



Minerals and Waste Planning
Environmental Permitting
Quarry Consultant

**PLANNING APPLICATION FOR THE EXTENSION OF QUARRYING
WITH RESTORATION BY MEANS OF INFILL
AT HILLHOUSE EDGE QUARRY
CARTWORTH MOOR, HOLMFIRTH**

SUPPORTING STATEMENT

**SUBMITTED ON BEHALF OF
SAXONMOOR LTD
HILLHOUSE EDGE QUARRY
CARTWORTH MOOR ROAD, HOLMFIRTH
HUDDERSFIELD HD9 2RL**

JUNE 2019

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1. INTRODUCTION

- 1.1 We are instructed by Saxonmoor Ltd (The Applicant) to submit a planning application for the northward extension of the quarry excavation at Hillhouse Edge Quarry, Cartworth Moor Road. Drawing 10172/01 shows the Quarry location and the existing planning permission boundaries, together with the most recent topographical survey which was completed in February 2019.
- 1.2 The extension occupies the field which lies immediately to the north of permission reference 2002/62/90557/WO, as shown on drawing 10172/01, and extends to 0.71ha.
- 1.3 The Quarry is located at the northern end of Cartworth Moor at an elevation of between 314m and 335m aod, overlooking the Holme Valley to the south of Holmfirth. Quarrying here has been carried on for over 114 years and the Quarry has been in the same ownership since 1978.
- 1.4 The Applicant has made significant investment in computer controlled stone saw technology to enable them to provide high specification masonry stone to building projects all over the United Kingdom and Ireland. The Company needs an assured supply of stone from the quarry to enable them to maintain production. Although the principle product from the business is masonry stone, the Company also produces walling and garden stone, crazy paving and aggregate. These products are produced from the quarried stone that is unable to be used for the higher grade products.
- 1.5 As the Quarry has been extended northward, soils, overburden and reject rock has been used to backfill and restore the southernmost part of the quarry, the extent of which is shown on drawing 10172/01. The area within permission 2015/70/90531/WO is now close to exhaustion. Only the western edge remains, which formerly lay under the access road down into the quarry, together with the bottom 6m to 8m below the current quarry floor. The latter can only be extracted when the quarry is extended northwards due to the limited space available within the current planning permission.

2. SITE DESCRIPTION

- 2.1 Hillhouse Edge Quarry is situated on the western edge of Cartworth Moor, Approximately one kilometre to the south west of Holmfirth. The Quarry lies at the top of the eastern slope of the River Holme Valley, between 320m and 335m aod. The Quarry is accessed from Cartworth Moor Road, 180 metres to the south of its junction with Gill Lane/Cartworth Bank Road. The general disposition of the surrounding area is shown on drawing 10172/01.

- 2.2 Other than the northern part of the quarry, the workings are of some antiquity. The site was formerly a number of smaller quarries, the main one of which has been operating since 1905. There are a number of other quarries in the vicinity, of which only one is currently operational. This is Windy Ridge Quarry, which lies immediately to the south of this site. Woodhouse Quarry which has been recently operated lies 200m to the west.
- 2.3 Hillhouse Edge Quarry is located on the edge of the escarpment feature formed by the Huddersfield White Rock, between 25m and 32m above White Gate Road, which runs north to south at the foot of the escarpment. The Quarry is excavated into the dip slope of the Huddersfield White Rock, which dips to the north east. The southern part of the Quarry lies at 335m aod, and the ground slopes down to 318 metres above ordnance datum at the northern boundary of the current planning permission area.
- 2.4 The escarpment to the east is steep and heather clad, with many loose boulders strewn over the slope. A number of tracks lead down from the Hillhouse Edge Quarry workings at the top of the slope, but none of these have been in use for some time. Further to the south, Windy Ridge Quarry is also served by an access onto Cartworth Moor Road to the south of the Hillhouse Edge Quarry access.
- 2.5 The general landscape around the quarry is largely treeless and dry stone walls form all the field boundaries. There are no mature trees within the site boundary, although some trees have been planted as part of a landscaping scheme around the chicken unit adjacent to the quarry to the south.
- 2.6 There are a number of dwellings within 300 metres of the Application boundary. Quarry House is 35m distant to the north and is situated within a disused quarry at a depth of approximately 9m below original ground level. The house is thus well shielded from quarry operations.
- 2.7 The hamlet of Hill House is 80m from the western application boundary. The four houses in the hamlet lie at 288m aod at the foot of the Huddersfield White Rock escarpment and are thus also well shielded from site operations.
- 2.8 Old Yew and Nether Hill House Farm are 225m and 190m to the north respectively and also lie at the foot of the escarpment feature being shielded by it. Another small hamlet at Well House, comprises 12 houses and is situated around 260m to the north east, down the dip slope at a height of 300 metres above ordnance datum. There are a number of other isolated dwellings, mainly farms, within 500 metres of the site boundary. These dwellings are however, either well below the quarry level and to the west, or further down the dip slope to the north and east.

