

Land west of Colne Brook, Foundry Lane, Horton.

Town and Country Planning (Environmental Impact Assessment) Regulations 2011

Planning Application and Environmental Impact Assessment for sand and gravel extraction and restoration by infilling of Part of Preferred Area 12 (Poyle Quarry Extension).

November 2017

Volume 1 Non-Technical Summary



Applicant:

Summerleaze Limited,
7 Summerleaze Road,
Maidenhead,
Berkshire,
SL6 8SP

Agent:

Quarryplan (GB) Limited,
Unit 12A,
The Borough Mall,
Wedmore,
Somerset,
BS28 4EB.

Table of Contents

	page
1.0 INTRODUCTION	1
1.1 INTRODUCTION TO THE PROPOSALS	1
1.2 PURPOSE OF THE ENVIRONMENTAL STATEMENT	2
1.3 FORMAT OF THE ENVIRONMENTAL STATEMENT	2
1.4 THE APPLICANT	2
1.5 SUMMARY OF THE PROPOSED DEVELOPMENT	3
2.0 THE DEVELOPMENT SITE	6
2.1 SITE DETAILS	6
2.2 GEOLOGY	6
3.0 THE PROPOSED DEVELOPMENT	7
3.1 INTRODUCTION	7
3.2 PRELIMINARY OPERATIONS	8
3.3 PHASED QUARRY DEVELOPMENT SCHEME	9
3.4 ON-SITE PLANT	10
3.5 EMPLOYMENT	10
3.6 HOURS OF OPERATION	10
3.7 HIGHWAYS.....	11
3.8 OUTPUT AND MARKET	11
3.9 RESTORATION STRATEGY	11
4.0 SCOPE OF THE ENVIRONMENTAL IMPACT ASSESSMENT	14
4.1 INTRODUCTION	14
4.2 SCOPE OF THE ENVIRONMENTAL IMPACT STUDY	14
5.0 ASSESSMENT OF ALTERNATIVES.....	16
6.0 PLANNING AND DEVELOPMENT CONTEXT.....	17
6.1 INTRODUCTION	17
6.2 NATIONAL PLANNING POLICY FRAMEWORK	17
6.3 BERKSHIRE MINERALS LOCAL PLAN	17
6.4 WASTE LOCAL PLAN FOR BERKSHIRE	18
6.5 PREVIOUS PLANNING PERMISSIONS.....	18
6.6 SCOPING EXERCISE	19
7.0 AGRICULTURE AND SOILS.....	20
8.0 CULTURAL HERITAGE ASSESSMENT	21
9.0 LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT	22
10.0 ECOLOGICAL IMPACT ASSESSMENT.....	24

11.0 FLOOD RISK AND SURFACE WATER ASSESSMENT26

 11.1 INTRODUCTION.....26

 11.2 POTENTIAL EFFECTS.....26

 11.3 CUMULATIVE AND RESIDUAL EFFECTS.....27

12.0 GROUNDWATER ASSESSMENT28

 12.1 SITE DESCRIPTION AND GEOLOGY28

 12.2 DEVELOPMENT PROPOSAL.....28

 12.3 DATA COLLECTION AND ANALYSIS.....29

 12.4 POTENTIAL IMPACTS AND MITIGATION MEASURES.....29

 12.5 RESIDUAL EFFECTS30

13.0 NOISE IMPACT ASSESSMENT32

14.0 AIR QUALITY ASSESSMENT33

15.0 HIGHWAYS34

16.0 CUMULATIVE Impacts35

17.0 SOCIO ECONOMIC.....36

18.0 CONCLUSIONS37

List of Plans included at the rear of this volume

- Location Plan
- Application Plan
- Current Situation
- Block Phasing
- Proposed Restoration Plan

1.0 INTRODUCTION

1.1 INTRODUCTION TO THE PROPOSALS

- 1.1.1 The Environmental Statement (ES) accompanies a planning application submitted by Summerleaze Limited for the extraction of sand and gravel from land west of Colne Brook, Foundry Lane, Horton (the Site) and the subsequent infilling of the extraction area with inert material to restore the land back to agriculture at original ground levels.
- 1.1.2 The planning application area is identified for future quarrying as **part of Preferred Area 12 Poyle Quarry Extension** in the Replacement Minerals Local Plan for Berkshire. Planning permission for extraction and infilling of the Poyle Quarry Extension was granted by the Royal Borough of Windsor and Maidenhead (RBWM) in 2008. The permission was renewed in 2011 although the permission was not implemented and subsequently lapsed in January 2016. A new planning application is therefore necessary to allow for extraction and restoration of the Site.
- 1.1.3 There are no proposals to alter the method of working or restoration, the depth of extraction, the operational hours, or the permitted level of output from the development which was approved by RBWM in 2008 and again in 2011.
- 1.1.4 The processing plant site and access to the public highway lies to the east of the Colne Brook in the Slough Borough Council (Slough) administration area. A separate planning application is being submitted to Slough for the creation of a new access road to the processing plant site.
- 1.1.5 The assessment of potential environmental effects arising from certain development projects is to be carried out as required under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011. The Regulations require that prior to the grant of planning permission an Environmental Impact Assessment (EIA) is to be undertaken on large scale developments or those located in sensitive areas. The responsibility for undertaking the EIA lies with the developer
- 1.1.6 The size and scale of the planning application to develop the Poyle Quarry Extension warrants an EIA.
- 1.1.7 RBWM set out the extent of the environmental aspects to be assessed within the EIA in a formal Scoping Opinion issued in May 2017.
- 1.1.8 In preparing the EIA Summerleaze and its technical specialists have liaised with RBWM and Slough staff including planning, cultural heritage and highways officers as well as planning consultees such as the Environment Agency (EA).

1.2 PURPOSE OF THE ENVIRONMENTAL STATEMENT

- 1.2.1 The ES is the collation of the results of the EIA following the evaluation of the significance of the predicted environmental effects arising from the proposed development.
- 1.2.2 The matters for inclusion in an ES are outlined in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 and can include population, fauna, flora, soil, water, air, climatic factors, material assets including architectural and archaeological heritage, landscape and the inter-relationship between these factors.
- 1.2.3 A number of specific environmental aspects have been fully assessed in the previous EIA submitted in 2004. Some of the previous assessments such as agriculture and soils have been relied on within the ES although the majority of the environmental aspects have been re-assessed due to the length of time since the original assessment work was undertaken or the guidelines on assessment having changed in the interim.

1.3 FORMAT OF THE ENVIRONMENTAL STATEMENT

- 1.3.1 The ES is designed to be a self-contained document. It is divided into three volumes:
- **Volume 1** is the Non-Technical Summary (**this document**) which is a simplified and shortened version of the ES. A limited number of plans are also included to explain the proposals.
 - **Volume 2** is the main body of the ES and contains details of the Site and existing environmental conditions together with plans and drawings. Volume 2 describes the proposed development, potential effects and the mitigation measures which would avoid unacceptable environmental impact.
 - **Volume 3** is also part of the ES and contains the technical assessments of the key topic areas. Volume 3 is divided into Volume 3A and 3B due to the size of the assessments.
- 1.3.2 In addition a fourth volume has been prepared as part of the submission. **Volume 4** contains the formal planning application including a planning application statement summarising the main elements of the development, the planning forms and certificates. **Volume 4** should be considered in conjunction with the ES.

1.4 THE APPLICANT

- 1.4.1 The Applicant is Summerleaze Limited, a privately owned company founded in 1928 to extract sand and gravel near Maidenhead. Today, the Company's principal gravel processing operations are located in the Thames Valley at sites in Maidenhead,

Bray, Burnham and Denham. The company has also diversified into waste management and renewable energy.

