Mouselow Quarry, Dinting Road, Glossop, Derbyshire, SK13 9EB.

Town and Country Planning (Environmental Impact Assessment) Regulations 2017 - Environmental Impact Assessment and Planning Application seeking approval to:

- **Extend the quarry extraction area.**
- **Relinquish planning permission to extract the deeper Lower Shales.**
- **Amend the approved restoration scheme.**

June 2018

Volume 1 Non-Technical Summary

Applicant:
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1.0 INTRODUCTION

1.1 Introduction to the proposals

1.1.1 The Environmental Statement accompanies a planning application submitted by Wienerberger Limited for the extension of Mouselow Quarry in a westerly direction. The extension area is identified for future quarrying as an extension to Mouselow Quarry in the emerging Derby and Derbyshire Minerals Local Plan. The quarry extension area lies to the immediate west of the existing quarry extraction area and within the existing planning permission boundary for the site.

1.1.2 The existing shale reserves at the quarry consist of Upper Shales, which make up the majority of the material extracted annually, and Lower Shales which have a higher sulphur and carbon content and have only been used in small quantities to blend with the better quality shales. Materials are taken to the Denton brickworks to produce a variety of high quality bricks.

1.1.3 There is less than 180,000 tonnes of Upper Shale material remaining in the existing quarry, sufficient for only four years supply to the Denton factory.

1.1.4 The current planning permission for the site allows for the extraction of over 1 million tonnes of Lower Shale at depth from the quarry floor and beneath the water table. This Lower Shale material is of poor quality for brickmaking due to high sulphur and carbon levels which effect the air emissions from the Denton factory kiln. It is the intention to relinquish the planning permission to extract the deeper Lower Shale material if planning permission is granted to develop the Upper Shales in the extension area and consequently there would be no extraction beneath the water table.

1.1.5 The quarry extension area contains approximately 850,000 tonnes of high quality Upper Shale, sufficient for almost 19 years supply, within an area of less than two hectares. The extension area would also release 200,000 tonnes of sandstone used as high quality building stone which is extracted by a third party.

1.1.6 The current approved restoration scheme for the site includes a large, deep, water body which would be created following the extraction of the deeper Lower Shale material below the water table. The restoration scheme would need to be amended if the Lower Shales were to remain unworked and the proposed restoration scheme includes grassland, woodland and a variety of nature conservation habitats instead of the large, deep, water body.

1.1.7 There are no proposals to alter the method of extraction or to change the operating hours or level of output from the site as a consequence of the quarry extension application.

1.1.8 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) Regulations 2017. 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.

1.1.9 The planning application to extend Mouselow Quarry involves a level of activity and operations that warrant an EIA in accord with the 2017 EIA Regulations.

1.1.10 Derbyshire County Council (Derbyshire) set out the extent of the environmental aspects to be assessed within the EIA in Pre-Application Advice issued in September 2017.

1.1.11 In preparing the EIA Wienerberger and its technical specialists have liaised with Derbyshire staff including planning, landscape and cultural heritage officers as well as other planning consultees. Liaison has also been held with the local community.

1.2 Purpose of the Environmental Statement

1.2.1 The Environmental Statement (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. The ES aims to provide an objective report on the potential environmental impacts of the development which should be sufficient to guide Derbyshire County Council (Derbyshire) in making the appropriate decision.

1.2.2 The matters for inclusion in an ES are outlined in the 2017 EIA Regulations 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.

1.3 Format of the Environmental Statement

1.3.1 The ES is designed to be a self-contained document. It is divided into a number of 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 referred to in the ES. The ES 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 4** contains the formal planning application including a planning application statement summarising the main elements of the development, a consideration of the development against the context of

national and local policies, the planning forms and certificates. Volume 4 should be considered in conjunction with the ES.

1.4 The Applicant

1.4.1 Mouselow Quarry is owned and operated by Wienerberger Limited, part of the global Wienerberger Group based in Vienna, Austria. Wienerberger are one of the largest producers of clay bricks, blocks and tiles in the world.

1.4.2 Mouselow Quarry first began working over 170 years ago and historically there was a brickworks on site. Currently shale from the quarry is transported to the Wienerberger brickworks in Denton, Manchester, 12 kilometres away to manufacture a range of high quality facing bricks.

1.4.3 The head office for Wienerberger in the UK is in Cheshire at Wienerberger House, Brooks Drive, Cheadle Royal Business Park, Cheadle, Cheshire, SK8 3SA.

1.4.4 Environmental, sustainability and health and safety matters are of significant importance to Wienerberger. All developments are considered in relation to overarching corporate policies in these areas. A number of corporate policies are included for information in **Appendix 1** at the rear of this document.

1.5 Planning Context

1.5.1 Mouselow Quarry has been operational for many years, at least since 1840, and there have been a number of planning permissions for shale extraction and associated activities since 1949.

1.5.2 Modern planning conditions were established for the site in 2010 as a consequence of the planning review required under the Environment Act 1995 (Review of Mineral Permissions – ROMP). A full EIA was submitted to accompany the planning review in 2010.

1.5.3 The existing quarry operates in compliance with the current planning permission reference CM1/0214/162 granted by Derbyshire in December 2014 and which continued the modern planning conditions established in the 2010 planning review.

1.5.4 The current planning permission has an end date of 7 March 2042 for mineral extraction and restoration is to be completed by 7 March 2044. The permission has a total of 54 modern planning conditions which control the hours of operation, noise and dust emissions, landscaping and the restoration of the site.

1.5.5 A larger quarry extension was previously promoted to Derbyshire during 2016 as part of the preparation for the new Derbyshire and Derby Mineral Local Plan. The large extension area was twice the size of the extension which is proposed now. The large extension area was reduced in size following an initial landscape assessment which suggested that a smaller extension area would limit the landscape and visual impact from surrounding viewpoints.

1.5.6 The proposed extension area is included in the Draft Plan as a draft allocation for the extraction of minerals which states that further extraction of mineral will be permitted at the site provided that it would not result in an unacceptable impact upon highways and alternative phasing would result in significant benefits.

1.5.7 The ES demonstrates that the proposed development would not result in unacceptable highways impacts and would generate a range of significant benefits in terms of air quality, hydrogeology, ecology and restoration.

2.0 PROJECT DESCRIPTION

2.1 Site description

2.1.1 Mouselow Quarry is located 1.5 kilometres (km) to the north-west of Glossop and 20km east of Manchester city centre in the High Peak District of Derbyshire. The Peak District National Park lies less than 2km to the east.

2.1.2 The Ordnance Survey grid reference for the site is SK 016 951 and the site location is shown on the accompanying **Location Plan** included in the Plans section of this document.

2.1.3 The site is bounded by an active railway line to the west, Dinting Road to the south and farmland to the north and east. Access to the site is directly from Dinting Road along a private, surfaced road. The main A57 road lies 1km to the west along Dinting Road and Shaw Lane. This route is used by vehicles travelling between the site and the Denton brickworks approximately 12km away.

2.1.4 The site lies in a rural area situated between the built-up areas of Glossop, Simmondley, Gamesley and Hadfield. The site is located on the west facing slope of Castlehill between elevations of 190 metres Above Ordnance Datum (mAOD) and 250mAOD. The surrounding land to the north, east and south consists of improved pasture fields with hedgerows, stonewalls and small woodland blocks.

2.1.5 The nearest residential properties are located to the south of the quarry at Higher Dinting, to the west of the railway line off Shaw Lane and to the east at Howard Park. There are also isolated farm properties close to the site to the north and east.

