriate measures must be taken to reduce the rate.	Flame ionisation detector walkover, flux box or as otherwise agreed in writing by the Agency*.

* If a cap has previously been shown compliant and there have been no significant physical changes in the gas management during the year, a detailed walkover survey with an FID can be used to demonstrate that the surface emissions are under control. If this survey shows no change in the pattern of methane emission, it may be used as the annual survey. The values for flux and total methane emissions measured in the previous year may be reported and a fresh flux box survey is not necessary. If the zone remains stable, the results of a full walkover survey may be accepted as the site report for a period of four years before a further quantitative flux box survey is required.

Table S3.8 Landfill gas – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Extraction wells where wells are not connected to manifolds and where more than 6 wells are connected to a service pipe which interfaces with the main gas collector	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Differential pressure Valve position	Monthly		Where the Oxygen level exceeds 5% or where the addition of the Carbon Dioxide and Methane percentages is less than 80%, an assessment of air ingress into the system shall be undertaken
Extraction wells where wells are connected to a service pipe which runs to a manifold directly and there are 6 or less wells carried by the service pipe	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Differential pressure Valve position	Quarterly		Where the Oxygen level exceeds 5% or where the addition of the Carbon Dioxide and Methane percentages is less than 80%, an assessment of air ingress into the system shall be undertaken Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken
Visual examination of extraction wells.	Observations	Weekly		
Gas collection system, manifolds and service line junctions. At each manifold or the point of connection of a service pipe carrying more than one well to the main gas collector / or a service pipe connecting an influent line to a manifold • outlet from manifold	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Differential pressure	Weekly		Where the Oxygen level exceeds 5% or where the addition of the Carbon Dioxide and Methane percentages is less than 80%, an assessment of air ingress into the system shall be undertaken Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken

Table S3.8 Landfill gas – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Gas collection system, manifolds and service line junctions;. At each manifold or the point of connection of a service pipe carrying more than one well to the main gas collector / or a service pipe connecting an influent line to a manifold • influent to manifold	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Differential pressure Gas flow rate where possible	Monthly		Where the Oxygen level exceeds 5% or where the addition of the Carbon Dioxide and Methane percentages is less than 80%, an assessment of air ingress into the system shall be undertaken Where the concentration of carbon monoxide exceeds 100ppm then further investigation shall be undertaken
Location as agreed in writing by the Agency	Trace gas analysis	Frequency as agreed in writing by the Agency		

Table S3.9 Leachate– other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Phase 1 3023 or 3021	Ammoniacal nitrogen Chloride pH Total alkalinity ($CaCO_3$) Magnesium Potassium Total Sulphates Calcium Sodium BOD COD TOC Nitrate (for TON) Nitrite (for TON) Temperature Electrical conductivity (20^0C)	Quarterly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water"	
Phase 2 3024 or 3131				
Phase 3A 3018 or 3019				
Phase 3B 3043				
Phase 4 3009 or 3014 or 3025				
Phase 5 3011 or 3012				
Phase 6 3040 or 3041				
Phase 7 3042				
Phase 11 3016 or 3017 or 3027				
Phase 10A 3044 or 3045				
Phase 10B 3046 or 3047				
Phase 9* 3038 or 3039				
Phase G* 3054 or 3055				
Phase H* 3052 or 3053				
Phase I* 3050 or 3051				
Phase C2* 3048 or 3049				
Phase J* 3066				
Phase 1 3023 or 3021	Iron Zinc Cadmium Lead Chromium	Annually	As Agency Guidance LFTGN02 "Guidance on Monitoring of	
Phase 2 3024 or 3131				
Phase 3A 3018 or 3019				
Phase 3B 3043				
Phase 4 3009 or 3014 or				

Table S3.9 Leachate– other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
3025 Phase 5 3011 or 3012 Phase 6 3040 or 3041 Phase 7 3042	Copper Manganese Nickel Mercury		Landfill Leachate, Groundwater and Surface Water"	
Phase 11 3016 or 3017 or 3027 Phase 10A 3044 or 3045 Phase 10B 3046 or 3047 Phase 9* 3038 or 3039 Phase G* 3054 or 3055 Phase H* 3052 or 3053 Phase I* 3050 or 3051 Phase C2* 3048 or 3049 Phase J* 3066	List I/II (hazardous / non-hazardous pollutants) screen		As Agency Guidance LFTGN01 "Hydrogeological risk Assessment for Landfills." Appendix 6 Analytical Framework for Screening Landfill Leachates	
All leachate monitoring points	Depth to base of monitoring point	Annually		

* Wells to be constructed when phase developed.