- 2.9 Because of the topography, none of the surrounding dwellings have a view into the quarry workings, although the roof of the stone saw shed is just visible above ground level. The saw shed roof however, does not have the visual impact of the chicken unit situated immediately adjacent to the quarry.
- 2.10 The Quarry lies at high level and there are few views afforded of the workings other than within the immediate locality around Cartworth Moor Road. The site is thus almost invisible in the general landscape to the south of Holmfirth.
- 2.11 The local road network is largely composed of narrow country lanes characterised by sharp bends and most are unsuitable for heavy goods vehicles. The quarry access emerges onto Cartworth Moor Road as shown on Drawing 10172/02, a straight road running north north east to south south west.
- 2.12 Cartworth Moor Road ends at a crossroads with Gill Lane and Cartworth Bank Road 180m to the north of the quarry access. Cars and light traffic can travel towards Holmfirth either via Gill Lane, Stony Gate and northwards along Hill House Road or via Cartworth Bank Road. Neither route is suitable for heavy goods vehicles.
- 2.13 Heavy goods vehicles from the quarry travel along Cartworth Moor Road, which is unmade for part of its length, to join Linshaw's Road 1600 metres to the south. From this junction, traffic can travel to the east towards the B6106 (Penistone to Holmfirth) and the A616 (Sheffield to Huddersfield).

3. GEOLOGY AND MINERAL RESERVES

- 3.1 The sandstone worked at Hillhouse Edge Quarry is the Huddersfield White Rock, one of the primary sources of high quality masonry stone in West Yorkshire. At Cartworth Moor, the White Rock is approximately 26 metres thick and consists of a succession of alternating layers of shale, sandy shale and flagstone. The most important horizon is a 5 metre thick bed of fine-grained, grey, massive sandstone, which can be described as "Hard York Sandstone", and lies towards the base of the White Rock. It is this bed that provides the high quality masonry stone that can be sawn to create building and architectural products.
- 3.2 The best quality stone is fine grained and holds a good arris or corner. It is excellent for decorative features due to its natural variation in colour, and is in great demand by architects. Much of the stone is matched to existing stone for repairs to old buildings, and the computer controlled equipment installed in the quarry enables the Applicant to supply all shapes of stone to fit architectural requirements.

- 3.3 In the last 15 years, stone has been supplied for repairs at Harewood House to the north of Leeds, Halsall House at Ormskirk, Castle Howard and Caernarfon Castle. The stone has also been used in paving for Castletown House and Coolmoor Stud in Ireland and for Coventry's Phoenix Square. Finished masonry has been supplied to the Tate Gallery and the British Museum in London, Margate seafront and in the form of new shop fronts and window surrounds for the Kingsgate shopping development in Huddersfield.
- 3.4 More recently, the stone has been used to repave the inside of Wakefield Cathedral and in restoration work at Wakefield County Hall and Town Hall. Other projects where the quarry stone has been used include St Mary's Church Honley and Holy Trinity Church in Huddersfield. The stone has been used to pave areas at Seaton Delaval Hall in Whitley Bay, at Hampton Court and Tower Bridge in York. Stone has also been supplied to Welcome To Yorkshire for its display at the Chelsea Flower Show, as well as numerous local builders who have been supplied with stone for house building, extensions and remedial work.
- 3.5 Above and below the fine-grained massive sandstone lie beds of flaggy stone which, although they cannot be used as masonry stone, can produce walling and garden stone, and aggregate.
- 3.6 The Huddersfield White Rock is one of the major sandstone members which comprise the Marsdenian measures of the Namurian or Millstone Grit Series. Together with the Greenmoor Rock, the Huddersfield White Rock is the main source of blockstone for masonry purposes. Other than Cartworth Moor, the only other source of the White Rock in the Huddersfield area is Johnsons Wellfield Quarries Ltd at Crossland Moor.
- 3.7 A typical section through the quarry face would show the following:
- | | |
|----------------------------------|--------|
| Soil | 0.25 m |
| Weathered sandstone | 1.75 m |
| Bedded sandstone and shale "Rag" | 2 m |
| Sandstone | 14 m |
| Sandstone "Ashlar" | 3 m |
| Bedded sandstone and shale "Rag" | 3 m |
| Shale | below |
- 3.8 The Ashlar at the base of the White Rock provides the best quality masonry stone. Above that, the sandstone is of variable quality and although blockstone can sometimes be pulled from it, most is only suitable for garden and walling stone with the remainder being crushed for use as aggregate. The Rag above the main body of the

White Rock, provides crazy paving, walling and garden stone. The Rag below the Ashlar tends to be below the maximum depth of working and has not been worked.

