

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Whitemoss Landfill Limited

Whitemoss Landfill Site
Whitemoss Road South
Skelmersdale
Lancashire
WN8 9TH

Variation application number

EPR/DP3639LM/V005

Permit number

EPR/DP3639LM

Whitemoss Landfill Site

Permit number EPR/DP3639LM

Introductory note

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

The following gives notice of the variation and consolidation of this environmental permit.

The site which is classified as a landfill for hazardous waste is located to the south of the M58 motorway which separates Whitemoss Landfill from the outskirts of Skelmersdale, Lancashire. To the north of the site beyond the motorway are several industrial premises and some residential areas (within 500m of the site boundary). Whilst adjacent to the site in the south are open fields and agricultural land. There is a farm just above the northern boundary of the western landfill area and there is a public footpath immediately adjacent to the southern boundary of the site.

This variation relates to the extension of the landfill to the west, known as the western landfill area. The current hazardous waste landfill covers an area of approximately 6 hectares and comprises of cells 1, 2 and 3. The western landfill area covers an area of approximately 12.7 hectares and comprises of cells A, B, C and D.

The site also has a leachate treatment plant and a landfill gas flare.

The main emissions from the site are emissions to surface water, and emissions of treated leachate and landfill gas. There is also the potential for emissions of dust, noise and vibration, and odour - however the operator has proposed measures to mitigate the effects from these emissions.

Status log of the permit		
Description	Date	Comments
Application BV1682IP (EPR/BV1682IP/A001)	Duly made 09/06/03	Application for a landfill
Permit BV1682IP determined EPR/BV1682IP	12/11/04	Permit issued to J Routledge and Sons (Liverpool) Limited
Variation application HP3937SW (EPR/BV1682IP/V002)	15/08/05	
Variation determined EPR/BV1682IP	22/06/06	
Variation application VP3835MR (EPR/BV1682IP/V003)	21/12/06	
EPR/BV1682IP	18/05/07	
Full Transfer application	26/01/06	
Full Transfer determined DP3639LM EPR/DP3639LM/T001	18/09/08	Permit issued to Whitemoss Landfill Limited
Variation application	12/01/09	

Status log of the permit		
Description	Date	Comments
KP3532GN (EPR/DP3639LM/V002)		
Variation determined (EPR/DP3639LM)	12/02/09	
Variation application EPR/DP3639LM/V003 (Billing ref: NP3532HA)	02/12/10	
Variation determined EPR/DP3639LM	10/12/10	
Environment Agency Landfill Sector Review 2014 Permit reviewed Variation determined EPR/DP3639LM/V004 Permit EPR/DP3639LM (Billing ref: WP3532ZY)	13/10/14	Varied and consolidated permit issued in modern condition format
Variation application EPR/DP3639LM/V005	Duly made 23/09/14	Variation to extend landfill boundary to the west (western landfill area)
Additional information	06/05/15	Response to RFI from Operator in relation to Priority Habitats
Additional information	08/06/15	Schedule 5 response part 1 re HRA, LFGRA, SRA and Landfill operations.
Additional information	12/06/15	Schedule 5 response part 2 re H1 risk assessment
Additional information	23/07/15	Letter from Applicant providing second addendum of HRA
Additional information	13/08/15	Air quality modelling input files
Additional information	26/08/15	Comments on consultation responses from operator
Additional information	04/09/15	Schedule 5 Notice follow up response in relation to Q1 regarding the HRA
Additional information	06/10/15	Treated leachate discharge pipework information provided by email
Additional information	12/10/15	Whitemoss landfill Schedule 5 Notice follow up request in relation to Q8 particulate matter modelling
Additional information	13/10/15	Whitemoss landfill S5 follow up response in relation to Q8 particulate matter modelling (modelling data input files)
Additional information	26/10/15	Response to query regarding Whitemoss particulate matter modelling in relation to size of operational areas
Variation determined EPR/DP3639LM/V005	12/09/2016	Variation to extend the landfill.

Other Part A installation permits relating to this installation		
Operator	Permit number	Date of issue
Whitemoss Landfill Limited	EPR/TP3531GY	31/08/10

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/DP3639LM

Issued to

Whitemoss Landfill Limited (“the operator”)

whose registered office is

**Whitemoss Road South
Skelmersdale
Lancashire
WN8 9TH**

company registration number 05630318

to operate a regulated facility at

**Whitemoss Landfill Site
Whitemoss Road South
Skelmersdale
Lancashire
WN8 9TH**

to the extent set out in the schedules.

The notice shall take effect from 12/09/2016

Name	Date
Philip Lamb	12/09/2016

Authorised on behalf of the Environment Agency

Schedule 1 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number

EPR/DP3639LM

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/DP3639LM/V005 authorising,

Whitemoss Landfill Limited ("the operator"),

whose registered office is

**Whitemoss Road South
Skelmersdale
Lancashire
WN8 9TH**

company registration number 05630318

to operate an installation at

**Whitemoss Landfill Site
Whitemoss Road South
Skelmersdale
Lancashire
WN8 9TH**

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

Name	Date
Philip Lamb	12/09/2016

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 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 dated 18 September 2008 and the deed of trust entered into between (1) Whitemoss Landfill Limited (2) Mark Anthony Lister and Nicola Tracey Edgecombe and (3) the Environment Agency dated 11th March 2009 and as varied by deed from time to time and the deeds of appointment and retirement dated 1st February 2015 and 20th February 2015, as may be varied by deed from time to time, 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.
- 1.2.3 No activities authorised by this permit shall be commenced in the Western landfill area unless the Operator has entered into an Agreement with the Environment Agency to secure financial provision for meeting the obligations under this Permit and has provided the provision.
- 1.2.4 The Operator shall give prior notice to the Environment Agency of its intention to commence operations in the Western landfill area.
- 1.2.5 The Financial Provision provided under condition 1.2.3 above shall thereafter be maintained by the Operator throughout the subsistence of the permit and the Operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.6 The Operator shall report in writing to the Environment Agency as to the performance of the trust fund in the period to 31 December each year.

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) Implement any appropriate measures identified by a review.

1.4 Efficient use of raw materials

1.4.1 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.

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

1.5.1 The operator shall:

- (a) take appropriate measures to ensure that waste produced by the activities is avoided or reduced, or where waste is produced it is recovered wherever practicable or otherwise disposed of in a manner which minimises its impact on the environment;
- (b) review and record at least every four years whether changes to those measures should be made; and
- (c) 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”).

2.2 The site

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the 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.

2.4 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 activities shall not be brought into operation until the measures specified in schedule 1 table S1.4 have been completed.

2.6 Landfill Engineering

- 2.6.1 No construction of any new cell of the landfill shall commence until the operator has submitted construction proposals and the Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.2 Where the operator proposes to construct any new cell other than the first cell, but proposes no change from the design of the most recently approved cell which could have any impact on the performance of any element of the design, no construction of the new cell shall commence until the operator has submitted a cell layout drawing and the Environment Agency has confirmed that it is satisfied with the cell layout drawing.
- 2.6.3 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 Environment Agency.
- 2.6.4 No disposal of waste shall take place in a new cell until the operator has submitted a CQA Validation Report and the Environment Agency has confirmed that it is satisfied with the CQA Validation Report.
- 2.6.5 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 Environment Agency has confirmed that it is satisfied with the construction proposals.
- 2.6.6 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 Environment Agency.
- 2.6.7 The operator shall submit a CQA Validation Report as soon as practicable following the construction of the relevant landfill infrastructure.
- 2.6.8 Where pollution controls are immediately necessary to prevent an incident or accident, then conditions 2.6.5 and 2.6.6 do not apply and the relevant landfill infrastructure may be constructed, provided that the construction proposals are submitted to the Environment Agency as soon as practicable.
- 2.6.9 For the purposes of conditions 2.6.1, 2.6.2, 2.6.4 and 2.6.5, the Environment Agency shall be deemed to be satisfied where it has not, within the period of four 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.
- 2.6.10 Where the Environment Agency has required further information under condition 2.6.9(b), the Environment Agency shall be deemed to be satisfied where it has not, within the period of four weeks from the date of receipt of the further information, either:
- (a) confirmed whether or not it is satisfied; or
 - (b) informed the operator that it requires further information.