Table S3.10 Surface water – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
2001, 2002, 2003, 2004, 2006, 2007 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Temperature Dissolved Oxygen pH Electrical conductivity (20^0C) Ammoniacal Nitrogen Chloride COD BOD	Quarterly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water"	
2005 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Temperature Dissolved Oxygen COD Electrical conductivity (20^0C)			
2006 and 2007 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Flow rate			

Table S3.11 Groundwater – other monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
1330, 1340, 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Ammoniacal Nitrogen Chloride	Monthly	As Agency Guidance LFTGN02 "Guidance on Monitoring of Landfill Leachate, Groundwater and Surface Water"	
1010, 1090, 1140, 1190, 1260, 1320, 1330, 1340, 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Water level Electrical Conductivity pH Dissolved Oxygen (DO) Temperature	Monthly		
1330, 1340, 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Cadmium	Quarterly		
1010, 1090, 1140, 1190, 1260, 1320, 1330, 1340, 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Chemical Oxygen Demand (COD) TOC Total Sulphates Alkalinity Nitrate (for TON) Nitrite (for TON) Sodium Potassium Calcium Magnesium Iron Manganese Copper Chromium Lead Nickel Zinc Ionic Balance	Quarterly		
1010, 1090, 1140, 1190, 1260, 1320,1330, 1340, 1350 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	Groundwater level	Monthly		
1010, 1090, 1140, 1190, 1260, 1320, 1330, 1340, 1360 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07	List I (hazardous) substances identified in leachate	Every four years		

Table S3.12 Landfill gas in ambient air - limits and monitoring requirements					
Monitoring point Ref. /Description	**Parameter**	**Limit (including unit) ***	**Reference Period**	**Monitoring Frequency**	**Monitoring Standard or Method**
EMP1, EMP2, EMP3, EMP4 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07 Down wind perimeter boundary	Methane in ambient air	1000 ppmv		Monthly	Flame Ionisation Detector
EMP1, EMP2, EMP3, EMP4 on Drawing ESID6A dated 11/11/03 revision 1 dated 18/01/07 Down wind Perimeter boundary	Hydrogen sulphide in ambient air	10 ppbv		On exceedance of the methane limit	

Table S3.13 Noise monitoring requirements				
Location or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Sensitive receptor noise survey as specified in Part III Supporting information, section C5 of the variation application	Noise	Annually. The first annual survey to be undertaken within one month of commissioning all plant and equipment.	BS 4142:1997	The first annual survey is subject to assessment in accordance with improvement condition IC7[17/05/10]

Table S3.14 Process monitoring requirements				
Emission point reference or source or description of point of measurement	**Parameter**	**Monitoring frequency**	**Monitoring standard or method**	**Other specifications**
Biogas from Digester(s)	Flow	Continuous	In accordance with EU weights and measures Regulations	--
Biogas from Digester(s)	Methane	Continuous	None specified	Gas monitors to be calibrated in accordance with manufacturer's recommendations
	Hydrogen sulphide	Daily	None specified	--
Waste reception building; Digester(s) and storage tank(s)	Odour	Daily	Olfactory monitoring	Odour detection at the site boundary
Biofilter	Temperature	As required	Temperature probe	Biofilter shall be regularly checked and maintained to ensure appropriate temperature and moisture content.
	Moisture	As required	None specified	
	Thatching/compaction	As required	None specified	
Scrubber system / Carbon filter	Key process parameters to include pH, temperature and air flow	In accordance with manufacturer's recommendations.	None specified	Scrubber system / Carbon filter shall be regularly checked and maintained to ensure appropriate temperature and moisture content. Carbon filters to be replaced when saturated in accordance with manufacturer's recommendations.
Digester and storage tank(s)	Integrity checks	Weekly	Visual assessment	--