- 3.9 The Huddersfield White Rock has a general dip to the north east and this is reflected in surface levels which are at 335m aod at the southern end of the quarry and drop to 317m aod on the northern boundary of the application area. Boreholes drilled in the last few years show that the top of the shale below the bottom Rag is 22m deep at Windy Ridge Quarry to the south of Hillhouse Edge Quarry, and 25m deep adjacent to Cartworth Moor Cricket field to the north of the application area.
- 3.10 Borehole cores do not give useful information because of the variability of the stone, and as a consequence, estimates of the quantity of the best quality blockstone are unreliable. However, excavations within the northern quarry over the last 15 years have provided a good yield of the best quality stone, and it is hoped that this will continue as the quarry is deepened.
- 3.11 Aggregate production is very much a by-product from the quarry as it is the lowest priced commodity produced. Only that stone which is not suitable for other products will be crushed as aggregate, most of which will come from the stone offcuts and the smaller sized stone from the quarry face.
- 3.12 It is important that aggregate and walling and gabion stone continue to be sold offsite as otherwise, the quarry risks becoming muck-bound, where unwanted materials prevent access to the valuable stone below.
- 3.13 It is very difficult to estimate the remaining stone reserves as quality varies both horizontally and vertically. In recent excavations, the blockstone horizon has lifted up, potentially increasing its thickness and it is clear that there remains sufficient stone for a number of years into the future.
- 3.14 The projected extraction area covers some 5,800m² of ground, which should yield around 80,000m³ of stone with no allowance for rejects. This area should yield approximately 96,000m³ of sandstone of which only 14,000 m³ will be the Ashlar. Around 50% of the stone is waste when pulled from the face and a further 50% of the remainder is waste from the sawing process. At 2.3 tonnes per m³, the northern field will therefore yield approximately 8,000 tonnes of the best quality stone and a further 36,200 tonnes of lesser quality stone.
- 3.15 Present sales of masonry stone products have averaged 1,500 tonnes per annum and aggregate sales have averaged 5,000 tonnes per annum. The additional field should provide sufficient high quality stone for around 5 years. However, it must be

emphasised that this is very much a maximum and the actual yield may be significantly lower.

- 3.16 Some stone reserves lie below current excavation levels in the existing quarry. Current maximum depth reached is 306m aod, which lies some 6m to 8m above maximum permitted levels. The lower stone reserves cannot be reached until the quarry is extended to the north due to a current lack of space.

4. PROPOSED METHOD OF WORKING AND RESTORATION

- 4.1 A geotechnical assessment has been carried out to arrive at a safe and stable stand-off to the old quarry faces which exist at in the north west corner of the site, overlooking Quarry House. The assessment, which is attached as Appendix 1, recommended a stand-off of 10m where old quarry faces abut the site boundary, with a 3m stand-off on the eastern side.
- 4.2 The excavation boundary shown on drawing 10172/02 follows this advice, but extends the stand-off to 5m to the south and east of the 10m section. This is to accommodate the required volume of soil storage.
- 4.3 The existing quarry access road crosses the northern edge of the existing planning permission area and in this position, it blocks entry into the northern extension. The intention therefore is to move the ramp down into the Quarry from the western side to a central position. This will allow the excavation to be extended northward along the western side, shown as Phase 1.
- 4.4 At the same time as excavation within Phase 1, the remaining reserves on the eastern side of the current permission will be recovered. Overburden and reject rock from Phase 1 will then be used to construct a new ramp down into the quarry on the eastern side, where the access road ramp was formerly located. This will then open up access to Phase 2 and the recovery of stone from below 308/306m within the existing permission area.
- 4.5 Finally, the excavation will be extended into the Phase 3 area to complete the workings.
- 4.6 Soils will be stripped and stored along the western and northern perimeters, and the current soil mound on the northern boundary of the existing permission will also be moved. The soil mounds will be formed to a maximum height of 2m and will be dressed and grassed as soon as possible after formation. All soils will be stripped in advance from areas which will be run over by mobile plant.