2.7 Waste acceptance

- 2.7.1 Wastes shall only be accepted for disposal if:
- (a) they are listed in schedule 2, table S2.1 and
 - (b) they are hazardous waste or inert waste for cover (table S2.2), and
 - (c) they are not liquid waste (including waste waters but excluding sludge), and
 - (d) they are not waste which in the conditions of landfill is explosive, corrosive, oxidising, highly flammable or flammable, and
 - (e) they are not hospital and other clinical infectious wastes from medical or veterinary establishments, 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 where treatment would not reduce its quantity or the hazards which it poses to human health or the environment.
 - (k) They fulfil the relevant waste acceptance criteria, except that the leaching limits set out in schedule 2, table S2.5 shall apply to the wastes listed in schedule 2, table S2.4.
- 2.7.2 Wastes shall only be accepted for restoration where:
- (a) they are listed in schedule 2, table S2.3 and
 - (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.
- 2.7.3 The operator shall:
- (a) visually inspect without unloading it, waste that is not in an enclosed container or enclosed vehicle on arrival at the landfill and waste at the point of deposit; and
 - (b) be satisfied that the waste conforms to the requirements of condition 2.7.1.
- 2.7.4 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.
- 2.7.5 The operator on accepting each delivery of waste shall provide a receipt to the person delivering it.
- 2.7.6 The total quantity of waste that shall be deposited or recovered in the landfill shall be limited by the pre-settlement levels shown on drawing ESID4 dated 16/05/2014.

- 2.7.7 The quantity of waste that is deposited or recovered in the landfill in any year shall not exceed the limits in schedule 1 table S1.5.
- 2.7.8 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 of 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.
- 2.7.9 The operator shall maintain and implement a system to record the disposal location of any hazardous waste.

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.

2.10 Landfill gas management

- 2.10.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:
- (a) collect landfill gas; and
 - (b) control the migration of landfill gas.
- 2.10.2 The operator shall use the collected landfill gas to produce energy. If the collected landfill gas cannot be used to produce energy, the operator shall use appropriate measures to flare or treat the gas in accordance with an approved landfill gas management plan.
- 2.10.3 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a revised landfill gas management plan;
 - (b) implement the revised landfill gas management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 The limits in Schedule 3 shall not be exceeded.
- 3.1.2 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 S3.6.
- 3.1.3 The limits given in Table S3.2 shall not be exceeded, save that compliance with an emission limit in that table shall include incorporation of the uncertainty allowance stated in Environment Agency guidance LFTGN 05 and LFTGN 08.
- 3.1.4 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.5 The operator shall submit to the Environment Agency a review of the Hydrogeological Risk Assessment:
- (a) between nine and six months prior to the fourth anniversary of the granting of the permit, and

- (b) between nine and six months prior to every subsequent six years after the fourth anniversary of the granting of the permit.
- 3.1.6 For the following activities referenced in schedule 1, table S1.1 (A2), 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 systematic appraisal of the risk of contamination.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 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.
- 3.2.2 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..
- 3.2.3 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 Odour

- 3.3.1 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.
- 3.3.2 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.

3.4 Noise and vibration

- 3.4.1 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.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to 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.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring and any other actions specified in the following tables in schedule 3 to this permit:
- (a) Leachate specified in tables S3.1 and S3.11;
 - (b) Point source emissions specified in tables S3.2, S3.3 and S3.6;
 - (c) Groundwater specified in tables S3.4 and S3.9;
 - (d) Landfill gas specified in tables S3.5, S3.8 and S3.10;
 - (e) Surface water specified in table S3.12; and
 - (f) Particulate matter specified in table S3.7.
- 3.5.2 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.
- 3.5.3 A topographical survey of the site referenced to ordnance datum shall be carried out and shall be used to produce a plan of a scale adequate to show the surveyed features of the site:
- (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.

3.6 Pests

- 3.6.1 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.

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) sub-surface landfill gas monitoring;
 - (iii) leachate levels, quality and quantities;
 - (iv) landfill gas generation and collection;
 - (v) waste types and quantities;

- (vi) the location of hazardous waste deposits; and
 - (vii) the specification and as built drawings of the basal, sidewall and capping engineering systems.
- 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 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 A report or reports on the performance of the activities over the previous year ('the annual report') shall be submitted to the Environment Agency by 31st January each year or such other date as may be agreed in writing by the Agency, with the exception of 4.2.2(c) that must be provided by the end of February 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 this permit against the relevant assumptions, parameters and results in the risk assessments submitted in relation to this installation and any agreed amendments thereto. The review will include written descriptions of the improvements made to operational performance during the year, action plans developed and planned improvements for the coming year;
 - (b) the energy consumed at the site, reported in the format set out in schedule 4 table S4.3
 - (c) the annual production/treatment set out in schedule 4 table S4.2;
 - (d) the topographical surveys required by condition 3.5.3 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;
 - (g) a calculation of the remaining capacity (reported in cubic metres) derived from the pre-settlement contours and the most recent topographical survey;
 - (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of leachate and landfill gas extraction and all monitoring points.
 - (i) A review detailing any alternative disposal or treatment options considered for the waste streams specified in schedule 2, table S2.4.
- 4.2.3 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) using the forms specified in schedule 4 table S4.4 or other reporting format as agreed in writing with the Environment Agency; and
 - (c) giving the information from such results and assessments as may be required by the forms specified in those tables.
- 4.2.4 Within one 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.

- 4.2.5 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.

4.3 Notifications

- 4.3.1 (a) In the event 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) in the event 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) in the event 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 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:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address(es); and
 - (c) 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.
- 4.3.4 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.

4.4 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	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A1	D5 –Specially engineered landfill; R5 - the recycling or reclamation of inorganic material and R10 – Land treatment resulting in benefit to agriculture or ecology	Section 5.2 Part A(1) (a) , The disposal of waste in a landfill.	Landfill for hazardous waste and landfill restoration	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	D8 – Biological treatment of waste	Section 5.4, Part A(1)(a)(i), Biological treatment of non-hazardous waste	Treatment of leachate in a facility with a capacity of >50 tonnes/day	Leachate arising from the landfill
Directly Associated Activities				
A3	N/A		Temporary storage of waste (leachate)	Leachate arising from the landfill.
A4	N/A		Flaring of landfill gas for disposal in an appliance.	Landfill gas arising from the landfill.
A5	D6 – release to water body except seas/ oceans		Discharges of site drainage from the landfill.	From surface water management system to point of entry to controlled waters.
A6	N/A		Discharge of treated leachate from the Leachate Treatment Plant	From the Leachate Treatment Plant to the point that the pipework ceases to be on land under the control of the operator.
A7	N/A		Storage of fuel for operation of plant and equipment.	Fuel storage tank.

