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Booth Ventures Waste (Midlands) Ltd

Report No. 5430-BLP-R-001-02

August 2023

## Sandown Quarry Landfill

Environmental Permit Application – Non-Technical  
Summary (NTS)



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## Document Control

Document: Environmental Permit Application – Non-Technical Summary

[REDACTED] Sandown Quarry Landfill

Client: Booth Ventures Waste (Midlands) Ltd

Report Number: 5430-BLP-R-001-02

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# 1 Introduction

## 1.1 Non-Technical Summary

[REDACTED] (company number 12508267, the proposed site Operator) [REDACTED] quarry void at Sandown Quarry (the Site). The site is referenced within this application as Sandown Quarry Landfill. Booth Ventures Waste (Midlands) Ltd will operate the site under a lease agreement with the landowner Wienerberger UK (company number 05299520).

This site is currently an active quarry for the extraction of marl / mudstone (from the Etruria Formation) to produce bricks. Upon completion of quarrying activities, the operator proposes restoration of the void by landfilling with non-hazardous wastes.

Applications for Planning Permission and Environmental Permits (the later being the subject of this application) detail the proposal to utilise excavation waste materials (of a low pollution potential) associated with excavation and construction works to restore the quarry.

It is proposed to infill the existing quarry void as a restoration activity (by landfilling).

The infill material will comprise only of wastes which are considered suitable, and which are specified by Her Majesty's Revenue and Customs (HMRC) in The Landfill Tax (Qualifying Material) Order 2011 (as amended) (i.e. Qualifying Materials (QMs)).

The design of the infilling scheme and restoration profile will be completed to a level coincident with surrounding perimeter ground levels. The scheme accounts for long term surface water management with control from the restored surface through pond enlargement and that will (through a twin tracked planning application) provide some enhancement the local ecology. This enlarged pond and further habitat generation on the margin of the existing Swan Pool Site of Scientific Interest (SSSI) will be beneficial to reed generation for nesting birds.

The infilling proposals have been risk assessed accordingly. These assessments demonstrate that the scheme does not pose a risk to the 'potential' primary groundwater water receptor (Etruria Formation Bedrock) or to adjacent surface water receptors (Swan Pool, the Swag and the Daw End Canal).

In support of the restoration operations and to support sustainability, imported wastes with a recoverable composition will be processed to recover aggregates in accordance with the quality protocol approved by the Environment Agency<sup>1</sup>. It is anticipated that approximately 5% of the wastes imported will be suitable for processing (crushing and/or screening).

Suitable wastes will be stockpiled on a hardstanding pad (aggregate over lower permeability soil) located in the base of the void (eastern area) prior to treatment as depicted on the associated ESID drawings. When sufficient recoverable wastes have been stockpiled treatment will be undertaken periodically for short periods utilising mobile plant under the landfill permit. Recovered aggregate will either be used on site (e.g. for creation of the access roads and hardstanding areas) or exported

<sup>1</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296499/LIT\\_8709\\_c60600.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/296499/LIT_8709_c60600.pdf)

and used in accordance with quality protocol (e.g. pipe bedding and highway sub base). The recovery of aggregates from imported wastes will cease when the final restoration of the quarry void is completed.

Consideration of local amenity has also been addressed through an environmental risk assessment  
[REDACTED] extensive dust management plan.

## 1.2 Structure of Application and Accompanying Documents

ByrneLooby have been instructed to prepare a Permit Application for the development and infilling of the Sandown Quarry, a twin-tracked planning application submission will be issued to the Local Planning Authority (LPA) addressing the requirement for alternative access from Stubbers Green Road and the associated scheme for restoration.

The proposals for the infilling of the site will require the construction of a new site haul road. A separate Bespoke Permit Application (recovery activity supported by a Waste Recovery Plan) has been submitted to the Environment Agency for approval (May 2022, reference 5430-BLP-R-00010).

This document and associated technical assessments support the application for an Environmental Permit. This report (5430-BLP-R-001-02) has been compiled to provide details and documentation to address the questions raised in the Environmental Permit application forms and provide details in regard to operator competence (5430-BLP-R-002-02).

Section 1.1 of this report forms the ‘Non-Technical Summary’ of the proposal.