2.1.6 The extent of the land owned by Wienerberger amounts to 33.0 hectares (ha) in total and the current planning permission covers 26.5ha of this land as shown on the **Landholding Plan** included in the Plans section. The actual operational quarry area amounts to less than 15ha within the planning permission area.

2.1.7 An **Aerial Photograph** is also included with the plans and shows the quarry, nearby land uses and properties in more detail.

2.1.8 Wienerberger's non-operational land is used by local farmers for grazing purposes.

2.1.9 There are a number of public rights of way in the vicinity of the site, some of which cross the planning permission area although none cross the operational parts of the quarry or the proposed extension area. The rights of way are securely fenced off from the operational areas and warning signs are well distributed.

2.1.10 The extension area amounts to 1.5ha and consists of parts of pasture fields (1.1ha), a small area of woodland (0.4ha) and 110 metres of drystone walls. The land within the extension area rises from 190mAOD in the west to 205mAOD in the east.

2.2 Proposed Development

2.2.1 The quarry is shown in detail on the **Site Plan** which identifies different elements of the quarry including the planning permission boundary, existing quarry area and the proposed extension area.

2.2.2 The Upper Shales are currently the main source of brick making material. Below these Upper Shales lie high sulphur and carbon Lower Shales, a minor amount of which have historically been blended with the Upper Shales but it is increasingly difficult for the Denton brickworks to meet its strict air quality emission limits if the Lower Shales are used.

2.2.3 It would be impossible to use the Lower Shale on its own for brickmaking. It has therefore been decided that the Lower Shales should not be used and to seek planning approval for an extension into further Upper Shales to replace the Lower Shales.

2.2.4 The quarry extension area amounts to 1.5ha and contains 470,000 cubic metres (850,000 tonnes) of high quality Upper Shale suitable for brick manufacture at the Denton brickworks.

2.2.5 In addition a bed of sandstone occurs below the Upper Shale. The sandstone is used as a high quality building stone with a minor amount, which is not suitable for use as building stone, being used as a construction aggregate. Sandstone extraction is undertaken by a third party rather than Wienerberger. The extension area would also release an additional 200,000 tonnes of sandstone.

2.2.6 Shale extraction occurs after the overlying soils and overburden materials are removed. The soils are approximately 300mm deep in the extension area and the overburden is between 1 metre and 2.5 metres deep. The underlying Upper Shale is 30 metres thick and the sandstone is an average of 6 metres thick.

2.2.7 Shale extraction is usually undertaken twice annually on a campaign basis which involves shale being extracted and stored in stockpiles on the quarry floor to weather. Material is then removed periodically throughout the year from the shale stockpiles and taken to the Denton brick factory by heavy goods vehicle (HGV).

2.2.8 Soil and overburden removal is normally carried out during the drier summer months using a hydraulic excavator and two dumptrucks. Shale extraction is undertaken using standard mobile equipment associated with small scale quarrying operations, namely hydraulic excavators, dump trucks and a bulldozer.

2.2.9 Shale is loaded into HGVs for transport to the brick factory by a single hydraulic excavator.

2.2.10 There is no processing of shale carried out on site and no blasting is carried out.

2.2.11 Sandstone is also extracted by hydraulic excavator. There is no processing of the sandstone sold as building stone although a minor amount of stone which is

unsuitable for use as building stone is crushed and screened for use as construction aggregate. A single hydraulic excavator is periodically used to remove sandstone blocks and load vehicles and a small mobile crushing and screening plant is used to produce the construction aggregate.

2.2.12 There is a small, secure compound and yard adjacent to the entrance road which contains an office, welfare facilities, storage and wheel cleaning equipment.

2.2.13 Output of shales from Mouselow is currently only 25,000 cubic metres per year (45,000 tonnes per year using a conversion factor of 1.8 tonnes /cubic metre). This is half the output which was proposed in the 2010 planning review (ROMP) and which formed the basis of an environmental assessment undertaken at the time.

2.2.14 There is no anticipated increase in output in the immediate future, however it is hoped that output may increase in the medium and long term as the economy improves. The future output is anticipated to be in the region of 30,000 cubic metres (54,000 tonnes) per year. This figure is still significantly below the anticipated output assessed in the 2010 EIA which was 50,000 cubic metres (90,000 tonnes) per year.

2.2.15 The remaining approved reserves at the site as at 1 January 2018 are less than 180,000 tonnes (100,000 cubic metres) of Upper Shale and 1,080,000 tonnes (600,000 cubic metres) of Lower Shale although it is no longer proposed to extract the 1,080,000 tonnes of Lower Shale.

2.2.16 The remaining Upper Shale reserves will last for less than four years at current output levels.

2.2.17 The extension area would provide 850,000 tonnes (470,000 cubic metres) of Upper Shale which would replace the Lower Shale reserves of 1,080,000 tonnes. Planning permission to extract the Lower Shales would be relinquished.

2.2.18 The Upper Shale in the extension area would be sufficient for almost 19 years at a rate of 45,000 tonnes (25,000 cubic metres) per year. The combination of the existing reserves of Upper Shale and the extension reserves would last for approximately 23 years in total (4 + 19 years). The Upper Shale is likely to be exhausted in 2040, slightly earlier than the current planning end date of 2042 although this would be dependent on the actual level of production at the site during this period.

2.2.19 The development of the extension area would be undertaken in a series of phases as shown in detail on the accompanying set of nine **Quarry Extension Phasing Plans** which show extraction progressing in a westerly and anticlockwise direction.

2.2.20 The phased working scheme would maintain the effective screening benefit afforded by the existing landform. Operations within the floor of the quarry would remain up to 30 metres below surrounding ground levels.

2.2.21 By not extracting the Lower Shales which lie below the water table there is no requirement for large scale dewatering and any potential impacts on the ground water regime as a result would be avoided.

2.2.22 There are no alterations proposed to the method of extraction, working hours, or associated activities at the site.

2.2.23 The current approved restoration scheme contains a large, deep, water body as a consequence of extracting the Lower Shales below the water table. The approved scheme would need to be amended as the water body would not be produced. The accompanying **Restoration Concept** plan shows the revised restoration scheme for the site which includes agricultural grassland on the quarry floor with woodland, hedgerows, nature conservation grassland and small field ponds. It is considered that the revised restoration scheme provides greater biodiversity potential than the approved scheme in a more practical and safer environment.

2.3 Denton Brickworks

2.3.1 Denton Brickworks is one of the major brick producers for Wienerberger in the UK and is one of the most efficient brickworks in the UK. The capacity of the brickworks is 64 million bricks per year although production is currently just over 50 million bricks per year.

2.3.2 Denton was the first brick factory in the world to be certified to the Environmental Management System standard BS EN ISO 14001 (then called BS 7750). This certification has been maintained continuously up to the present day.

2.3.3 Denton produces a range of high quality bricks which are distributed throughout the UK. There are 49 different product groups currently manufactured at Denton and 95% of the production is unique within Wienerberger with no other factory producing the same range of products.

2.3.4 Shale from Mouselow forms part of the raw material requirement for 35 out of the 49 product groups produced at Denton and is included in 80% of all the bricks manufactured.

2.3.5 Two years ago over £1.5 million was invested in improvements to the Denton factory operations and every year approximately £0.5 million is invested in further improvements. Each year the expenditure at the Denton factory and Mouselow Quarry amounts to £7.5 million on purchases, wages, business rates and associated costs, some of which benefits the local community.