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data			
Parameter	**Emission or monitoring point/reference**	**Reporting period**	**Period begins**
Leachate levels As required by condition 3.6.1	Monitoring points identified in Tables S3.1	Every 3 months	07 April 2009
Emissions to water Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.2	Every 3 months	07 April 2009
Groundwater Parameters as required by condition 3.6.1 (excluding List I - hazardous substances - screen) List I (Hazardous substances) Screen	Monitoring points identified in Tables S3.5 and 3.11 Monitoring points identified in Tables S3.5 and 3.11	Every 3 Months Every 4 years	07 April 2009 07 April 2009
Ambient air monitoring Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.12	Every 3 months	07 April 2009
Landfill gas surface emissions Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.7	Every 12 months	07 April 2009
Landfill gas lateral migration Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.6	Every 3 months	07 April 2009
Other Landfill gas monitoring Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.8	Every 3 months	07 April 2009
Other leachate monitoring Parameters as required by condition 3.6.1 (excluding List I (Hazardous substances) screen) List I (Hazardous substances) Screen	Monitoring points identified in Tables S3.9 Monitoring points identified in Tables S3.9	Every 3 months Every 12 months	07 April 2009 07 April 2009
Other surface water monitoring Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.10	Every 3 months	07 April 2009
Emissions to sewer Parameters as required by condition 3.6.1	Monitoring points identified in Tables S3.3	To be determined in accordance with improvement condition IC5 [17/05/10] of Schedule 1 table S1.3	07 April 2009
Noise Parameters as required by condition 3.6.1	Monitoring points identified in Table S3.13	Annually	17/05/10
Emissions to air Parameters as required by condition 3.6.1.	Monitoring points identified in Table S3.4	Every 12 months	1 January
Biofilter efficiency Parameters as required by condition 4.2.7	Biofilter(s)	Every 12 months	1 January

Table S4.2 Annual production/treatment	
Parameter	**Units**
Leachate/contaminated surface water/process effluent: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass, (landfill leachate produced on-site only).	Cubic metres/year
Surface water and/ or groundwater: Disposed of off site; Disposed of to any onsite effluent treatment plant.	Cubic metres/year
Biogas: combustion in flares; combustion in gas engines; Other methods of gas utilisation.	Normalised cubic metres/year and annual operational hours for biogas flare
Electricity generated	MWh
Solid digestate	tonnes

Table S4.3 Performance parameters		
Parameter	**Frequency of assessment**	**Units**
Water usage	Annually	m^3
Energy usage (including for leachate treatment)	Annually	MWh
Raw material usage	Annually	tonnes or m^3
Emergency flare operation	Annually	hours
CHP engine usage	Annually	hours
CHP engine efficiency	Annually	%
Auxiliary boiler usage	Annually	hours

Table S4.4 Reporting forms		
Media/parameter	**Reporting format**	**Date of form**
Leachate	Form leachate 1 or other reporting format to be agreed in writing with the Agency	
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Agency	
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Agency	
Sewer	Form Sewer 1 or other reporting format to be agreed in writing with the Agency	
Biogas	Form LFG 1 or other reporting format to be agreed in writing with the Agency	
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Agency	
Noise	Reporting format to be agreed in writing with the Agency	
Waste returns	E-waste Return Form	--
Air	Form air 1 or other form as agreed in writing by the Environment Agency	10/02/16
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	10/02/16
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	10/02/16
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	10/02/16

Schedule 5 – Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	
Name of operator	
Location of Facility	
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution	
To be notified within 24 hours of detection	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B – to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“ADQP” means Anaerobic Digestion Quality Protocol

“anaerobic digestion” means a process of controlled decomposition of biodegradable materials under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobes and facultative anaerobe bacteria species, which convert the inputs to a methane-rich biogas and whole digestate.