- 1.4.2 The head office for Summerleaze is at 7 Summerleaze Road, Maidenhead, Berkshire, SL6 8SP.
- 1.4.3 Environmental, sustainability and health and safety matters are of significant importance to Summerleaze. All developments are considered in relation to overarching corporate policies in these areas.
- 1.4.4 The development represents an investment of well over £1 million in the project and would result in significant annual expenditure during operations, some of which would directly benefit the local area.
- 1.4.5 Summerleaze have entered into a legal agreement with the landowners of the Site and the processing plant site, Messrs. Rayner of Berkyn Manor Farm, for the development of the Site including the provision of an alternative access to the processing plant site.
- 1.4.6 Following completion of the development and restoration the land would be returned to the landowners and would be re-integrated into their agricultural operations.

1.5 SUMMARY OF THE PROPOSED DEVELOPMENT

- 1.5.1 The development of the Site is to be undertaken in exactly the same manner as was previously proposed and which was approved by RBWM in 2008 and again in 2011.
- 1.5.2 The Site forms part of Preferred Area 12 Poyle Quarry Extension of the Replacement Berkshire Minerals Local Plan. The accompanying **Location Plan** contained within the Plans section of this document illustrates the general location of the Site.
- 1.5.3 The development would involve the phased extraction of approximately 800,000 tonnes of sand and gravel which would be worked at a rate of up to 150,000 tonnes per annum and the progressive restoration of the 18 hectare (ha) extraction area to agriculture. Extraction and restoration would be completed within an eight year period.
- 1.5.4 All materials would be processed through the existing Poyle Quarry plant which is located approximately 500 meters (m) to the east in the Slough administration area. A separate planning application is being submitted to Slough relating to the provision of a new access road to the processing plant.

- 1.5.5 The extent of the planning application area for the Site amounts to 21.3ha in total and is illustrated with a red outline on the accompanying **Application Plan**. The existing processing plant and alternative access lie within the land outlined in blue.
- 1.5.6 The working and restoration schemes have been designed to ensure that the exposed area of extraction at any one time is minimised, and that following the completion of the operations, the land can be returned to agricultural use. The key principles of restoration have been influenced by the requirement to avoid increasing the risk of birdstrike to aircraft from the nearby London Heathrow Airport. The restoration to agriculture would be achieved by importing inert fill and replacing indigenous soils. The infilling activities would be subject to a permit from the EA.
- 1.5.7 The Site is situated between the villages of Colnbrook and Horton, roughly equidistant between Windsor to the west and the Terminal buildings of Heathrow Airport to the east. The **Current Situation** plan sets the Site in the context of the immediately surrounding area. The Site itself is generally flat and featureless and the majority is in intensive agricultural use. The western boundary is formed by a bridleway that constitutes a part of the Colne Valley Way.
- 1.5.8 The Site does not contain any formal landscape or nature conservation designations and has no particular ecological value. It does have the potential to include archaeological features of interest and has already been subject to a desk-based assessment and an extensive trial-trenching exercise.
- 1.5.9 The majority of the Site consists of best and more versatile agricultural land, 60% being Grade 3A and 38% being Grade 3B.
- 1.5.10 The extraction of sand and gravel from the Poyle Quarry area has been undertaken for over 50 years although the quarry is not operational at the present time as the available sand and gravel reserves have been exhausted. The processing plant remains in the plant site. The proposed extraction area contains proven deposits of sand and gravel and is allocated in the Replacement Minerals Local Plan for Berkshire as a Preferred Area for mineral working (part of Preferred Area 12).
- 1.5.11 The working scheme has been designed to maximize the recovery of sand and gravel to supply high quality aggregate to the market, whilst ensuring that any extraction operations or associated works would not adversely impact on general residential amenity. In order to achieve this, sand and gravel would be transferred to the plant site at Poyle Quarry for processing and dispatch to the market. Transfer to the processing plant would be by means of dump trucks travelling along a new haul road and there would be no processing plant within the Site. The new haul road would be constructed from the extraction area to the existing Bailey Bridge that crosses the Colne Brook to the east. There is an existing access road between the Bailey Bridge and the processing plant which would be used.

- 1.5.12 Progressive restoration would take place immediately behind the extraction area.
- 1.5.13 Incoming heavy goods vehicles (HGVs) transporting inert waste to restore the extraction area would access the Site via the processing plant site and Bailey Bridge over the Colne Brook from the east. Access from the public highway to the processing plant is the subject of a separate planning submission to Slough for the construction of an alternative access road to Poyle Road.
- 1.5.14 The extent of the proposed extraction area, together with the areas for the creation of temporary soil storage screen bunds are shown on the **Block Phasing** plan which also illustrates the general direction of working for each of the extraction and infill phases.

2.0 THE DEVELOPMENT SITE

2.1 SITE DETAILS

- 2.1.1 The northern boundary of the planning application area lies along the administrative boundary between RBWM and Slough as shown on the **Application Plan**. The northernmost extent of the application lies adjacent to the extreme southern edge of Colnbrook. The actual extent of extraction has been designed to lie approximately 100m away from the houses in Moreland Avenue and Drift Way. An agricultural field lies between the northern boundary and the southern part of Colnbrook. Horton Village lies 500m to the south-west although there are a number of properties situated along the B376 Horton Road.
- 2.1.2 A bridleway that forms part of the Colne Valley Way lies along the western boundary and generally consists of a 3m wide unsurfaced route separated by a steel palisade fence.
- 2.1.3 The land is crossed by a 400kV overhead electricity line supported by 2 pylons within the Site. A 250mm diameter PVC water supply pipe owned by Thames Water crosses the northern part of the Site in an east-west direction. The overhead power lines and water pipe are also shown on the **Current Situation** plan. There are few other features within the extraction area, with occasional shrubs along the western, southern and eastern boundaries.
- 2.1.4 A further feature of the Site, although not apparent at the surface, is the Three Valleys Water Scheme Tunnel. The top of this 2.54 metre diameter wedge block-lined tunnel is 20m below the ground level of the extraction area. It passes, at a gradient of 1 in 1150, through the Site from Horton to Colnbrook, in a southwest to north-east direction. The **Current Situation** plan shows the approximate route of this tunnel.

2.2 GEOLOGY

- 2.2.1 The mineral within the Site has been tested on three occasions, with a total of 36 boreholes having been drilled in 1974, 2003 and 2004.
- 2.2.2 Soil thickness varies considerably across the Site. Eight boreholes show that the depth of soil ranges from 0.2m to 0.6m, although four locations have very substantial soil present of between 0.9m and 1.5m.
- 2.2.3 The underlying sand and gravel ranges in thickness from 1.7m, at the north-eastern boundary, to 4.5m in the north of the Site. The average depth is 3.6m. Based on a net extraction area of 18ha and an average workable mineral depth of over 3m the Site contains a total of some 498,000 cubic metres of sand and gravel, equating to approximately 800,000 tonnes of saleable aggregate.

3.0 THE PROPOSED DEVELOPMENT

3.1 INTRODUCTION

3.1.1 Planning permission for the development of the Site for sand and gravel extraction together with restoration to original ground levels was approved by RBWM in 2008 (reference 04/01716) and the permission was renewed in 2011 (reference 10/02804).

3.1.1 It was necessary to implement planning permission reference 10/02804 by 20 January 2016 otherwise it would lapse. The permission was not implemented within the required timescale and has consequently lapsed. It is therefore necessary to re-apply for planning permission for the development of the Site. This planning application is for exactly the same development as the previous proposals which were found to be acceptable and were approved.