- 4.7 Any excess overburden and reject stone over and above that required to form the access ramps, will be used to fill and restore the northern section of the southern quarry (permission reference 2002/70/90705/WO). Soils stripped from the extension area will be placed on the surface of the backfill to bring the whole of the southern quarry back into agricultural use. A 1:2 gradient slope will remain on the northern edge of the southern quarry immediately to the south of the saw sheds. The extent of the proposed restoration is shown on Drawing 10172/03.
- 4.8 Backfill will be placed in shallow layers and compacted by running over with quarry plant. The fill surface will be ripped to a depth of 450mm at spacings of not more than 780mm in order to relieve compaction. All stones with a diameter of more than 75mm will be removed from the surface and disposed of within the backfill or removed off site.
- 4.9 Soils will be relaid to a minimum depth of 1m, comprising topsoil, subsoil and soil making materials. All soil handling, including stripping shall only be carried out when the soils are in a dry and friable condition. Soils will be stripped and relaid using mobile plant that will minimise compaction.
- 4.10 Once the southern quarry has been filled, infill will be used to progressively fill the central quarry area (permission 2002/70/90706/WO) south to north to the 316m aod level. Where infill is placed within the central quarry area, a depth of 500mm of gravel sized material will be placed and compacted to form a liner. This material will be placed up the quarry faces to a thickness of 500mm as levels are raised. The purpose of the liner is to minimise the escape of fine materials into the groundwater system below the quarry. This design is in accordance with details approved by Kirklees Council as required by conditions attached to the existing planning permissions.
- 4.11 The saw shed were equipped with filter presses in the mid 2000s and since then filter cake has been buried within the backfill in a series of cells, which have been covered as soon as possible after placement. The method of disposal of the filter cake is in accordance with the scheme approved by Kirklees Council. At the present time, the filter cake is buried in the southern quarry, but once this has been filled, the filter cake will be disposed of within the central quarry.
- 4.12 All stone, aggregate and cobble will be stockpiled within 2002/70/90706/WO to the north of the main saw shed. No stockpiles will be allowed to protrude above original ground level around the quarry.
- 4.13 It is unlikely that other than in the southern quarry, restoration will be achieved to the final levels shown on drawing 10172/04 without the import of fill materials. Soils

stockpiled around the extension perimeter area are therefore likely to remain until after extraction has been completed.

- 4.14 Any void remaining after extraction has been completed will be filled to original ground levels as shown on drawing 10172/04, with the soils relaid from the perimeter stockpiles supplemented where necessary by imported soils and soil making materials.
- 4.15 The saw sheds and other quarry buildings will be removed from the Quarry after extraction has ceased and prior to final infill.
- 4.16 The land will be looked after in accordance with a 5 year aftercare scheme to be approved by Kirklees Council. Walls and field gates will be constructed in the positions shown on drawing 10172/04. The walls will be of dry stone construction to fit the local style and the gates will be standard wooden field gates. Full details of construction will be submitted for approval before construction and installation takes place.

5. FLOOD RISK ASSESSMENT

- 5.1 The area occupied by the quarry extension is 0.71 Ha and falls entirely within Flood Zone 1 where all uses of land are appropriate as noted in Table 1 of The National Planning Policy Framework Technical Guidance. All developments of 1 ha or over require a Flood Risk Assessment. As the whole quarry is in excess of 1ha in extent, a Flood Risk Assessment has been prepared by S M Foster Associates of Boston Spa and is attached as Appendix 4.
- 5.2 The Assessment concluded that on the basis of available evidence, no additional on-site surface water control measures are required in relation to flood risk management. The proposed development is unlikely to have any adverse impact on flood risk at the site or the surrounding area.
- 5.3 The proposed development therefore satisfies the requirements of the Framework with regard to flood risk.

6. PLANNING HISTORY

- 6.1 Although quarries have existed on this site for in excess of 138 years, the first planning permission was granted under reference HO/77/A by West Riding County Council on 12 October 1950. This permission was reviewed under the provisions of section 96 and Schedules 13 and 14 of the Environment Act 1995 and the decision notice was issued on 16 August 2000.
- 6.2 Planning permission was obtained in 1996 under reference 90/62/06668 for the area of old workings to the south of HO/77/A following an application submitted in 6 December

1990. Permission was granted on 22 July 22 1996. This planning permission superseded an earlier permission under reference 79/62/07836/C1.

- 6.3 The saw sheds within the area of HO/77/A have been erected under planning permissions 95/62/92984/WO dated 29 December 1995 and 97/62/91802/WO dated 10 December 1995.
- 6.4 The two planning permissions (HO/77/A and 90/62/06668) were each varied to amend the depth limitation and the new permissions under reference 2002/70/90705/WO and 2002/70/90706/WO were issued dated 10 December 2003. At the same time a northern extension of the quarry was permitted under reference 2002/62/90557/WO. The three permissions were subject to a Section 106 Agreement which required the provision of mains water supply to Hillhouse. The obligation was discharged by Kirklees Council in a letter dated 20 August 2004.
- 6.5 Conditions attached to the three planning permissions have all been discharged. Of note is the approval given to export aggregate, walling and gabion stone in 2012.
- 6.6 All three planning permissions were further varied in June 2014 to extend the timescale permitted to 31 December 2028 and to change the working and restoration schemes. An application was submitted in 2014 for the construction of a new access road into the quarry to allow access to the stone reserves under the access road which ramped down into the Quarry on its eastern side. The new access road was to ramp down on the western side of the quarry. Permission was granted in June 2015 after an application to vary condition 3 of permission 2013/70/93800/WO was submitted.
- 6.7 The current planning permissions are therefore as follows:
2015/70/90531/W (formerly 2002/90557) for the northern part of the Quarry,
2013/70/93799/WO (formerly 2002/90706) for the central part of the Quarry, and
2013/70/93798/WO (formerly 2002/90705) for the southern part of the Quarry.
The three planning permission decision notices are attached as Appendix 2 and the permission boundaries are shown on drawing 10172/01.