Table S1.2 Operating techniques		
Description	Parts	Date Received
Information submitted	Management System, A6 Waste Acceptance Procedures for restoration.	15 November 2013
Variation application to include western landfill area	<p>Form C2 responses to question 5 (Supporting information) and 6 (Environmental risk assessment).</p> <p>Form C3 responses to questions 2 (Emissions to air, water and land), 3 (Operating techniques), 4 (Monitoring), Appendix 5 (Specific questions for hazardous and non-hazardous waste recovery and disposal sector) and Appendix 7 (Specific questions for the landfill sector).</p> <p>Additional information (NDM responses) received on 17/07/14, 15/08/14 and 23/09/14 – all parts.</p>	23/09/14
Addition information	Response to RFI from Operator in relation to Priority Habitats	06/05/15
Addition information	Schedule 5 response part 1 re HRA, LFGRA, SRA and Landfill operations	08/06/15
Addition information	<p>Schedule 5 response part 2 re H1 risk assessment</p> <p>Including report WL/WL/AW/5504/01/DMP PARTICULATE MATTER AND ASBESTOS MANAGEMENT, MONITORING AND ACTION PLAN FOR THE WESTERN LANDFILL AREA AT WHITEMOSS LANDFILL SITE, LANCASHIRE</p>	12/06/15
Addition information	Letter from Applicant providing second addendum of HRA	23/07/15
Addition information	Schedule 5 Notice follow up response in relation to Q1 regarding the HRA	04/09/15
Addition information	Treated leachate discharge pipework information provided by email	06/10/15
Addition information	Whitemoss landfill Schedule 5 Notice follow up request in relation to Q8 particulate matter modelling	12/10/15
Addition information	Response to query regarding Whitemoss particulate matter modelling in relation to size of operational areas	26/10/15

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
1	The operator shall submit to the Environment Agency in writing for approval, a H1 risk assessment and report for suspended solids and BOD for the discharge of groundwater to surface water from pumping from the western landfill area and surface water runoff. The H1 risk assessment and report shall be based on 12 months of consecutive monthly monitoring data. The operator shall also propose emission limits for suspended solids and BOD if appropriate.	15/12/2017
2	The operator shall submit to the Environment Agency in writing for approval, a report which reviews the emission limits to surface water (with the exception of flow) from the discharge of groundwater from pumping from the western landfill area and surface water runoff. The report shall include proposals for control limits and also emission limits if appropriate. The operator shall review actual data against the limits and if practicable propose revised limits. The report shall be based on 12 months of consecutive monthly monitoring data.	16/12/2016
3	The operator shall submit to the Environment Agency in writing for approval, a report which reviews the emission limit on flow to surface water from the combined discharge of groundwater from pumping from Phases A, B, C and D and surface water – following the completion of Phase Ai. The report shall include proposals for a revised emission limit for flow as appropriate.	3 months following the completion of Phase Ai.

Table S1.4 Pre-operational measures for future development		
Reference	Operation	Pre-operational Measures
1	Landfilling in the western landfill area	Prior to landfill activities commencing in the western landfill area, the operator shall submit a report to the Environment Agency in writing which reviews and revises if appropriate the interim groundwater compliance and control levels which are to be applied to the down hydraulic gradient groundwater monitoring points in table S3.4. The report shall be based on the most up to date monitoring data. The operator shall have obtained the Environment Agency's written approval to the report.

Table S1.4 Pre-operational measures for future development

Reference	Operation	Pre-operational Measures
2a	Landfilling in the western landfill area – installation of groundwater monitoring boreholes	Prior to the commencement of waste operations in the western landfill area, the operator shall install boreholes to replace existing boreholes E62 and E60 (formerly borehole references 36 and 38 respectively), with response zones which target the Coal Measures strata. Once installed, the operator shall undertake routine monitoring in accordance with table S3.9.
2b	Landfilling in the western landfill area – installation of groundwater monitoring boreholes	<p>Prior to the commencement of waste operations in the western landfill area, the operator shall install groundwater monitoring boreholes E59A and E60A, at locations agreed with the Environment Agency, around the leachate treatment plant and lagoon to target the superficial drift aquifer.</p> <p>Following installation, the operator shall undertake routine groundwater monitoring in accordance with table S3.4</p>
2c	Landfilling in the western landfill area – groundwater compliance limits.	Prior to commencement of waste operations in the western landfill area, the operator shall submit a report to the Environment Agency in writing which proposes groundwater compliance limits for arsenic, benzene, cadmium, ammoniacal nitrogen, chloride, phenols and zinc to be applied to the groundwater boreholes in pre-operational condition 2a above, which are down hydraulic gradient of the leachate treatment plant and lagoon. The report shall be based on the most up to date monitoring data. The operator shall have obtained the Environment Agency’s written approval to the report
2d	Landfilling in the western landfill area – groundwater borehole installation information	<p>The following details regarding the monitoring boreholes detailed in pre-operational conditions 2a and 2b above shall be provided to the Environment Agency within 3 months of installation:</p> <ul style="list-style-type: none"> • casings/linings (length, diameter, material, type of grout or filter media and whether slotted or plain); • depths and diameters of unlined sections; • standing groundwater levels; • details of strata encountered during drilling; • reference levels in metres above ordnance datum; • national grid references of the boreholes in the form AB 12345 67890; • any other information obtained from the boreholes relevant to the interpretation of water sample analysis.

Table S1.4 Pre-operational measures for future development

Reference	Operation	Pre-operational Measures
3	Landfilling in the western landfill area – Placement of the high density polyethylene (HDPE) flexible membrane layer (FML).	Prior to placement of the HDPE FML, the Operator shall present a written report to the Environment Agency for approval to update the hydraulic containment model with site specific data confirming the actual as-built specification of the geological barrier and derive hydraulic containment model predictions for chloride based on the as-built data provided in the CQA Validation Report and site specific conditions. It shall also include details that confirm whether the as-built specification is sufficient to provide the necessary protection of groundwater in the long term when the landfill is in hydraulic containment. Placement of the HDPE FML shall not commence until written approval is provided by the Environment Agency.

Table S1.5 Annual waste input limits

Category	Limit Tonnes/ Year
Hazardous waste	150,000
Inert Waste for cover	25,000
Waste for restoration	35,000

Schedule 2 – List of permitted wastes

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
01 03	wastes from physical and chemical processing of metalliferous minerals
01 03 05*	other tailings containing hazardous substances
01 03 07*	other wastes containing hazardous substances from physical and chemical processing of metalliferous minerals
01 04	wastes from physical and chemical processing of non-metalliferous minerals
01 04 07*	wastes containing hazardous substances from physical and chemical processing of non-metalliferous minerals
01 05	drilling muds and other drilling wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
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 08*	agrochemical waste containing hazardous substances
03 02	wastes from wood preservation
03 02 05*	other wood preservatives containing hazardous substances
04	Wastes from the leather, fur and textile industries
04 01	wastes from the leather and fur industry
04 01 03*	degreasing wastes containing solvents without a liquid phase
04 02	wastes from the textile industry
04 02 14*	wastes from finishing containing organic solvents
04 02 16*	dyestuffs and pigments containing hazardous substances
04 02 19*	sludges from on-site effluent treatment containing hazardous substances
05	Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal
05 01	wastes from petroleum refining