“animal waste” means any waste consisting of animal matter that has not been processed into food for human consumption.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“Background concentration” means such concentration of that substance as is present in:

- For emissions to surface water, the surface water quality up-gradient of the site; or
- For emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge; or
- For emissions of landfill gas, the ground or air outside the site and not attributable to the site.

“building” means a construction that has the objective of providing sheltering cover and minimising emissions of noise, particulate matter, odour and litter.

“Construction Proposals” means written information, at a level of detail appropriate to the complexity and pollution risk, on the design, specifications of materials selected, stability assessment (where relevant) and the construction quality assurance (CQA) programme in relation to the New Cell or Landfill Infrastructure.

“CQA Validation Report” means the final “as built” construction and engineering details of the New Cell or of the Landfill Infrastructure. It must provide a comprehensive record of the construction and must include, where relevant:

- The results of all testing required by the CQA programme - this must include the records of any failed tests with a written explanation, details of the remedial action taken, referenced to the appropriate secondary testing;
- Plans showing the location of all tests;
- “As-built” plans and sections of the works;
- Copies of the site engineer’s daily records;
- Records of any problems or non-compliances and the solution applied;
- Any other site specific information considered relevant to proving the integrity of the New Cell or Landfill Infrastructure;
- Validation by a qualified person that all of the construction has been carried out in accordance with the Construction Proposals.

“digestate” means material resulting from an anaerobic digestion process.

“disposal”. Means any of the operations provided for in Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission limit.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“Fugitive emission” means an emission to air, water or land from the activities which is not controlled by an emission or background concentration limit.

“groundwater” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“Groundwater Regulations” means The Groundwater (England and Wales) Regulations SI 2009 No. 2902, and words and expressions used in this permit which are also used in the Regulations shall have the same meanings as in those Regulations.

“impermeable surface” means a surface or pavement constructed and maintained to a standard sufficient to prevent the transmission of liquids beyond the pavement surface.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“Industry Standard Protocol” means “A standardised protocol for the monitoring of bioaerosols at open composting facilities” published by the Association for Organics Recycling and developed in conjunction with the Environment Agency.

“Landfill Infrastructure” means any specified element of the:

- permanent capping;
- temporary capping (i.e. engineered temporary caps not cover materials);
- leachate abstraction systems;
- leachate transfer, treatment and storage systems;
- surface water drainage systems;
- leachate monitoring wells;
- groundwater monitoring boreholes;
- landfill gas monitoring boreholes;
- landfill gas management systems;

within the site.

“Liquids” means any liquid other than leachate within the engineered landfill containment system.

“LFTGN 05” means Environment Agency Guidance for monitoring enclosed landfill gas flares, September 2004.

“LFTGN 08” means Environment Agency Guidance for monitoring landfill gas engines, September 2004.

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“New Cell” means any new cell, part of a cell or other similar new area of the site where waste deposit is to commence after issue of this permit and can comprise:

- groundwater under-drainage system;
- permanent geophysical leak location system;
- leak detection layer;
- sub-grade;
- barriers;
- liners;
- leachate collection system;
- leachate abstraction system;
- separation bund/layer;
- cell or area surface water drainage system;
- side wall subgrade and containment systems;

for the New Cell.

“No impact” means that the change made to the construction process will not alter the agreed design criteria, specification or performance in a way that has a negative effect.

"pests" means Birds, Vermin and Insects.

"quarter" means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

"recovery" means any of the operations provided for in Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

"*Relevant person*" and "*relevant conviction*" shall have the meanings given to them in the Environmental Protection Act 1990

"Review of the Hydrogeological Risk Assessment" means a written review of the hydrogeological risk assessment included in the Application, together with any other parts of the Application that addressed the requirements of the Groundwater Regulations. The review shall assess whether the activities of disposal or tipping for the purpose of disposal of waste authorised by the permit continue to meet the requirements of the Groundwater Regulations

"sealed drainage system" in relation to an impermeable surface, means a drainage system with impermeable components which does not leak and which will ensure that:

- no liquids will run off the surface otherwise than via the system
- all liquids entering the system are collected in a sealed sump, except where liquids may be lawfully discharged to foul sewer.

