



**ENVIRONMENT  
AGENCY**

Standard Permit for the Landfill Sector

## **Permit with introductory note**

Pollution Prevention and Control Regulations 2000  
Landfill Regulations 2002

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Lafarge Aggregates Limited  
Tyttenhanger Landfill  
Coursers Road  
London Colney  
Hertfordshire

Permit number

**BX3368PN**

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# Introductory note

## This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 6 of the Landfill (England and Wales) Regulations 2002 (S.I.2002 No.1559) ("the Landfill Regulations") and Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 5.2 A(1)( b) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit: i.e.

- b) The disposal of waste in any other landfill to which the Landfill Regulations apply.

There may be some activities on the installation to which BAT applies because they are not Landfill activities. Therefore, in some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to the appropriate Horizontal guidance (H1 to H4) and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows

The landfill site is a new installation, which will be classified as an inert site, occupying the void from sand and gravel extraction. There is not a waste management licence for the installation, but the applicant has confirmed that planning permission has been granted.

The installation as shown on drawing number LAF/TT/09-03/11047, entitled 'The site location', is located approximately 5km south east of the centre of St Albans. The installation is a new site and only one directly associated activities, the transfer of water extracted from the void to the adjacent mineral workings. When the installation becomes operational it will only accept inert materials as defined within Regulatory Guidance Note 2 (RGN2) and those wastes described as inert in the Landfill Directive, with a total quantity of approximately 3.6 millions tonnes. The permit condition 2.1.4 restricts the waste input to no more than 600,000 tonnes per year.

The geology of the site comprises of two sand and gravel units, separated by a grey sandy boulder clay. Soil and clay overlie the upper sand and gravel. The lower sand and gravel is underlain directly by the Cretaceous Upper Chalk, causing hydraulically continuity between the two. Natural groundwater levels are above the quarried base of the site, with the groundwater in the upper sand and gravel flowing west and north in the chalk and lower sand and gravel. The Cretaceous Upper Chalk is classified as a major aquifer and part of the installation is located within the special interest area of a groundwater source protection zone.

Groundwater levels are to be depressed below the base of the void to enable the landfilling of waste. An engineered geological barrier is to be provided where the natural geological barrier is found not to be adequate to comply with the requirements of the regulations..

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

### Other PPC Permits relating to this installation

Permit holder	Permit Number	Date of Issue
N/A	-	-

Other existing Licences/Authorisations/Registrations relating to this installation		
Holder	Reference Number	Date of issue
Lafarge Aggregates Limited	N/WR0235	27/09/2001

Superseded Licences/Authorisations/Consents relating to this installation		
Holder	Reference Number	Date of issue
N/A	-	-

Other activities may take place on the site of this installation which are not regulated under this Permit or any other PPC Permit referred to in the Table above.

## Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

## Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

## Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

## Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. As the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

## Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.

To give a Notification under condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

## Status Log

Detail	Date	Comment
Application BX3368PN	Received 28/07/2004	
Response to request for information	Request dated 11/11/2004	Response dated 22/11/2004
Request to extend determination	Request dated 16/02/2005	Request accepted 01/03/2005
Request to include geological barrier	Request of 09/05/05	Incorporated in condition 1.6.1
Revision to Waste Acceptance Criteria and Procedures	Received 10/06/05	
Permit determined	Issued 26/8/05	

***End of introductory Note.***

**Permit**

Pollution Prevention and Control  
Regulations 2000  
Landfill Regulations 2002



**ENVIRONMENT  
AGENCY**

## Permit

Permit number

**BX3368PN**

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No 1973), and Regulation 6 of the Landfill (England and Wales) Regulations 2002 (S.I.2002 No.1559) hereby authorises

**Lafarge Aggregates Limited** ("the Operator"),

of/ whose Registered Office is

**The Old Rectory**

**Misterton**

**Lutterworth**

**Leicestershire**

**LE17 4JP**

Company registration number 297905

to operate an installation at

**Tythenhanger Landfill**

**Coursers Road**

**London Colney**

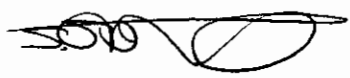
**Hertfordshire**

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

The landfill authorised by this Permit is for the disposal of inert waste

Signed

Date

	26 <sup>th</sup> August 2005
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S.M. Storey

Authorised to sign on behalf of the Agency

# Conditions

## 1 General

### 1.1 Permitted Activities

- 1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

**Table 1.1.1**

<b>Activity listed in Schedule 1 of the PPC Regulations / Associated Activity</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
Section 5.2Part A (1)(b)The disposal of waste in a landfill.	Landfill for inert waste (landfill classification under the Landfill Regulations 2002)	Receipt, handling, storage and disposal of inert wastes, consisting of the types and quantities specified in condition 2.1.2.1, as an integral part of landfilling.
Non-listed Associated Activity	Discharge of site surface water from the landfill.	Surface water discharged from the installation via pipeline to the former Tyttenhanger Quarry mineral processing works.

