

Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2016

Land & Water Remediation Limited

Silt Lagoons at Rainham and Wennington Marshes
Cold Harbour Lane
Rainham
RM13 9YQ

Variation application number

EPR/FB3701XY/V004

Permit number

EPR/FB3701XY

Silt Lagoons at Rainham and Wennington Marshes

Permit number EPR/FB3701XY

Introductory note

This introductory note does not form a part of the notice

Under the Environmental Permitting (England & Wales) Regulations 2016 (schedule 5, part 1, paragraph 19) a variation may comprise a consolidated permit reflecting the variations and a notice specifying the variations included in that consolidated permit.

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

Variation – EPR/FB3701XY/V004

The variation is for the excavation of previously deposited waste for processing by washing, screening and crushing. In addition to this, selected waste imported to the site will be directed to the waste treatment area for processing by washing, screening and crushing. The primary objective of the processing is to produce secondary aggregate with the residues deposited at the site and the secondary aggregate sold off site.

There are no proposals to change the overall quantity of waste or the extent of the permit boundary. It is anticipated that:

- up to 500,000 tonnes per annum (tpa) of excavated and imported wastes will be processed at the site;
- approximately 350,000 tpa of secondary aggregates will be generated from the waste processing operations; and
- approximately 150,000 tpa of residues will be deposited in the landfill either as disposal or as recovery.

The Operator also intends to import and stockpile up to 50,000 tpa of chalk and clay rich materials for export off site for reuse.

Two new EWC codes (19 12 09 and 19 12 12) have been added to tables S2.1 and S2.2 of the permit to allow for the deposition of residues from the on-site treatment operations

The rest of the permit remains the same and is described as follows.

Variation – EPR/FB3701XY/V003

A variation to increase the annual waste input rate specified in table S1.5 of the permit from 350,000 tonnes to 750,000 tonnes. Waste code 19 02 03 added to the tables S2.1 and S2.2 of the permit to allow for the deposition of dewatered tunnel arisings from the Thames Tideway project or similar projects, arisings which have not required dewatering will continue to be deposited as 17 05 04.

A pre-operational condition added to table S1.4 of the permit to ensure an appropriate stability action plan and procedure is in place prior to the increase in the annual waste input rate taking effect.

Variation – EPR/FB3701XY/V002

The variation permits the operator to continue to infill the lagoons with dredgings and accept inert wastes. The operator will restore the site in accordance with the approved restoration plan that details that:-

- approximately 3.35 million m³ of materials will be imported to the site (delivered either by road or river including pumped to shore from the jetty);

- the imported non-hazardous and inert material will be used to infill the lagoons and restore the site in accordance with the approved restoration scheme;
- the site will be filled in six phases to provide improved habitats. The timing and sequence of infilling will be agreed with the RSPB; and
- the site (which is currently a failing Site of Special Scientific Interest (SSSI)) will provide a desirable habitat and / or environment for protected species such as breeding birds, invertebrates and swamp reed beds.

The variation also permits the following activities:-

- Section 5.2 A(1) (a) – Landfill for non-hazardous waste including inert waste and restoration of the landfill
- Temporary storage of waste in drying area
- Temporary storage of waste for restoration
- Management and discharge of site drainage from the landfill
- Storage of fuel for operation of plant and equipment
- Storage and use of materials to make roads and paths.

The Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1), to periodically review permits. As a result of the application made by the operator, all the conditions have been varied which means that we do not have to vary any further conditions as a consequence of the permit review. The site is located close to the River Thames near Rainham at National Grid reference TQ 526 805.

The site is southwest of the A13 and approximately 0.5 miles from the town of Rainham, Essex. There is a landfill, Rainham Landfill operated by Veolia ES Landfill Ltd (EP3136GK), to the south of the site on the other side of Coldharbour Lane and a number of drainage ditches.

The site which is known as the Silt Lagoons at the Rainham and Wennington Marshes (the site) is owned by the RSPB. It was previously owned by the Ministry of Defence. The site, to which this permit relates, comprises a section of the Rainham and Wennington Marshes site area that is leased to the Port of London Authority (PLA) who licence Land & Water Remediation Limited for the deposit of dredgings and inert materials. This site has been used for the deposit of dredgings in a series of lagoons since the 1960's.

The site makes up part of the Inner Thames Marshes SSSI. The site covers an area of approximately 121 hectares and comprises nine lagoons, into which dredgings have been pumped across the base. The lagoons are impounded by clay bunds and infilled to between approximately 3 and 5 mAOD (i.e. circa 5m depth of dredgings). In recent years, dredged materials have not been deposited at the site. In a recent appraisal (2016) Natural England stated that this area of the Inner Thames Marshes SSSI was assessed as being in 'unfavourable declining' condition 'and the recommencement of the deposition of dredged material will help restore the SSSI unit back to favourable condition'.