"treated wood" means any wood that has been chemically treated (e.g. to enhance or alter the performance of the original wood). Treatments may include penetrating oils, tar oil preservatives, water-borne preservatives, organic-based preservatives, boron and organo-metallic based preservatives, boron and halogenated flame retardants and surface treatments (including paint and venner).

"Waste code" means the six digit code referable to a type of waste in accordance with the List of Wastes (England)Regulations 2005, or List of Wastes (Wales) Regulations 2005, as appropriate, and in relation to hazardous waste, includes the asterisk.

"Waste Framework Directive" or "WFD" means Waste Framework Directive 2008/98/EC of the European Parliament and of the Council on waste.

"year" means calendar year ending 31 December.

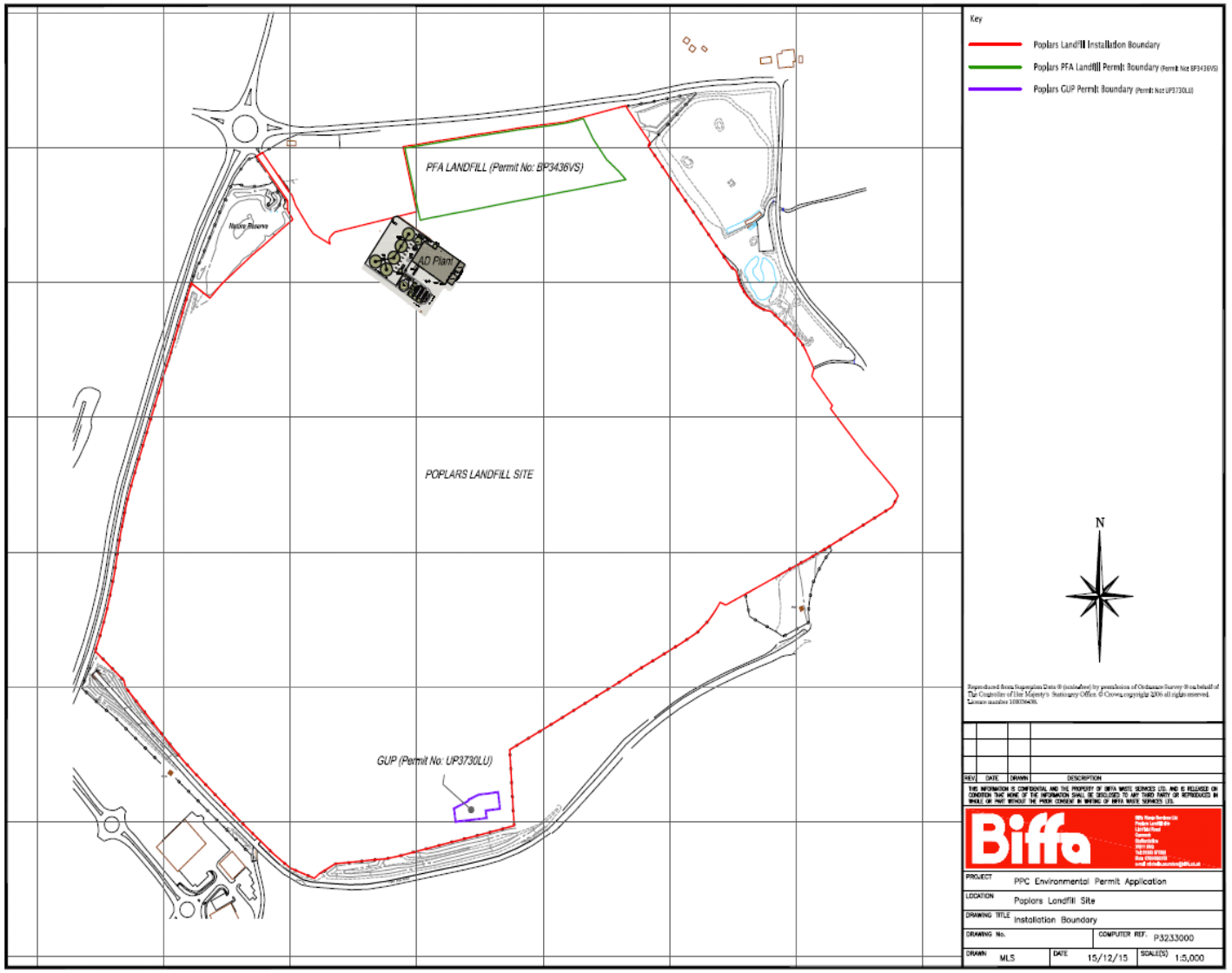
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