- 1.1.2 Where waste on site is subjected to activities that are exempt from control under the Waste Management Licensing Regulations 1994, then the wastes controlled under condition 1.1.1, above, shall be clearly identified and kept separate from such exempt waste activities and a record shall be kept of where such exempt activities are conducted.

### 1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in red on the Site Plan at Schedule 5 to this Permit.

### 1.3 Overarching Management Condition

- 1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

### 1.4 Improvement Programme

- 1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement.

**Table 1.4.1: Improvement programme requirements**

<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
1a	The Operator shall provide a waste quarantine area, which shall be designed and maintained in a manner to prevent the release of unauthorised substances to groundwater.	Prior to the acceptance of waste

Table 1.4.1 (continued): Improvement programme requirements

Reference	Requirement	Date
1b	A report detailing the documentation to record the construction and installation of the waste quarantine area required by improvement condition 1a shall be submitted to the Agency in writing.	No less than one month prior to the installation of the waste quarantine area required by improvement condition 1a.
1c	Following submission of the report required by improvement condition 1b, the Operator shall undertake any measures approved in writing by the Agency.	To the timescales indicated in the approval.
2a	<p>The operator shall submit a revised groundwater monitoring plan to the Agency. The plan shall include, in addition to that previously submitted, but need not be restricted to, the following details;</p> <ul style="list-style-type: none"> <li>• The location of the monitoring points based on knowledge of the hydraulic gradients at the site; and</li> <li>• the method of collection and analysis of groundwater samples; and</li> <li>• the method of quality checking the samples; and</li> <li>• the list of additional determinands that will be analysed for; and</li> <li>• trigger and/or control levels for those additional determinands based on background water quality and legislative regulatory standards.</li> </ul>	Within two months of issue of the permit.
2b	Upon agreement with the Agency of the monitoring plan submitted under improvement condition 2a, the monitoring plan shall be implemented.	To the timescales indicated in the approval.
3a	<p>The Operator shall submit a surface water monitoring plan to the Agency. The plan shall include, but need not be restricted to, the following details;</p> <ul style="list-style-type: none"> <li>• The location of the monitoring points based on the knowledge of the flows in the water courses/bodies surrounding the site; and</li> <li>• the method of collection and analysis of surface water samples, and</li> <li>• the method of quality checking the samples; and</li> <li>• the list of determinands that will be analysed for; and</li> <li>• control levels and emission standards based on background water quality and legislative regulatory standards.</li> </ul>	Within two months of issue of the permit.
3b	Upon agreement with the Agency of the monitoring plan submitted under improvement condition 3a, the monitoring plan shall be implemented.	To the timescales indicated in the approval.
4a	<p>The Operator shall submit a revised landfill gas monitoring plan to the Agency. The plan shall include, but need not be restricted to, the following details;</p> <ul style="list-style-type: none"> <li>• The location, number and construction of permanent monitoring points that are to be installed in areas of the landfill where the spike bar survey would not be appropriate based on the depth of the waste; and</li> <li>• the method of collection and analysis of landfill gas samples, and</li> <li>• the method of quality checking the samples; and</li> <li>• the list of determinands that will be analysed for.</li> </ul>	Within 6 months of completion of each phase
4b	Upon agreement with the Agency of the monitoring plan submitted under improvement condition 4a, the monitoring plan shall be implemented.	To the timescales indicated in the approval.

Table 1.4.1 (continued): Improvement programme requirements		
Reference	Requirement	Date
5	The operator shall establish and operate an environmental management system which is either accredited, or to a standard capable of being accredited to a recognised environmental management system standard.	Within 2 months of issue of the permit.

- 1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 it shall send written notification of such failure to the Agency within 14 days of such date.

## 1.5 Minor Operational Changes

- 1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.
- 1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.
- 1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.
- 1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application shall be deemed to be amended.