2.3.6 There are 53 full time employees at Denton and Mouselow with additional contractors and heavy goods vehicle (HGV) drivers and indirect workers within Wienerberger and associated companies.

2.3.7 Denton relies on shale from Mouselow and would not be able to remain open without the readily available resources of shale from Mouselow.

3.0 STAKEHOLDER ENGAGEMENT

3.1.1 Wienerberger has actively engaged with stakeholders during 2017 and 2018 to ensure there was a full and open understanding of the proposed development. The engagement work also allowed an opportunity for input into the development design and for refinements to be included prior to the submission being made.

3.1.2 A formal Pre-Application Advice Request was submitted to Derbyshire in June 2017 which set out the main elements of the development and sought clarification on the content of the EIA required to accompany the planning application to extend the quarry.

3.1.3 The Derbyshire Pre-Application Advice was issued in September 2017 and provided guidance on the technical assessments and planning policy issues that should be considered in the EIA. A number of stakeholders were consulted by Derbyshire in preparing the Advice.

3.1.4 Discussions were held with Derbyshire planners during this exercise.

3.1.5 Following the issue of the Pre-Application Advice discussions have been held with a number of officers at Derbyshire during the preparation of the proposals to clarify or explain matters including planners (Development Management and Planning Policy), archaeology and landscape departments. Useful feedback about the proposals has been received and alterations made.

3.1.6 The quarry has had a local liaison group for a number of years. The group consists of representatives from Derbyshire, High Peak Borough Council, local councillors and the local Heritage Society.

3.1.8 The liaison group meets annually to discuss activities at the quarry and discussions have previously been held on the extension development.

3.1.9 An exhibition of the extension proposals was held at Bradbury Community House on 17 April 2018. The purpose of the exhibition was to provide the general public with the opportunity to see the extension proposals and to seek comments on any aspect of the development prior to the application being finalised and submitted.

3.1.10 The exhibition attendance was very modest and no concerns were raised about the extension proposals or about the current quarry.

4.0 ENVIRONMENTAL IMPACT ASSESSMENT

4.1.1 Establishing the extent of the scope of an EIA forms an integral part of the overall assessment process. In order to determine the scope of the EIA a formal Pre-Application Advice Request was submitted to Derbyshire in June 2017 and detailed Pre-Application Advice was issued in response in September 2017.

4.1.2 The aim of the exercise was to consider at the earliest opportunity all environmental elements that the proposed development may impact upon. In addition it is incumbent upon the assessment to give consideration to alternatives to the proposed development

4.1.3 The "matters for inclusion" in an EIA are outlined in PART 1 Schedule 4 of Town and Country Planning (Environmental Impact Assessment) Regulations 2017 which 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."

4.1.4 This EIA considers the potential significant effects and consequences on the environment of the development and assesses whether such effects are:

- Direct or indirect
- Short, medium or long-term
- Reversible or irreversible
- Beneficial or adverse

4.1.5 Where significant adverse effects are identified a description of the measures necessary to avoid, reduce or remedy these effects is provided (mitigation measures).

4.1.6 The 2017 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.

4.1.7 The environmental elements chosen for the most detailed scrutiny are listed below together with the consultants who carried out the work:

- **Air Quality – Vibrock**
- **Cultural Heritage – Andrew Josephs Associates**
- **Ecology – Ecosurv**
- **Landscape Character and Visual Appraisal – ESP**
- **Noise – Vibrock**
- **Water Regime – Hafren Water**

4.1.8 The specialist assessment reports prepared by the consultants are included in Volume 3.

4.1.9 In addition consideration has been given to the following environmental matters which are commented on in this document:

- Agriculture and Soils
- Highways
- Public Rights of Way
- Climate change
- Human health
- Socio economic aspects

4.1.10 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 Introduction

5.1.1 The 2017 EIA Regulations state that an outline of the main alternatives studied by the applicant should be included within Environmental Statements. Government Circular DETR 02/99 makes clear that this is not a strict requirement of an ES, but that it is good practice.

5.1.2 Consideration of alternative sites, plant and equipment, operating practices and site layouts should be considered, where appropriate, including the main reasons for the choice, taking into account the environmental effects. The advantages and disadvantages of each option should be stated. The main reasons for the selection of the preferred option should be described in outline, taking into account the environmental effects. Other influencing factors should also be noted, including feasibility, cost effectiveness and reasonableness.

5.1.3 There are a number of alternatives which have been considered during the preparation of the ES.

5.2 No Development Option

5.2.1 It is advised as good practice that the 'no development' option is taken into account and utilised as a comparable, in environmental impact terms, to the proposed development scheme.

5.2.2 The 'no development' option would result in no impacts on the local environment from extraction within the extension area, however there would be a number of economic, social and environmental impacts.

5.2.3 This would have a significant impact on Mouselow Quarry and on Denton Brickworks which would either close entirely once the remaining Upper Shale reserves had been worked out or would be operated at a much lower level of production. There would be a large number of job losses in either scenario and the considerable level of financial contribution within the economy currently made would be reduced or stopped.

5.2.4 Other Wienerberger brickworks would not be able to replicate the Denton product range.

5.2.5 The reduction in brick production from Denton or its closure would not affect the level of demand for bricks. There would still be an ongoing demand for these vital materials and supplies would need to be provided from alternative sources. Similar comments can be made for the continuity of supply of high quality building stone as there are very few long-term alternative sources of comparable material.

5.2.6 Supplies of these materials would need to be provided from other sites which could result in greater transport distances, vehicle emissions and carbon footprint. It

would also result in potential additional impacts as a result of increased output from other sites.

5.2.7 By not working the Upper Shale within the extension area a valuable resource of high quality brick making material would not be available to meet the demands for future construction materials necessary to maintain and develop the built environment in the area.

5.2.8 The development of the extension area also provides for overall improvements to be made to the restoration of the site and to local biodiversity.

5.3 Alternative Raw Materials

5.3.1 The Upper Shale makes up the largest proportion of brick making material used at Denton and is used in 80% of the brick clay mixes. The Upper Shale has good consistency, low sulphur, good potash and medium carbon levels in comparison to other materials.

5.3.2 A total of 49 different product types are produced at Denton and a mix of raw materials is needed to achieve specific chemical and physical consistencies and colours of the fired bricks.

5.3.3 Additional raw materials are supplied from various other sites at Bolton, Bradford and Leicestershire. The Bolton source of material is 30km (19 miles) away from Denton but cannot be used exclusively because of issues with colour and silica levels. The Bradford material is transported 65km (40 miles) to Denton and is again used as a blend to achieve the required mix. The Leicestershire material is transported 145km (90 miles) and consists of fireclay with specific refractory and colour properties. This fireclay material constitutes a small proportion of the brick making mix and is mixed with Mouselow material to produce 13 of the 49 products.

5.3.4 These materials cannot be used to the exclusion of the Mouselow Upper Shales.

5.3.5 Even if these alternative sources of raw material could replace Mouselow shales the increase in costs would result in the Denton factory becoming uneconomic. In addition the increase in transport would result in more fuel usage, an increase in vehicle emissions and greenhouse gas production. This would not be a sustainable solution.

5.3.6 Furthermore the planning end dates and remaining reserves at some of these sites are not sufficient to provide long term supplies to Denton.