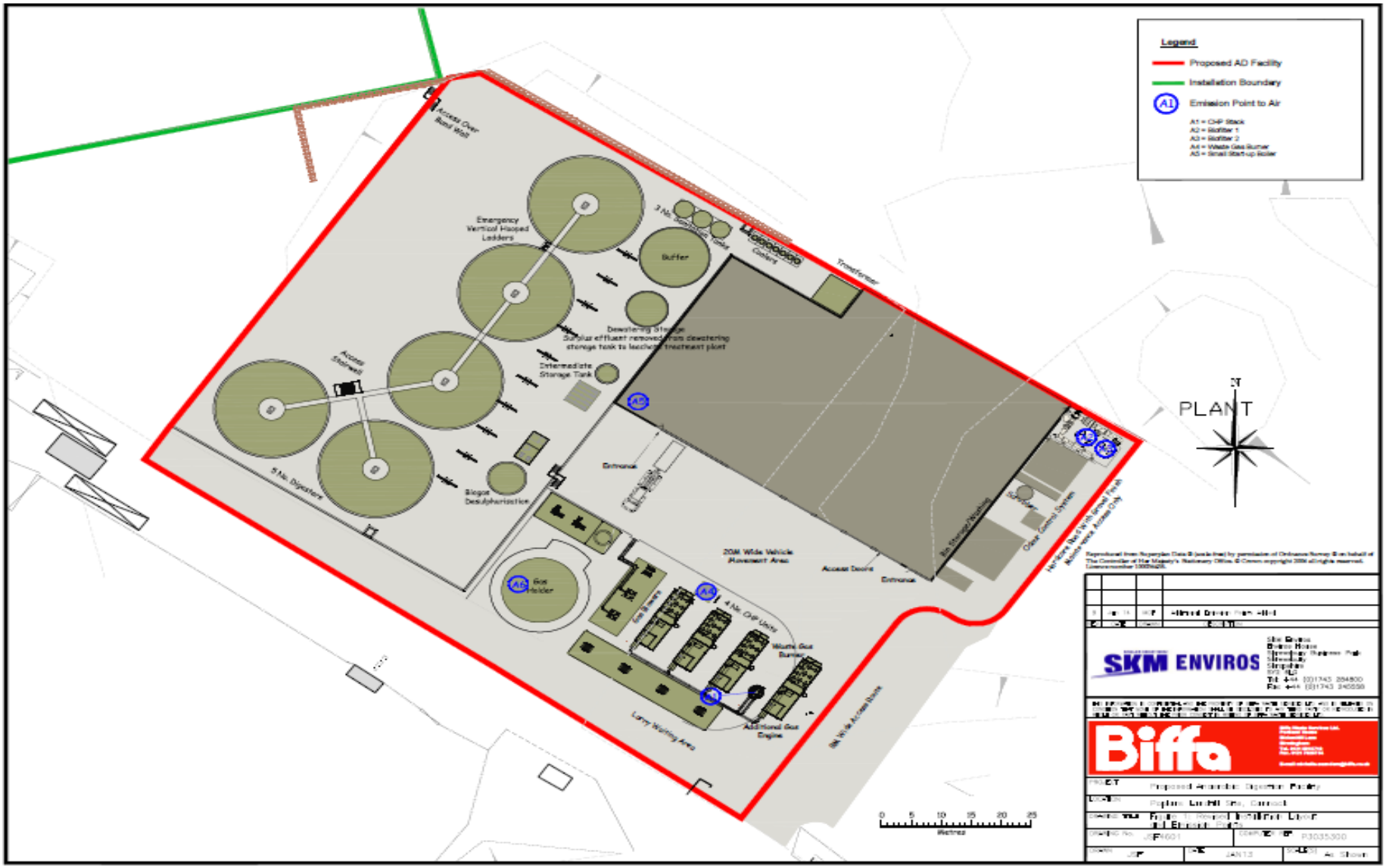
- in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid fuels, 3% or 5% for gaseous fuels, 6% dry for solid fuels; and/or
- in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