## 1.6 Pre-Operational Conditions

- 1.6.1 No disposal of wastes shall take place in any part of the Permitted Installation where waste deposits commences after the issue of this Permit unless:
- 1.6.1.1 At least 4 weeks prior to the commencement of construction of that part the operator has submitted to the Agency in writing the detailed design, material specifications and the construction quality assurance (CQA) programme for the pre-operational engineering of the artificially established geological barrier for that part and that it has been confirmed in writing by the Agency that these are in conformance with the following specifications. The artificially established barrier shall be constructed to achieve an appropriate travel time based on a minimum thickness of 1m with the material placed at a maximum permeability of  $1 \times 10^{-7} \text{ m.s}^{-1}$ , or equivalent hydraulic performance standard. The thickness of the barrier shall at no time be less than 500mm. The material used to construct the barrier shall not contain any substance at a concentration that would result in a discharge to groundwater of a List I substance at a discernible concentration, or a discharge of a List II substance that would result in pollution of groundwater; and
- 1.6.1.2 the operator has notified the Agency in writing of any changes in the detailed design, material specifications and the CQA programme that are to be made during the construction, and in advance of those changed being made the Agency has agreed in writing that these are acceptable in relation to the relevant specification set out in condition 1.6.1.1; and
- 1.6.1.3 the pre-operational engineering and infrastructure of that part of the barrier has been completed and validated in accordance with the documented CQA procedures, and



- 1.6.1.4 the operator has submitted the validation report in writing to the Agency; and
- 1.6.1.5 the Agency has inspected the area to ensure that it complies with the relevant conditions of the landfill permit, and has confirmed in writing that it has no objection to that area becoming operational.
- 1.6.2 The Operator shall provide a report to the Agency detailing trigger and control levels for groundwater before landfill commences. These values shall be based on the background groundwater quality characterisation established under Part B2.2.39 of the Application, and shall include both the variability and trends for these parameters. The values shall be submitted to and agreed by the Agency before landfilling commences.

## **1.7 Off-site Conditions**

- 1.7.1 There are no off-site conditions

## 2 Operating conditions

### 2.1 Landfilling Controls

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

**Table 2.1.1: Operating techniques**

Description	Parts	Date Received
Application	The response to questions 2.1, 2.2, 2.3, 2.4, 2.5, 2.9 and 2.11 in part B of the Application Form	28 July 2004
Appendix M	All parts	10 June 2005

- 2.1.2 Wastes shall only be accepted for disposal on the site if :

- 2.1.2.1 they are as specified in table 2.1.2 below:

<b>Table 2.1.2 : Wastes accepted for disposal</b>	
<b>Waste Category or Type</b>	<b>Permitted or not Permitted</b>
Hazardous	Not Permitted
Non-hazardous	Not Permitted
Inert	Permitted
Liquid wastes (including waste waters but excluding sludge).	Not permitted
Waste which in the conditions of landfill is explosive, corrosive, oxidising, highly flammable or flammable.	Not permitted
Hospital and other clinical infectious wastes from medical or veterinary establishments.	Not permitted
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.	Not permitted
Whole used tyres (other than tyres used as engineering materials, bicycle tyres and tyres with an outside diameter of more than 1400mm.	Not permitted
Shredded used tyres (other than bicycle tyres and tyres with an outside diameter of more than 1400mm.	Not permitted
Any waste which does not fulfil the relevant waste acceptance criteria.	Not permitted
Waste which has been diluted or mixed solely to meet the relevant waste acceptance criteria.	Not permitted
Wastes which have not been treated, except for: <ul style="list-style-type: none"> <li>inert wastes for which treatment is not technically feasible; or</li> <li>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.</li> </ul>	Not Permitted

and

- 2.1.2.2 they are in accordance with the waste quantities, as described in the application.
- 2.1.2.3 The Operator of the landfill shall visually inspect the waste at the entrance to the landfill and at the point of the deposit and shall satisfy himself that it conforms to the description provided in the documentation submitted by the holder.

- 2.1.2.4 The Operator shall ensure that if representative samples are taken for analysis, the operator shall retain the samples and results of any analysis for at least one month.
- 2.1.2.5 The Operator on accepting each delivery of waste shall provide a written receipt to the person delivering it.
- 2.1.3 The Operator shall ensure that the landfill is secured to prevent free access to the site and the gates of the landfill must be locked outside operating hours.
- 2.1.4 The total quantity of waste that shall be deposited in the landfill shall not exceed 3.6 million tonnes.
- 2.1.5 The quantity of waste that is deposited in the landfill in any year shall not exceed the limits in Table 2.1.3 below.

Table 2.1.3 Annual Waste Input Limits	
Category	Limit Tonnes/ Year
Hazardous Waste	Not permitted
Non-hazardous Waste	Not permitted
Stable, non-reactive hazardous waste	Not permitted
Inert Waste	600,000

- 2.1.6 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, characteristics, origin, date of delivery, the identity of the producer (or in the case of municipal waste, the collector) of any waste that is received for disposal or recovery at the Permitted Installation.
- 2.1.7 The Operator shall record the quantity of waste deposited within the landfill.