5.4 Alternative Quarry Locations

5.4.1 It is accepted within a wide range of planning guidance notes and at national, regional and local level that minerals are unusual in development terms, in that, they can only be worked where they naturally occur, so the usual criteria applied in site search exercises cannot be wholly adopted.

5.4.2 Shale from Mouselow is transported to the brickworks at Denton some 12km (8 miles) by road from the Mouselow site. The road access between the two locations is mainly motorway or trunk road.

5.4.3 There are very few other sources of brickmaking shale within 25km (16 miles) of the Denton factory. Wienerberger has searched for alternative supplies extensively over recent years as the Denton factory uses a blend of raw materials to produce its range of products.

5.4.4 Mouselow lies on the borders of several mineral planning authority areas. Mouselow lies within Derbyshire, whereas Denton is within Greater Manchester. The borders of West Yorkshire, South Yorkshire, Cheshire, Staffordshire and Lancashire are all within 25km of Denton. The Mineral Plans for these areas have been reviewed to determine if alternative potential sources of brick making material may be available in terms of existing sites or allocated sites/preferred areas for future mineral extraction, however there were no such sites within 25km of Denton.

5.4.5 The development of an alternative Greenfield site which is currently unallocated in any of the local Mineral Plans is not considered reasonable or achievable in planning terms.

5.4.6 In conclusion, irrespective of the physical or chemical properties of alternative sources of raw materials there are no sites closer to Denton than Mouselow. Therefore the supply of shale from Mouselow is the most sustainable and deliverable raw material solution for the continued operation of the Denton brickworks.

5.5 Alternative Design Elements

5.5.1 It is recognised within a wide range of planning guidance notes, that through the design process development proposals could evolve in order to take account of and mitigate against, potential environmental impacts.

5.5.2 Quarrying differs from many forms of development as the usual scope for variations in design, layout and construction is limited. Nevertheless the alternatives that have been considered within the final quarry design, as a result of the need to mitigate against particular environmental effects are summarised below in **Table 5.1**.

Design Issue	Potential Environmental Impact	Issues arising from alternative/alteration
Alternative Phasing	Landscape Noise Air Quality	The phasing of the quarry development has been designed to progress extraction gradually whilst maintaining the visual screening benefit afforded by the western facing slopes and maintaining geotechnical stability. The phasing also allows the sandstone building stone to be exposed and worked without any delays. Practically there is no other sequence of extraction within the extension area.
Change the "campaign" extraction of shales	Noise Air Quality	Shale needs to be extracted and stocked on site to weather before being transported to Denton. Campaign working is a cost effective and efficient balance of the extraction equipment used and the time taken to complete the works. A shorter campaign would require larger equipment and more potential for noise and dust, a longer campaign or continuous extraction would underutilize equipment (smaller equipment is not able to efficiently extract the shale) and prolong site operations.
Change type of extraction equipment used	Noise Air Quality	The use of larger equipment has the potential to increase emissions. Smaller equipment would not be able to extract the shale beds efficiently and blasting may be required to some extent.
Reintroduce blasting	Vibration Noise Air Quality	Blasting is not necessary as modern extraction equipment is capable of extracting the hard shale beds. Blasting would cause noise and vibration in an area unused to such activities. Blasting is a specialist operation and not within Wienerberger's current capabilities.
Change raw material mix at Denton to decrease % of Mouselow shale	Noise Air Quality Highways	The current raw material mix at Denton is determined by the range of brick products. The raw material mixes use Mouselow material in blends with other shales sourced from elsewhere. The physical and chemical characteristics of the mix are particularly important to produce a consistent brick product and colour. The mixes have been developed over a number of years to produce the range of brick products manufactured at Denton and cannot be changed without affecting the product range.
Change type of transport to Denton	Highways Noise Air Quality	There is no realistic alternative to road transport. There are no rail sidings to allow shale to be loaded into rail wagons at Mouselow or sidings at Denton to allow unloading. There is no space to construct sidings at either site. Rail transport is commonly used for transporting large tonnages over long distances, not for the small tonnages proposed or for the short distance involved. The capital costs of constructing sidings would be very considerable and could not be justified on the current level of operations.
Alternative restoration	Landscape Safety Ecology	The proposed change to the restoration scheme to replace the deep waterbody and provide grazing land, amenity grassland and woodland is more in keeping with the local landscape. The safety

		issues associated with public access near to a deep waterbody would also be avoided. Minor variations in terms of the extent of woodland or grassland creation could be achieved but the restoration scheme and habitats proposed are considered to be both valuable and appropriate for the local area. Any major alteration could result in a reduction of the habitats proposed.
Alternative restoration - infilling	Ecology Highways Noise Air Quality Water Regime	The potential environmental issues associated with infilling the site would be extensive. Millions of tonnes of material would be required over many years to achieve the complete infilling of the site and there is insufficient time to complete restoration within the planning end date.

Table 5.1 Alternative Design Elements

6.0 AGRICULTURE AND SOILS

6.1 Agricultural Land

6.1.1 The agricultural land within the extension area amounts to approximately 1.1ha and comprises parts of south-west facing pasture fields, which are used for hay production and sheep or cattle grazing. This is typical of the locality, principally due to the local climate and steep gradients. The agricultural grade of the application area fields is Grade 3B or lower due to the gradient of the land.

6.1.2 The Provisional Agricultural Land Classification, published by Natural England, places this site firmly within an area of Grade 4 land.

6.1.3 The loss of 1.1ha of lower quality land is of negligible significance.

6.1.4 The land is let on a short term agricultural grazing agreement to a local farmer and forms a small part of his farmed area. The loss of 1.1ha of grassland would not impact on the farm business. The proposed restoration scheme includes an increase in grazing land to 2.5ha.

6.2 Soils

6.2.1 The soils within the site have been assessed as part of the site investigation exercise which confirms a 300mm depth of topsoil over between 1000 to 2500mm depth of subsoils and overburden.

6.2.2 Following stripping all the soils and overburden would be stored within the quarry void to be used in restoration. The top soils and sub soils would then be used to restore the quarry floor with a locally characteristic scheme of small-medium sized fields with dry stone walls and hedgerow boundaries.

6.2.3 Handling of soils would normally take place during the period April to September only be handled when it is in a sufficiently dry and friable state. Soil handling operations would be suspended if the weather or ground conditions deteriorate.

6.2.4 The soils would be stripped using a small hydraulic excavator and transported by articulated dumptrucks.

6.2.5 Topsoil, subsoil and overburden would be stored according to their quality in separate mounds. Topsoil storage mounds would be restricted to a maximum of 3 metre whilst subsoil and overburden would be stored in mounds up to a height of 5 metre with the side slopes graded to 1 in 2.5 or shallower. Soil mounds would be grass-seeded with a rapid-growing amenity grass seed to minimise loss of material and to prevent weeds.

6.2.6 The use of soils and overburden during restoration would be determined by the afteruse proposed for individual restoration areas. Different soil depths, soil mixes, placement and cultivation would be used as appropriate for the various areas.

6.3 Conclusions

6.3.1 The development of the quarry extension area would result in a negligible impact on agricultural land, soil resources and the farm business. The proposed restoration scheme would create additional grazing land which would have a minor beneficial effect.

7.0 CULTURAL HERITAGE ASSESSMENT

7.1 Introduction

7.1.1 The assessment considers all aspects of cultural heritage and the potential effects of the proposed scheme upon them, including both direct and indirect effects. Direct effects are those that physically affect or damage an archaeological site, historic structure or landscape. Indirect effects can occur as a result of significant changes to the setting of an historic asset or landscape, whether permanent or temporary. This is particularly relevant to designated features such as Scheduled Monuments, Listed Buildings, Conservation Areas, Registered Parks and Gardens and Historic Battlefields.