The PLA has recently licensed the continued operation of the site to Land and Water Remediation Limited (the operator) for the continued deposit of dredged material. Prior to this, infilling was undertaken by another company on behalf of the PLA from 1992 to 2012. The permit was transferred from the PLA to the operator in late 2017.

In the past, the Environment Agency considered that the Landfill Directive did not apply to silt lagoons. However, notwithstanding the previous regulatory position, the Environment Agency has confirmed that the permanent deposit of non-hazardous dredgings at the site comprises the operation of a landfill site and this variation will change the site to a non-hazardous landfill for the deposit of non-hazardous dredgings and inert wastes.

The schedules specify the changes made to the permit.

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

Status log of the permit		
Description	Date	Comments
Original permit determined WML 80558 (EPR/FP3997NV)	01/12/05	Original permit issued to Port of London Authority
Permit modified WML 80558 (EPR/FP3997NV/V002)	28/03/07	Increase in accepted volume of waste
Application EPR/FB3701XY/T001 (full transfer of permit WML 80885)	Duly made 03/11/17	Application to transfer the permit from the Port of London Authority in full to Land & Water Remediation Limited.
Transfer determined EPR/FB3701XY	15/11/17	Full transfer of permit complete. Permit transferred from the Port of London Authority to Land & Water Remediation Limited
Application received EPR/FB3701XY/V002 (variation and consolidation)	Duly made 11/01/18	Application to import additional wastes to restore the site to provide an appropriate habitat and / or environment for protected species
Additional information received	11/01/18	Additional Information regarding the Restoration Plan (dated 24/11/17).
Additional information received	11/01/18	Additional information regarding the financial provisions, flood risk assessment and OPRA score (dated 22/12/17).
Additional information received	11/01/18	Additional information regarding the flood risk assessment.
Additional information received	15/02/18	Additional information regarding new boreholes
Additional information received	04/05/18	Response to Schedule 5 Notice dated 27/02/18 concerning <ul style="list-style-type: none"> • Prior Investigation of Groundwater and Geological Barrier • HRA Conceptual Model as presented in Figure HRA 8 • Contaminant Transport Modelling • HRA and SRA Construction Quality Assurance (CQA) • HRA Requisite Surveillance • SRA Conceptual Model and Modelling • SRA target factors of safety for perimeter bunds • Surface Water Monitoring • Landfill Cap • Landfill Gas Monitoring • Topographical Monitoring • Environmental Risk Assessment and Management Systems • Accident Management • Conservation Sites • Waste Acceptance Criteria
Additional information received	10/07/18	Waste Acceptance Criteria for London Clay
Additional information received	11/07/18	Landfill Gas Monitoring Proposals.
Additional information received	13/07/18	Summary of Quality Assurance proposals for the restoration layer
Additional information received	17/07/18	Clarification of Ecological Issues
Additional information received	18/07/18	Validation of CO values and review of

Status log of the permit		
Description	Date	Comments
		Hydrological Risk Assessment
Additional information received	26/07/18	Information regarding hardstanding material storage and use on site
Additional information received	06/08/18	Downstream Groundwater Borehole information and proposed limits
Additional information received	14/08/18	Updated Financial Provision Details
Additional information received	10/09/18	Clarification of the details regarding boreholes
Additional information received	12/09/18	Clarification of Site Plans
Additional information received	27/09/18	Site Planning Permission and Additional Information regarding the restoration plan
Additional information received	27/09/18	Additional Groundwater Borehole and landfill gas monitoring
Additional information received	05/10/18	Planning Authority Committee Report
Additional information received	06/11/18	Revised Restoration Plan and Drawings
Variation determined EPR/FB3701XY/V002	04/12/18	Varied and consolidated permit issued in modern condition format
Application EPR/FB3701XY/V003 (variation and consolidation)	Duly made 26/08/20	Application to increase the annual waste input rate from 350,000 tonnes to 750,000 tonnes and add waste code 19 02 03.
Variation determined EPR/FB3701XY Billing reference: DB3804SS	21/10/2020	Varied permit issued
Application EPR/FB3701XY/V004 (variation and consolidation)	01/02/2023	Application to re-excavate waste to produce secondary aggregate
Additional information received	16/06/2023	Revised Dust and Emissions Management Plan and surface water management risk assessment
Variation determined EPR/FB3701XY	26/07/2023	Varied permit issued

End of introductory note

Notice of variation and consolidation

The Environmental Permitting (England and Wales) Regulations 2016

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 varies

Permit number

EPR/FB3701XY

Issued to

Land & Water Remediation Limited (the operator")

whose registered office is

**Numeric House
98 Station Road
Sidcup
Kent
DA15 7BY**

company registration number **04561112**

to operate a regulated facility at

**Silt Lagoons at Rainham and Wennington Marshes
Cold Harbour Lane
Rainham
RM13 9YQ**

to the extent set out in the schedules.