## **2.2 Emissions**

### **2.2.1 Emissions to Air, (excluding Odour, Noise or Vibration) from Specified Points**

- 2.2.1.1 Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.
- 2.2.1.2 There are no specific controls imposed upon emissions to air in this part of the Permit.
- 2.2.1.3 No condition applies.
- 2.2.1.4 No condition applies.

### **2.2.2 Emissions to water (other than groundwater), from specified points**

- 2.2.2.1 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

#### **Emissions to Water (other than to Sewer)**

- 2.2.2.2 Conditions 2.2.2.3 - 6 shall not apply to emissions to sewer.
- 2.2.2.3 No emission from the Permitted Installation shall be made to water.
- 2.2.2.4 No condition applies.
- 2.2.2.5 No condition applies.
- 2.2.2.6 No condition applies.

#### **Emissions to sewer**

- 2.2.2.7 There are no specific controls imposed on emissions to sewer in this part of the Permit.
- 2.2.2.8 No condition applies.
- 2.2.2.9 No condition applies.
- 2.2.2.10 No condition applies.

### **2.2.3 Emissions to groundwater**

- 2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).
- 2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).
- 2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.
- 2.2.3.4 The Operator shall carry out monitoring of the parameters listed in Table 2.2.10, at the specified monitoring points and at least at the frequencies specified in that Table.
- 2.2.3.5 The trigger levels for emissions into groundwater for the parameter(s) and monitoring point(s) set out in Table 2.2.10 shall not be exceeded.

Table 2.2.10: The trigger levels and monitoring for emissions into groundwater

Parameters	Monitoring Points with frequency of monitoring
	BH1 BH5/01 BH6/01 BH7/01 BH17
	Annually
Ammonical Nitrogen (mg.l-1)	0.3 or any other level determined under condition 1.6.3.
Cadmium (µg.l-1)	0.1 or any other level determined under condition 1.6.3.
Calcium (mg.l-1)	250 or any other level determined under condition 1.6.3.
Chloride(mg.l-1)	250 or any other level determined under condition 1.6.3.
Chromium (µg.l-1)	50 or any other level determined under condition 1.6.3.
Iron (mg.l-1)	0.2 or any other level determined under condition 1.6.3.
Lead (mg.l-1)	10 or any other level determined under condition 1.6.3.
Magnesium (mg.l-1)	50 or any other level determined under condition 1.6.3.
Manganese (µg.l-1)	50 or any other level determined under condition 1.6.3.
Nickel (µg.l-1)	20 or any other level determined under condition 1.6.3.
Potassium (mg.l-1)	12 or any other level determined under condition 1.6.3.
Sulphate (mg.l-1)	250 or any other level determined under condition 1.6.3.
Any other substances as determined as an priority contaminant under improvement condition 2a	Any level determined under improvement condition 2a.

2.2.3.6 Subject to the terms of this condition, the activities of disposal, or tipping for the purpose of disposal, of waste, that are authorised by this landfill permit shall cease 3½ years from date of issue of this Permit, unless by that date the operator has submitted to the Agency a written review of the Hydrogeological Risk Assessment submitted as part of the original Application for the permit.

The Risk Assessment review shall include a review of the responses in Section B1.4.1 of Part B of that original application. The written review shall show whether at the specified date, the level of risk to groundwater meets the terms of the Groundwater Regulations 1998.

Within six months of receipt of the written review the Agency shall reply in writing to the operator either confirming that the above requirements have been met and authorising continuation of disposal activities or that activities of disposal or tipping for the purpose of disposal of waste authorised by this permit shall cease until the operator can show that, the level of risk to groundwater meets the terms of the Groundwater Regulations 1998.

In the event that the continuation of activities is authorised in accordance with this condition beyond 4 years following the date of granting of this Permit, they shall cease on every fourth anniversary thereafter, unless, by each of those dates, the operator has submitted to the Agency a further written review of the Hydrogeological Risk Assessment which shows that, at the specified dates, the level of risk to groundwater meets the terms of the Groundwater Regulations.