3.1.2 The Poyle Quarry Extension has been selected for development on the basis of:

- The previous acceptability of the Site for mineral extraction and infilling as evidenced by the two previous planning permissions for development.
- The Site allocation in the Replacement Minerals Local Plan for Berkshire as part of Preferred Area 12.
- The proven deposit of high quality sand and gravel.
- The absence of significant environmental constraints.
- The willingness of the landowner to make the land available.
- The benefits from using an existing processing plant site.

3.1.3 The remainder of Preferred Area 12 is already subject to mineral extraction and infilling by Jayflex and is known as Horton Brook Quarry. The Horton Brook Quarry site is not owned by Messrs. Rayner and is an entirely separate operation.

3.1.4 The working scheme for the application area has been designed to embrace the following main factors and objectives:

- To maximize the recovery of sand and gravel from the Site within the confines of the Preferred Area. The proposed de-watering of the extraction area would assist in realising the maximum amount of reserves.
- To ensure that any extraction operations and associated works would not adversely impact on general amenity consideration, with particular regard to the nearby settlements of Horton, Colnbrook and Poyle.
- Establishing suitable locations for soil storage bunds away from the Colne Brook flood plain that do not compromise the flood plain.
- The minimization of soil and overburden double-handling to enable rapid and progressive restoration of the Site.

- The progression of the development in five phases, from the northern boundary of the Site southwards.
- A scheme that maximises the understanding and, where necessary, the recovery of items of archaeological interest.
- To establish a restoration strategy for the Site, that is focused on the reinstatement of agricultural land and avoiding the potential to increase the risk of bird strike to aircraft.

3.1.5 The extent of the proposed extraction area, together with the areas for the creation of temporary soil storage screening bunds are shown on the **Block Phasing** plan.

3.1.6 A separate planning application has been submitted to Slough for an alternative access to the existing processing plant site. The principle elements of the Slough application are:

- The cessation of use of the current access by quarry-related vehicles and the creation of a new access road eastwards to Poyle Road.
- The use of the existing well-screened processing plant site in its current location.

3.2 PRELIMINARY OPERATIONS

3.2.1 Prior to the commencement of extraction from the Site a series of initial operations would need to be completed in order to prepare the land for extraction.

Haul Road

3.2.2 In order to access the existing processing plant, an extension to the existing haul road would need to be constructed. The existing haul road from the plant site crosses the Colne Brook by means of a Bailey Bridge. This would be retained and the extended haul road would be routed in a north-west direction from the Bridge to the eastern boundary of the extraction area. The route has been designed to pass over land that has either previously been excavated, or disturbed as a result of previous permissions.

3.2.3 The haul road would be a minimum of 5m in width along its entire length and surfaced with compacted ballast. The surface of the road would be constructed at the same level of the existing ground surface by excavating below ground level. This would avoid any impacts on the flood plain.

3.2.4 The routing of the haul road would not involve the removal of any trees or hedgerows nor would it bring operations any closer to existing properties or sensitive locations than the access road and extraction associated with previous planning permissions.

Overhead Lines

- 3.2.5 The overhead lines would need to be relocated to allow sand and gravel beneath the pylon bases to be recovered.
- 3.2.6 Until the overhead lines were removed, and in order to comply with the requirements of health and safety legislation, appropriate measures would be implemented along the route of the overhead cables that cross the Site in order to ensure that there is no conflict between operations and the lines.

Processing Plant and Highway Access

- 3.2.7 The current processing plant located at Poyle Quarry in the Slough administration area consists of a receiving hopper, screen deck for separating gravel into various product sizes and Linatex tower for producing grades of sand. The existing plant is capable of being reused even though it has not been operated for a number of years. It is not proposed to install a new processing plant at the plant site nor any processing plant in the extraction area.

Preparatory Soil Strip

- 3.2.8 The operations associated with soil and overburden stripping would commence with the removal of topsoils and subsoils from Phase 1 of the development.
- 3.2.9 The soils within Phase 1 would be stored in bunds along the western and northern boundaries of the Site to a maximum height of 3m. In accordance with 'The Code of Good Agricultural Practice for the Protection of Soil' (MAFF 1998) soils would, at all phases, be stored separately according to soil type. The nature of the Site is such that an archaeological watching brief would be implemented concurrent with the stripping of soils from Phase 1 (and each subsequent phase).

3.3 PHASED QUARRY DEVELOPMENT SCHEME

- 3.3.1 The scheme of working has been designed to progress in five operational phases that would allow for the land to be worked progressively to minimize the amount of land subject to disturbance from soil stripping, extraction and restoration activities at any one time. Any undisturbed land not immediately required for mineral extraction would continue to be farmed.
- 3.3.2 In preparing the phased working scheme, particular attention has been paid to the amenity to local residents and to the overarching aims of the restoration strategy. The commencement of extraction at the northern part of the Site has enabled the design of a scheme that minimizes soil storage areas.
- 3.3.3 With regard to the restoration strategy, the phasing scheme ensures that the Site would be restored to agricultural use by backfilling the mineral void with inert waste and that this can be achieved with the minimum of disruption both prior to, and following, extraction and restoration operations.
- 3.3.4 The phasing scheme is shown on the **Block Phasing** plan.

- 3.3.5 In order to achieve the desired restoration contours, inert material would be imported in order to enable the operators to achieve the required agricultural restoration.
- 3.3.6 The backfilling operations would proceed consistently across the Site, with the infill material placed at the base of the predominantly dry mineral void to an average depth of some 3m. The de-watering process would take place during both the extraction and restoration operations. The infill material would then be covered with on-site soils.
- 3.3.7 The importation of inert material would be closely controlled in terms of quality and is generally likely to be derived from the general West London and East Berkshire areas.

3.4 ON-SITE PLANT

- 3.4.1 The extraction area would not require any processing plant or other form of fixed plant. The only equipment associated with the extraction would be mobile plant. In order to carry out the stripping of soil, bund formation and restoration, an hydraulic excavator would be used to remove the soil, dump trucks to move the material and a further hydraulic excavator to form and profile the soil bunds.
- 3.4.2 During the actual extraction of sand and gravel a single hydraulic excavator would be required with two dump trucks to transport the mineral to the Poyle Quarry plant site.
- 3.4.3 A pump would be located within the excavation in order to allow dewatering to take place. A “Wispaset” package would be applied to the pump for acoustic attenuation purposes.

3.5 EMPLOYMENT

- 3.5.1 The reopening of Poyle Quarry, mineral extraction and infilling would create eight new jobs. In addition the delivery of sand and gravel and importation of inert waste would create an equivalent of ten HGV driver jobs.
- 3.5.2 The development represents an initial investment of well over £1 million with subsequent annual expenditure of over £1 million per year during the eight-year life of the Site on a variety of items including transport, plant hire, fuel, repair and maintenance, wages and business rates. Summerlease try to ensure that their expenditure directly benefits the local area where possible.

3.6 HOURS OF OPERATION

- 3.6.1 The proposed hours of operations are 07.00 to 18.00 hours on Monday to Friday and 07.00 to 13.00 hours on Saturday.
- 3.6.2 No operations would be carried out on Sundays or Bank Holidays and Public Holidays without the prior written approval of the minerals planning authority.
- 3.6.3 With regard to soil stripping, bund construction and restoration the proposed hours of operation would be restricted to 08.00 to 17.00 hours on Monday to Friday and 08.00 to 13.00 on Saturdays. No operations would take place on Sundays or Public Holidays.

3.7 HIGHWAYS

- 3.7.1 The existing processing plant site gains access to the highway network by means of a dedicated access to Bath Road. It is proposed as part of the application submitted to Slough that the use of this access by quarry related traffic would cease, to be replaced with a new access to Poyle Road to the east. This would eliminate the need for quarry HGVs to exit opposite residential properties on Bath Road, thereby benefiting the amenity of local residents.