The notice shall take effect from 26/07/2023.

Name	Date
Kate Booth	26/07/2023

Authorised on behalf of the Environment Agency

Schedule 1

Only the following conditions have been varied by the consolidated permit EPR/FB3701XY.

The following conditions were varied as a result of the application made by the operator:

- Table S1.1, as referenced in condition 2.1 has been varied to add activities A7 and A8 to permit the treatment and transfer activities.
- Table S1.2, as referenced in condition 2.3, has been varied to include the operating techniques for the treatment and transfer activities.
- Tables S2.1 and S2.2, as referenced in condition 2.7, have been varied to include EWC codes 19 12 09 and 19 12 12.

The following tables are added as a result of the application made by the operator

- Tables S2.3 and S2.4, as referenced in condition 2.7, have been added for the permitted waste types for the treatment and transfer activities (A7 & A8).

Schedule 2 – consolidated permit

Consolidated permit issued as a separate document.

Permit

The Environmental Permitting (England and Wales) Regulations 2016

Permit number

EPR/FB3701XY

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/FB3701XY/V004 authorising,

Land & Water Remediation Limited (“the operator”),

whose registered office is

Numeric House

98 Station Road

Sidcup

Kent

DA15 7BY

company registration number **04561112**

to operate an installation at

Silt Lagoons at Rainham and Wennington Marshes

Cold Harbour Lane

Rainham

RM13 9YQ

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

Name	Date
Kate Booth	26/07/2023

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.
- 1.1.4 The operator shall comply with the requirements of an approved competence scheme.

1.2 Finance

- 1.2.1 The financial provision for meeting the obligations under this permit set out in the agreement made between the operator and the Environment Agency dated 04/12/18 shall be maintained by the operator throughout the subsistence of this permit and the operator shall produce evidence of such provision whenever required by the Environment Agency.
- 1.2.2 The operator shall ensure that the charges it makes for the disposal of waste in the landfill cover all of the following:
- (a) the costs of setting up and operating the landfill;
 - (b) the costs of the financial provision required by condition 1.2.1; and
 - (c) the estimated costs for the closure and aftercare of the landfill.

1.3 Energy efficiency

- 1.3.1 The operator shall:
- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
 - (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
 - (c) take any further appropriate measures identified by a review.

1.4 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 within four weeks of the completion of the construction of the relevant landfill infrastructure, or other time period agreed in writing with the Environment Agency.
- 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 non-hazardous and inert waste; and
- (c) they are not whole used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm); and
- (d) they are not shredded used tyres; and
- (e) they are not liquid waste (including waste waters but excluding sludge and carrier waters); and
- (f) they are not chemical substances from research and development or teaching activities, for example laboratory residues, which are unidentified and/or which are new and whose effects on man and/or the environment are unknown; and
- (g) all the relevant waste acceptance procedures have been completed; and
- (h) they fulfil the relevant waste acceptance criteria; and
- (i) they have not been diluted or mixed solely to meet the relevant waste acceptance criteria; and
- (j) they are wastes which have been treated, except for: inert wastes for which treatment is not technically feasible; or it is waste other than inert waste and treatment would not reduce its quantity or the hazards which it poses to human health or the environment; and
- (k) they are wastes with a code beginning with 07 05 and 16 03, they shall exclude waste medicinal products and pharmaceutically active waste materials arising from their manufacture.

2.7.2 Wastes shall only be accepted for restoration where:

- (a) they are listed in schedule 2, table S2.2; and
- (b) they are accepted in accordance with a restoration plan approved in writing by the Environment Agency.

2.7.3 Waste shall only be accepted for treatment if:

- (a) they are listed in schedule 2, table S2.3; and
- (b) it conforms to the description in the documentation supplied by the producer and holder.

2.7.4 Waste shall only be accepted for transfer only if:

- (c) they are listed in schedule 2, table S2.4; and
- (d) it conforms to the description in the documentation supplied by the producer and holder.

2.7.5 Where the operator is not the producer of the waste, 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.

2.7.6 Where the operator is the producer of the waste, the operator shall visually inspect waste at the point of dispatch and shall be satisfied that the waste conforms to the requirements of condition 2.7.1.

2.7.7 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.

2.7.8 Where the operator is not the producer of the waste, the operator on accepting each delivery of waste shall provide a receipt to the person delivering it.