7. PLANNING POLICY

- 7.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 (“the Act”) requires that all planning applications should be determined in accordance with the development plan unless material considerations indicate otherwise. In this instance, the statutory development plan consists of The Kirklees Local Plan (2019).
- 7.2 National policy as set out in the National Planning Policy Framework 2019 (Framework) is also an important material consideration.

The National Planning Policy Framework

- 7.3 The National Planning Policy Framework (Framework) sets out the purpose of the planning system as contributing to the achievement of sustainable development.

Sustainable Development

- 7.4 At the heart of the Framework is a presumption in favour of sustainable development. In essence this means that development proposals that accord with the development plan should be approved. Where the development plan policies lack relevance, planning permission should be granted unless the adverse effects of doing so would outweigh the benefits when assessed against the Framework policies taken as a whole. The corollary is that where there is conflict with an up to date development plan, planning permission should be refused unless material considerations are strong enough to outweigh the conflict and justify approval.

- 7.5 The proposed extension area is within a Minerals Preferred Area allocated by the Kirklees Local Plan (Local Plan ID:MPA3). The extension is therefore in accordance with the Development Plan providing the general policy criteria are met.

- 7.6 A definition of sustainable development is set out in the Framework's introduction, and is taken from the World Commission on Environment and Development in 1987:

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The Framework describes the three dimensions to sustainable development as economic, social and environmental, and seeks positive improvements in the quality of the built, natural and historic environment.

- 7.7 Paragraph 11 of the NPPF sets out the presumption in favour of sustainable development, which for decision-taking means:

"approving development proposals that accord with an up-to-date development plan without delay; or where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

- i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*
- ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole."*

- 7.8 The extension of the Quarry will enable the continuation of the supply of sandstone for the construction industry. A major part of this will be high quality masonry stone, but gabion and walling stone as well as aggregate will also produced from quarry waste and reject stone. The block stone is a scarce resource and is in much demand for architectural purposes.
- 7.9 As the mineral working is a continuation of an existing quarry, overall environmental impacts will be limited. The benefits arising from the supply of the stone to the construction industry will significantly outweigh any environmental impacts. The continued operation of the quarry can therefore be classed as sustainable development as defined in the Framework.

Climate Change and Flooding

- 7.10 The locality is not shown on the Environment Agency Flood Map as being at risk of flooding from any source. As the Quarry area is greater than 1 hectare in size, a Flood Risk Assessment has been carried out.
- 7.11 In the absence of risk to the site or surrounding area there is no requirement for any additional flood risk mitigation or management measures for the Quarry. Site operations are therefore compliant with the National Planning Policy Framework and local authority policy related to development and flood risk.

The Natural Environment

- 7.12 Paragraph 170 states that the planning system should contribute to and enhance the natural and local environment by:
- "preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability."*
- 7.13 The proposed development has no impact on any designated ecological sites and can be operated without any significant noise or other environmental impacts on the adjacent residential areas.
- 7.14 The Quarry is located in the Green Belt. The Framework in paragraph 146, notes that *"Certain other forms of development are also not inappropriate in Green Belt provided they preserve the openness of the Green Belt and do not conflict with the purposes of including land within it."* These include mineral extraction and engineering operations. The issue of openness is addressed further under paragraphs 7.33 to 7.39 following.

The Sustainable Use of Minerals

7.15 The Framework advises in paragraph 203 that:

"It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation."

7.16 The Framework also directs that great weight should be given to the benefits of mineral extraction, including to the economy. Paragraph 205(g) recommends that local authorities *"recognise the small-scale nature and impact of building and roofing stone quarries, and the need for a flexible approach to the duration of planning permissions reflecting the intermittent or low rate of working at many sites"*.

7.17 The Huddersfield White Rock found at Hillhouse Edge Quarry is one of the premier Yorkshire masonry stone sources, much in demand for repairs to existing buildings and for new build in the vernacular. This is a small scale quarry reflecting the low rate of working, typical of this type of quarry.