3.8 OUTPUT AND MARKET

- 3.8.1 Poyle Quarry previously operated at an average output of 150,000 tonnes per year. Sand and gravel products were supplied to well-established local markets.
- 3.8.2 More generally there is an exceptionally strong demand for construction aggregate within the area and the Site would provide direct aggregate sales to construction projects within the locality.

3.9 RESTORATION STRATEGY

- 3.9.1 The restoration scheme has been designed to secure a beneficial and productive agricultural after-use, that would satisfy the general principles of achieving free draining agricultural land of Grade 3A and 3B quality.
- 3.9.2 The design of the development allows for the progressive restoration of the Site to encourage the re-instatement and enhancement of the Site as soon as possible after extraction has completed. The measures that would be implemented include:
- Phased soil stripping linked to progressive restoration to ensure that the minimum amount of soil is double handled, thereby keeping internal trafficking low.
 - A programme of phased restoration to ensure that the minimum amount of land is affected by the process of extraction at any one time.
 - The design of a detailed programme of soil handling to keep the timescales associated with soil stripping and replacement to a minimum.

- The early restoration of parts of the Site would help bring a degree of maturity before the completion of mineral extraction.
- 3.9.3 In respect of the final restoration proposal the design has sought to achieve a balance between productive agricultural use and the requirement by the Civil Aviation Authority to minimise the potential for bird strike incidents to arise.
- 3.9.4 The proposed restoration of the Site is shown on the **Proposed Restoration Plan**.
- 3.9.5 The restoration scheme has been designed to ensure that the principle of restoring blocks of land to Grades 3A and 3B can be achieved whilst minimizing the need to double-handle material.
- 3.9.6 Following placement of soils the land would be seeded with a medium-term grass ley mix.
- 3.9.7 An outline five-year aftercare programme would be prepared and submitted to the Mineral Planning Authority prior to final soil placement within the first mineral working phase. This outline programme would form the basis for the detailed proposals for the annual aftercare operations to be agreed at each yearly aftercare meeting.
- 3.9.8 The aftercare programme would include details of soil cultivation, seeding, cropping, fertilizer application, control of noxious weeds and provisions for any remedial works needed during the five year aftercare period. The principal works which are likely to form part of the after-care scheme include:
- At all times during the programme good agricultural practice would be used to contain noxious weed growth ensure encouragement of the wild flower component whilst preventing the growth of noxious weeds.
 - The nutrient status would be monitored by means of soil samples taken and independently analysed each year of the aftercare period. Soil samples would be taken during January or February.
 - Appropriate fertilisers would be applied during March or April to maintain fertility in accordance with the recommendations of the January/February analysis.
 - Details of soil fertility and proposed fertilizer programme, together with details of other field operations such as herbicide spraying would be submitted as part of the annual aftercare report.
 - If soils become waterlogged appropriate action would be taken in the form of subsoiling or under drainage. The need for land drainage would be kept under review and installed if necessary during the aftercare programme.
 - The restored soils would be carefully managed at all times through this programme and performance of these soils carefully monitored. This monitoring should show a consistent improvement in soil structure and fertility.

Bird Strike Considerations

- 3.9.9 The Site lies within the safeguarding zone for London Heathrow Airport as set out in ODPM circular 01/20031 on the safeguarding of aerodromes.
- 3.9.10 As a consequence, the restoration scheme avoids all water areas and would not increase the potential for bird strike or for nature conservation interest.

4.0 SCOPE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

4.1 INTRODUCTION

4.1.1 Establishing the extent of the scope of an EIA forms an integral part of the overall process. In order to determine the scope of the EIA a formal Scoping Request was submitted to RBWM in May 2016 and a detailed Scoping Opinion was issued in response in May 2017.

4.2 SCOPE OF THE ENVIRONMENTAL IMPACT STUDY

4.2.1 The “matters for inclusion” in an EIA are outlined in Schedule 4 PART 1 of Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 (the 2011 Regulations).

4.2.2 The Schedule requires:

“A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.”

4.2.3 This EIA considers the potential significant effects and consequences on the environment of the development and where significant adverse effects are identified a description of the measures necessary to avoid, reduce or remedy these effects is provided (mitigation measures).

4.2.4 The 2011 Regulations focus upon the “significant effects of a development”. These elements need to be assessed in detail whereas other issues, with less significance, may require a brief investigation.

4.2.5 The environmental elements chosen for the most detailed scrutiny in terms of new or updated assessments are listed below together with the consultants who carried out the work:

- **Water Regime – Peter Brett Associates (new assessment)**
- **Landscape Character and Visual Appraisal – Pleydell Smithyman (new assessment)**
- **Noise – WBM (new assessment)**
- **Ecology – Andrews Ecology (updated assessment)**

- 4.2.6 The technical reports prepared by the specialist consultants are included in **Volume 3**.
- 4.2.7 The cultural heritage assessment from the original EIA has been updated by the provision of a "Project Specification for an Archaeological Recording Action" prepared by Thames Valley Archaeological Services.
- 4.2.8 The elements that were not re-assessed/updated and where the previous EIA work was largely relied on included:
- **Geology**
 - **Agriculture and Soils**
 - **Dust management**
- 4.2.9 In order to demonstrate the acceptability of the new access road to the processing plant in highways terms and the limited air quality impact of the proposed HGV movements, the highways assessment and air quality assessment from the Slough planning application have also been included in the ES and are provided in full in **Volume 3**.
- 4.2.10 The technical assessments consider the following:
- Baseline study.
 - Identifying potential impacts.
 - Predicting and evaluating the magnitude and significance of impacts.
 - Proposing mitigation measures.
 - Assessing the residual effects.
- 4.2.11 The remit of the EIA is to consider all environmental aspects which could experience impact from the proposed development and to identify mitigation measures which could amend or reduce the level of impact to acceptable levels.

5.0 ASSESSMENT OF ALTERNATIVES

- 5.1.1 Planning permission for the development of the Site has been granted by RBWM in 2008 following the submission of a full EIA considering the potential environmental impact of the proposals. The 2008 permission was renewed in 2011. The current proposals are the same as those previously proposed.
- 5.1.2 The assessment of alternatives was addressed in the original EIA and the RBWM Scoping Opinion of May 2017 confirmed that the consideration of alternatives was not required as part of the new submission.

6.0 PLANNING AND DEVELOPMENT CONTEXT

6.1 INTRODUCTION

6.1.1 The Planning Section of the ES analyses the planning policy context for the proposed development and includes an appraisal of the development in relation to national and local planning policy.

6.1.2 The level of compliance with the policies and objectives outlined in these documents indicates the suitability of the proposals from a planning policy and sustainable development perspective.

6.2 NATIONAL PLANNING POLICY FRAMEWORK

6.2.1 The National Planning Policy Framework (NPPF) was published in March 2012 and consolidated the previous Planning Policy Statements and Planning Policy Guidance documents into a streamlined document.

6.2.2 The focus of the NPPF is a presumption in favour of sustainable development. The NPPF recognises that minerals are essential to support sustainable economic growth and our quality of life. As a result it is important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs whilst ensuring that permitted mineral operations do not have unacceptable adverse impacts on the natural and historic environment or human health. The NPPF also recognises that, since minerals are a finite natural resource, and can only be worked where they are found, it is important to make best use of them and to secure their long-term conservation through the mechanism of mineral safeguarding.

6.2.3 The NPPF sets out the Government's planning policies for England and how these are expected to be applied and states:

"It sets out the Government's requirements for the planning system only to the extent that it is relevant, proportionate and necessary to do so. It provides a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities".