- 2.7.9 The total quantity of waste that shall be deposited in the landfill shall be limited by the pre-settlement levels shown on the drawing provided in accordance with improvement condition IC 06.
- 2.7.10 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.
- 2.7.11 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.
- 2.7.12 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.

2.8 Closure and aftercare

- 2.8.1 The operator shall maintain a closure and aftercare management plan

2.9 Landfill gas management

- 2.9.1 The operator shall take appropriate measures, including, but not limited to, those specified in any approved landfill gas management plan, to:
- (a) control the migration of landfill gas.
- 2.9.2 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 given 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 S3.1.
- 3.1.3 The operator shall prevent the input of any hazardous substances from the activities into groundwater.
- 3.1.4 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

3.2 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 specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1;
- (b) Groundwater specified in tables S3.2 and S3.5;
- (c) Landfill gas specified in tables S3.3, S3.4 and S3.6; and
- (d) Surface water 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.
- 3.6.2 The operator shall:
- (a) if notified by the Environment Agency, submit to the Environment Agency for approval within the period specified, a pests management plan which identifies and minimises risks of pollution from pests;
 - (b) implement the pests management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

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 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 all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 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 presettlement contours and the most recent topographical survey;
 - (h) a plan(s) ('the monitoring and extraction point plan – MEPP') showing the locations of existing and any new leachate and landfill gas extraction and monitoring points.
- 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 1 month of the end of each quarter, the operator shall submit to the Environment Agency using the form made available for the purpose, the information specified on the form relating to the site and the waste accepted and removed from it during the previous quarter.
- 4.2.5 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 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

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

4.3.3 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	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity and WFD Annex I and II operations	Limits of specified activity and waste types
A1	S5.2 A(1)(a)	Landfill for non-hazardous waste including inert waste and landfill restoration D5 – Specially engineered landfill and R5, R10 – Land treatment resulting in benefit to agriculture or ecology	Receipt, handling, storage, disposal and recovery of wastes as an integral part of landfilling. Waste types as specified in Tables 2.1 and 2.2
Directly Associated Activity			
A2	Temporary storage of waste in the drying area.	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Waste types as specified in Tables 2.1 and 2.2
A3	Temporary storage of waste for restoration	R13 - Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced).	Waste types as specified in Tables 2.1 and 2.2
A4	Management and discharge of site drainage from the landfill.	D6 – release to water body except seas/ oceans	From surface water management system to point of entry to controlled waters.
A5	Storage of fuel for operation of plant and equipment.	-	Fuel storage tank.
A6	Storage and use of materials to make roads and paths	-	Locations shown on the drawing entitled 'Indicative future tracks and areas of hard standing' included with the letter submitted to the Environment Agency on 26/07/18 as incorporated into Table S1.2 or as otherwise agreed in writing with the Environment Agency. Waste types as specified in Table 2.2
Activity	Description of activities for waste		Limits of activities

Table S1.1 activities		
reference	operations	
A7	<p>R3: Recycling/reclamation of organic substances which are not used as solvents</p> <p>R4: Recycling/reclamation of metals and metal compounds</p> <p>R5: Recycling/reclamation of other inorganic compounds</p> <p>D9: Physico-chemical treatment not specified elsewhere in Annex IIA which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D8 and D10 to D12.</p> <p>R13: Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced).</p>	<p>Treatment operations shall be limited to: manual sorting, separation, washing, screening or crushing of non-hazardous and inert wastes into different components for disposal or recovery.</p> <p>Waste types as specified in Table S2.3</p> <p>Waste shall be stored and treated on hardstanding or on an impermeable pavement with a sealed drainage system.</p>
A8	<p>R13 - Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced).</p>	<p>Storage of non-hazardous and inert wastes prior to export from the site for reuse.</p> <p>Waste types as specified in Table S2.4</p> <p>Waste shall be stored on hardstanding or on an impermeable pavement with a sealed drainage system.</p>

Table S1.2 Operating techniques		
Description	Parts	Date Received
Application (EPR/FB3701XY/V002)	Proposed Operations referenced in the in response to section 3a – Technical Standards, Table 3 and 3b – General Requirements, Part C of the application form	29/09/17
	Environmental Setting and Installation Design (ESID) Report – Appendix E (except Table ESID 2 and 3)	
	Management Systems – Appendix J	
Response to Schedule 5 Notice dated 27/02/18	Response to question 5 detailing Groundwater Monitoring and Action Plan, and Letter regarding Interim groundwater quality compliance limits	04/05/18 06/08/18
Response to Schedule 5 Notice dated 27/02/18	Response to question 8 regarding Surface Water Monitoring and Action Plan	04/05/18
Response to Schedule 5 Notice dated 27/02/18	Response to question 12 regarding an addition to the Environmental Management Systems	04/05/18
Response to Schedule 5 Notice dated 27/02/18	Response to question 13 regarding Accident Management Plan.	04/05/18
Response to Schedule 5 Notice dated 27/02/18	Response to question 14 regarding Ecology and Conservation	04/05/18
Response to Schedule 5	Schedule 5 response to Question 15, and	04/05/18

