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INTRODUCTION

Under Regulation 18(4)(b) of the EIA Regulations an ES should provide a as a minimum “a description of the proposed development comprising information on the site, design, size and other relevant features of the development”.

3.1 Schedule 4 indicates that, where relevant, the ES should provide a description of the development, including in particular:

- a description of the location of the development;
- a description of the physical characteristics of the whole development;
- a description of the main characteristics of the operational phase of the development
- an estimate of expected residues and emissions and quantities and types of waste produced during the construction and operation phases.

3.2 In addition, it is normal practice for planning applications for mineral development to be accompanied by a supporting statement that describes, inter alia, the development proposals. As such, there is an overlap in the requirements of an ES and what is considered good practice for the submission of planning applications. Accordingly, Volume 1 (Planning Statement) also includes a description of the development. This chapter sets the basis against which the EIA has been conducted.

CURRENT APPROVED SCHEME

Introduction

3.3 As noted from Chapters 1 and 2 above, the current planning permission for the landfill site is ref. R16/890805 dated 14 May 1991. This planning permission allows landfill operations to continue until 31st December 2021 (condition 1 refers). Condition 53 states:

“No sand and gravel extraction shall take place later than the expiration of the period of 25 years beginning with the date of this permission. No waste disposal operations shall take place later than the expiration of the period of 30 years beginning with the date of this permission.”

3.4 Due to the progressive diversion of waste from landfill through other recycling and recovery initiatives (in line with the Waste Hierarchy) the volume of waste accepted at the landfill site has fallen. In view of this, it has not been possible to complete the approved development within the timescale that was envisaged in the original planning application. In this respect, it should be noted that the original planning application was granted at a time when landfill was the main method of managing residual waste.

3.5 A copy of the extant planning permission is contained in Appendix 3/1.
Site Layout

3.6 Chapter 2 above has provided a description of the landfill site. In brief the landfill comprises:

- site reception and office accommodation. This is located close to the site entrance off Coalpit Lane within the southern part of the site;
- completed, capped and grassed areas of landfill located along the southern and northern edges of the planning permission area;
- active landfill cell (engineered);
- future landfill cells (not currently engineered); and
- landfill management infrastructure in the form of leachate management and landfill gas management and electricity generation compound.

3.7 These features are shown on Figure 2-1 in the previous chapter.

3.8 In addition to the landfill and ancillary infrastructure, the following waste management developments have been granted at the landfill site under separate grants of planning permission:

- Street sweeping recycling facility (RBC/11CM020);
- IBA processing facility (RBC/13CM003); and
- Open windrow composting of green waste (RBC/17CM021).

3.9 These features are also shown on Figure 2-1 in the previous chapter. It should be noted that only the street sweeping recycling and green waste composting facilities are operational; the planning permission for the IBA processing facility has been implemented, but the construction of the development has not been completed.

Landfill Operations

Engineering Design

3.10 The current landfill area has been developed on a containment basis in line with the Landfill Regulations, comprising a composite liner system with a leachate drainage blanket and collection system. The precise design of the engineering works is agreed with and regulated by the Environment Agency under the Environmental Permit for the site.

3.11 The landfill is divided into a number of cells and sub-cells, each to be developed separately and sized depending on waste input rates. These works are subject to third party Construction Quality Assurance (CQA).

3.12 Once a landfill cell has reached the approved pre-settlement levels, it is ‘capped’ with a flexible impermeable membrane in accordance with the provisions of the Environmental Permit. The engineered cap is tied into the landfill liner around the site edge, encapsulating the waste.

3.13 As such, there are two key engineered barriers to prevent the migration of contaminants from the landfill site.
3.14 In accordance with the Environmental Permit, the full specification of the engineering design for each cell is agreed with the Environment Agency.

**Waste Inputs and Phasing**

3.15 There is no restriction within the planning permission on the amount of waste that can be imported to the landfill site. Currently, the landfill site accepts around 400,000t of residual waste per annum.

3.16 The Environmental Permit allows the site to accept non-hazardous wastes, such as municipal solid waste (being collected from household) and commercial and industrial wastes. The permit also allows the deposit of inert wastes. Liquid wastes are prohibited from disposal at landfill under the terms of The Landfill (England and Wales) Regulations 2002. The precise list of waste types that can be accepted for disposal at Ling Hall landfill site is set out in the Environmental Permit.