7.1.2 After analysis of topography and the screening effects of vegetation, a study area of 500 metres from the boundary of the quarry was considered an appropriate distance to assess potential effects upon the setting of designated heritage assets.

7.2 Baseline Conditions

7.2.1 The *scheduled monument* remains of Mouselow Castle are situated approximately 300 metres north-east of the quarry and 700 metres north-east of the proposed extension area on elevated ground with far-reaching panoramic views of the surrounding moorland. Due to topography there are no views to the quarry. The setting is further divorced by a telecommunications mast that sits on the western end of the high ground between the monument and the quarry.

7.2.2 One Grade II *listed building* is situated within 500 metres of the quarry. Higher Dinting Farmhouse dates from 1728. The house is on private land, but indications are that due to rising topography behind the house, and intervening woodland, there are no views of the extension area. The house also faces away from the quarry.

7.2.3 Howard Park is a Grade II *Registered Park and Garden*, opened in 1888. The park is contained within mature planting. There are no views towards the quarry, or the extension area, due to topography.

7.2.4 Details of investigations, sites and finds lying within a study area of 1km from the centre of the extension area were provided by the Derbyshire Historic Environment Record (HER).

7.2.5 The HER records no early prehistoric finds. The Iron Age is only represented by two finds of slightly questionable date. The 19th century recovery of a hoard of Roman coins in a stone quarry in Hooley Wood was poorly recorded. The probable find spot lies just to the north of the present quarry.

7.2.6 Some stones now in Buxton Museum, reportedly removed from the Mouselow Castle area in the 1840s, include some pieces of carving perhaps from a Roman shrine. The only other Roman activity in the area is the course of a Roman road, which runs northwest to southeast about 700m southwest of the present quarry.

7.2.7 The Medieval period is represented by Mouselow Castle and a spearhead recovered during ploughing in the eighteenth century.

7.2.8 The majority of activity within the study area is of post medieval date and is largely industrial and either nineteenth or twentieth century in date.

7.2.9 The area around the extension area contains several fields that appear, on the western side, to owe part of the field walls shape to the rise and fall of the contours. Examination of the Ordnance Survey from the 1880s to the present shows only slight changes in the land parcels.

7.2.10 Detailed *geophysical survey* prospecting for buried structures of archaeological interest was carried out in October 2017. Ridge and furrow cultivation was evident in various locations as well as a possible small ditched enclosure and other ditches.

7.2.11 *Satellite imagery* was examined to determine whether cropmarks additional to the anomalies plotted by the geophysical survey could be identified. No crop or soilmarks of archaeological interest were identified.

7.3 Potential and Predicted Environmental Impacts

7.3.1 The nature of mineral extraction results in the total loss of the archaeological resource wherever extraction takes place and the potential loss or damage in other areas associated with infrastructure and landscaping.

7.3.2 The extension area would appear to lie within an area of low archaeological potential. This may however be a reflection of a lack of development in the vicinity requiring archaeological intervention.

7.3.3 The geophysical survey performed well and successfully detected linear anomalies.

7.3.4 There is clear evidence from the geophysical survey that the extension area has been ploughed. Any archaeological remains will have been degraded to some extent.

7.3.5 The direct effects are assessed as not significant.

7.3.6 The potential indirect effects of the proposed development have been assessed based upon field survey and visits to surrounding assets of cultural heritage importance.

7.3.7 A combination of distance, topography and woodland will ensure that there would be no effects upon the setting of any designated assets.

7.3.8 The effect of the proposed development upon designated assets is therefore neutral.

7.4 Mitigation of Direct Effects

7.4.1 In accordance with planning policy, loss of archaeology needs to be offset by a programme of mitigation. NPPF and local planning policy recognise that an appropriate approach to mitigation is to ensure preservation by record through archaeological excavation, recording, analysis and publication appropriate to significance of the archaeological resource.

7.4.2 In discussion with Derbyshire it has been agreed a watching brief/Strip Map and Sample would be adopted.

7.4.3 Details of methodologies will be formalised in a Written Scheme of Investigation, agreed with Derbyshire, prior to development commencing and its implementation secured by a planning condition.

7.5 Potential Residual Impacts

7.5.1 It is considered that there would be no residual adverse effects of the proposed development.

7.6 Conclusion

7.6.1 Having regard to the baseline conditions, the nature of the proposed development and the proposed measures that would be effective in mitigating the impacts of the scheme, there would be no significant residual effects upon known cultural heritage assets.

8.0 LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT

8.1.1 A landscape and visual impact assessment has been carried out for the proposed development. The report presents an assessment of the potential landscape and visual impacts of the proposed quarry extension at Mouselow Quarry.

8.1.2 The assessment was undertaken by landscape architects with significant experience of landscape and visual impact assessment and restoration of quarries. It follows the most up-to-date guidance and the method used was agreed with the Planning Authority.

8.1.3 In 2016, an initial assessment was undertaken to decide on the limit of quarrying within the extension area. Both the 2016 assessment and this assessment work have been used to make decisions on the design of the development and the restoration scheme, making sure that the landscape and visual impacts are limited.

8.1.4 The proposed extension is south-west of the existing quarry. It is currently a piece of hillside with pasture fields, dry stone walls and broadleaved woodland.

8.1.5 The impacts of the proposed extension would be limited by:

- keeping significant parts of the woodland around it to screen views and planting more woodland to enclose the site.
- increasing in woodland planting within the quarry to provide long-term landscape and visual benefits.
- restoring the quarry floor with a locally characteristic scheme of small-medium sized fields with dry stone walls and hedgerow boundaries.

8.1.6 The site and setting is not designated as a nationally or regionally important landscape. Whilst it has some importance for local people, on balance the value attached to this landscape is considered to be low-medium. The characteristics of the local landscape were identified and replicated in the restoration scheme.

8.1.7 The views of the quarry and the proposed extension are relatively limited. A total of 14 viewpoints were visited to understand the impacts in more detail; these viewpoints were picked to represent the overall views and the worst case views of the site.

8.1.8 The landscape effects as a result of the proposed development are:

- The adverse effects of removing a locally characteristic piece of landscape.
- The beneficial effects of restoring the site with a new restoration scheme which would have more ecological opportunities and increased woodland planting when compared with the previous restoration scheme for the site.

8.1.9 Overall the landscape effects are not considered to be significant.

8.1.10 None of the 14 viewpoints would have significant visual effects. In general, apart from the public footpath which directly adjoins the site, the main visual effects would be from the higher ground at the edges of settlement or on the hills further away from the site. The views from main settlements in the valley bottom are screened or filtered by landform, buildings and vegetation.

8.1.11 The overall visual effects are therefore not considered to be significant.

9.0 ECOLOGICAL IMPACT ASSESSMENT

9.1.1 The extension of the quarry will cover approximately 1.5 hectares in total comprising of an area of pastureland of approximately 1.1 hectares and an area of immature plantation woodland of approximately 0.4 hectares.

9.1.2 The habitats in the extension area are of limited ecological value and easily re-creatable as part of the proposed site restoration plan.

9.1.3 There will however, be a loss of nesting habitat for birds currently considered to be somewhat limited in nature, within the plantation woodland as a result of these works.

9.1.4 [redacted] however no evidence of their presence within the extension was noted.