Table S1.2 Operating techniques		
Description	Parts	Date Received
Notice dated 27/02/18	Additional Information regarding Waste Acceptance Criteria (WAC)	10/07/18
Additional information	Letter regarding gas monitoring, Monitoring Staged Approach Points 1 - 6 and Table LFGRA 2 (excluding Frequency) only	11/07/18
Additional information	Email regarding Ecology Protection	17/07/18
Additional information	Letter regarding Importation, Storage and Use of Hardstanding Materials	26/07/18
Additional information	Site Monitoring Plan (Reference LWS/RA/08-18/20727 dated 27/09/18)	27/09/18
Additional information	Restoration Plan and Drawing (reference LWS/RA/AW/5544/01/REST/V2, dated November 2018) excluding Appendix REST E concerning the construction controls	06/11/18
Variation application (EPR/FB3701XY/V004)	Proposed operations referenced in sections 2.5, 2.6, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.18, 2.19, 2.23, Appendix D, Appendix I and Appendix K of report LWS/RA/NCW/5688/01/VAR dated January 2022	31/01/2022
Response to Schedule 5 Notice dated 20/04/2022	Dust and Emissions Management Plan LWS/RA/NCW/5688/01/DEMP V1.2	16/06/2023

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
IC 01	<p>The operator shall submit a written report of a review of surface water monitoring to the Environment Agency for written approval. The report shall include (but not be limited to):</p> <p style="padding-left: 40px;">A review of the surface water monitoring data for the twelve month period from variation issue against the interim compliance limits set out in Table S3.1;</p> <p style="padding-left: 40px;">Proposals for revised compliance limits;</p> <p style="padding-left: 40px;">Proposals for revised control limits; and</p> <p style="padding-left: 40px;">Requirements for additional infrastructure and on-going management of the surface water system.</p> <p>Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency</p>	02/03/20
IC 02	<p>The operator shall submit a written report of a review of groundwater monitoring to the Environment Agency for written approval. The report shall include (but not be limited to):</p> <p style="padding-left: 40px;">A review of the groundwater monitoring data for the twelve month period from variation issue against the interim compliance limits set in Table S3.2;</p> <p style="padding-left: 40px;">Proposals for revised compliance limits;</p>	02/03/20

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>Proposals for revised control limits; and</p> <p>Requirements for additional infrastructure and on-going management of the groundwater system.</p> <p>Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency</p>	
IC 03	<p>The operator shall submit a written report of a review of gas monitoring to the Environment Agency for written approval. The report shall include (but not be limited to):</p> <p>A review of the landfill gas monitoring data for the twelve month period from variation issue against the interim compliance limits set in Table S3.3;</p> <p>Proposals for revised compliance limits; and</p> <p>Proposals for revised action levels.</p> <p>Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency.</p>	04/05/20
IC 04	<p>The operator shall submit a plan to the Environment Agency for approval that includes proposals for undertaking annual stability inspections by a suitably qualified person and an action plan setting out the proposed remedial actions that could be undertaken in the event that instability is observed in the outer side slopes and those adjacent to watercourses. Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency. The information required for IC 04 will be superseded by the submission for PO 02 (table S1.4). If PO 02 is not completed then the requirements of IC 04 still apply for the original annual waste input rate of 350,000 tonnes</p>	04/03/21
IC 05	<p>The operator shall submit a report in writing detailing the following for the installation and sampling of borehole BH 05:</p> <p>Confirmation that it was installed in agreed location as per drawing LWS/RA/09-18/20799 dated 27/09/18 unless otherwise agreed in writing with the Environment Agency;</p> <p>Frequency of monitoring;</p> <p>Monitoring parameters; and</p> <p>Proposed interim compliance levels.</p> <p>Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency</p>	06/05/19
IC 06	<p>The operator shall submit a revised plan (reference 2423/014) showing the pre-settlement levels prior to the placing of the restoration wastes</p>	Completed 24/01/19
IC 07	<p>The operator shall update the Environment Management System (EMS) with the Waste Acceptance Procedure for the dredging waste</p>	Completed 11/01/19

Table S1.4A Pre-operational measures for future development		
Reference	Operation	Pre-operational measures
PO 01	Disposal of Waste in all phases	No deposit of waste shall take place in any cell/phase until all vegetation within that cell/phase has been removed.
PO 02	Disposal of waste beyond 350,000 tonnes per annum	The operator shall submit a plan to the Environment Agency for approval that includes proposals for undertaking annual stability inspections by a suitably qualified person and an action plan setting out the proposed remedial actions that could be undertaken in the event that instability is observed in the outer side slopes and those adjacent to watercourses. Once approved and from the date stipulated by the Environment Agency, the report shall be implemented in accordance with the agreed timescales, subject to such amendments or additions as notified by the Environment Agency.