The completed application forms part A, B2, B3 and F1 are included in Appendix A, a summary set of responses to questions contained within the application forms are provided in Section 3 below.

A number of drawings illustrate relevant aspects of the application, the environmental setting and installation design (ESID) information requirements accord with Environment Agency Guidance<sup>2</sup>, these drawings are numbered as:

- ESID1 (5430/3/001) Location
- ESID2 (5430/3/002) Environmental Site Setting
- ESID3 (5430/3/003) Cultural and Natural Heritage
- ESID4 (5430/3/004) Site Layout and Waste Deposition (Permit / Installation Boundary)
- ESID 5A (5430/3/005A) Installation Phasing (Years 1 – after 6)
- ESID 5B (5430/3/005B) Installation Phasing (Years 9 – after 18)
- ESID 5C (5430/3/005C) Installation Phasing (Cross-sections)
- ESID 5D (5430/3/005D) Installation Phasing (Cross-sections including Canal)
- ESID 6 (5430/3/006) Proposed Restoration
- ESID 7A (5430/3/007A) Leachate Management

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<sup>2</sup> <https://www.gov.uk/government/publications/esid-report-template>

- ESID 7B (5430/3/007B) Leachate Management
- ESID8 (5430/3/008) Site Investigation Locations
- ESID9 (5430/3/009) Local and Regional Geology
- [REDACTED] (5430/3/010) Regional Hydrogeology
- ESID11 (5430/3/011) Geological / Hydrogeological Cross Sections
- ESID12 (5430/3/012) Monitoring Locations
- ESID 13 07200-100, R4 Surface Water Management – General Arrangement

The drawings will be cross-referenced throughout the application where relevant. Risk assessments are also provided accordingly, the following report references support the proposed scheme:

- 5430-BLP-R-002-02 Operator Competence
- 5430-BLP-R-003-02 Environmental Setting & Installation Design / Technical Standards
- 5430-BLP-R-004-02 Environmental Risk Assessment (H1) & Dust Management Plan
- 5430-BLP-R-005-02 Waste Acceptance Criteria (WAC)
- 5430-BLP-R-006-02 Hydrogeological Risk Assessment (HRA)
- 5430-BLP-R-007-02 Gas Risk Assessment (GRA)
- 5430-BLP-R-008-02 Stability Assessment (SRA) – Plough Geotechnical Ltd
- 5430-BLP-R-009-02 Emissions / Monitoring Plan & Financial Provision
- 07200/SWMP/R02 Surface Water Management Plan – 7 Engineering Consultancy (v2, October 2022 & Addendum July 2023)

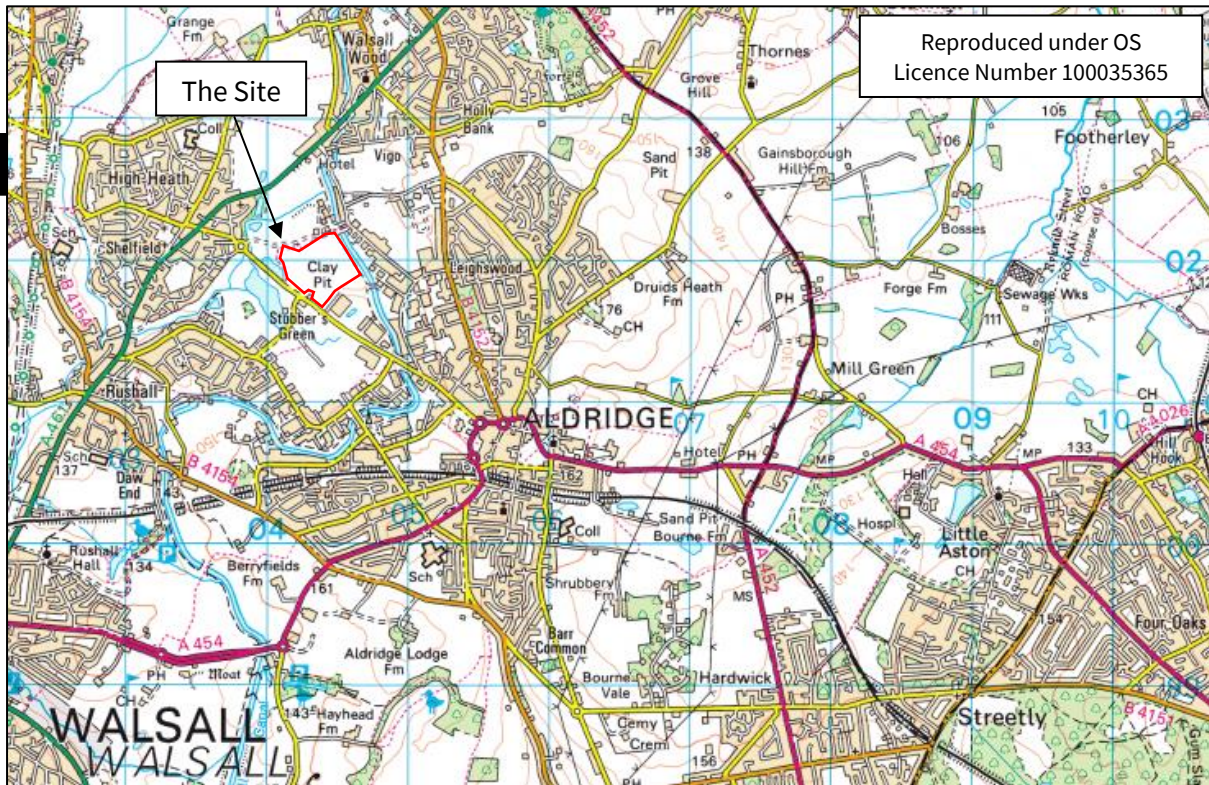
## 2 Site Location and Description Overview