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
05 01 02*	desalter sludges
05 01 03*	tank bottom sludges
05 01 04*	acid alkyl sludges
05 01 05*	oil spills
05 01 06*	oily sludges from maintenance operations of the plant or equipment
05 01 07*	acid tars
05 01 08*	other tars
05 01 09*	sludges from on-site effluent treatment containing hazardous substances
05 01 15*	spent filter clays
05 06	wastes from the pyrolytic treatment of coal
05 06 03*	other tars
05 07	wastes from natural gas purification and transportation
05 07 01*	wastes containing mercury
06	Wastes from inorganic chemical processes
06 03	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 11*	solid salts and solutions containing cyanides
06 03 13*	solid salts and solutions containing heavy metals
06 03 15*	metallic oxides containing heavy metals
06 04	metal-containing wastes other than those mentioned in 06 03
06 04 03*	wastes containing arsenic
06 04 04*	wastes containing mercury
06 04 05*	wastes containing other heavy metals
06 05	sludges from on-site effluent treatment
06 05 02*	sludges from on-site effluent treatment containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
06 07	wastes from the MFSU of halogens and halogen chemical processes
06 07 01*	wastes containing asbestos from electrolysis
06 07 02*	activated carbon from chlorine production
06 07 03*	barium sulphate sludge containing mercury
06 08	wastes from the MFSU of silicon and silicon derivatives
06 08 02*	waste containing hazardous chlorosilanes
06 09	wastes from the MSFU of phosphorous chemicals and phosphorous chemical processes
06 09 03*	calcium-based reaction wastes containing or contaminated with hazardous substances
06 10	wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture
06 10 02*	wastes containing hazardous substances
06 13	wastes from inorganic chemical processes not otherwise specified
06 13 01*	inorganic plant protection products, wood-preserving agents and other biocides
06 13 04*	wastes from asbestos processing
06 13 05*	soot
07	Wastes from organic chemical processes
07 01	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 08*	other still bottoms and reaction residues
07 01 09*	halogenated filter cakes and spent absorbents
07 01 10*	other filter cakes and spent absorbents
07 01 11*	sludges from on-site effluent treatment containing hazardous substances
07 02	wastes from the MFSU of plastics, synthetic rubber and man-made fibres
07 02 09*	halogenated filter cakes and spent absorbents
07 02 10*	other filter cakes and spent absorbents
07 02 11*	sludges from on-site effluent treatment containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
07 02 14*	wastes from additives containing hazardous substances
07 03	wastes from the MFSU of organic dyes and pigments (except 06 11)
07 03 08*	other still bottoms and reaction residues
07 03 09*	halogenated filter cakes and spent absorbents
07 03 10*	other filter cakes and spent absorbents
07 03 11*	sludges from on-site effluent treatment containing hazardous substances
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 08*	other still bottoms and reaction residues
07 04 09*	halogenated filter cakes and spent absorbents
07 04 10*	other filter cakes and spent absorbents
07 04 11*	sludges from on-site effluent treatment containing hazardous substances
07 04 13*	solid wastes containing hazardous substances
07 05	wastes from the MFSU of pharmaceuticals
07 05 08*	other still bottoms and reaction residues
07 05 09*	halogenated filter cakes and spent absorbents
07 05 10*	other filter cakes and spent absorbents
07 05 11*	sludges from on-site effluent treatment containing hazardous substances
07 05 13*	solid wastes containing hazardous substances
07 06	wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics
07 06 08*	other still bottoms and reaction residues
07 06 09*	halogenated filter cakes and spent absorbents
07 06 10*	other filter cakes and spent absorbents
07 06 11*	sludges from on-site effluent treatment containing hazardous substances
07 07	wastes from the MFSU of fine chemicals and chemical products not otherwise specified

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste

Waste code	Description
07 07 08*	other still bottoms and reaction residues
07 07 09*	halogenated filter cakes and spent absorbents
07 07 10*	other filter cakes and spent absorbents
07 07 11*	sludges from on-site effluent treatment containing hazardous substances
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 13*	sludges from paint or varnish containing organic solvents or other hazardous substances
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances
08 01 17*	wastes from paint or varnish removal containing organic solvents or other hazardous substances
08 03	wastes from MFSU of printing inks
08 03 14*	ink sludges containing hazardous substances
08 03 17*	waste printing toner containing hazardous substances
08 04	wastes from MFSU of adhesives and sealants (including water proofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
08 04 11*	adhesive and sealant sludges containing organic solvents or other hazardous substances
08 04 13*	aqueous sludges containing adhesives or sealants containing organic solvents or other hazardous substances
08 05	wastes not otherwise specified in 08
08 05 01*	waste isocyanates
09	Wastes from the photographic industry
09 01	wastes from the photographic industry
09 01 11*	single-use cameras containing batteries included in 16 06 01, 16 06 02 or 16 06 03
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 04*	oil fly ash and boiler dust

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
10 01 13*	fly ash from emulsified hydrocarbons used as fuel
10 01 14*	bottom ash, slag and boiler dust from co-incineration containing hazardous substances
10 01 16*	fly ash from co-incineration containing hazardous substances
10 01 18*	wastes from gas cleaning containing hazardous substances
10 01 20*	sludges from on-site effluent treatment containing hazardous substances
10 02	wastes from the iron and steel industry
10 02 07*	solid wastes from gas treatment containing hazardous substances
10 02 13*	sludges and filter cakes from gas treatment containing hazardous substances
10 03	wastes from aluminium thermal metallurgy
10 03 04*	primary production slags
10 03 08*	salt slags from secondary production
10 03 09*	black drosses from secondary production
10 03 17*	tar-containing wastes from anode manufacture
10 03 19*	flue-gas dust containing hazardous substances
10 03 21*	other particulates and dust (including ball-mill dust) containing hazardous substances
10 03 23*	solid wastes from gas treatment containing hazardous substances
10 03 25*	sludges and filter cakes from gas treatment containing hazardous substances
10 03 29*	wastes from treatment of salt slags and black drosses containing hazardous substances
10 04	wastes from lead thermal metallurgy
10 04 01*	slags from primary and secondary production
10 04 02*	dross and skimmings from primary and secondary production
10 04 03*	calcium arsenate
10 04 04*	flue-gas dust
10 04 05*	other particulates and dust