7.18 The Technical Guidance to the NPPF sets out detailed considerations to be applied to Mineral Working, including those dealing with dust, noise, surface stability, restoration and aftercare. The approved proposed working method has incorporated the need to minimise dust impacts. Water based dust control systems are fitted to crushing and screening plant as required under local authority environmental permitting controls. The operator will ensure that the site operates under a full dust control system which will provide effective controls.

7.19 All mobile plant will operate below ground level for the majority of the time, and the crushing and screening plant is located on the floor of the Quarry. Only when restoration levels approach the surface will mobile plant operate without the benefit of acoustic screening. Given the low level of activity and the fact that there are only a small number of nearby dwellings which are all shielded by the local topography, noise impacts will be within accepted limits and the site can comply with the Framework Technical Guidance. The operator is not aware of any complaints regarding noise or dust impacts that have arisen in the past 10 to 15 years.

7.20 Restoration within the existing Quarry will be to original ground levels in accordance with the current approved scheme under the three planning permissions. At some point in the future, this will require the import of waste materials to fill the final void. To date, all restoration has been carried out using quarried overburden and quarry waste,

and this can continue into the proposed extension area. Once the quarry workings have been excavated to the maximum extent and if a further extension in area is not permitted, the final void will need to be filled to original ground levels with imported waste.

7.21 It is likely that such wastes will need to be inert materials in order to avoid contamination of groundwater. The remaining void will be too small to justify the costs of measures such as installing a lining system for anything other than inert materials. The extent of the resultant void space is not possible to predict at the present time, and it is likely that the quarry will not be worked out within the next 20 years.

7.22 Depending on the legal waste management regime applicable at the time, some form of Environmental permit will be required. This offers the means of controlling how the final void is filled and the environmental controls required. It should be noted that paragraph 7 of the National Planning Policy for Waste (2014) advises that planning authorities should:

"concern themselves with implementing the planning strategy in the Local Plan and not with the control of processes which are a matter for the pollution control authorities. Waste planning authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced."

7.23 There is therefore no doubt therefore that a satisfactory restoration can be achieved.

7.24 The benefits arising from the continuation of operations at the Quarry significantly outweigh environmental impacts and therefore the proposed development is a sustainable development. As a sustainable development, the Framework presumption in favour should apply.

The Kirklees Local Plan (2019)

7.25 Paragraph 15.7 acknowledges the importance of blockstone quarries in Kirklees, stating that:

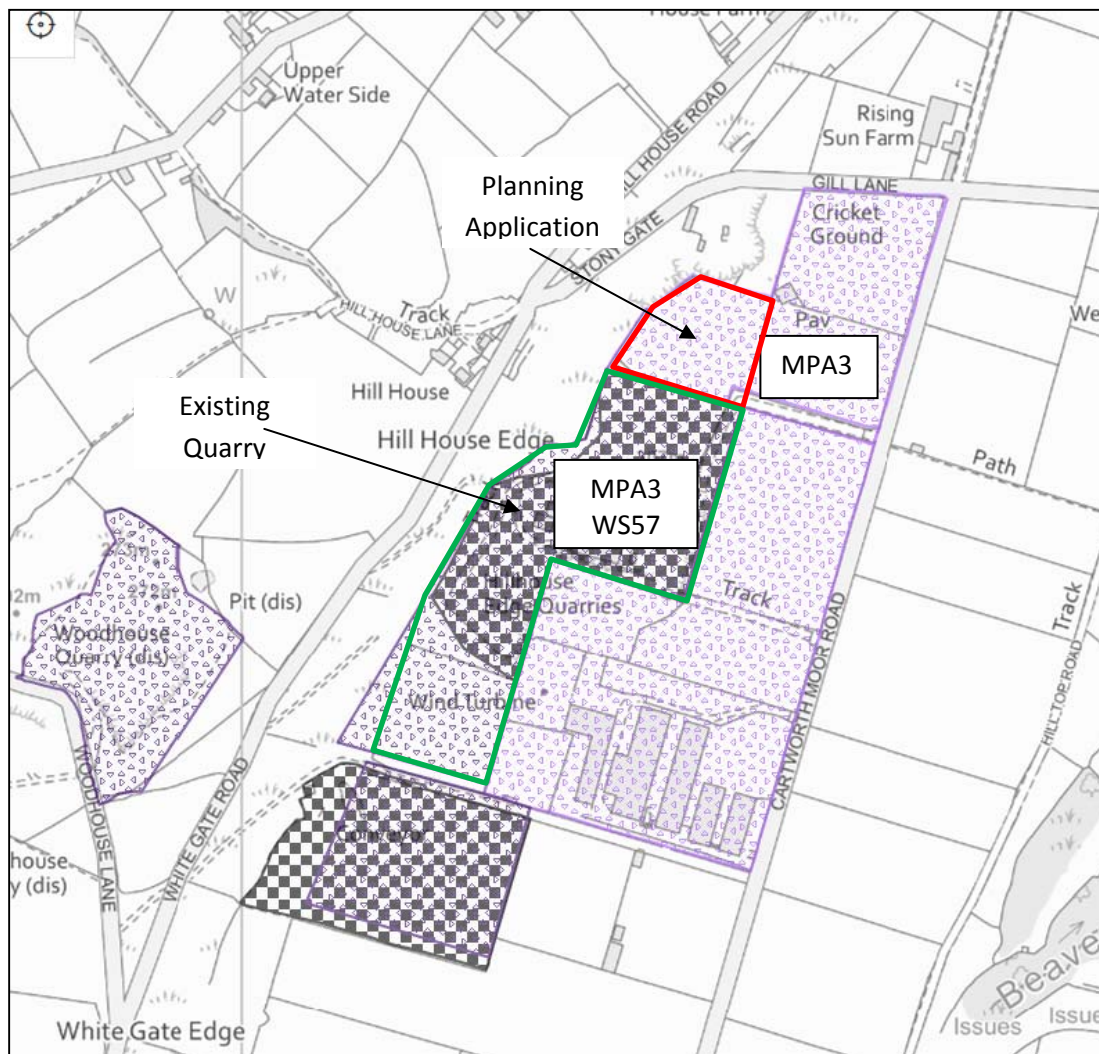
"The blockstone produced in the western side of the district represents some of the highest quality building stone in the UK and is used for facing civic buildings and major private sector developments throughout the UK and therefore satisfies a national need. The stone combines resistance to weathering with an attractive colour and appearance. This stone is vital to the success of local building projects and to enable construction projects in Conservation Areas and on listed buildings to be completed."