6.2.4 The NPPF recognises that there are three dimensions to sustainable development: economic, social and environmental and it is considered that the proposed development satisfies the three mutually dependent roles of the NPPF.

6.3 BERKSHIRE MINERALS LOCAL PLAN

6.3.1 The Replacement Minerals Local Plan for Berkshire (RMLP) was adopted in 1995, with alterations adopted in 1997 and 2001. The aim of the mineral policy is to

assess and reduce the adverse impacts on the environment arising from proposed mineral developments in order to strike an acceptable balance between the economic need for extraction and the environment/other land uses.

- 6.3.2 The Berkshire Mineral Plan expired in 2006, however a number of policies were saved by the Planning Authority until a new Mineral Plan is produced.
- 6.3.3 The status of the extension at Poyle is guided principally by **Policy 8** and its allocation as part of **Preferred Area 12: North of Horton**. This confirms that extraction is acceptable in principle and highlights a number of detailed issues that need to be considered at the planning application stage.
- 6.3.4 **Policy 8** of the RMLP establishes a presumption in favour of allowing applications for the extraction of sand and gravel provided that the requirements of **Policy 6** are satisfied, and that the proposals have full regard to the supporting text associated with each Preferred Area. This places a particularly strong significance on the identified sites and their ability to maintain an adequate aggregate landbank for the duration of the Plan period and beyond.
- 6.3.5 The totality of Preferred Area 12 extends to some 96ha and is estimated to have a potential total yield of some 3.8m tonnes. It should be noted that a small proportion of the total of Preferred Area 12 has already been worked in the form of the previous extension to Poyle Quarry (permission reference 02/82570). The western part of the Preferred Area forms Horton Brook Quarry which is currently permitted and operational.
- 6.3.6 This planning application proposes the extraction of some 20% of Preferred Area 12.
- 6.3.7 The allocation of the Site as a Preferred Area establishes the principle of mineral extraction. The Site Planning Requirements sets out a number of issues that must be addressed as part of any environmental impact assessment. Each of these issues are considered and addressed in detail in the ES together with other relevant policies. It is concluded that the development would not be in conflict with the relevant Mineral Plan policies.

6.4 WASTE LOCAL PLAN FOR BERKSHIRE

- 6.4.1 The Waste Local Plan for Berkshire (WLP) was adopted in 1998 and, following its expiration in 2007, a number of policies were saved by the Planning Authority until an updated Waste Local Plan is produced.
- 6.4.2 The Site forms part of Preferred Area 25 in the Waste Local Plan and is considered acceptable in principle for an engineered landfill.

6.5 PREVIOUS PLANNING PERMISSIONS

- 6.5.1 Planning permission for the development of the Site reference 04/01716 was granted in 2008. The planning permission contained a number of planning conditions which required schemes to be submitted for approval by RBWM before the development could proceed.
- 6.5.2 Detailed schemes were submitted to RBWM to address the majority of the schemes and were approved in 2010 apart from the water management schemes.
- 6.5.3 The approved schemes were specifically referred to in the corresponding conditions within the renewal planning permission, reference 10/02804, granted in 2011.
- 6.5.4 Schemes to address the requirements of conditions 14 and 15 of planning permission 10/02804 were approved by RBWM in February 2016. The water related schemes remain outstanding.
- 6.5.5 The approval of the planning schemes demonstrates that the detail of the development was thoroughly considered and was found to be acceptable by RBWM. It would be the intention to adhere to all the approved schemes in the development of the Site.

6.6 SCOPING EXERCISE

- 6.6.1 A detailed Scoping Request was submitted to RWWM in May 2016 to determine the contents of the EIA. A formal Scoping Opinion was received from RBWM in May 2017 which sets out the areas to be covered in the EIA.
- 6.6.2 This ES has been prepared in accord with the requirements of the Scoping Opinion. It includes new assessments on a number of environmental aspects relating to the development of the Site and also relies on some of the original 2004 EIA information for other aspects. In addition several assessments from the planning application made to Slough for the proposed new access road to the plant site and the use of the plant site are also included within this submission.

7.0 AGRICULTURE AND SOILS

- 7.1.1 A Soils and Agricultural Land Classification report on the Site was included in the 2004 EIA. The report has been included in **Volume 3 Technical Reports** as the findings remain relevant.
- 7.1.2 The report demonstrated that the agricultural land comprised 60% Grade 3A land quality and 38% Grade 3B quality.
- 7.1.3 It would be the intention in the restoration scheme to ensure the soil quality was maintained and that land of Grade 3A and 3B quality was restored in a similar ratio as occurs at the present time. The extraction and restoration operations have been designed specifically to minimise the impact on the soil resource.

8.0 CULTURAL HERITAGE ASSESSMENT

- 8.1.1 A detailed cultural heritage assessment was carried out as part of the first EIA for the development of the Site in 2004.
- 8.1.2 Two reports were produced by the Guildhouse Consultancy in 2004 and a further report was prepared by Wessex Archaeology following extensive trial trenching carried out in accordance with the project design.
- 8.1.3 All three reports are included in **Volume 3 Technical Reports**.
- 8.1.4 Planning condition 14 of the 2011 RBWM planning permission (reference 10/02804) required details of an archaeological mitigation strategy to be agreed in writing with RBWM. A detailed specification of archaeological works and recording has been prepared by Thames Valley Archaeological Services in order to discharge the planning condition. The specification was approved by RBWM in February 2016 and is also included in **Volume 3**.
- 8.1.5 The general objectives of the mitigation strategy are to:
- Excavate and record all archaeological deposits and features within the areas threatened by the development.
 - Produce relative and absolute dating and phasing for deposits and features recorded on the Site.
 - Establish the character of these deposits in an attempt to define functional areas of the Site such as industrial, domestic, etc.
 - Produce information on the economy and local environment and compare and contrast this with the results of other excavations in the region.
- 8.1.6 It would be the intention to proceed with the mitigation strategy approved in February 2016 following the grant of planning permission.

9.0 LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT

- 9.1.1 The landscape study area extends to 3km in all directions from the Site. No part of the Site or Study Area lies within a statutorily or non-statutorily designated landscape. The Site is located within the Green Belt. No Tree Preservation Orders apply to the Site or adjoining land.
- 9.1.2 The Development Plan policies and published landscape character assessments that are relevant to landscape and visual matters were reviewed. In summary the area has historically been subject to sand and gravel extraction and tranquillity is reduced by the nearby Heathrow Airport and major road corridors.
- 9.1.3 The current landcover on the extraction area is a cereal crop with drainage ditches and intermittent native hedgerows and trees along the southern and eastern boundaries. The western boundary is formed by a palisade security fence which separates the extraction area from the Colne Valley Way and public bridleway. The northern boundary is open, continuing as an arable field to the southern built up edge of Colnbrook.
- 9.1.4 The closest residential properties lie to northeast of the extraction area at the southern edge of Colnbrook, however views are restricted by hedgerows and the property orientation.
- 9.1.5 The proposed development scheme incorporates a number of design parameters in order to minimise landscape and visual effects during the operational phase.
- 9.1.6 The area from where it is predicted that the proposed development would be potentially visible is very localised due to the predominantly flat landform and the visual barriers of surrounding planting and built development. As part of the assessment a number of potential viewpoint locations were considered and five representative viewpoint locations were selected for detailed analysis.
- 9.1.7 At a site level during the operational phase the phased extraction and progressive restoration would result in a Moderate adverse effect on the landscape character of the Site that is Not Significant. No Significant effects on landscape character would occur beyond the extraction area boundary or upon the wider landscape.
- 9.1.8 Following completion of restoration there would be a Negligible effect upon landscape character compared with the baseline.
- 9.1.9 Views would be predominantly restricted to the Colne Valley Way along the western boundary of the extension area with restricted views from some dwellings on the southern edge of Colnbrook.
- 9.1.10 Users of the Colne Valley Way and public bridleway along the western boundary of the Site would experience Moderate visual effects during the operational phase

that are Not Significant. The visual effects that would be experienced from other publicly accessible locations including Rayners Close on the southern edge of Colnbrook would be Slight adverse or less during the operational phase. Following completion of restoration the visual effects would be typically Negligible.