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
10 04 06*	solid wastes from gas treatment
10 04 07*	sludges and filter cakes from gas treatment
10 05	wastes from zinc thermal metallurgy
10 05 03*	flue-gas dust
10 05 05*	solid waste from gas treatment
10 05 06*	sludges and filter cakes from gas treatment
10 06	wastes from copper thermal metallurgy
10 06 03*	flue-gas dust
10 06 06*	solid wastes from gas treatment
10 06 07*	sludges and filter cakes from gas treatment
10 08	wastes from other non-ferrous thermal metallurgy
10 08 08*	salt slag from primary and secondary production
10 08 12*	tar-containing wastes from anode manufacture
10 08 15*	flue-gas dust containing hazardous substances
10 08 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances
10 09	wastes from casting of ferrous pieces
10 09 05*	casting cores and moulds which have not undergone pouring containing hazardous substances
10 09 07*	casting cores and moulds which have undergone pouring containing hazardous substances
10 09 09*	flue-gas dust containing hazardous substances
10 09 11*	other particulates containing hazardous substances
10 09 13*	waste binders containing hazardous substances
10 09 15*	waste crack-indicating agent containing hazardous substances
10 10	wastes from casting of non-ferrous pieces
10 10 05*	casting cores and moulds which have not undergone pouring, containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
10 10 07*	casting cores and moulds which have undergone pouring, containing hazardous substances
10 10 09*	flue-gas dust containing hazardous substances
10 10 11*	other particulates containing hazardous substances
10 10 13*	waste binders containing hazardous substances
10 10 15*	waste crack-indicating agent containing hazardous substances
10 11	wastes from manufacture of glass and glass products
10 11 09*	waste preparation mixture before thermal processing, containing hazardous substances
10 11 11*	waste glass in small particles and glass powder containing heavy metals (for example from cathode ray tubes)
10 11 13*	glass-polishing and -grinding sludge containing hazardous substances
10 11 15*	solid wastes from flue-gas treatment containing hazardous substances
10 11 17*	sludges and filter cakes from flue-gas treatment containing hazardous substances
10 11 19*	solid wastes from on-site effluent treatment containing hazardous substances
10 12	wastes from manufacture of ceramic goods, bricks, tiles and construction products
10 12 09*	solid wastes from gas treatment containing hazardous substances
10 12 11*	wastes from glazing containing heavy metals
10 13	wastes from manufacture of cement, lime and plaster and articles and products made from them
10 13 09*	wastes from asbestos-cement manufacture containing asbestos
10 13 12*	solid wastes from gas treatment containing hazardous substances
10 14	waste from crematoria
10 14 01*	waste from gas cleaning containing mercury
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, phosphating, alkaline degreasing, anodising)
11 01 09*	sludges and filter cakes containing hazardous substances
11 01 15*	eluate and sludges from membrane systems or ion exchange systems containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
11 01 16*	saturated or spent ion exchange resins
11 01 98*	other wastes containing hazardous substances
11 02	wastes from non-ferrous hydrometallurgical processes
11 02 05*	wastes from copper hydrometallurgical processes containing hazardous substances
11 03	sludges and solids from tempering processes
11 03 01*	wastes containing cyanide
11 03 02*	other wastes
11 05	wastes from hot galvanising processes
11 05 03*	solid wastes from gas treatment
11 05 04*	spent flux
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 12*	spent waxes and fats
12 01 14*	machining sludges containing hazardous substances
12 01 16*	waste blasting material containing hazardous substances
12 01 18*	metal sludge (grinding, honing and lapping sludge) containing oil
12 01 20*	spent grinding bodies and grinding materials containing hazardous substances
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)
13 05	oil/water separator contents
13 05 01*	solids from grit chambers and oil/water separators
13 05 02*	sludges from oil/water separators
13 05 03*	Interceptor sludges
13 08	oil wastes not otherwise specified
13 08 01*	desalter sludges or emulsions

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)
14 06	waste organic solvents, refrigerants and foam/aerosol propellants
14 06 04*	sludges or solid wastes containing halogenated solvents
14 06 05*	sludges or solid wastes containing other solvents
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 10*	packaging containing residues of or contaminated by hazardous substances
15 02	absorbents, filter materials, wiping cloths and protective clothing
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
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 08*	components containing mercury
16 01 11*	brake pads containing asbestos
16 01 21*	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14
16 02	wastes from electrical and electronic equipment
16 02 12*	discarded equipment containing free asbestos
16 02 13*	discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12
16 02 15*	hazardous components removed from discarded equipment
16 03	off-specification batches and unused products
16 03 03*	inorganic wastes containing hazardous substances
16 05	gases in pressure containers and discarded chemicals
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
16 07	wastes from transport tank, storage tank and barrel cleaning (except 05 and 13)
16 07 08*	wastes containing oil
16 07 09*	wastes containing other hazardous substances
16 08	spent catalysts
16 08 02*	spent catalysts containing hazardous transition metals or hazardous transition metal compounds
16 08 05*	spent catalysts containing phosphoric acid
16 08 07*	spent catalysts contaminated with hazardous substances
16 11	waste linings and refractories
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances
16 11 03*	other linings and refractories from metallurgical processes containing hazardous substances
16 11 05*	linings and refractories from non-metallurgical processes containing hazardous substances
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances
17 02	wood, glass and plastic
17 02 04*	glass, plastic and wood containing or contaminated with hazardous substances
17 03	bituminous mixtures, coal tar and tarred products
17 03 01*	bituminous mixtures containing coal tar
17 03 03*	coal tar and tarred products
17 04	metals (including their alloys)
17 04 09*	metal waste contaminated with hazardous substances
17 04 10*	cables containing oil, coal tar and other hazardous substances
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
17 05 05*	dredging spoil containing hazardous substances
17 05 07*	track ballast containing hazardous substances
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos
17 06 03*	other insulation materials consisting of or containing hazardous substances
17 06 05*	construction materials containing asbestos
17 08	gypsum-based construction material
17 08 01*	gypsum-based construction materials contaminated with hazardous substances
17 09	other construction and demolition wastes
17 09 01*	construction and demolition wastes containing mercury
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances
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 05*	filter cake from gas treatment
19 01 07*	solid wastes from gas treatment
19 01 10*	spent activated carbon from flue-gas treatment
19 01 11*	bottom ash and slag containing hazardous substances
19 01 13*	fly ash containing hazardous substances
19 01 15*	boiler dust containing hazardous substances
19 01 17*	pyrolysis wastes containing hazardous substances
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 04*	premixed wastes composed of at least one hazardous waste
19 02 05*	sludges from physico/chemical treatment containing hazardous substances
19 02 11*	other wastes containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
19 03	stabilised/solidified wastes
19 03 04*	wastes marked as hazardous, partly stabilised other than 19 03 08
19 03 06*	wastes marked as hazardous, solidified
19 04	vitrified waste and wastes from vitrification
19 04 02*	fly ash and other flue-gas treatment wastes
19 04 03*	non-vitrified solid phase
19 08	wastes from waste water treatment plants not otherwise specified
19 08 06*	saturated or spent ion exchange resins
19 08 07*	solutions and sludges from regeneration of ion exchangers
19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09
19 08 11*	sludges containing hazardous substances from biological treatment of industrial waste water
19 08 13*	sludges containing hazardous substances from other treatment of industrial waste water
19 10	wastes from shredding of metal-containing wastes
19 10 03*	fluff-light fraction and dust containing hazardous substances
19 10 05*	other fractions containing hazardous substances
19 11	wastes from oil regeneration
19 11 01*	spent filter clays
19 11 05*	sludges from on-site effluent treatment containing hazardous substances
19 11 07*	wastes from flue-gas cleaning
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 13	wastes from soil and groundwater remediation
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 03*	sludges from soil remediation containing hazardous substances

Table S2.1 Permitted waste types for disposal at a landfill for hazardous waste	
Waste code	Description
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 19*	pesticides
20 01 27*	paint, inks, adhesives and resins containing hazardous substances
20 01 35*	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components

Table S2.2 Permitted waste types – inert waste cover for hazardous waste landfills	
Waste code	Description
10	Wastes from thermal processes
10 11	wastes from manufacture of glass and glass products
10 11 03	waste glass-based fibrous materials
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 07	glass packaging
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

Table S2.2 Permitted waste types – inert waste cover for hazardous waste landfills	
Waste code	Description
17 02 02	glass
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
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 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 05	glass
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 02	glass
20 02	garden and park wastes (including cemetery waste)
20 02 02	soil and stones

Table S2.3 Permitted waste types for restoration	
Waste code	Description
01	Wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals
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
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
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

Table S2.3 Permitted waste types for restoration	
Waste code	Description
02 04	wastes from sugar processing
02 04 01	soil from cleaning and washing beet
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	wastes from pulp, paper and cardboard production and processing
03 03 05	de-inking sludges from paper recycling
03 03 09	lime mud waste
10	Wastes from thermal processes
10 01	wastes from power stations and other combustion plants (except 19)
10 01 24	sands from fluidised beds
17	Construction and demolition wastes (including excavated soil from contaminated sites)
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
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 05	wastes from aerobic treatment of solid wastes
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 05	sludges from treatment of urban waste water
19 09	wastes from the preparation of water intended for human consumption or water for industrial use
19 09 02	sludges from water clarification
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified

Table S2.3 Permitted waste types for restoration	
Waste code	Description
19 12 09	minerals (for example sand, stones)
19 13	wastes from soil and groundwater remediation
19 13 02	solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 02	garden and park wastes (including cemetery waste)
20 02 01	biodegradable waste
20 02 02	soil and stones

Table S2.4 Specified Granular Wastes with elevated WAC limits		
Waste code	Description	
19 01 11*	bottom ash and slag containing hazardous substances	Chloride, Lead, TDS
19 02 04*	premixed wastes composed of at least one hazardous waste	Chloride, Lead, TDS
19 02 05*	sludges from physico/chemical treatment containing hazardous substances	Chloride, Lead, TDS
19 03 04*	wastes marked as hazardous, partly stabilised other than 19 03 08	Chloride, Lead, TDS

Table S2.5 WAC Limits for Specified Granular Wastes	
Component	L/S = 10 l/kg Leaching limit (mg/kg dry substance)
Chloride	<75,000
Lead	<150
Total Dissolved Solids (TDS) ¹	<300,000
¹ The value for TDS can be used alternatively to values for Chloride	

Schedule 3 – Emissions and monitoring

Table S3.1 Leachate level limits and monitoring requirements			
Monitoring point reference/Description	Limit	Monitoring frequency	Monitoring standard and method
Operational Cells or Phases (Any cells or phases that do not have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points Cell 2, Cell 3, WLSA1, WLSA3, WLSB6, WLSB8, WLSB10, WLSA12 as shown on Figure HRA 3 (THIRD REVISION) [drawing reference WL/WL/04-14/17734revC] dated 27/04/2016	1 m above cell base	Monthly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.
Non Operational Cells or Phases (Any cells or phases that have a final engineered cap agreed in accordance with the landfill engineering condition, 2.6)			
Leachate compliance and monitoring points Cell 1 as shown on Figure HRA 3 (THIRD REVISION) [drawing reference WL/WL/04-14/17734revC] dated 27/04/2016	1 m above cell base	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Or as otherwise agreed with the Agency as part of a leachate monitoring plan.

Table S3.2 Point source emissions to air – emission limits and monitoring requirements						
Emission point Ref. & Location	Parameter	Source	Limit (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Flare Stack shown on Drawing 'Gas Control System' No. LE00173/107 dated June 2006 (flaring gas from Cells 3A, 3B and 3C.	Oxides of Nitrogen	Landfill Gas Flare	150 mg/m ³	Hourly mean	Annually	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Monitoring is unnecessary where the flare is active for <10% of the year.
	CO		50 mg/m ³			
	Total VOCs		10 mg/m ³			

Table S3.3 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
S1 S2 S3 S4 as shown on Figure HRA 3 (THIRD REVISION) [drawing reference WL/WL/04-14/17734revC] dated 27/04/2016	Suspended solids	Discharge of groundwater from pumping from the western landfill area (Phases A, B, C and D) and surface water runoff.	40mg/l	Spot sample	Weekly	As specified in Environment Agency Guidance TGN02 (February 2003) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	pH		>6 and <9 pH units	Spot sample	Weekly	
	Ammoniacal Nitrogen		2.9mg/l	Spot sample	Weekly	
	Oil or grease		None visible	Spot sample	Weekly	
	Flow		The discharge of groundwater from the site should not exceed an annual average of 2.73l/s or 236m ³ /day or a maximum of 4.91l/s or 424m ³ /day.	Continuous	Continuous	As specified in M18 guidance (v4, Nov 2014) or such other subsequent guidance as may be agreed in writing with the Environment Agency

Table S3.4 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
Groundwater drainage system rising main during groundwater control ^a or 45 ^b , E47, E48, E49, E50, E51, E52, E53, E54, E55, E56 and E57, during periods when no groundwater control is taking place as shown on Figure HRA 3 (THIRD REVISION) [drawing reference WL/WL/04-14/17734revC] dated 27/04/2016	Arsenic	0.028mg/l	Spot sample	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Benzene	0.001mg/l			
	Cadmium	0.0008mg/l			
	Mercury	0.0001mg/l			
	Toluene	0.001mg/l			
	Xylene	0.002mg/l			
	Ammoniacal Nitrogen	6.5mg/l			
	Chloride	250mg/l			
	Lead	0.010mg/l			
	Phenols	0.0125mg/l			
	Sulphate	466mg/l			
	Zinc	0.074mg/l			
E59A E60A as shown on Figure HRA 3 (THIRD REVISION) [drawing reference WL/WL/04-14/17734revC] dated 27/04/2016	To be agreed in accordance with pre-operational condition 2b	To be agreed in accordance with pre-operational condition 2b	To be agreed in accordance with pre-operational condition 2b	To be agreed in accordance with pre-operational condition 2b	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency

Table S3.4 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (including unit)	Reference Period	Monitoring frequency	Monitoring standard or method
<p>a. Please note that the groundwater drainage system rising main will change location as landfilling proceeds from Phases A to D.</p> <p>b. Monitoring borehole 45 should be monitored up until the commencement of the construction of Phase C when its role of monitoring Cells 3 will be undertaken by boreholes E47 and E48.</p>					

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
Borehole 18	Methane	1.0 %v/v	Monthly	<p>As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Record whether the ground is: waterlogged frozen snow covered</p>
	Carbon Dioxide	1.5 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential Pressure	no limit		
Borehole 19	Methane	1.0 %v/v	Monthly	
	Carbon Dioxide	1.5 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
	Differential pressure	no limit		<p>As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Record whether the ground is: waterlogged frozen snow covered</p>
Borehole 20	Methane	1.0 %v/v	Monthly	
	Carbon Dioxide	1.5 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 22	Methane	2.1 %v/v	Monthly	
	Carbon Dioxide	3.0 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 23	Methane	4.6 %v/v	Monthly	
	Carbon Dioxide	6.3 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
	Differential pressure	no limit		<p>As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Record whether the ground is: waterlogged frozen snow covered</p>
Borehole 24	Methane	1.7 %v/v	Monthly	
	Carbon Dioxide	3.0 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 25	Methane	1.5 %v/v	Monthly	
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 27	Methane	2.0 %v/v	Monthly	
	Carbon Dioxide	3.5 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
	Differential pressure	no limit		<p>As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Record whether the ground is: waterlogged frozen snow covered</p>
Borehole 28	Methane	2.0 %v/v	Monthly	
	Carbon Dioxide	2.5 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 29	Methane	4.2 %v/v	Monthly	
	Carbon Dioxide	8.7 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 31	Methane	2.5 %v/v	Monthly	
	Carbon Dioxide	3.1 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
	Differential pressure	no limit		<p>As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency.</p> <p>Record whether the ground is: waterlogged frozen snow covered</p>
Borehole 32	Methane	2.1 %v/v	Monthly	
	Carbon Dioxide	2.8 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole E64	Methane	5.8 %v/v	Monthly	
	Carbon Dioxide	4.3 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole E63	Methane	8.0 %v/v	Monthly	
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		