Table S1.5 Annual waste input limits	
Category	Limits Tonnes/Year
Non Hazardous waste	750,000*
Inert waste	750,000*
Waste for restoration	750,000*
Total (of all categories)	750,000*
* Annual waste input limits are restricted to 350,000 tonnes until PO 02 has been completed	

Schedule 2 – Waste types

Table S2.1 Permitted waste types for disposal at a landfill for non-hazardous waste	
Waste code	Description
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 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 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes - tunnel arisings or wastes from other excavations and wastes from the on-site waste treatment operations
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	Mineral (for example sand and stones) from the on-site waste treatment operations only
19 12 12	other wastes (including mixtures of materials) from the on-site waste treatment operations only

Table S2.2 Permitted waste types for restoration	
Waste code	Description
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 02	wastes from physico/chemical treatments of waste (including dechromatation,

Table S2.2 Permitted waste types for restoration	
Waste code	Description
	decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes - tunnel arisings or wastes from other excavations and wastes from the on-site waste treatment operations
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 09	Mineral (for example sand and stones) from the on-site waste treatment operations only
19 12 12	other wastes (including mixtures of materials) from the on-site waste treatment operations only

Table S2.3 Permitted waste types for Treatment	
Waste code	Description
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 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 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes- tunnel arisings or wastes from other excavations

Table S2.4 Permitted waste types for Transfer	
Waste code	Description
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
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

Table S2.4 Permitted waste types for Transfer	
Waste code	Description
19 02	wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)
19 02 03	premixed wastes composed only of non-hazardous wastes - tunnel arisings or wastes from other excavations

Schedule 3 – Emissions and monitoring

Monitoring point reference	Source	Parameter	Limit (incl. unit)*	Reference Period	Monitoring frequency	Monitoring standard or method
SW 03 identified on Plan LWS/RA/08-18/20727 dated 27/09/18	Surface water	Suspended solids	75 mg/l	Spot sample	Monthly for 12 months then quarterly if agreed in writing with the Environment Agency	As specified in Environment Agency Guidance LFTGN02 '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
		Ammoniacal Nitrogen	2.5 mg/l			
		Oil	No visible oil			
		Copper	0.0055 mg/l			
		Lead	0.0011 mg/l			
		Nickel	0.0064 mg/l			
		Sulphate	398 mg/l			
		Selenium	0.0048 mg/l			
		Arsenic	0.0013 mg/l			
* Interim limits until Improvement condition IC 01 is completed						

Monitoring point reference	Parameter	Limit (incl. Unit)*	Reference period	Monitoring frequency	Monitoring standard or method
BH 03 identified on Plan LWS/RA/08- 18/20727 dated 27/09/18	Arsenic	0.110 mg/l	Spot sample	Monthly for 12 months then quarterly if agreed in writing with the Environment Agency	As specified in Environment Agency Guidance LFTGN02 '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
	Chromium	0.0031 mg/l			
	Selenium	0.0034 mg/l			
	Sulphate	295 mg/l			
BH 04 identified on Plan LWS/RA/08- 18/20727 dated 27/09/18	Arsenic	0.014 mg/l			
	Chromium	0.0044 mg/l			
	Selenium	0.009 mg/l			

Table S3.2 Groundwater – emission limits and monitoring requirements					
Monitoring point reference	Parameter	Limit (incl. Unit)*	Reference period	Monitoring frequency	Monitoring standard or method
	Sulphate	295 mg/l			
* Interim limits until improvement condition IC 02 is completed					

Table S3.3 Landfill gas in waste monitoring – limits and monitoring requirements				
Monitoring point reference	Parameter	Limit (incl. Unit)*	Monitoring frequency	Monitoring standard or method
LFGMP 1 to 13 identified on Plan LWS/RA/08-18/20727 dated 27/09/18	Methane	1 % v/v	Monthly for 12 months then quarterly if agreed in writing with the Environment Agency	As per LFTGN03 June 2013 or such other subsequent guidance as may be agreed in writing with the Environment Agency. Record whether the ground is: waterlogged frozen snow covered
	Carbon dioxide	1.5 % v/v		
	Oxygen	No limit		
	Atmospheric pressure	No limit		
	Differential pressure	No limit		
* Interim limits until improvement condition IC 03 is completed				

Table S3.4 Landfill gas emissions from capped surfaces for cells that have accepted non-hazardous biodegradable waste – monitoring requirements			
Monitoring point reference/ Description	Parameter	Monitoring frequency	Monitoring standard or method
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.