The reviews submitted to the Agency shall include the results of any investigations and reviews carried out, and, in particular, reviews of the following aspects of the Hydrogeological Risk Assessment:

Recommendations of the essential technical precautions which must be taken, paying particular attention to the nature and concentration of the substances present in the matter being disposed of or tipped, the characteristics of the receiving environment and the proximity of the water catchment areas, in particular those for drinking, thermal and mineral water;

Recommendations of the technical precautions necessary:

- i In the case where groundwater is considered to be permanently unsuitable for other uses, to ensure that no substance in list I can reach other aquatic ecosystems or harm other ecosystems, to ensure that the presence of any list I substance once discharged into the groundwater will not impede exploitation of ground resources and to prevent pollution of groundwater by list II substances; and

- ii in the case where groundwater is not considered to be permanently unsuitable for other uses, to prevent any discharges into groundwater of substances in list I and to prevent any pollution of groundwater by substances in list II.

## **2.2.4 Fugitive emissions of substances to air**

2.2.4.1 The Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- open surfaces, unfilled, operational and filled landfill surfaces
- storage areas
- buildings
- pipes, valves and other transfer systems

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4.2 The Operator shall use all appropriate measures so as to prevent or where that is not practicable to reduce emissions of litter and dust from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

## **2.2.5 Fugitive emissions of substances to water and sewer**

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

## **2.2.6 Odour**

2.2.6.1 The Operator shall ensure that all appropriate measures are taken to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- controlling operational activities to minimise the generation of odour
- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

## **2.2.7 Emissions to Land**

2.2.7.1 Part 2.2.7 of this Permit shall not apply to emissions to groundwater.

2.2.7.2 2.2.7.2 There are no specific controls imposed on emissions to land in this part of the Permit.

## **2.3 Management and Fit and Proper Person**

2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

### ***Training***

2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.

2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.

2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

### ***Maintenance***

2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.

2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:

2.3.6.1 a written or electronic maintenance programme; and

2.3.6.2 records of its maintenance.

### ***Incidents and Complaints***

2.3.7 The Operator shall maintain and implement written procedures for:

2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;

2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and

2.3.7.3 ensuring that detailed records are made of all such actions and investigations.

2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

### ***Fit and Proper Person***

2.3.9 Where Regulation 4 of the Regulations applies to a relevant activity/associated activity carried on at the Permitted Installation, as authorised under condition 1.1.1:

2.3.9.1 Any changes in technically competent management and the name of any incoming person together with evidence that such person has the required technical competence shall be submitted to the Agency in writing within 5 working days of the change in management. Technically competent management and technical competence shall be as prescribed under Section 74 of the Environmental Protection Act 1990.

- 2.3.9.2 In the event of the Operator and/or any relevant person being convicted of any relevant offence and which is in addition to any already notified to the Agency, then full details shall be provided to the Agency within 14 days of conviction, whether or not the conviction is subsequently appealed. Such details shall include, in respect of each relevant person (as defined in section 74(7) of the Environmental Protection Act 1990 or any subsequent amendments to that section), the nature of the offence, the place and date of conviction, any sentence, and any fine or other penalty imposed; and
- 2.3.9.3 In the event that the Operator and/or any relevant person lodges an appeal against any such conviction, the Operator shall notify the Agency of this within 14 days of the lodging. The Operator shall notify the Agency of the results of that appeal, within 14 days of the appeal being decided; and
- 2.3.9.4 The financial provision for meeting the obligations under this Permit set out in the Agreement made between the Operator and the Agency dated 26<sup>th</sup> August 2005 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 Agency.
- 2.3.10 The Operator shall ensure that the charges it makes for the disposal of waste in the landfill covers all of the following
- a) the costs of setting up and operating the landfill;
  - b) the costs of the financial provision required by condition 2.3.9.4; and
  - c) the estimated costs for the closure and after-care of the landfill site for a period of at least 10 years from its closure.

## **2.4 Efficient use of raw materials**

- 2.4.1 The Operator shall:
- 2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.4 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;
  - 2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and
  - 2.4.1.3 ensure that incoming water use is directly measured and recorded.

## **2.5 Waste Storage and Handling**

- 2.5.1 No condition applies except as covered by the requirements in 2.1.1

## **2.6 Waste recovery or disposal**

- 2.6.1 Waste produced at the Permitted Installation shall be recycled or recovered unless technically and/or economically impossible.
- 2.6.2 No condition applies



- 2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

## 2.7 Energy Efficiency

- 2.7.1 No condition applies

## 2.8 Accident prevention and control

- 2.8.1 The Operator shall maintain and implement when necessary an accident management plan which shall be at least as effective as that submitted or described in response to Section B2.3.4 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

## 2.9 Noise and Vibration

- 2.9.1 The Permitted Installation shall be designed, operated and maintained so as to avoid reasonable cause for annoyance from noise or vibration, in particular by:
- equipment maintenance e.g. fans, pumps, motors, conveyors and mobile plant;
  - use and maintenance of appropriate attenuation e.g. silencers, barriers, enclosures;
  - timing and location of noisy activities and vehicle movements;
  - periodic checking of noise emissions, either qualitatively or quantitatively; and
  - maintenance of building fabric.