9.1.5 There will be a limited negligible impact upon foraging bats within the proposed extension area.

9.1.6 There is no evidence of reptiles within the proposed extension area.

9.1.7 Amphibian species in the surrounding area are recorded as common toad and common frog. The closest pond to the proposed extension is to Dinting Road which is unaffected by the proposals.

9.1.8 As a result of the proposed quarry extension there is considered to be at worst a minor short-term impact within the extension area and its immediate surrounds.

9.1.9 The proposed site restoration plan if fully implemented will result in an overall gain for wildlife in the medium term.

10.0 WATER REGIME

10.1.1 The assessment of the water environment has been informed by the collation and assessment of data from a wide range of sources, including discussion with site personnel and a site visit in September 2017.

10.1.2 The closest watercourse within vicinity of the site is the Glossop Brook which passes within 440 metres of the site extension to the south and converges with the River Etherow approximately 1.25km to the west. Within the quarry void, there are two small waterbodies in the eastern and western extents of the existing quarry void. These form part of the existing water management system. There are no waterbodies within the site extension area boundary.

10.1.3 The local geology comprises of Upper Shale deposits, above the Huddersfield White Rock sandstone bed, with Lower Shales below. Groundwater travels through the permeable sandstone layers.

10.1.4 There are no water-dependent statutory sites of ecological interest located within 1km radius of the site extension.

10.1.5 Currently, work within the quarry takes place in dry conditions approximately two or three times per year. Water flows into the quarry from rainfall and from groundwater springs emerging from exposures of sandstone in the east. This water is channelled off-site through land drains and culverts, or to the waterbodies within the quarry. No pumped movement of water takes place on-site. The only discharges off-site are from surface water run-off through drainage channels and culverts.

10.1.6 Within the proposed extension area, water management will continue as under current conditions during mineral extraction. No other inflow of water is expected until extension Phase 6, when the top of the sandstone is exposed below the water table. As it is intended to continue work during the dry summer months when the water table is at its lowest, active management of water on site is not intended. Therefore there will continue to be no pumped movement of water at the site with no additional water management proposed.

10.1.7 The quarry and the proposed extension would be restored to include agricultural grassland, woodland and a variety of nature conservation habitats. No on-going active water management is proposed during or after restoration. Rainfall and groundwater inflow will drain down-gradient to the west and feed into the proposed “seasonal wetland area”. The waterbody within the “seasonal wetland area” will be permanent, increasing in size during high rainfall seasons.

10.1.8 An assessment of impacts from the proposed Mouselow Quarry extension has been made with consideration of groundwater and surface water flows, levels, and quality. The understanding of the water environment gained from the investigation has allowed the identification of potential impacts. These have been assessed in a systematic manner to ensure objectivity. A review of the existing water

environment has defined the sensitivity for surface water as “Low” and for groundwater as “Medium”.

10.1.9 During mineral extraction, potential impacts to all the identified receptors are assessed as “None” or “Minor”. Considering the low significance and magnitude of potential impacts during mineral extraction within the proposed extension area, no mitigation is required.

10.1.10 Following the restoration of Mouselow, the potential impact on long term surface water and groundwater flows, levels and quality are considered to be “None” or “Minor”. Mitigation measures are not proposed other than those designed into the restoration scheme to manage surface water.

10.1.11 The potential impacts upon the local water environment, both during mineral extraction and after the completion of restoration, are considered to be benign. The application of standard methods of good working practices will ensure that the effects are extremely small and not injurious.

11.0 FLOOD RISK ASSESSMENT

11.1.1 The proposed extension is greater than 1 ha in area, therefore a Flood Risk Assessment (FRA) has been prepared in accordance with the National Planning Policy Framework (NPPF) and Planning Policy Guidance (PPG). The site is located entirely within Flood Zone 1 on the Environment Agency's Indicative Flood Map, which has an annual probability of fluvial flooding less than 1 in 1000 (<0.1%).

11.1.2 The largest watercourse within the vicinity of the site is the River Etherow which flows in a generally southwest direction to the northwest and west of the site. It is 1.2 km west of the site.

11.1.3 Waterbodies are absent within the proposed extension area, however, of note are two sumps located within the eastern and western extents of the existing quarry void. These sumps form part of the existing water management system at the site.

11.1.4 The local geology comprises Upper Shale deposits, above the sandstone bed, with Lower Shales below. Groundwater travels through the permeable sandstone layers. Hydrogeologically, the geology is classed as a Secondary 'A' Aquifer due to the presence of permeable sandstone layers in the shale strata.

11.1.5 The FRA considers the likelihood of flooding, associated hazards and the vulnerability of the flood receptor. The return period for potential flood events is 100 years and the effects of climate change have been factored in. The proposed lifetime of the quarry is 23 years, therefore an allowance of 10% for climate change has been used for the operational site, and 20% for the restored site.

11.1.6 Mineral extraction and processing are currently undertaken within the existing quarry; these activities are classed as 'less vulnerable'. The restored site (grassland, woodland, nature conservation habitats) is defined as 'less vulnerable', with nature conservation deemed to be 'water compatible'.

11.1.7 The village of Shaw and Higher Dinting Farm form 'highly vulnerable' receptors within the locality of the site. Other receptors outside the site, comprising roads and agricultural fields, are all classed as 'less vulnerable'.

Flood risk to the site

11.1.8 The risk of flooding to the site has been assessed by examining the likelihood of flooding, the hazard caused if it were to flood and the vulnerability of the site. This has been undertaken for a range of likely mechanisms using both quantitative and qualitative methods.

11.1.9 The risk of flooding from fluvial (considered to be 'very low'), surface water (considered to be 'very low'), groundwater (considered to be 'very low'), and sewage/water mains (considered to be 'negligible') has been assessed.

Flood risk from the site

11.1.10 The risk of flooding from fluvial (considered to be 'very low'), surface water (considered to be 'low'), groundwater (considered to be 'very low'), and sewage/water mains (considered to be 'negligible') has been assessed.

11.1.11 The increase in surface water run-off from the site is estimated by evaluating the run-off rates from the greenfield site and then from the proposed development. The development will be carried out in a phased manner, however to provide a conservative approach run-off volume has been calculated for the maximum extent of working.

11.1.12 Surface water run-off calculations indicate that run-off increases over the lifetime of mineral extraction due to the increase in quarry surfaces.

11.1.13 For the 1 in 100-year (+ 10% climate change) design rainfall event, run-off for the existing site plus extension area would be accommodated through creation of the quarry sump within each phase. The void areas will have adequate storage capacity to provide sufficient attenuation storage for run-off from the site.

11.1.14 For the post-restoration site, the run-off rate for a 1 in 100-year event + 20% climate change is such that it is not necessary to provide additional storage attenuation for the volume of water generated in the design event, since run-off from the restored site will be captured within the waterbody in the seasonal wetland area and will infiltrate naturally into the underlying sandstone. This waterbody is considered to possess more than adequate capacity to accommodate the run-off for a 1 in 100-year event + 20% climate change event.

11.1.15 The majority of the site is currently at 'very low' risk of surface water flooding with localised areas of 'low', 'medium' and 'high' risk associated with features of the existing quarry. It is not anticipated that this will change as mineral extraction progresses at the site, since future working will represent a continuation of the current operation. Therefore the proposed extension will not increase the risk of flooding to the surrounding area.