- 9.1.11 The closest residential properties to the proposed extension area are at Drift Way on the southern edge of Colnbrook. Views towards the Site from within the dwellings would be restricted due to their orientation and the presence of garden planting in places and the field boundary hedgerows. Effects from all properties on the edge of Colnbrook at ground level have been assessed as Negligible with the potential for Moderate effects from some upper floor windows that would be Not Significant.
- 9.1.12 The design of the operational phase of the proposed development has incorporated a number of in-built mitigation measures including the use of phased soil storage and screening bunds, a phased working scheme with progressive restoration and restoration to agricultural grassland.
- 9.1.13 No Significant residual effects on landscape or visual receptors were identified. After restoration has been completed there would be Negligible landscape and visual effects.
- 9.1.14 No Significant cumulative landscape and visual effects were identified taking into account Horton Brook Quarry and the linked development in the adjacent Slough area comprising the new access road and the operation of the existing plant site.
- 9.1.15 Overall it is assessed that the proposed development could be accommodated with only modest and localised adverse landscape and visual effects during the eight year operational phase that would be Not Significant.
- 9.1.16 The proposed development would comply with relevant planning policy and mitigation measures would minimise landscape effects and impacts upon local residents and users of the public rights of way network. The restoration of the Site would result in a landform and agricultural use similar to the current situation.

10.0 ECOLOGICAL IMPACT ASSESSMENT

- 10.1.1 Sand and gravel from the Site would be processed using plant situated in an existing plant site situated to the east. A new access road is proposed between the Poyle Road and the plant site.
- 10.1.2 An ecological walkover survey was carried out to define appropriate due-diligence safeguarding measures in the event that the potential for protected species to occur was identified.
- 10.1.3 As the extraction area, plant site and new access road would all function as a single operation, in order that RBWM and Slough have all the facts in an easily accessible format, the three areas are considered in light of their respective ecology in a single overarching report. The ecological interest associated with the processing plant site is considered separately within an accompanying Ecological Management Plan.
- 10.1.4 The ecological report presents the findings of:
- A desk-study for historic biological records as well as a review of historic surveys in respect of any relevant area.
 - Phase 1 habitat mapping to the method set out in the *Handbook for Phase 1 Habitat Survey: A technique for environmental audit* (JNCC 2010) in June 2017.
 - An assessment of the conservation value of the habitats present against the criteria set for Priority Habitats within the UK Biodiversity Action Plan (BAP).
 - An assessment of the likely dependent legally protected and/or UK BAP Priority fauna to occur.
 - Due-diligence safeguarding strategies in respect of grass snakes, nesting birds and the potential for bats to roost in mature trees.
- 10.1.5 Six Statutory Wildlife Sites lie within a 2km radius comprising South West London Waterbodies Special Protection Area (SPA), South West London Waterbodies Ramsar, Wraysbury Reservoir Site of Special Scientific Interest (SSSI), Wraysbury No. 1 Gravel Pit SSSI, Staines Moor SSSI and Arthur Jacob Nature Reserve Local Nature Reserve (LNR).
- 10.1.6 Five non-Statutory Wildlife Sites lie within a 1 km radius comprising Arthur Jacobs Nature Reserve Local Wildlife Site (LWS), Colne Brook LWS, Old Slade Lake LWS, Horton & Kingsmead Lakes LWS and Queen Mother Reservoir LWS.
- 10.1.7 The extraction area and the access road hold nine Phase 1 (JNCC 2010) habitat types, one of which might qualify as the UK BAP Priority Habitat *Hedgerows*. None of the hedgerows present on boundaries qualify as 'important' under the criteria set out within the *Hedgerow Regulations 1997*. No legally protected or UK BAP Priority Species of plants were recorded, nor are there grounds to suggest there is a

“reasonable likelihood” of any such species occurring within the footprint of the extraction area or the access road.

- 10.1.8 There are no grounds to predict a *“reasonable likelihood”* of a significant assemblage of uncommon invertebrate species, nor are there grounds to predict a *“reasonable likelihood”* of the presence of any legally protected or UK BAP Priority Species of fish within the extraction area or the access road.
- 10.1.9 There are no grounds to suggest there is a *“reasonable likelihood”* of great crested newts occurring within the extraction area or the access road or a 250m radius. There are no grounds to predict a *“reasonable likelihood”* that the extraction area or the access road will hold a permanent population of any reptile species, although transient grass snake may occur along the drain in the extraction area.
- 10.1.10 There are no grounds to predict a *“reasonable likelihood”* that the access road or extraction area will hold uncommon bird species or any more than an impoverished avifauna. There are no grounds to suggest there might be a *“reasonable likelihood”* common dormice might occur, and water voles or badgers do not occur within the extraction area or the access road.
- 10.1.11 One tree that is to be retained on the margin of the extraction area holds features that are superficially suitable for exploitation by roosting bats. Linear landscape elements abutting the access road are situated in a heavily urbanised area, and the eastern boundary hedgerow abuts a busy road which can be predicted to significantly negatively affect its potential to be exploited by commuting and foraging bats. The linear landscape elements partially bounding the extraction area are poor in terms of structure and connectivity, and regardless, all would be retained. There are no grounds to suggest any of the linear landscape elements might form part of any seasonal migration route. Tillage is avoided by all bat species, but the improved grassland and hedgerows within the extraction area might be variously exploited for foraging by the five bat species for which records were returned in the data-searches, comprising serotine, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat.
- 10.1.12 Due-diligence safeguarding strategies are provided in respect of grass snakes, nesting birds and the potential for bats to roost in trees.

11.0 FLOOD RISK AND SURFACE WATER ASSESSMENT

11.1 INTRODUCTION

11.1.1 The Flood Risk and Surface Water Assessment considers the impact of the proposed development on flood risk, including surface water management at the Site and in the surrounding area, focussing on the potential environmental effects from the operational and restoration phases.

11.1.2 The Site is situated in a semi-rural setting and is surrounded by a number of reservoirs, lakes and interconnected watercourses. The proposed access track heads west from the Colne Brook and runs to the north of the Eric Mortimer Rayner Memorial Lakes, located adjacent to the eastern quarry boundary. The Horton Drain runs north to south along the eastern boundary.

11.1.3 The assessment considers:

- The conditions currently existing at the Site and its surroundings (the baseline).
- The potential direct and indirect impacts of the development arising from the gravel extraction, landfilling and restoration operations.
- The proposed mitigation measures required to prevent, reduce, or offset the impacts, and the residual impacts.

11.1.4 The potential impacts associated with the following phases were assessed:

- Dewatering of the Quarry and extraction of the mineral.
- Infilling with inert waste and restoration to agriculture.
- Post-Restoration / Completion.
- Climate change.

11.1.5 The assessments have been carried out with respect to the most likely potential impacts that may give rise to a significant environmental effect with reference to flood risk from all sources.

11.2 POTENTIAL EFFECTS

Fluvial (River) Effects

11.2.1 The Site lies in an area at 'low' probability of river flooding and the access lies in an area that is offered protection by existing flood defences. Therefore, there is no requirement for any mitigation for development in terms of fluvial flooding because significant effects have not been identified.