Schedule 7 – Site plan

Drawing P3233000 Site Installation Boundary 15.12.15



Drawing No: JSF4601, Revision B, Dated: Jan 14



END OF PERMIT

Permit Number:	**EPR/BW0584IL**	**Operator:**	**Biffa Waste Services**
Facility:	**Poplars AD Facility**	**Form Number:**	**Air1 / 10/02/16**

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission Limit Value	Reference Period	Result [1]	Test Method [2]	Sample Date and Times [3]	Uncertainty [4]
A1	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	500 mg/m^3	1 hour period		BS EN 14792		
A1	Carbon monoxide	1400 mg/m^3	1 hour period		BS EN 15058		
A1	Total VOCs	1000 mg/m^3	1 hour period		BS EN 12619:2013		
A1	Sulphur dioxide	200 mg/m^3	1 hour period		BS EN 14791		
A4	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	150 mg/m^3	1 hour period		BS EN 14792		
A4	Carbon monoxide	100 mg/m^3	1 hour period		BS EN 15058		
A4	Total VOCs	10 mg/m^3	1 hour period		BS EN 12619:2013		
A4	Sulphur dioxide	200 mg/m^3	1 hour period		BS EN 14791		

[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.

[2] Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.

[3] For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

[4] The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed …… Date……..
(Authorised to sign as representative of Operator)

Permit Number:	**EPR/BW0584IL**	**Operator:**	**Biffa Waste Services**
Facility:	**Poplars AD Facility**	**Form Number:**	**WaterUsage1 / 10/02/16**

Reporting of Water Usage for the year

Water Source	**Usage (m^3/year)**	**Specific Usage (m^3/unit output)**
Mains water		
TOTAL WATER USAGE		

Operator's comments:

Signed ……. Date……..

(authorised to sign as representative of Operator)

Permit Number:	**EPR/BW0584IL**	**Operator:**	**Biffa Waste Services**
Facility:	**Poplars AD Facility**	**Form Number:**	**Energy1 / 10/02/16**

Reporting of Energy Usage for the year

Energy Source	**Energy Usage**		**Specific Usage (MWh/unit output)**
	Quantity	**Primary Energy (MWh)**	
Electricity *	MWh		
Biogas	tonnes or m^3		
Natural Gas	MWh		
Recovered Fuel Oil	tonnes		
Gas Oil	tonnes		
TOTAL	-		

* Conversion factor for delivered electricity to primary energy = 2.4

Operator's comments:

Signed …… Date……..

(Authorised to sign as representative of Operator)

Permit Number:	**EPR/BW0584IL**	**Operator:**	**Biffa Waste Services**
Facility:	**Poplars AD Facility**	**Form Number:**	**Performance1 / 10/02/16**

Reporting of other performance indicators for the period DD/MM/YYYY to DD/MM/YYYY

Parameter	**Units**
Total raw material used	tonnes
CHP engine usage	hours
CHP engine efficiency	%
Emergency flare operation	hours
Electricity exported	MWh
Auxiliary boiler usage	hours

Operator's comments:

Signed …… Date……..

(Authorised to sign as representative of Operator)