Sandown Quarry is located approximately 4km to the northeast of Walsall, 1.7km northwest of the town of Aldridge at National Grid Reference (NGR) SK 04386 01960 (Figure 1, see also drawing ESID 1). The site is currently an active quarry operated by Weinerberger UK, extracting marl / clay for the brick manufacturing industry.

Additional quarry sites are located within the immediate area (some of which are operational) extracting the same natural resource (e.g. Ibstock’s Atlas Quarry to the south and the Aldridge Site to the east). Many of the historical sites have been infilled and restored by landfilling, e.g. sites located 300m to the west, 20m to the north, 430m to the southeast, 220m east, 195m northeast of the proposed permit boundary (see drawing ESID 2 and report 5430-BLP-R-003-02). Environmental information related to these nearby sites pertinent to this application (considered relevant to the production of report 5430-BLP-R-003-02) have been obtained through a freedom of information request to the Environment Agency (reference 254021, date received 30<sup>th</sup> March 2022).

The current extraction operations at the Sandown Quarry occupy the central and northern end of the site, the mineral processing operations, kilns, workshop and offices occupy the south-eastern end of the facility.

**Figure 1 Site Location**

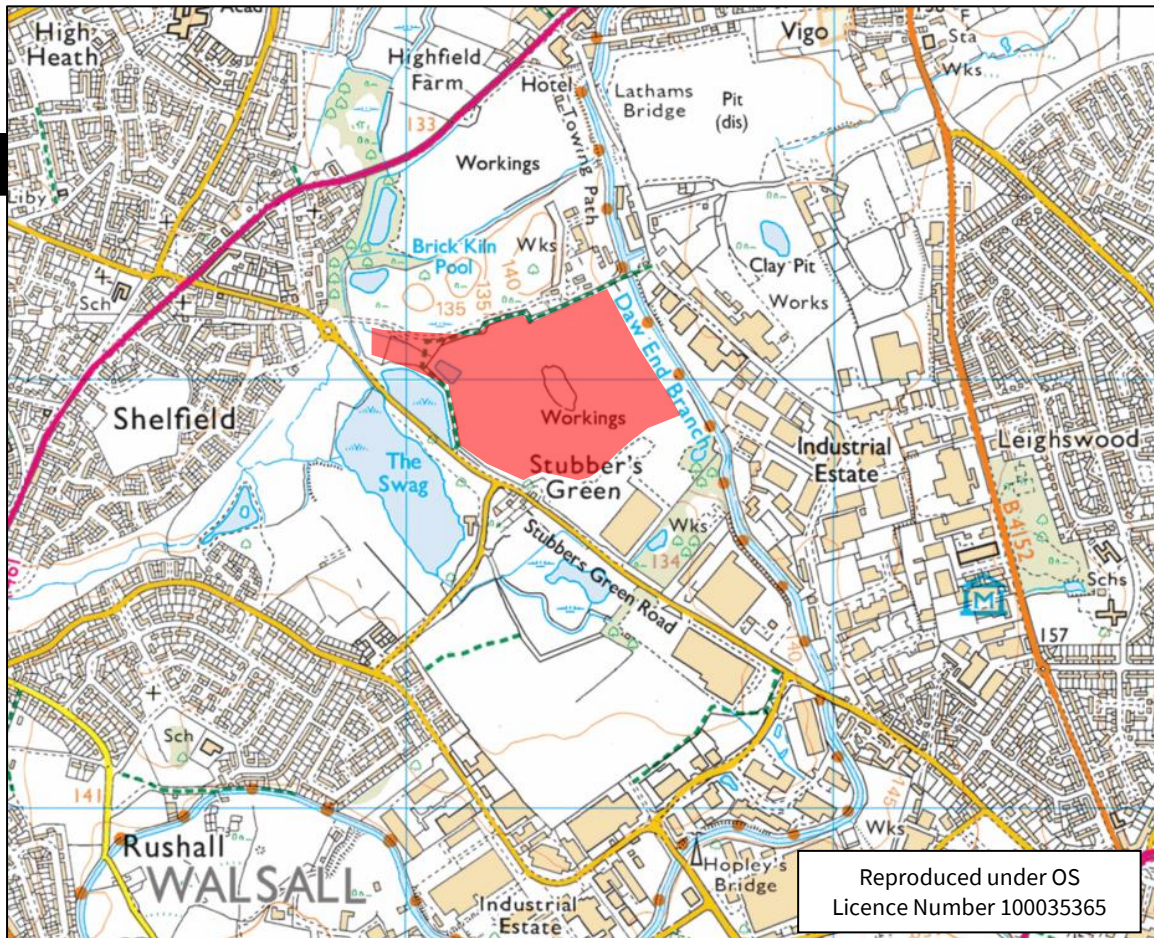


Current excavation depths within the quarry are ~90mAOD within the central area. Accumulation of rainwater in the base of the void collects during wet periods of the year, this water is removed to the on-site surface water settlement pond in the north-western corner. The water passively drains when pumped to a ditch system which flows to the west towards “The Swag” (Figure 2). Further details regarding surface water management are provided in the ESID report 5430-BLP-R-003-02 and Surface Water Management Plan (07200/SWMP/R02, October 2022 and Addendum, July 2023).