Table S3.5 Landfill gas in external monitoring boreholes – limits and monitoring requirements				
Monitoring point Ref. /description as shown on Figure ESID 8B (REVISION) (Drawing ref. WL/WL/05-14/17816revA) dated 19/05/2014	Parameter	Limit (including units)	Monitoring frequency	Monitoring standard or method
	Differential pressure	no limit		As per LFTGN03 (Sept 2004) or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
Borehole E62	Methane	20.3 %v/v	Monthly	
	Carbon Dioxide	no limit		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		
Borehole 38	Methane	3.2 %v/v	Monthly	
	Carbon Dioxide	5.2 %v/v		
	Oxygen	no limit		
	Atmospheric pressure	no limit		
	Differential pressure	no limit		

Table S3.6 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 (including unit)	Reference Period	Monitoring Frequency	Monitoring Standard or Method
Discharge to sewer - After the leachate storage and treatment facility and before leaving the installation boundary as identified on plan reference LE00173PPC012	Quantity	Leachate Lagoon	150m ³ /day	Continuous	Continuous	As specified in M18 guidance (v4, Nov 2014) guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	Cadmium	Leachate Lagoon	8µg/l	Spot sample*	Monthly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), risk assessments for your environmental permit (www.gov.uk) or such other subsequent guidance as may be agreed in writing with the Environment Agency. *Compliance for Cadmium and Mercury shall be assessed using a rolling 3-point average (i.e. the average of the latest and previous two monitoring results for these substances).
	Mercury	Leachate lagoon	1.6µg/l	Spot sample*	Monthly	

Table S3.7 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref. /Description	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
20m downwind of asbestos disposal area	Asbestos Fibres	Where total fibre concentration exceeds 0.01 fibres/ ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	2 hours	Twice per year or every 5000 tonnes asbestos deposited, whichever is greater.	While asbestos is being deposited. <ul style="list-style-type: none"> • Pumped sampling • 1m above ground level • Flow rate = 4 litres/ minute • Minimum sample volume = 480 litres • Filter pore size = 1.2µm Asbestos fibre limit of detection = 0.001 fibres/ ml
50m upwind of asbestos disposal area	Asbestos Fibres		2 hours	During all downwind monitoring	
Site boundary downwind of asbestos disposal area	Asbestos Fibres		2 hours	Minimum twice per year.	
C1, C2 ⁽¹⁾ and C3 as shown on Figure 1 ref: WL/WL/06-15/18705 dated 05/06/2015	Particulate PM ₁₀	50µg/m ³ ⁽²⁾	Measured as a 24 hour mean concentration	Continuous	Agency guidance 'Monitoring of Particulate matter in ambient air around waste facilities, M17' version 2 dated July 2013 or such other subsequent guidance as may be agreed in writing with the Environment Agency.
		40µg/m ³	Measured as an annual mean	Continuous	

Table S3.7 Particulate matter in ambient air - monitoring requirements					
Monitoring Point Ref. /Description	Parameter	Limit	Reference Period	Monitoring Frequency	Monitoring Standard or Method
F1, F2 ⁽¹⁾ , F3, F4, F5 as shown on Figure 1 ref: WL/WL/06-15/18705 dated 05/06/2015	Deposited particulate matter	200mg/m ² /day	24 hours	Quarterly	
<p>Note 1 – Not necessary to install monitoring points C2 and F2 until operations commence in Phase B.</p> <p>Note 2 – 35 results in excess of 50µg/m³ are allowed per year without the air quality objective being exceeded</p>					

Table S3.8 Landfill gas emissions from capped surfaces for cells that have accepted non hazardous biodegradable waste – monitoring requirements (cells 3A, 3B and 3C only)			
Monitoring point Ref. /description	Parameter	Monitoring frequency	Monitoring Standard or method
Permanently capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Temporarily capped zone	Methane concentration	Every 12 months	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Whole site	Total methane emission	As agreed with the Environment Agency	As per LFTGN 07 (v2 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.
Uncapped areas	Methane concentration	Every 12 months	As agreed with the Environment Agency based on the wording of revised LFTGN 07 or landfill sector guidance or such other subsequent guidance as may be agreed in writing with the Environment Agency.

Table S3.9 Groundwater – other monitoring requirements			
Monitoring Point Ref./Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	
	Hazardous substances plus barium, molybdenum, antimony, selenium, fluoride, DOC	Annually for first six years of operation	
Down or cross gradient MEPP	Water level, electrical conductivity, chloride, ammoniacal nitrogen, pH,	Quarterly	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent guidance as may be agreed in writing with the Environment Agency. After the initial 6 year monitoring period for hazardous substances, if the results of quarterly or annual monitoring suggest an increase in contamination, the operator shall also undertake a full leachate hazardous substances screen.
	total alkalinity, magnesium, potassium, total sulphates, calcium, sodium, chromium, copper, iron, lead, nickel, zinc, manganese	Annually	

	Hazardous substances detected in leachate plus barium, molybdenum, antimony, selenium, fluoride, DOC	Annually for first six years of operation then every two years	
MEPP	Base of monitoring point (mAoD)	Annually	

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
One in waste borehole per cell and / or leachate wells for all cells or Phases except for cells 1, 2 and 3D where pin wells shall be monitored.	Methane Carbon Dioxide Oxygen Carbon Monoxide Differential pressure Atmospheric pressure	Monthly	Calibrated handheld monitoring instrument	
	Hydrogen sulphide Hydrogen	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
One in waste borehole or one leachate well per cell for all cells or Phases except for cells 1, 2 and 3D where 1 pin well shall be monitored per cell.	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (v3, 2010) or a trace gas characterisation method agreed with the Environment Agency or such other subsequent guidance as may be agreed in writing with the Environment Agency	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Gas collection system at well control valve, manifolds (if applicable) and strategic points on gas system	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure Gas flow rate or suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Monthly or at such other frequency as may be agreed in writing with the Environment Agency.	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% 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. Record the ambient air temperature and whether the ground is: waterlogged frozen snow covered

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Gas collection system at well control valve	Hydrogen sulphide	Six monthly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 (v3, 2010) or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
Output to flare or LFG Utilisation Compound	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 (v3, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency or a trace gas characterisation method agreed with the Environment Agency.	The concentration of trace gas components shall be assessed against the assumptions made in the Landfill gas risk assessment and dispersion modelling.
Output to flare or LFG Utilisation Compound	Methane Carbon Dioxide Oxygen Gas flow rate Suction % Balance Gas (calculated as the difference between the sum of measured gases and 100%)	Weekly	Calibrated handheld monitoring instrument	Where the oxygen concentration exceeds 5% or the % balance gas is greater than 20% an assessment of air ingress into the system shall be undertaken.

Table S3.10 Landfill gas – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Drawing 'Gas Control System' No. LE00173/107 dated June 2006	Temperature	As per LFTGN05 (v2, 2010) or such other subsequent guidance as may be agreed in writing with the Environment Agency.	As per M2 or such other subsequent guidance as may be agreed in writing with the Environment Agency.	