3.17 Waste has been progressively deposited within each of the landfill cells in turn (save for the final three cells which remain unfilled). Each cell is filled to the final levels, which take account of the thickness of the capping and restoration materials to be placed, together with the need to surcharge the waste mass to allow for settlement as the waste within the landfill site degrades. In this context, ‘pre-settlement’ contours have been calculated based on the anticipated settlement rate and the depth of fill to achieve the desired final restoration contours taking into account capping and restoration (also referred to as the post settlement contours). Based on the approved pre and post settlement details, the landform of the landfill reaches an elevation of 135m AOD within the northern part of the landfill and 130m AOD within the southern part of the landfill; after settlement, the landfill will reduce to around 128m AOD and 126m AOD respectively, having settled by an estimated 7m and 4m.

3.18 Once the waste within each cell has been brought to these predetermined levels, to achieve the agreed pre-settlement restoration profile, the surface of the waste is compacted and graded to provide a firm, regular surface upon which the engineered cap is placed. A regulating later of graded soil material is placed above the waste before the engineered landfill cap is constructed and restoration soils placed above.

**Leachate Management**

3.19 As noted above, the landfill has been developed on a containment basis; within each cell is a basal drainage layer and leachate collection system. Each landfill cell is designed such that the basal profile drains to a low point. A leachate well is then constructed at this point. Leachate is removed from each cell of the landfill site via a pumped system comprising a network of wells (one well per cell) and pipework situated on the surface of the landfill, which discharge the leachate into the sealed tank (which is also located within a bunded enclosure) within the leachate management facility. The treated leachate is then exported from the site in articulated tankers.

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1 Under the permit, a limit of around 1.176Mt for the landfill exists.
Landfill Gas Management

3.20 Landfill gas is abstracted from the capped landfill cells via an extensive network of gas wells and transferred via pipework placed on the surface of the landfill to the landfill gas management compound where the gas is combusted at high temperature in dedicated engines to generate ‘green’ electricity. The landfill gas collection pipework has to be carefully laid to a consistent fall such that moisture condensing out of the gas (‘condensate’) on the walls of the pipes drains to designed points (termed ‘knock-out pots’) rather than collecting in depressions and ultimately blocking the pipes to gas flow and affecting the ability to control the landfill gas. As the landfill settles unevenly, landfill gas collection pipework requires continual adjustments to ensure a steady fall is maintained. An undulation of +90mm in a gas collection pipe of 90mm diameter will result in a pipe effectively becoming blocked to gas by condensate collecting in the dip, much as a U-bend works in a lavatory. When the pipework is buried in the soil profile, this means that extensive lengths of pipework have to be periodically excavated and re-laid, causing unnecessary disturbance to the soils and to establishing vegetation. Efficient operation of the landfill gas extraction system is critical in preventing gas migration from the site, also maximising green electricity generation and minimising greenhouse gas emissions.

3.21 The gas collection pipework remains on the surface of the restoration soils at Ling Hall landfill and in view of the settlement of the landfilled waste over time it is considered prudent for the gas pipework to remain surface-laid as opposed to being buried in the restoration soil profile. This allows for changes to be made to the pipework to counter any differential settlement which could affect the efficiency of the gas capture system, minimising the need to disturb restored areas and maximizing greenhouse gas capture and green energy generation.

Restoration and Aftercare

3.22 The restoration details were illustrated on Figures A6.2 and A7.1 in the original planning submission. The restoration scheme envisages a wetland type restoration (including woodland planting) in the vicinity of the three ponds on the western boundary with the landfill restored to agriculture. The original application does refer to the creation of a golf course on part of the landfill area.

PROPOSED DEVELOPMENT

Introduction

3.23 As noted from Chapter 1 above, a planning application is being submitted to vary the provisions of the extant planning permission ref. R16/890805. The application seeks to allow a continuation of landfilling until 14 May 2031.

3.24 The planning application does not seek to amend any other significant aspects of the approved development such as final restored levels or the overall restoration design.
Proposed Changes to the Duration of Landfill Operations

3.25 At the time of the application made in 1991, it was envisaged that predicted landfill inputs would result in landfill operations being completed and the site being fully restored by 2021. However, since the grant of planning permission, residual waste volumes have generally declined and it has not been possible to adhere to the proposed timetable. Waste inputs to landfill sites have been reducing over time for some years as a result of the landfill tax escalator and the move towards more sustainable waste management practices.