The perimeter of the site is at ~130mAOD to the east and southeast in the area of the brickwork’s storage yard rising to ~133mAOD in the north-western corner near to the current surface water settlement pond (Figure 2 and drawing reference ESID 4). Moving north-easterly, ground levels increase to ~137mAOD, a level consistent with the edge of the current void along its eastern boundary however there are areas of ‘placed mudstone’ materials (interburden / overburden surplus to brick manufacture) present within the intervening land between the eastern boundary of the void and the Daw End Canal which is adjacent to the site perimeter (Figure 2). These areas increase in height up to ~144mAOD.

Locally, the highest ground is at ~175 - 180mAOD to the east in the residential area of Leighswood, falling to the west and northwest to 125mAOD associated with the lower lying areas of the Ford Brook tributaries (west of High Heath, Figure 1) that flow to the River Tame which is located 6.7km to the southwest.

**Figure 2 Site Location - Detail**



Indicative permit boundary shown for context, proposed boundary depicted on ESID 4.

## 2.1 Proposed Development

The site is located entirely within the Carboniferous Etruria Formation Strata (a natural *in-situ* geological barrier), which is predominantly comprised of low permeability marls (clay) and mudstones. The excavation of the brick marl reserve will continue down to a terminal depth of 75mAOD (Figure 3, drawing ESID 5A).