11.2.2 The restoration of the land to the pre-quarrying levels would not change the fluvial flood risk on the Site or elsewhere.

Surface Water Effects

- 11.2.3 During excavation, infilling and restoration, dewatering would be required to control groundwater ingress into the quarry void (where it becomes 'surface' water), therefore there are no significant effects identified relating to the surface water. The rate of dewatering would be managed and the water discharged back into the ground using groundwater recharge trenches. Therefore, there is no downstream impact resulting from the development.
- 11.2.4 Following restoration the surface water run-off characteristics (land use and slopes) would not be significantly different from the pre-quarrying baseline and therefore there would be no significant impact on surface water run-off.

Climate Change Effects

- 11.2.5 The impact of climate change has no significant effect on flood risk at the Site in the longer term due to the short term nature of the development and because ground levels would be restored back to the existing agricultural use. Therefore, potential significant effects of long term climate change have not been identified.

11.3 CUMULATIVE AND RESIDUAL EFFECTS

- 11.3.1 There are no other sites or developments nearby that are expected to impact the flood risk to the Site during the operational phases or after the completion of the proposed works, and no significant effects are identified.
- 11.3.2 With the mitigation measures that would be adopted as part of the project, no significant adverse effects have been identified.

12.0 GROUNDWATER ASSESSMENT

12.1 SITE DESCRIPTION AND GEOLOGY

12.1.1 The geology of the area consists of about 3m of sand and gravel on top of London Clay. Although there is groundwater in the sand and gravel it has been excavated in the vicinity of the Site to provide building materials, and the old workings have either been used for landfill of waste or left to form lakes and wetland features.

12.1.2 There is an active quarry and landfill next door called Horton Brook Quarry where sand and gravel is extracted and replaced with uncontaminated clean soils that come from building and construction sites as waste material. Groundwater flows through the area in the sand and gravel layer from north to south, and north of Poyle there are some old landfills containing commercial and domestic waste that appear to be slightly affecting groundwater quality.

12.2 DEVELOPMENT PROPOSAL

12.2.1 It is proposed to extract sand and gravel in a series of five phases, and during each phase the excavations would be kept dry by pumping out the groundwater and surface water that accumulates within the excavation area. Groundwater moves freely through sand and gravel and that means the ground at this Site is an aquifer (where soil or rock can store or transmit groundwater) and it has a high permeability (meaning groundwater can travel rapidly through the soil or rock). The pumped out water would be put back into the gravel groundwater through dedicated trenches (recharge trenches) that would be constructed as part of the development.

12.2.2 Following the extraction of the sand and gravel, it is proposed to landfill the resulting void with uncontaminated clean soils (called inert waste) to restore the ground levels and allow the land to be used for agricultural purposes. Inert construction waste usually comprises predominantly clay soils that inhibit groundwater flow and these soils have a low permeability (meaning groundwater travels slowly through the soil or rock).

12.2.3 The potential impacts that the development proposals could have on the groundwater in the area of the Site are:

- Lowering of groundwater levels by dewatering the quarry, that may affect abstraction wells in the area and can cause settlement of the ground.
- Raising of groundwater levels as a result of the recharge trenches leading to flooding.
- Replacing some of the gravel aquifer with clayey soils means groundwater cannot flow as freely through the area, so groundwater levels might be higher on the upstream (Poyle) side leading to flooding, and lower than they were before on the downstream (Horton) side in the “shadow” of the landfill.

- 12.2.4 These changes to groundwater flow patterns in the area could also alter the existing groundwater chemistry.

12.3 DATA COLLECTION AND ANALYSIS

- 12.3.1 To make sure that the quarrying and infilling operations do not significantly affect the groundwater, a programme of data gathering was undertaken and this data was used to carry out assessments to determine what effects could occur. If the assessments indicate potential significant effects on the groundwater from the development, then measures are identified to reduce the impacts to an acceptable level, and these measures are called mitigation measures.
- 12.3.2 The existing groundwater conditions at the Site were determined first. This involved drilling boreholes and installing pipes that allow groundwater levels to be measured and groundwater samples to be taken. There are currently eleven monitoring wells (boreholes) at the Site.
- 12.3.3 Since the monitoring wells were installed, a programme of regular groundwater level monitoring and groundwater sampling has been carried out. Recording the groundwater levels over long periods of time allows for seasonal patterns and effects on the groundwater from other developments nearby to be established, and allows the flow direction to be identified. Taking samples of the groundwater and testing the chemistry of them in a laboratory allows the current condition and quality of the groundwater to be determined.
- 12.3.4 The groundwater level monitoring data was used to help create a computer model of the groundwater levels and flow direction at the Site. Once the model was tested to make sure it replicates what actually happens in reality, it was used to assess different scenarios that could occur during the development lifecycle. The computer model was used to predict the impacts and effects that the development would have on the groundwater for each scenario and determine whether any of the predicted effects were significant enough to require mitigation measures.
- 12.3.5 The chemistry data collected indicates that groundwater quality in the local gravel aquifer appears to show some impact from historical and current land uses in the wider area surrounding the Site, although measured concentrations of potential contaminants were generally below recognised national guideline levels.

12.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

- 12.4.1 The assessment of potential impacts covers three phases of the proposed works comprising the dewatering and quarrying phase, the landfilling and restoration phase, and the post restoration/completion phase.
- 12.4.2 In terms of the potential groundwater level impacts, the computer model identified that without mitigation measures the dewatering could lead to a lowering of

groundwater level by up to 1m in the area towards Colnbrook village to the north of the Site in the early development phases. The model predicts that in later phases of the development, the area affected by lowering of groundwater levels shifts to the south of the Site. It is proposed to construct recharge trenches on the northern and eastern boundaries of the Site as mitigation in the early phases, and on the southern boundary during later phases, and the computer model shows that with the mitigation measures in place, there are no unacceptable effects.

- 12.4.3 After infilling with predominantly clayey soils has started at the north end of the Site, the model predicts a rise in groundwater levels on the up-gradient side of the landfill, so in this scenario the recharge trenches act as drains to intercept groundwater and divert it around the sides of the landfill to areas where the groundwater level is lower. There, the trench starts to act as a recharge drain and the water goes back into the ground. The computer model indicates that with these mitigation measures in place, there are no unacceptable effects on groundwater levels or flow patterns.
- 12.4.4 In the long term restored scenario, the trench drains continue to function as interceptor drains on the north of the landfill and as recharge drains along the southern parts of the east and west sides, and on the south side.
- 12.4.5 Throughout the life of the scheme groundwater levels would be carefully monitored all around the Site and compared to the pre-development levels and those predicted by the model. If any unexpected groundwater effects start to happen the monitoring would give an early warning, and the pumping, recharge, and drainage schemes can be adjusted as necessary to make sure any effects are completely acceptable.
- 12.4.6 With reference to the potential groundwater quality impacts, these are related to the potential for any existing groundwater contamination from other sites in the area to be moved around or further dispersed, due to changing the levels and/or flow of the groundwater during dewatering. The existing situation would be closely monitored during the lifetime of the scheme to make sure the scheme itself does not give rise to any unacceptable effects. Waste infilling would be undertaken under the terms of an Environmental Permit that would be issued and regulated by the EA. The Permit conditions would make sure that the imported waste is uncontaminated and that vehicle and plant operations in the quarry (for instance fuel spillages) don't give rise to any contamination.
- 12.4.7 The Site would operate in accordance with an Operational Environmental Management Plan (OEMP) to prevent the potential for the operations to introduce new contamination. The effectiveness of these mitigation measures would be further verified by the implementation of an ongoing groundwater quality monitoring plan to enable the chemistry of the groundwater to be regularly reviewed and assessed and any changes to be identified and managed.