7.26 The importance of Hillhouse Edge Quarry as a producer of masonry blockstone is recognised in that the proposed extension is within an allocation as a Minerals

preferred Area (MPA3). The area covered is shown in Figure 1 below, which is an extract from the Plan Policies Map. The existing quarry is also shown as a Mineral Extraction Site (MES19) and as Waste Allocation WS57.

7.27 Paragraph 15.3 notes that *"The release of allocated sites will be linked to a demonstrated need for the mineral and, in general, permission will only be granted when an operator's remaining permitted reserves are approaching exhaustion."* In this case, because of the limited area available within the quarry, it is not possible to access the reserves below the current quarry floor without extending the area covered by the excavation. In addition, the need to both accommodate an access ramp down into the Quarry and to recover reserves on the eastern side of the quarry, requires the excavation of overburden to provide fill materials.

Figure 1: Extract from Kirklees Local Plan Policies Map



7.28 The proposed extension of the extraction area is therefore required to facilitate continuing extraction before currently permitted reserves are exhausted.

7.29 Policy LP36 deals with the issues involved with mineral extraction, and states that proposals will be considered having regard to:

- "a. the impact on the environment including water resources and the best and the most versatile agricultural land;*
- b. the impact on residential amenity, highway safety and local heritage assets;*
- c. the impact on human health;*
- d. any cumulative effects arising from multiple impacts from individual sites and/or a number of sites in a locality."*

Proposals for mineral extraction will be permitted providing they will not:

- "a. cause unacceptable detriment to the landscape including its character or local visual amenity during or subsequent to extraction;*
- b. be materially detrimental to interests of nature conservation, cultural heritage, geological or archaeological importance;*
- c. cause nuisance or materially significant disturbance to local residents as a consequence of the generation of dust, noise or vibration by site operations or associated transport;*
- d. prejudice highway safety through the volume or nature of vehicle movements generated;*
- e. result in pollution of water resources or soils or the interruption of land drainage;*
- f. cause materially significant permanent change to local rights of way networks; or*
- g. result in permanent loss of best and most versatile agricultural land."*

The policy also notes that, *"subject to compliance with the above criteria the Council will support development proposals for the provision of local stone types which are specifically required to carry out heritage asset repairs within the district."*

7.30 The criteria set out above are met by these proposals, which have been designed to minimise environmental and amenity impacts. Assessments have been carried out on noise and groundwater impacts, as set out in section 8 following. Dust and traffic generation have also been covered in this section along with agriculture and soils.

7.31 Restoration and aftercare are dealt with by Policy LP37. The proposals set out in section 4 above have been designed to meet these requirements, with the proposed use following restoration being for agriculture.

7.32 Chapter 16 of the Local Plan covers Waste and Policy LP46 deals with waste disposal. The Policy states that *"Sites for the disposal of waste will only be permitted where they*

meet a need which cannot be met by treatment higher in the waste hierarchy. If it can be demonstrated that there is a proven need for additional landfill capacity because all other options are not suitable or feasible, this will be provided at existing or former quarry sites shown on the Policies Map."