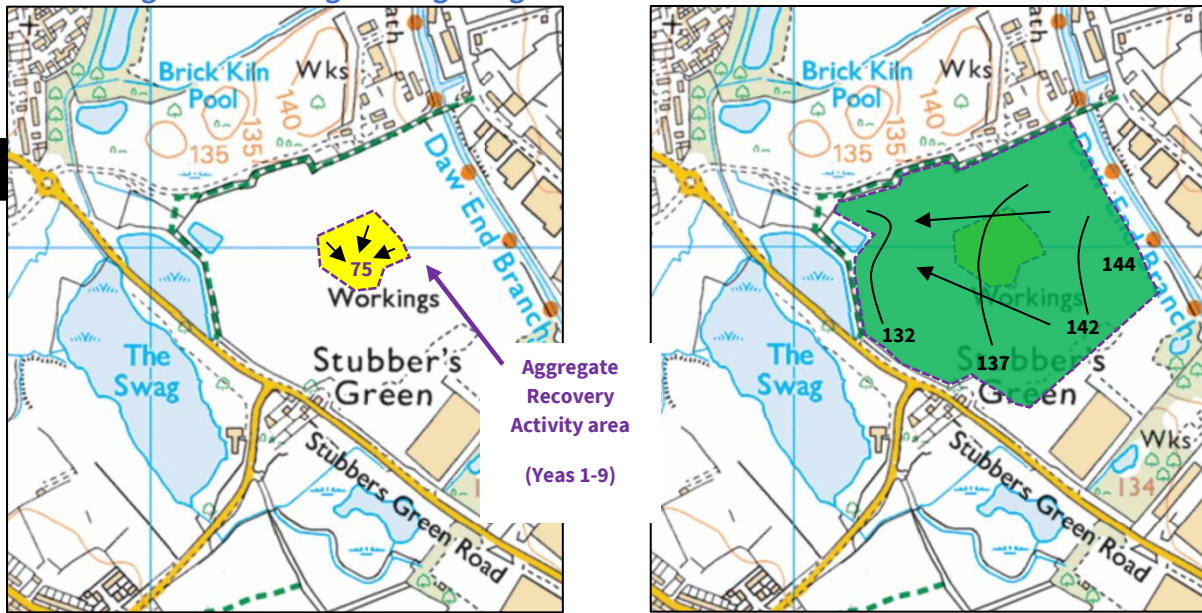
It is proposed to complete the infilling of the void with inert and non-hazardous wastes which are listed as qualifying materials<sup>3</sup>.

The infill volume is calculated at 3.1Mm<sup>3</sup> (equivalent to approximately 6.2M tonnes). The infilling of the void will provide final restoration contours for the site to be commensurate with the surrounding land surface (as far as is reasonably practical). The restored surface, 15.5Ha (high point of 144mAOD in the southeast corner of site (Figure 3) will convey rainfall run-off towards the northwest corner of the site boundary to the enlarged surface water management / settlement pond (total area of ~1.3Ha, see report 07200/SWMP/R02). The cap slope gradient is measured at 1v:30h.

<sup>3</sup> The Landfill Tax (Qualifying Material) Order 2011 (as amended) - <https://www.legislation.gov.uk/ukxi/2011/1017/contents/made>



**Figure 3 Engineering Design Schematic**



Base (mAOD) & direction of fall

Restoration Surface (mAOD) & direction of fall

The proposed wastes will consist of excavation, construction/demolition wastes and similar industrial wastes that have a low-level pollution potential. Therefore, it is not expected that the waste will generate landfill gas or that active management of landfill gas will be required.

Such a restriction will also prevent the generation of the primary soluble landfill leachate pollutant (i.e. ammonium) as well as the organic degradation by-products, namely hydrolysis products such as the phenols and hazardous substances such as BTEX compounds.

The wastes will have a negligible pollution potential, hence the void infill is highly likely to rapidly stabilise to a state where the permitted area could be surrendered upon or shortly after cessation of disposal activities.

Notwithstanding the negligible pollution potential of the wastes proposed, an appropriately “risk based” network of perimeter boreholes has been installed and monitored routinely around the perimeter of the infill area which will be used throughout the site’s operational and post-closure phases to assess whether the void is operating as intended.

The aggregate recovery operation will be undertaken on a hardcore pad in the area as illustrated on Figure 3 above (see also ESID drawings 5A and 5B). The pad will be placed on lower permeability soils which will direct surface water run-off into the quarry void, where the water will be managed accordingly.