12.5 RESIDUAL EFFECTS

- 12.5.1 The mitigation and management measures described above and in further detail in the Groundwater Control and Mitigation Report (PBA, 2017) are an integral part of the scheme would make sure that there would be no unacceptable effects on the groundwater from the proposed development.

13.0 NOISE IMPACT ASSESSMENT

- 13.1.1 Baseline noise levels measured in the vicinity of the Site in April and May 2017 were generally controlled by road traffic noise, aircraft noise related to Heathrow Airport, birdsong, local activity and vehicle movements.
- 13.1.2 A review of the noise limits contained in the 2011 planning permission has been undertaken and the existing noise conditions have been accepted for the proposed extraction and infilling operations.
- 13.1.3 Noise levels arising from the proposed workings (and plant site operations) have been calculated and compared with the noise limits at the nearest noise sensitive properties to the Site.
- 13.1.4 The nearest edge of any of the proposed workings associated with mineral extraction/infilling is about 100 metres away.
- 13.1.5 The calculated overall “reasonable worst case” noise levels for routine extraction and infilling operations (combined with the calculated noise levels due to processing and use of the new access road) are at or below the noise limit set by RBWM in the 2011 planning permission at all receiver locations considered.
- 13.1.6 The calculated overall “reasonable worst case” noise levels for temporary operations are below the noise limit at all receiver locations considered.
- 13.1.7 The calculated overall “reasonable worst case” noise levels for operations outside the normal hours, i.e. pumping, are below the noise limit at all receiver locations considered.
- 13.1.8 Calculated noise levels at the Wraysbury Reservoir SSSI are below the average measured background noise levels and significantly less than the ambient noise levels in the vicinity of the Site and would therefore not be likely to indicate a disturbance to wildlife and use of the SSSI.
- 13.1.9 Calculated noise levels at the Arthur Jacobs Nature Reserve are slightly above the average measured background noise level at the nearest survey location, but are around 20 dB below the ambient measured noise levels in the area and is therefore not considered likely to constitute disturbance to wildlife and use of the reserve.

14.0 AIR QUALITY ASSESSMENT

- 14.1.1 An assessment of air quality impacts was undertaken as part of the original ES submitted to RBWM in 2004 and remains relevant to the proposed development.
- 14.1.2 Planning condition 22 of the 2008 planning permission (reference 04/01716) required the submission of a dust mitigation and monitoring scheme. This scheme was approved by RBWM in December 2010.
- 14.1.3 The approved scheme was specifically referred to in planning condition 22 of the 2011 permission (reference 10/02804) which required the scheme to be adhered to during the development of the Site. It would be the intention to fully comply with the approved scheme when the development proceeds.
- 14.1.4 The planning application submitted to Slough includes a new assessment of the potential impacts from the proposed HGV movement and the recommencement of the processing plant activities on local air quality. This air quality assessment demonstrates that there would be no unacceptable impacts from the development. The Slough air quality assessment report is provided in **Volume 3**.

15.0 **HIGHWAYS**

- 15.1.1 The processing plant and access to the public highway are located in the Slough administrative area. There is no vehicular access to the development from RBWM.
- 15.1.2 It is proposed to construct an alternative access road to the processing plant site from Poyle Road to the east rather than use the existing access onto Bath Road to the north. This would be preferable in highway and amenity terms for residents of Bath Road even though the Bath Road access is capable of being used for the development.
- 15.1.3 A planning application has been submitted to Slough for the construction of the alternative access to the processing plant site from Poyle Road. All sand and gravel dispatched, and inert waste imported, would use the new access from Poyle Road.
- 15.1.4 Planning condition number 2 of the 2008 RBWM planning permission (reference 04/01716) and of the 2011 RBWM planning permission (reference 10/02804) required access to the extraction and infilling area to be solely from Poyle Road rather than the existing access to the processing plant site from Bath Road.
- 15.1.5 A detailed Transport Statement has been prepared in support of the Slough planning application which demonstrates there would be no unacceptable highway impact from the new access to Poyle Road and that Bath Road would benefit from the provision of the new road. The Transport Statement is included in **Volume 3**.

16.0 CUMULATIVE IMPACTS

- 16.1.1 During the preparation of an EIA it is good practice to consider the cumulative impacts arising from the development along with impacts from other existing or proposed developments in the vicinity.
- 16.1.2 At the present time sand and gravel extraction and infilling occurs immediately to the west of the Site at Horton Brook Quarry. The Horton Brook Quarry is expected to be completed part way through the development of the Site. No other similar developments are taking place or are planned in the general vicinity of the Site.
- 16.1.3 The potential cumulative impacts arising from the development of the Site and the operation of Horton Brook Quarry have been considered in the landscape, noise and water related assessments included in Volume 3 Technical Reports. All of these reports conclude that there would be no unacceptable cumulative impacts as a consequence of the proposed development at the Site.

17.0 SOCIO ECONOMIC

- 17.1.1 The proposed development would provide a valuable supply of high quality sand and gravel from a Preferred Area in the Replacement Berkshire Mineral Local Plan. The sand and gravel would help to meet the demand for construction aggregates in the area in line with the development plan.
- 17.1.2 Restoring the extraction area to useable agricultural land would ensure there were no long term impacts on the existing agricultural resource or on the local landscape and would avoid birdstrike issues. The extraction area would provide an important facility to accommodate inert material from local construction sites.
- 17.1.3 The reopening of the Poyle Quarry processing plant and the commencement of mineral extraction and infilling would create eight new full time jobs. In addition the dispatch of sand and gravel and the importation of inert waste would create the equivalent of ten HGV driver jobs.
- 17.1.4 The development represents an initial investment by Summerleaze of well over £1 million with subsequent annual expenditure of over £1 million per year during the eight-year life on a variety of items including transport, plant hire, fuel, repair and maintenance, wages and business rates. These figures represent a substantial level of expenditure and Summerleaze try to ensure that their expenditure directly benefits the local area wherever possible.

18.0 CONCLUSIONS

- 18.1.1 The planning application area is identified for future quarrying as **part of Preferred Area 12 Poyle Quarry Extension** in the Replacement Minerals Local Plan for Berkshire. Planning permission for extraction and infilling of the Poyle Quarry Extension was granted by RBWM in 2008. The permission was renewed in 2011 although the permission was not implemented and subsequently lapsed in January 2016. A new planning application is required to allow for extraction and restoration of the Site.
- 18.1.2 There are no proposals to alter the method of working or restoration, the depth of extraction, the operational hours, or the permitted level of output from the development which was approved by RBWM in 2008 and 2011.
- 18.1.3 The processing plant site and access to the public highway lie to the east of the Colne Brook in the Slough administration area. A separate planning application is being submitted to Slough for the creation of a new access road to the processing plant site and for the restoration of the plant site area. Processed gravel would be exported from the plant site via an alternative new access road and junction onto Poyle Road to the east. The access road would also be used for the importation of inert infill materials to restore the gravel extraction area. Extraction and infilling would occur over a period of eight years.
- 18.1.4 Detailed assessments of a number of environmental and technical matters have been completed. The assessments confirm that there would be no unacceptable impacts arising from the proposed extraction and infilling on the environment or on local amenity following the adoption of mitigation measures. Similarly there would be no unacceptable impacts from the use of the new access road to the plant site and the operation of the processing plant.
- 18.1.5 The restoration proposals would ensure the Site was returned to useable agricultural land of no less quality than exists at present and suitable for arable use. The development would also provide benefits to the local economy, an important source of high quality construction aggregates and an important facility to accommodate inert material from local construction sites.

List of Plans included with this volume

Location Plan

Application Plan

Current Situation

Block Phasing

Proposed Restoration Plan