11.1.16 Safe egress routes from the quarry area for personnel and mobile plant will be maintained during all stages of working. The lowest parts of the quarry void will not contain any buildings and potential depths of inundation are not considered to represent a risk to personnel or plant. Surface water is currently managed effectively in the existing quarry.

11.1.17 The proposed restoration is to agricultural grassland, woodland and a variety of nature conservation habitats. Existing site infrastructure will be removed. The post-restoration landform is considered to possess adequate capacity to accommodate the anticipated volume of water ingress, thereby reducing the risk of surface water flooding to external receptors.

11.1.18 It is considered that the proposed quarry extension would not increase flood risk to either the existing site or the surrounding area. As such, the development satisfies the flood risk requirements of the NPPF, associated technical guidance and local policy.

12.0 NOISE IMPACT ASSESSMENT

12.1.1 Existing sound levels have been measured at locations chosen to represent noise-sensitive premises in the vicinity of the proposed extraction area.

12.1.2 Predicted noise levels from proposed quarry operations have been calculated at nearby noise-sensitive premises. These predictions are based on information provided by the applicant which include site layout details, required items of plant and intended methods and times of working.

12.1.3 The proposed mineral extraction operations at Mouselow Quarry have been assessed with reference to Planning Practice Guidance to the National Planning Policy Framework.

12.1.4 The proposed scheme is considered able to operate in accordance with the noise standards recommended within current Planning Practice Guidance for mineral sites.

13.0 AIR QUALITY ASSESSMENT

13.1.1 The plant and equipment required to work the proposed western extension to extraction operations at Mouselow Quarry, together with associated vehicle movements, have the potential to generate dust and other airborne pollutants in the immediate vicinity of their operations. The likelihood of problems caused by such pollutants will be largely influenced by the effectiveness of on-site environmental control.

13.1.2 Potential dust sources have been identified and best practice dust control measures recommended in order to minimise any such disturbance at nearby sensitive locations.

13.1.3 The current dust climate has been measured at the site boundary and these are seen to be typical of a rural/town outskirts area.

13.1.4 Climatic conditions local to the site have been accessed and analysed to give an indication of how often the site could be susceptible to fugitive dust events. Such occasions are relatively few.

13.1.5 A full assessment of fine particles (PM_{10}) in line with the latest recommendations has been undertaken and this clearly shows that the Air Quality Objectives are not expected to be exceeded.

13.1.6 Given the intended dust control measures the site can be operated with minimal impact on nearby boundary locations.

14.0 HIGHWAYS AND PUBLIC RIGHTS OF WAY

14.1 Highways

14.1.1 Mouselow Quarry is located of Dinting Road between Glossop and Hadfield, the site is accessed directly off Dinting Road which connects with the A57 main road via Shaw Lane to the west. The A57 connects to the M67 motorway approximately 4.5km north west of the site.

14.1.2 Shale is transported on a regular basis throughout the year from the quarry stockpile approximately 12km (8 miles) to the Denton brickworks for use in the brick making process. Shale transportation amounts to 45,000 tonnes per year, an average of nine loads (18 vehicle movements) per working day.

14.1.3 A relatively small volume of sandstone from the site is used as building stone or construction aggregate as and when required. Sales of sandstone amount to approximately 12,000 tonnes per year, an average of two to three loads (four to six vehicle movements) per working day.

14.1.4 There are additional light vehicle/car movements associated with the site workforce and occasional visiting staff. This would vary between four vehicles (eight movements) per day during shale export and sandstone working and up to 10 vehicles (20 movements) per day when shale extraction is also being undertaken.

14.1.5 The operation of Mouselow Quarry until 2042 has been accepted in planning terms when planning permission was granted in 2014. There are no proposals to alter the level of HGV movement, operating hours or types of HGV used from those considered in the previous EIAs. The highways aspects would remain unchanged as a consequence of developing into the quarry extension area.

14.1.6 A transport assessment was carried out for the 2010 EIA. The level of output assessed in 2010 was 90,000 tonnes per year, twice the current level of output. The EIA concluded that in highway terms there were no problems with highway capacity, vehicle routing, access design or highway safety.

14.1.7 The 2010 EIA and current highway aspects were reviewed as part of the current EIA.

14.1.8 Shale and sandstone extraction remain at considerably reduced levels to those assessed in the 2010 EIA and are only predicted to increase slightly in the future. The tonnage of material in the extension area is comparable to the tonnage of Lower Shale to be relinquished therefore there would be no increase in materials exported from the site.

14.1.9 The use of HGVs was considered to be the only practical means of transporting shale to the Denton brickworks.

14.1.10 Dinting Road and Shaw Lane was found to be the only practical route for HGVs leaving the site to access the A57. The roads were unaltered in terms of width and alignment.

14.1.11 The junctions of Dinting Road/Shaw Lane and Shaw Lane/A57 remain as they were in the 2010 EIA and visibility at the site access is unaltered.

14.1.12 The general level of use of the highway network is likely to be broadly the same as in the 2010 EIA and there are limited additional industrial and residential properties between the site access and the M67.

14.1.13 The continued operation of the site is highly likely to generate lower levels of vehicle movements than previously envisaged as the site activity and output are reduced.

14.1.14 It is considered the existing planning conditions concerning access, traffic, protection of the public highway and working hours are appropriate for the future operation of the site and should be retained.

14.2 Public Rights of Way

14.2.1 There are a number of rights of way in the vicinity of the quarry as shown on the **Site Plan.** One footpath (Glossop no. 101/170) runs through the site adjacent to the western boundary and footpath Glossop no. 102 runs through the south of the site although neither footpath crosses the operational quarry area. A further two footpaths run along the site boundaries, Glossop no. 143/97 to the north of the site, and Glossop no. 100/133 to the east.

14.2.2 The quarry is securely fenced from inadvertent access as required under Health and Safety legislation and is clearly signed around the site boundaries. Footpath no. 102 crosses the site access road and the route is delineated and signed appropriately to make footpath users aware of quarry activities. These measures would be maintained during the continued operation of the site.

14.2.3 The existing quarry operations have a limited impact on footpath users and the continued operation of the site would not create any new impact.

14.2.4 The quarry extension would result in extraction progressing closer to footpath no. 102 although the footpath would not be interrupted or diverted. Secure fencing would be installed around the operational area and warning signs provided.

14.2.5 The proposed restoration scheme includes the creation of new footpaths within the site to allow access once restoration works have been completed. Interpretive signage would be provided along the new footpaths to explain the site history. The new footpaths would have a positive impact on the footpath network and the amenity of the immediate area.

14.2.6 The current controls contained within the planning conditions relating to site boundaries and security are regarded as adequate.

15.0 CLIMATE CHANGE

15.1.1 Planning permission already exists for a continuation of extraction operations and transport movements at the site until 2042. The environmental acceptability of this was previously demonstrated in the 2014 EIA and was accepted by Derbyshire.

15.1.2 The Mouselow quarrying activities are relatively minor in comparison to the level of industrial and manufacturing activities carried out in the general area. Similarly the level of continued traffic movement from the site to the Denton factory is minor in comparison to existing traffic levels on the local highway network. Consequently emissions from combustion engines associated with Mouselow Quarry, which could contribute to the production of greenhouse gases and ultimately climate change, would constitute a minute proportion of the overall emissions in the area.

15.1.3 There are no proposals to increase the amount of material being extracted from the site and there should be no implications for climate change as a consequence.