## 2.2 Engineering Overview

As stated above, the site is located (contained within) a natural *in-situ* geological barrier, this barrier extends to depths >5m below the base of the site and extends to lateral thicknesses of at least 370m to the north, at least 700m to the east and west and ~950m to the south / southeast.

Information relating to the engineering properties of the engineered liner (re-worked site-won material to the specification of 500 mm to a maximum permeability of  $1 \times 10^{-8}$  m/s) and detail of the infill scheme is provided in the Environmental & Installation Design / Technical Standards Report 5430-BLP-R-003-02. The Hydrogeological Risk Assessment (5430-BLP-R-006-02) has indicated there is no requirement for the inclusion of an [REDACTED] collection, hence there is no requirement for the inclusion of an [REDACTED] addition to the natural geological barrier.

Side slopes are commensurate with the final quarry excavation design, slope gradients have been modelled at 1:3, information relating to stability is provided in report 5430-BLP-R-008-02 and supplementary report 5430/R/016/01 (Plough Geotechnical Ltd).

### 2.3 Waste Types and Quantities

The void area combined has a projected capacity of  $\sim 3.1 \text{Mm}^3$  and comprises an area of approximately 1.3Ha (base) and 15.5Ha (upper surface).

The proposed design is to restore the void using QMs. QMs are a list of waste types in which Her Majesty's Revenue and Customs (HMRC) has made specific allowance for quarry restoration identifying a very limited list of suitable wastes in accordance with The Landfill Tax (Qualifying Material) Order 2011 (as amended).

The QM Order lists a series of wastes with limited to negligible pollution potential with respect to the production of landfill gas or leachates. The qualifying materials include wastes in the following groups:

- Group 1      Rocks and soils
- Group 2      Ceramics or concrete materials
- Group 3      Minerals, processed or prepared
- Group 4      Furnace slags
- Group 5      Ash

Of these the majority of the materials to be landfilled are expected to be:

- Soil (including mixed clays, silts and sands);
- Stones; and
- Concrete based construction materials from development schemes.

The infilling is anticipated to have a duration of 20 years although material availability may alter the initial assumptions. Input rates averaged over the expected infilling period would equate to 310,000t/y, however, to account for any surplus or additional waste infill availability and only 260 working days in a calendar year, a permitted maximum of 700,000t/y is proposed within the application.

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<sup>4</sup> Landfill Directive (99/31/EC) - Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste

Restoration will meet the objectives of the planning application (twin tracked submission), selected materials will be utilised to assist in surface water control. A typical thickness of 1m of restoration soils is proposed over the cap for achieving the desired restoration profile. ~153,000m<sup>3</sup> is required for a final 1m surface layer over the site, which equates to ~306,000t.

[REDACTED] risk assessed accordingly (associated application documents). On issue of the Environmental Permit for the infilling, a detailed CQA design, construction and method statement will be submitted to the Environment Agency for approval.

Only selected waste types will be suitable for the recovery of aggregates. These wastes are specified in Appendix C of the quality protocol<sup>1</sup> and can be summarised as:

- Waste gravel and crushed rocks other than those mentioned in 01 04 07 (EWC 01 04 08)
- Waste sand and clays (EWC 01 04 09)
- Glass packaging (EWC 15 01 07) / Glass (EWC 19 12 05 / 20 01 02)
- Concrete (EWC 17 01 01)
- Bricks (EWC 17 01 02)
- Tiles and ceramics (EWC 17 01 03)
- Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06 (EWC 17 01 07)
- Glass (EWC 17 02 02)
- Bituminous mixtures other than those mentioned in 17 03 01 (EWC 17 03 02)
- Soils and stones other than those mentioned in 17 05 03 (17 05 04)
- Dredging spoil other than those mentioned in 17 05 05 (17 05 06)
- Track ballast other than those mentioned in 17 09 01, 17 09 02 and 17 09 03 (17 09 04)
- Mineral (for example sand and stones) 19 12 09
- Garden and park waste (including cemetery waste) – soil and stones (20 02 02)

Assuming 5% of annual inputs to the site area is suitable for recovery approximately 35,000 tonnes of waste will be treated per year. All recovered aggregate will meet the end of waste criteria detailed in the quality protocol. The recovered aggregate may be utilised on site or exported for use in off-site construction projects.