Provided always that the techniques used by the Operator shall be no less effective than those described in the application, where relevant

## 2.10 On Site Monitoring

- 2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Table 2.2.10, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.
- 2.10.2 The Operator shall carry out environmental monitoring to the frequencies and methods described in Table 2.10.1

Table 2.10.1 : Other monitoring requirements

Emission point reference or source or description of point of measurement	Substance or parameter	Monitoring frequency	Control level
In waste monitoring wells as installed under the requirements of improvement condition 4b	Methane	Annual	1%
In waste monitoring wells as installed under the requirements of improvement condition 4b	Carbon dioxide	Annual	1%

- 2.10.3 No condition applies.
- 2.10.4 No condition applies.

- 2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/or spot sampling, where such notification has been requested in writing by the Agency.
- 2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes 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.
- 2.10.7 There shall be provided:
- 2.10.7.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and
- 2.10.7.2 safe means of access to other sampling/monitoring points when required by the Agency.

## 2.11 Closure, Aftercare and Decommissioning

- 2.11.1 The Permitted Installation shall, subject to the conditions of this Permit, be managed and controlled as described in the documentation specified in Table 2.11.1, or as otherwise agreed in writing by the Agency.

**Table 2.11.1: Closure, Aftercare and Decommissioning techniques**

Description	Parts	Date Received
Application	The response to questions B2.11 In Part B of the application form.	28 July 2004

- 2.11.2 Where the above Table refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the later document(s) shall prevail to the extent of such conflict.
- 2.11.3 No condition applies.
- 2.11.4 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.
- 2.11.5 The Operator shall implement the site closure plan on receipt of a notice from the Agency approving definitive closure of the landfill or part thereof.
- 2.11.6 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan in respect of any non-landfill activities.

## 2.12 Multiple Operator installations

- 2.12.1 This is not a multi-Operator installation

## 2.13 Transfer to effluent treatment plant

- 2.13.1 No transfer from the Permitted Installation shall be made to effluent treatment plant

### 3 Records

- 3.1.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
- be made available for inspection by the Agency at any reasonable time
  - be supplied to the Agency on demand and without charge
  - be legible
  - be made as soon as reasonably practicable
  - indicate any amendments which have been made and shall include the original record wherever possible; and
  - be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing.

## 4 Reporting

- 4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.
- 4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out under condition 2.10, as follows:
- in respect of the parameters and emission points specified in Table S2 to Schedule 2.
  - for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;
  - giving the information from such results and assessments as may be required by the forms specified in those Tables; and
  - to the Agency within 28 days of the end of the reporting period.
- 4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 of Schedule 4, assessed at any frequency specified therein.
- 4.1.4 The Operator shall review fugitive emissions, having regard to the application of the most appropriate measures to prevent pollution, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.
- 4.1.5 . No condition applies.
- 4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.
- 4.1.7 No condition applies
- 4.1.8 The Operator shall submit to the Agency an interpretation report of the monitoring results for landfill gas, leachate, surface and groundwater against the relevant emission limits, assessment limits, control and trigger levels specified in the permit on a three monthly basis, and shall submit a summary report of these interpretations to the Agency within one month of the end of each three month period.
- 4.1.8 The Operator shall review all monitoring data required by this permit on an annual basis and shall submit a summary report to the Agency within three months of the end of each year.
- 4.1.9 The Operator shall submit to the Agency a report setting out the types and quantities of waste disposed of at the landfill on a three monthly basis i.e. for the periods 1 April - 30 June; 1 July - 30 September; 1 October - 31 December and 1 January - 31 March, such report to be received within 1 month from the end of each period.