3.26 The existing landfill site has a significant void for waste remaining to fill (around 4 Mm$^3$), which under the provisions of the extant planning permission has to be filled to achieve the approved restoration scheme (and associated landform). The landfill void remains a strategic asset for Warwickshire for which there is an ongoing need into the future as void capacity in the region and sub-region becomes depleted. The site provides a valuable disposal route for residual wastes arising in the eastern part of the county between Rugby and Coventry, capable of supporting local authorities, commercial and industrial undertakings.

3.27 Landfill void availability nationally has reduced dramatically in recent years as a result of the landfill tax escalator and many sites have closed permanently, with unused void-space being ‘written off’ to reduce operator costs going forward. Future waste input rates are notoriously difficult to predict and landfill void is a valued asset for which it is widely recognised that there is an ongoing need in the future. Despite efforts to move waste management up the hierarchy there will always be some waste which requires landfill disposal. At typical previous input rates of up to 400,000 tonnes per annum the void would be full in around 10 years (assuming a density of 1 tonne/m$^3$). It should be noted a further period of up to 24 months after final closure of the site would be needed to enable sufficient soils to be imported and the last cell to be capped and restored.

3.28 Landfill operations within the remaining cells would continue to use practices and procedures currently employed in terms of waste acceptance and disposal operations. In this respect, waste would continue to be deposited within an engineered cell, the design and specification of which being agreed with the Environment Agency beforehand, and the construction certified (refer to paragraph 3.10 above). Once the active tipping cell has reached the pre-settlement levels the capping layer would be placed over the cell, followed by placement of the restoration soils/materials.

Ancillary Facilities

3.29 The facility would continue to use the existing site entrance, gatehouse, entry and exit weighbridges and site roads around the landfill site. No additional office or welfare facilities would be needed as part of the continued operation of the landfill.

3.30 The site would also continue to use the existing leachate and landfill gas infrastructure, progressively reducing the number of power generation units on site as appropriate as landfill gas production reduces over time.
Waste Acceptance and Disposal Procedures

3.31 Future waste disposal operations would employ the established operational and management practices formulated as part of the Environmental Permit process. In this respect, the applicant operates an Integrated Management System (IMS) accredited to ISO 9001:2000 for Quality Management Systems, ISO 14001:2004 for Environment Management and is in the process of securing OHSAS18001:2007 accreditation for its Safety Management System. The management system is audited both internally and externally at regular intervals. The procedures, which are summarised in the following paragraphs, are as currently approved under the Environmental Permit and could be changed in future if deemed appropriate to do so.

3.32 The entrance to the landfill site is off Coalpit Lane, which fronts the western boundary of the site. Waste vehicles entering the landfill site proceed to the weighbridge, where they are checked in by the Weighbridge Clerk and their details are recorded onto the facility’s dedicated computer logging system. To ensure that the waste transfer note accompanying the assignment adequately identifies the waste, a conformance check is carried out by a member of staff trained to a standard as stipulated by the Environmental Permit and the applicant’s IMS.

3.33 All waste deposited at the site is inspected to ensure it conforms to those waste types permitted under the Permit. Records are maintained of the weight, nature and composition of the wastes deposited at the site.

3.34 Vehicles with completed waste transfer paperwork are released from the weighbridge to the operational tipping area. Access to the tipping area is via the existing haul road. Within the landfill site the haul road is of a temporary nature and would be transient throughout the continued operations in order to effectively serve the operational landfill cells. At the tipping area the HGV reverses to a designated point to deposit the load. The handling of the waste is limited to minimise the release of dust, litter and exposure to site operatives.

3.35 Waste delivered to the deposit area is examined upon deposition to ensure that waste complies with the schedule of permitted wastes contained within the Environmental Permit. If wastes are found to be incorrectly described (on the paperwork) and fall outside the limits of the Permit, the load is segregated, the Environment Agency informed and the waste is removed from site for disposal at an appropriate facility. Following deposition, the waste is compacted by a tracked bulldozer or metal wheeled waste compactor (or similar), which passes and re-passes over the waste to ensure that it is adequately compacted. This reduces the risk of litter escaping from the waste and also helps to conserve landfill space and reduce the differential settlement that can occur once landfilling has been completed. Prior to leaving the site lorry drivers are required to inspect their vehicle for any waste that may have become trapped and to remove it from their vehicle.