15.1.4 It is also considered that the extraction of low carbon, low sulphur Upper Shales rather than the high carbon, high sulphur Lower Shales is sustainable development and reduces the release of carbon and sulphur during the brick making process.

15.1.5 It is considered that Mouselow Quarry is a sustainable location, being the closest available resource of brick making material to the Denton brickworks. The supply of material from Mouselow to Denton is preferable to the supply from further afield as there would be a greater level of vehicle movements, fuel use and engine emissions involved which would not be beneficial for climate change.

15.1.6 There would be no implications for the existing flood regime as a consequence of the quarry extension.

15.1.7 The restoration scheme includes woodland and grassland which would not impact negatively on climate change.

15.1.8 The potential impact on the local climate due to the quarry extension is considered negligible.

16.0 HUMAN HEALTH

16.1.1 Schedule 4 of the 2017 EIA Regulations refers to the potential impacts on human health arising from a development and that such impacts should be considered within the EIA where relevant.

16.1.2 Planning permission already exists for mineral extraction at Mouselow until 2042. The environmental acceptability of this was previously demonstrated in the 2014 EIA and was accepted by Derbyshire.

16.1.3 The tonnage of material to be extracted and removed from the site as a consequence of the extension area development is comparable with the 2014 approved scheme because the poor quality Lower Shales are to remain unworked.

16.1.4 There are considered to be less potential for impact on human health by working the Upper Shales which have lower sulphur and carbon levels than the Lower Shales and which result in higher emissions from the Denton brickworks during brick manufacture.

16.1.5 In addition the changes to the restoration scheme to avoid the large deep water body are also considered to be beneficial.

17.0 CUMULATIVE IMPACTS

17.1.1 The ES demonstrates that the environmental impacts of the extraction area development are understood and can be mitigated where necessary to ensure there are no unacceptable impacts, subject to compliance with operational practices and planning conditions.

17.1.2 The alteration of the restoration scheme has positive beneficial impacts and is unlikely to have any cumulative impacts.

17.1.3 The High Peak Local Plan (2016) has been considered to identify potential new developments that may take place in proximity to the site which may contribute to cumulative impacts or potentially be subject to impacts from the quarry extension.

17.1.4 There are several strategic development sites and specific housing allocations within 1000 metres of the quarry extension area.

17.1.5 The Local Plan was adopted after the quarry end date was extended to 2042 in 2014 and consequently the Local Plan would have had consideration of the continued presence of the quarry when identifying various development allocations.

17.1.6 All of the housing allocations lie further away than the existing closest residential receptors. There are several housing allocation sites within the visual study area adopted for the Landscape and Visual Impact Assessment carried out for the quarry extension area.

17.1.7 Any housing allocation to the north, east and south-east of the site would have no view of the site due to the intervening topography of Mouselow Hill.

17.1.8 Any housing allocation within the valley bottom, Dinting Vale, would have no views because of their low elevation in relation to the site and the high proportions of woodland within the valley bottom and along the site's western and southern boundaries.

17.1.9 There are only two housing allocations on the rising ground to the west or south-west which have the potential for views of the site. These are on either side of Glossop Road (A628) as it runs through Gamesley approximately 1500 metres distant. The significance of the visual effects arising from the quarry extension area are considered to be minor adverse during working and restoration, and negligible at 15 years post final restoration.

17.1.10 Quarry operations are carefully managed by adherence to site rules, best practice protocols and controlled by planning conditions to ensure that there are no unacceptable environmental impacts on existing housing. Consequently the development of additional housing in the vicinity would not experience any unacceptable environmental impacts as it would be further away than existing receptors.

17.1.11 The additional housing would result in extra traffic on local roads, some of which would be used by quarry traffic.

17.1.12 It is concluded that the link capacity of Shaw Lane and Dinting Road would not be breached with the cumulative traffic flows associated with the continued quarry operation and the development of the closest housing allocations in the vicinity.

17.1.13 The other roads used by vehicles travelling between Mouselow and Denton are the A57 and M67 both of which accommodate substantial volumes of traffic. The addition of additional traffic from new housing development is unlikely to create highway issues on these roads.

18.0 SOCIO ECONOMIC

18.1.1 The Glossop area has a long history of industrial and manufacturing activities. Quarrying has been carried out at Mouselow since 1840 and there was a brick factory on site previously before brick making transferred to Denton.

18.1.2 The continued operation of Mouselow Quarry would not be an alien activity in the area and would have a number of positive socio-economic effects including the continuation of significant employment levels and financial expenditure within the local economy.

18.1.3 The Denton factory is a substantial modern facility with the ability to produce over 60 million high quality bricks per year which are used in building work throughout the UK. The factory is one of the most efficient brickworks in the UK. Denton was the first brick factory in the world to be certified to the Environmental Management System standard BS EN ISO 14001 (then called BS 7750). This certification has been maintained continuously up to the present day.

18.1.4 Denton relies on shale from Mouselow and would not be able to remain open without the readily available resources of shale.

18.1.5 Mouselow Quarry and the Denton factory support over 50 direct employees as well as additional indirect employees. The two sites contribute over £7.5 million every year to the economy in terms of purchases, wages, rates, and other expenditure, a significant amount of which provides a local economic benefit.

18.1.6 Sandstone is also produced at Mouselow as high quality building stone and a minor amount of construction aggregates. The building stone comes from the Huddersfield White Rock formation which is an important source of high quality building stone used in renovation work and new building both locally to support built heritage and further afield.

18.1.7 The EIA has considered the continued operation of the site and has concluded that there would be no unacceptable environmental impacts. It is considered that there would be no unacceptable socio-economic impacts from the continued operation of the site subject to compliance with operational controls and planning conditions.

18.1.8 The continued operation of the site is highly likely to generate a long term, positive financial impact for the economy.

19.0 CONCLUSIONS

19.1.1 The Environmental Statement accompanies a planning application by Wienerberger for the extension of Mouselow Quarry in a westerly direction. The extension area is identified for potential future mineral extraction in the emerging Derbyshire Mineral Plan.

19.1.2 Mouselow Quarry is the main source of raw materials for the major Denton Brickworks. The remaining reserves of high quality Upper Shale material are very limited and are only sufficient for four years supply.

19.1.3 There are extensive reserves of lower quality Lower Shale material which can no longer be reliably used at Denton because of the high sulphur and carbon emissions and the strict air quality controls at the site. It is proposed to relinquish the planning permission for the lower quality Lower Shale material and extend into further high quality Upper Shale material to keep the brickworks supplied for a further 19 years. This would allow the brickworks to continue with its associated economic and social benefits.

19.1.4 Additional high quality building stone would also be released.

19.1.5 Retaining the Lower Shales would avoid extracting beneath the water table and the extensive dewatering necessary to achieve this. A major change to the approved restoration for the site would be possible by removing the large deep water body. Instead the restoration would provide grazing land, amenity grassland and woodland which would be more in keeping with the local area. The safety concerns of the deep water body would also be avoided.

19.1.6 There are no proposals to alter the end date of the site, the method of working, the operational hours or the site access.

19.1.7 The proposed development has been subject to a thorough assessment as required by the Environmental Impact Regulations to determine the potential impacts on the environment and on local amenity.

19.1.8 It is considered that there would be no unacceptable environmental or amenity impacts on the local area as a consequence of the development.

List of Plans

Location Plan
Landholding Plan
Aerial Photograph
Site Plan
Quarry Extension Phasing Plans (set of nine plans)
Restoration Concept
Summary Borehole Plan
High Peak Local Plan Development Areas