Monitoring point reference/ Description	Parameter	Monitoring frequency	Monitoring standard or method
Up gradient MEPP	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance LFTGN02 '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
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	
	Hazardous substances, plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Annually for the first six years of operation	
Down or cross gradient MEPP	Water level, Ammoniacal Nitrogen, Chloride, Electrical Conductivity, pH	Quarterly	As specified in Environment Agency Guidance LFTGN02 '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 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.
	Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Sodium, Total Alkalinity, Total Sulphates, Zinc	Annually	
	Hazardous substances, plus Antimony, Barium, DOC, Fluoride, Molybdenum, Selenium	Annually for the first six years of operation then every two years	
MEPP	Base of monitoring point (mAOD)	Annually	-

Monitoring point reference/ Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Spike bar survey	Methane Carbon Dioxide Oxygen Carbon Monoxide Atmospheric pressure	Monthly for 12 months then quarterly if agreed in writing with the Environment Agency	Calibrated handheld monitoring instrument	For cells or phases which have no active gas extraction. Spike bar survey (at 8 spikes per hectare) or other technique agreed in writing by Environment Agency.

Table S3.4 Landfill gas - other monitoring requirements				
Monitoring point reference/ Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
In waste gas monitoring boreholes in cells for non-hazardous waste	Hydrogen Sulphide	Quarterly	Calibrated handheld monitoring instrument or Tedlar Bag sample in accordance with LFTGN04 June 2014 or other such subsequent guidance as may be agreed in writing with the Environment Agency or a method agreed with the Environment Agency.	For cells or phases which have no active gas extraction. Concentrations of hydrogen sulphide shall be assessed in accordance with the gas and odour management plans
One in waste borehole per cell	Trace gas	Annually	Trace gas analysis in accordance with LFTGN04 June 2014 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.

Table S3.7 Surface water - other monitoring requirements				
Monitoring point reference/ Description	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
MEPP	Ammoniacal Nitrogen Chloride Electrical conductivity pH Suspended solids Visual Oil and Grease	Monthly for 12 months then quarterly if agreed in writing with the Environment Agency	Spot sample	As specified in Environment Agency Guidance LFTGN02 '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.

Schedule 4 – Reporting

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

Parameter	Reporting period	Period begins
Point source emission to water (other than sewer) As specified by schedule 3, table S3.1	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission to groundwater As specified by schedule 3, table S3.2	Every 3 months	31 March, 30 June, 30 September, 31 December
Landfill gas in internal monitoring boreholes As specified by schedule 3, table S3.3	Every 3 months	31 March, 30 June, 30 September, 31 December
Emission of landfill gas from capped surfaces As specified by schedule 3, table S3.4	Every 12 months	31 December
Other groundwater monitoring As specified by schedule 3, table S3.5	Every 3 months	31 March, 30 June, 30 September, 31 December
Other Landfill gas monitoring As specified by schedule 3, table S3.6 Every 3 months 31 March, 30 June, 30 September, 31 December	Every 3 months	31 March, 30 June, 30 September, 31 December
Trace gas monitoring	Every 12 months	31 December
Other surface water monitoring As specified by schedule 3, table S3.7	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	
No reporting required	

Table S4.3 Performance parameters		
Parameter	Frequency of assessment	Units
Energy used (including for leachate treatment)	Annually	MWh of electricity or natural gas

Table S4.4 Reporting forms		
Parameter	Reporting form	Form version number and date
Controlled water	Form Groundwater 1 or other reporting format to be agreed in writing with the Environment Agency	04/12/18

Table S4.4 Reporting forms		
Parameter	Reporting form	Form version number and date
Landfill gas	Form LFG 1 or other reporting format to be agreed in writing with the Environment Agency	04/12/18
Waste Return	E-waste Return Form	-
Landfill topographical surveys and interpretation	Reporting format to be agreed in writing with the Environment Agency	-

Schedule 5 – Notification

These pages outline the information that the operator must provide.

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

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

Part A

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

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

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

(b) Notification requirements for the breach of a limit	
To be notified within 24 hours of detection unless otherwise specified below	
taken, to stop the emission	

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

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

Part B – to be submitted as soon as practicable

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

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 – Interpretation

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

“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.

“cell layout drawing” means:

- (b) 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).
- (c) 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:
 - (vi) changes to slope length and gradient within the cell; (vii) new leachate or landfill gas infrastructure construction design;
 - (vii) slope stability issues such as new basal excavation level; and/or
 - (viii) 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 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.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154 and words and expressions used in this permit which are also used in those Regulations have the same meanings as in those Regulations.