3.36 At the end of each day’s operations the tipping area is covered using suitable cover material (such as inert wastes, or a proprietary cover material). This reduces emissions of odour; the potential for litter to be released from the site; or for the site to attract vermin.
Operating Hours

3.37 The landfill site would continue to operate in accordance with the extant operating hours set out in condition 20 of planning permission R16/890805. In this respect no development shall take place outside of the hours of:

- 0700 to 1800 hours Mondays to Fridays (except Public Holidays); and
- 0700 hours to 1300 hours on Saturdays.

3.38 Notwithstanding this, the condition does not allow operations to take place within 200m of any residential property before 0800 hours.

Employment

Existing employment at the site would continue for a further 10 years.

RESTORATION AND AFTERCARE

3.39 No changes are being proposed to the restoration and aftercare schemes for the site. Notwithstanding this, as noted in the Ecological Impact Assessment (Chapter 11 of this volume) to compensate for the loss of certain habitats, the following will be incorporated into the restoration proposals:

- Creation of two sand martin banks (min 50m long) in close association to open water;
- Creation of 1ha of reedbed/marsh;
- Creation of 4ha of species rich lowland grassland of nature conservation value with the community types reflective of soil type and topography and scrub – Open Mosaic Habitat; and
- Creation of 1ha of carr woodland.

ALTERNATIVES

Legislative Requirement

3.40 Alternatives are considered in the context of Regulation 18(3)(d) and paragraph 2 of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Firstly, Regulation 5(2)(d) states that an EIA Report should include:

“a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.”
3.41 Paragraph 2 of Schedule 4 expands upon this by adding that the information to be provided (where appropriate) should include “a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.”.

3.42 Guidance contained in the Planning Practice Guidance portal comments\(^3\) that “the 2017 Regulations do not require an applicant to consider alternatives. However, where alternatives have been considered, paragraph 2 of Schedule 4 requires the applicant to include in their Environmental Statement a description of the reasonable alternatives studied (for example in terms of development design, technology, location, size and scale) and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”.

3.43 The main purpose of considering alternatives within an EIA is to consider whether any alternative designs have been considered as part of the process. This could relate to operational practices or phasing of the development for example. Whether a site/land is suitable for clay extraction is a fundamental consideration of the Development Plan; as such the consideration of alternative sources of clay is set out in the Planning Statement.

Alternatives Considered

3.44 In the context of the application for the continued operation of the landfill to 2031, few alternatives present themselves. In this respect, as the site is already an operational landfill, then many operational practices and development options are already well established.

3.45 In this case the question of alternative sites is not considered relevant, instead it is a question of whether the application site closes in accordance with its current planning permission or whether it continues for a further 10 years. The alternatives that have been considered by the applicant are therefore:

- the ‘No Development’ (or do nothing) alternative.

3.46 In the event that the proposed development does not proceed, landfilling would cease on the 14 May 2021 and the application site restored thereafter.

3.47 Drawing 32Q0918_SITE in Appendix 2/2 shows the current profile of the landfill site in 2018; the profile in May 2021 would not be dissimilar and so the key issues regarding this curtailment are:

- irregular and ‘alien’ final landform overall;
- steep slopes on western internal flanks, which could lead to long term containment and stability issues;

\(^2\) Regulation 18(3)(f) indicates that information contained in Schedule 4 is to be provided where relevant to the specific characteristics of the development.

\(^3\) Paragraph: D41 Reference ID: 4-041-20170728
future landfill areas would need to be regraded with soils respread. Drainage within this area may be difficult to achieve leading to the need to import inert materials; and

financial provisions made for the post-closure aftercare of the landfill site are incomplete;

3.48 Closing the landfill site would result in the loss of a resource for the disposal of residual non-hazardous waste within the county and region. In recent years there has been a rapid decline in the number of landfills operating; with many sites closing. As such, residual waste would need to travel further for disposal.

3.49 For these reasons the ‘No Development’ alternative is considered to be environmentally less desirable than the proposed development and is not preferred.