## 5 Notifications

- 5.1.1 The Operator shall notify the Agency without delay of:-
- 5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
- 5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant adverse environmental effect; unless the quantity emitted is so trivial that it would be incapable of causing significant adverse environmental effect;
- 5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution;
- 5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution;
- 5.1.1.5 the refusal to accept or rejection of incoming waste at the landfill, and
- 5.1.1.6 the detection of any significant adverse environmental effects
- 5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-
- 5.1.2.1 information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and
- 5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;
- 5.1.2.3 and such information shall be in accordance with that Schedule.
- 5.1.3 The Operator shall give prior written notification to the Agency of the following events and in the specified timescales:
- 5.1.3.1 as soon as practicable prior to the permanent cessation of the landfill disposal operations,
- 5.1.3.2 as soon as practicable prior to the cessation of the operation of the landfill disposal operations, for a period likely to exceed 1 month
- 5.1.3.3 at least 14 days prior to the resumption of the landfill disposal operations after a cessation
- 5.1.4 The Operator shall notify the Agency, as soon as practicable, of any information concerning the state of the site which affects or updates that provided to the Agency as part of the Site Report submitted with the application for this Permit.
- 5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:
- 5.1.5.1 where the Operator is a registered company:
- any change in the Operator's trading name, registered name or registered office address;
  - any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
  - any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;
- 5.1.5.2 where the Operator is a corporate body other than a registered company:
- any change in the Operator's name or address;
  - any steps taken with a view to the dissolution of the Operator.
- 5.1.5.3 In any other case:
- the death of any of the named Operators (where the Operator consists of more than one named individual);
  - any change in the Operator's name(s) or address(es);
  - 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 them being in a partnership, dissolving the partnership;

## 6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:

*"Application"* means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations and any operational change agreed under the conditions of this Permit.

*"background concentration"* means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation onto the site.

*"BAT"* means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator"; "best" means "in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned." . In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

*"Fugitive emission"* means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit"

*"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.

*"Interim Hazardous"* means a landfill classified as hazardous until 16th July 2004

*"Monitoring"* includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

*"Permitted Installation"* means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

*"PPC Regulations"* means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit. It shall include any future amendments or superseding legislation

*"Sewer"* means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

*"Staff"* includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

*"Year"* means calendar year ending 31 December.

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

6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means;

- 6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- 6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.
- 6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

# Schedule 1 - Notification of abnormal emissions and significant adverse environmental effects

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

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.

Part C refers specifically to the requirement to notify the Agency of any significant environmental effect as required by the Landfill Regulations and should be used instead of Part B to report such to the Agency.

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 PPC Regulations.

## Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission/ significant adverse environmental effect	
Time and date of the emission/ significant adverse environmental effect	

Substance[s] emitted	Media	Best estimate of the quantity or the rate of emission	time during which the emission took place
	e.g. air		
	e.g. groundwater		

Measures taken, or intended to be taken, to stop the emission	
---	--

## Part B

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 or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	



<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of Lafarge Aggregates Limited

## PART C

<b>Nature of significant adverse environmental effect (e.g. Groundwater Pollution, LFG escape)</b>	
<b>Immediate measures taken to prevent further effects from this source</b>	
<b>Further measures taken , or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the significant adverse environmental effect</b>	
<b>Measures taken, or intended to be taken, to prevent a recurrence of the incident</b>	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\* authorised to sign on behalf of Lafarge Aggregates Limited

## Schedule 2 - Reporting of monitoring data

Parameters, for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

**Table S2: Reporting of monitoring data**

Parameter	Emission point	Reporting period	Period begins
Level (m.AOD)			Date of permit issue
pH			Date of permit issue
Electrical conductivity ( $\mu\text{S.cm}^{-1}$ )			Date of permit issue
Ammonical Nitrogen (mg.l-1)			Date of permit issue
Total Oxidised Nitrogen (mg.l-1)			Date of permit issue
Total Organic Carbon (mg.l-1)			Date of permit issue
Cadmium ( $\mu\text{g.l}^{-1}$ )			Date of permit issue
Calcium (mg.l-1)	Boreholes BH1, BH5/01, BH6/01, BH7/01, BH17, BH18, BH1/95, BHCR1, BHCR2, BHCR3, BHCR4, BHCR5 and any other boreholes installed as a result of improvement conditions 2a and 2b.	Quarterly or any other frequency determined as a result of compliance with improvement condition 2a.	Date of permit issue
Chloride(mg.l-1)			Date of permit issue
Chromium ( $\mu\text{g.l}^{-1}$ )			Date of permit issue
Iron (mg.l-1)			Date of permit issue
Lead (mg.l-1)			Date of permit issue
Magnesium (mg.l-1)			Date of permit issue
Manganese ( $\mu\text{g.l}^{-1}$ )			Date of permit issue
Nickel ( $\mu\text{g.l}^{-1}$ )			Date of permit issue
Potassium (mg.l-1)			Date of permit issue
Sulphate (mg.l-1)			Date of permit issue
Any other substances as determined as an priority contaminant under improvement condition 2a			Following notification of compliance with improvement condition 4b.
Carbon Dioxide (% vol), Methane (% vol) and Oxygen (% vol)	3 perimeter boreholes to be agreed with the Agency.	6 monthly	Date of Permit Issue
	Temporary monitoring points installed during impact searcher bar survey.	6 monthly	Commencement of waste disposal within any phase
	In waste gas monitoring well, installed under improvement conditions 4a and 4b.	6 monthly	
Surface water monitoring parameters agreed under improvement condition 3a	W1	To be agreed with the Agency	Following notification of compliance with improvement condition 3b