### 3 Application Form A Questions

#### 3.1 Question 5c – Please give details of the Directors

[REDACTED]

Harwood Quarry  
Brookfold Lane  
Harwood  
Bolton  
BL2 4LT

### 4 Application Form B2 Questions

#### 4.1 Question 1 – About the Permit

A Conservation and Heritage Screen has been undertaken and received (ref: EPR/LB3107UP/A001) as part of this application process (contained as Appendix A, 5430-BLP-R-003-02).

#### 4.2 Question 3a – Relevant Offences

The Operator Competence Report (5430-BLP-R-002-02) submitted as part of this permit application details there are no relevant offences.

#### 4.3 Question 3b – Technical Ability

The Operator Competence Report (5430-BLP-R-002-02) submitted as part of this permit application contains details of relevant technical ability and management systems.

#### 4.4 Question 3c - Finances

No relevant person, or company in which a relevant person was part of, have any current or past bankruptcy or insolvency proceedings against them. Financial Provision calculations are provided in report 5430-BLP-R-009-02.

#### 4.5 Question 3d – Management System

The Operator Competence Report (5430-BLP-R-002-02) submitted as part of this permit application contains details of relevant offences, technical ability and management systems.

#### 4.6 Question 5a – Provide a plan for the site

A location plan for the site is provided in drawing ESID 1, the proposed permit boundary is depicted on ESID 4.

#### 4.7 Question 5b – Provide the relevant sections of a site condition/baseline report

Baseline is considered in report 5430-BLP-R-003-02, Environmental Setting and Installation Design, this is also referred to as the Technical Standards Report.

#### 4.8 Question 6 – Environmental Risk Assessment

The Environmental Risk Assessment (H1) Report (5430-BLP-R-004-02) submitted as part of this permit application contains a full assessment of the environmental risks (amenity) posed by the proposed application. A comprehensive Dust Management Plan is included as Appendix A.

## 5 Application Form B3 Questions

### 5.1 Question 1 – What Activities are you applying for?

Landfilling, designated D5 code, of only Qualifying Materials as defined by The Landfill Tax (Qualifying Materials) Order 2011. Restoration, designated R5 and R10. There will be no hazardous or non-hazardous treatment onsite. Crushing / screening / processing will be undertaken using mobile plant regulated under the landfill permit, further details is provided in report 5430-BLP-R-003-02.

A total storage capacity of 3.1Mm<sup>3</sup>, with an annual throughput of 700,000 tonnes is proposed.

A restoration annual throughput of 75,000 tonnes is proposed.

### 5.2 Question 1b – Types of Waste Accepted and Restriction

The proposed waste types and acceptance procedures are contained in the Waste Acceptance Procedures report (5430-BLP-R-005-02) which is included with this application. The wastes proposed are non-hazardous (as defined by WM3)<sup>5</sup>.

### 5.3 Question 2 – Emissions to Air, Water or Land

Emissions to air, water and land are discussed in detail within risk-based reports.

These include the Hydrogeological Risk Assessment (ref: 5430-BLP-R-006-02, HRA) with assessment of groundwater and surface water impact, the Landfill Gas Risk Assessment (ref: 5430-BLP-R-007-02, GRA) which demonstrates there are no significant emissions to air.

There are no point source emissions to sewer or effluent treatment plants from the application site, there are no point source emissions to air.

### 5.4 Question 3a – Technical Standards

The technical standards of the proposed development at Sandown Quarry Landfill are contained in the ESID / Technical Standards Report (ref: 5430-BLP-R-003-01). A Stability Risk assessment is

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<sup>5</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1021051/Waste\\_classification\\_technical\\_guidance\\_WM3.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021051/Waste_classification_technical_guidance_WM3.pdf)

provided which assesses the stability of the proposed development which is included in report 5430-BLP-R-008-02 and supplementary report 5430/R/016/01 (Plough Geotechnical Ltd).

#### 5.5 Question 3b – General Requirements

[REDACTED] fugitive emissions, odour or noise is assessed in the accompanying [REDACTED] report (5430-BLP-R-004-02), attached as part of this application.

#### 5.6 Question 4 – Monitoring

Environmental monitoring proposed for the installation is contained in the Environmental Emissions and Monitoring Plan (5430-BLP-R-009-02).

**Appendix A**

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