“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.

“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.

“hazardous substances” as defined by the Environmental Permitting (England and Wales) Regulations 2016, SI 2016 No.1154, schedule 22 and listed in our Hydrogeological risk assessment guidance.

“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

“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.

“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.

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

“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.

“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.

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

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

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

for the New Cell.

“no impact” means that the change made to the construction process will not 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).

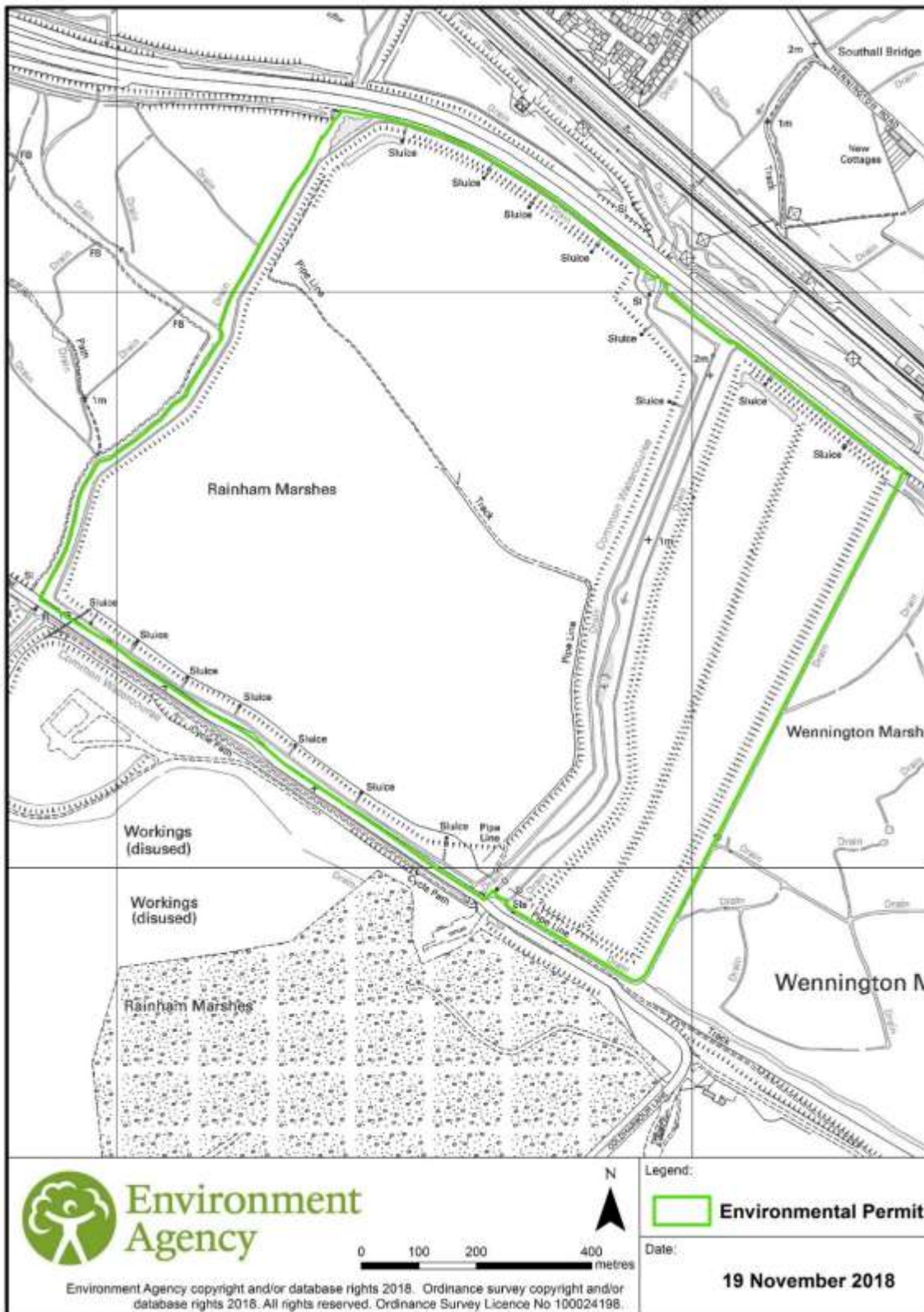
“relevant waste acceptance criteria” means the waste acceptance criteria and the associated sampling and test methods specified in the Council Decision Annex (2003/33/EC, European Council of 19 December 2002).

“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” - See “List of Wastes”. “WFD” means Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste [and repealing certain Directives] – the Waste Framework Directive. 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

Schedule 7 – Site plan



END OF PERMIT