## Schedule 3 - Forms to be used

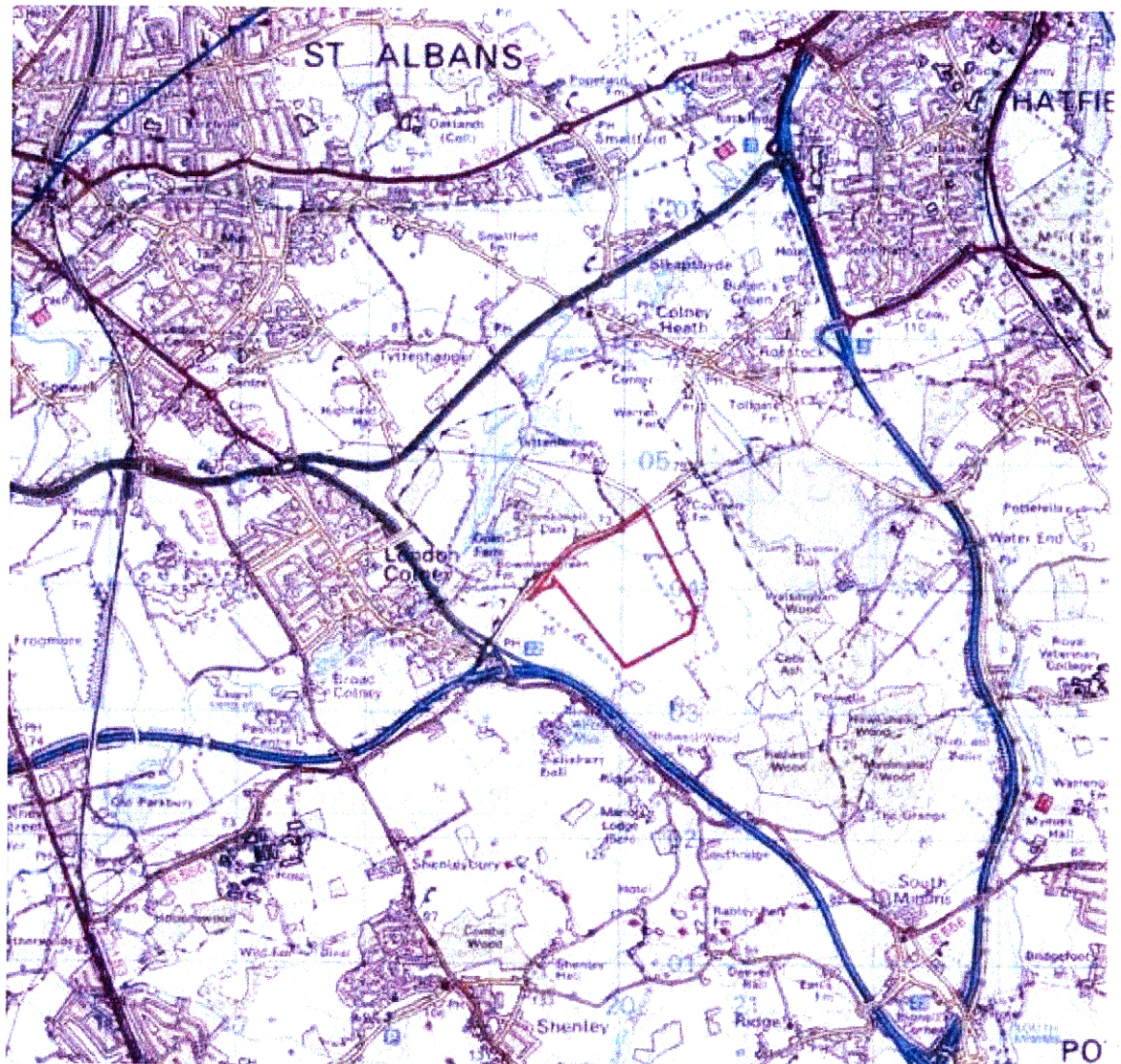
Table S3: Reporting  
Forms

Media/parameter	Form Number	Date of Form
Waste Return	WPPCS1	

## **Schedule 4 - Reporting of performance data**

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## Schedule 5 - Site Plan



6.1.5 ["Reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office ©Crown Copyright 2000. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings."]

END OF PERMIT