Table S3.11 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Operational Cells or Phases (Any cell or phases that do not have a final engineered cap agreed in accordance with condition 2.6)			At leachate compliance point as listed in table S3.1.	
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese	Quarterly	As specified in Environment Agency Guidance TGN02 (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> with one sampling point per cell / phase or such other subsequent guidance as may be agreed in writing with the Environment Agency.	None

Table S3.11 Leachate – other monitoring requirements				
Monitoring point reference or description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Hazardous substances , plus barium, molybdenum, antimony, selenium, fluoride, DOC	Annually		None
MEPP	Depth to base (mAoD)	Annually		None
Non Operational Cells or Phases (Any cell or phases that have a final engineered cap agreed in accordance with condition 2.6)				
MEPP	pH, EC, total alkalinity, ammoniacal nitrogen, Chloride, COD, BOD, cadmium, chromium, copper, lead, nickel, iron, arsenic, magnesium, potassium, total sulphates, calcium, sodium, zinc, manganese,	Annually		
MEPP	Hazardous substances plus barium, molybdenum, antimony, selenium, fluoride, DOC	Once every four years		None
MEPP	Depth to base (mAoD)	Annually		

Table S3.12 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal nitrogen Chloride	Monthly	Spot sample	As specified in Environment Agency Guidance TGN02 'Monitoring of Landfill Leachate, Groundwater and Surface Water' (February 2003), <u>risk assessments for your environmental permit (www.gov.uk)</u> or such other subsequent

Table S3.12 Surface water – other monitoring requirements				
Monitoring Point Ref. /Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
	Suspended Solids Visual Oil and Grease pH electrical conductivity			guidance as may be agreed in writing with the Environment Agency.

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	Reporting period	Period ends
Leachate and/ or groundwater level As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to air As specified by schedule 3, table S3.2	Every 12 months	31 December
Point source emission to water (other than sewer) As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.4	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in external monitoring boreholes As specified by schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Point source emission to sewer, effluent treatment plant, tankering or other off site transfer As specified by schedule 3, table S3.6	Every 3 months	31 March, 30 June, 30 September, 31 December
Particulate matter in ambient air. As required by schedule 3, table S3.7	Every 6 months	30 June, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.8	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.9	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.10	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other leachate monitoring As specified by schedule 3, table S3.11	Every 12 months	31 December

Table S4.1 Reporting of monitoring data		
Parameter	Reporting period	Period ends
Other surface water monitoring As specified by schedule 3, table S3.12	Every 12 months	31 December
Meteorological data Landfill Directive, annex III, section 2	Every 12 months	31 December

* - where the reporting period is 12 months, you may submit this information as part of the 'annual report' required by condition 4.2.2.

Table S4.2: Annual production/treatment	
Leachate: Disposed of off site; Disposed of to any onsite effluent treatment plant; Recirculated into the waste mass.	Cubic metres/year
Landfill gas: combustion in flares; Average methane content entering the landfill gas utilisation or treatment compound (based on the annual average of Table S3.10 monitoring) Methane generation rate (50%ile from a representative model)	Normalised cubic metres/year % methane v/v m3 /hr

Table S4.3 Performance Parameters			
Parameter	Frequency of assessment	Annual total	Unit
Energy used (including for leachate treatment)	Annually		MWh of electricity or natural gas

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 Environment Agency	13/10/14
Air	Form Air 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14

Table S4.4 Reporting Forms		
Media/parameter	Reporting Format	Date of Form
Controlled water	Form Water 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Groundwater	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Sewer	Form Sewer 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Particulate matter	Form Particulate 1 or other reporting format to be agreed in writing with the Environment Agency	13/10/14
Waste Return	Waste Return Form RATS2E	13/10/14
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	13/10/14

Schedule 5 – Notification

This page outlines 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	

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
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 supplied 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.

“annually” means once every year.

“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.
- (a) “Cell layout drawing” means: A drawing or drawings of the proposed new cell that illustrate(s) in sufficient detail:
- (i) the location of the new cell on the site;
 - (ii) the proposed level (Above Ordnance Datum) of the base of the excavation;
 - (iii) the proposed finished levels of all containment and leachate drainage layers;
 - (iv) the positions of leachate management infrastructure; and
 - (v) the positions of landfill gas infrastructure (if appropriate).
- (b) A detailed written explanation of any minor design changes from the most recently approved cell that result from the new cell layout. This would include, for example:
- (i) changes to slope length and gradient within the cell;
 - (ii) new leachate or landfill gas infrastructure construction design;
 - (iii) slope stability issues such as new basal excavation level; and/or
 - (iv) depth of waste.

“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.

“emissions to land” includes emissions to groundwater.

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

“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.

“exceeded” means that a value is above a permitted limit, or where a range of values or a minimum value is set as a permitted limit it means a value outside that range or below the minimum value, whichever is applicable.

“Hazardous property” has the meaning in Annex III of the Waste Framework Directive.

“Hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2010, SI 2010 No.675, schedule 22 and [risk assessments for your environmental permit guidance \(www.gov.uk\)](http://www.gov.uk).

“Hazardous waste” has the meaning given in the Hazardous Waste (England and Wales) Regulations 2005 (as amended).

“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;
- lining within the installation.

within the site.

“List of Wastes” means the list of wastes established by Commission Decision 2000/532/EC replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste, as amended from time to time.

“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.

“LFTGN 07” means Environment Agency Guidance on monitoring landfill gas surface emissions.

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

“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.

“inert waste” means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or

adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater

“Medicinal product” means any medicine licensed by the Medicines and Healthcare products Regulatory Agency (MHRA) or their predecessors under the Medicines Act 1968, section 130.

“M2” means Environment Agency Guidance Monitoring of stack emissions to air.

“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.

“MEPP” Monitoring and extraction point plan, required by condition 4.2.2(h) to specify extraction points and routine monitoring locations.

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

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

“Pests” means Birds, Vermin and Insects.

“Previous year” means the 12 month period preceding the month the annual report is submitted in.

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

“Relevant waste acceptance procedures” means the procedure for the acceptance of waste at landfills and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“Relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“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 EP 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 EP Regulations.

‘Sustainably extracted’ means where suction can be applied to the extraction wells such that a flow rate of landfill gas, with a methane content capable of either being combusted, or treated by bio-oxidation, can be

extracted without increasing the risk of air ingress to the waste or inducing aerobic degradation within the waste.

“Waste code” means the six digit code referable to a type of waste in accordance with the List of Wastes and in relation to hazardous waste, includes the asterisk.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means the standards included in Environment Agency Guidance for Monitoring Enclosed Landfill Gas Flares LFTGN 05 or Guidance for Monitoring Landfill Gas Engine Emissions LFTGN 08

Where the following terms appear in the waste code list in tables S2.1, S2.3 or S2.4 they have the meaning given below:

‘hazardous substance’ means a substance classified as hazardous as a consequence of fulfilling the criteria laid down in parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008;

‘heavy metal’ means any compound of antimony, arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, tellurium, thallium and tin, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘polychlorinated biphenyls and polychlorinated terphenyls’ (‘PCBs’) means PCBs as defined in Article 2(a) of Council Directive 96/59/EC’.

Article 2(a) says that ‘PCBs’ means:

- polychlorinated biphenyls
- polychlorinated terphenyls
- monomethyl-tetrachlorodiphenyl methane, Monomethyl-dichloro-diphenyl methane, Monomethyldibromo-diphenyl methane
- any mixture containing any of the above mentioned substances in a total of more than 0,005 %by weight;

‘transition metals’ means any of the following metals: any compound of scandium, vanadium, manganese, cobalt, copper, yttrium, niobium, hafnium, tungsten, titanium, chromium, iron, nickel, zinc, zirconium, molybdenum and tantalum, as well as these materials in metallic form, as far as these are classified as hazardous substances;

‘stabilisation’ means processes which change the hazardousness of the constituents in the waste and transform hazardous waste into non-hazardous waste;

‘solidification’ means processes which only change the physical state of the waste by using additives without changing the chemical properties of the waste;

‘partly stabilised wastes’ means wastes containing, after the stabilisation process, hazardous constituents which have not been changed completely into non-hazardous constituents and could be released into the environment in the short, middle or long term.