Hillhouse Edge Quarry has been allocated for waste disposal as site WS57 within the existing quarry. As the void migrates northward, the allocation will need to move with it.

7.33 Chapter 19 covers Green Belt and Open Space and the area around and including the Quarry and the proposed extension lies within the Green Belt as shown on the Plan Policies Map.

7.34 As noted in Paragraph 146 of the Framework, mineral working is not an inappropriate development in the Green Belt, providing that openness is preserved and there is no conflict with the purposes of including land within it. These principles are set out in paragraphs 19.6 to 19.8 of the Local Plan.

7.35 Paragraph 134 of the Framework sets out the five purposes of including land in the Green Belt. These are:

- a) to check the unrestricted sprawl of large built-up areas;
- b) to prevent neighbouring towns merging into one another;
- c) to assist in safeguarding the countryside from encroachment;
- d) to preserve the setting and special character of historic towns; and
- e) to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

The proposed development does not conflict with the purposes identified in a) and b), and neither does it conflict with d) and e).

7.36 With regard to c), safeguarding from encroachment, provision can be and would be made for the restoration of the quarry. The development is therefore not permanent and as a temporary use of land, it would be restored in accordance with an agreed detailed restoration scheme and aftercare management.

7.37 In terms of the openness of the Green Belt, the Quarry lies on the top of a plateau formed by Cartworth Moor. There are three active or recently active quarries in close proximity, and older disused quarries litter the landscape. Quarrying therefore forms part of the landscape character of the area. Hillhouse Edge Quarry lies below ground level with the exception of the perimeter soil storage mounds, which do not have a significant impact due to the many dry stone walls in the locality. These factors all form the openness context to the Quarry.

- 7.38 The conclusion can be drawn that the proposed development does not adversely affect the openness of the Green Belt or any of the purposes of including land within it.
- 7.39 However, without prejudice to the above position, even if this was considered inappropriate development in the Green Belt it is considered that there are very special circumstances which, on balance, would justify the granting of this permission. This includes that the site has been allocated for mineral extraction in the Local Plan. In addition the replacement reserves would potentially also need to be in the Green Belt given the spatial distribution of the Huddersfield White Rock and the need to locate quarries away from settlements. Any harm to the openness of the Green Belt resulting from the proposal, is clearly outweighed by other considerations including meeting the demand for scarce minerals of the type found at this Quarry such that very special circumstances arise.

8. ENVIRONMENTAL IMPACTS

- 8.1 The development plan policies require that consideration be given to the environmental impact of the proposed development. This supporting statement has addressed the issues of landscape, traffic, noise, dust and agriculture.

Landscape Assessment

- 8.2 The locality around the Quarry lies within the D7 Peak Fringe Upland pastures Landscape Character Area defined in the Kirklees District Landscape Character Assessment (2015). The key characteristics of the Character Area include it being a broad terrace between 200m and 350m flanking the slopes and valleys of the South Pennine Moors. The landscape is noted to be sparsely wooded due to exposure with a patchwork of small fields enclosed by dry stone walls. Rough grazing and semi-improved pastures are the main agricultural uses.
- 8.3 The physical features of the locality are dominated by the deep valley of the River Holme, which is orientated north-east to south-west. The valley sides rise from around 182m aod below the site, to 350m aod on the eastern side and 260m to 290m aod immediately on the western side.
- 8.4 The site itself lies on the top of the Cartworth Moor plateau, on the eastern side of the Holme Valley, formed by the dip slope of the Huddersfield White Rock. The quarry is close to the western edge of the plateau between 314m and 335m aod. The high point of the Cartworth Moor plateau is 355m aod, 600m to the south of Hillhouse Edge

Quarry and the Moor surface dips to the north east to around 250m aod to the south of Holmfirth itself.

- 8.5 Cartworth Moor lies at the limit for successful tree growth and the only mature trees around Hill House Edge are to be found in sheltered positions and in the valley on the eastern side. There are no mature trees within the planning application area or in its immediate locality.
- 8.6 The steep escarpment formed by the Huddersfield White Rock on the western boundary of Cartworth Moor is approximately 25m to 30m high and is uncultivated. The vegetation is largely heather and bracken and there are numerous scars left by old tracks leading to the quarries at the top of the slope and by ancient quarry workings and spoil heaps.
- 8.7 The Moor itself is under agricultural use for grazing and dry stone walls form the field boundaries. There are a few isolated farm dwellings on the Moor and a large intensive chicken rearing unit is sited on the south east boundary of the quarry.
- 8.8 There are a number of dwellings within 500m of the quarry boundaries but these are all in positions where they do not have a view into the quarry workings. The buildings housing the stone saws are all within the quarry and the main saw shed roof projects only slightly above ground level.
- 8.9 The residential areas of Holmfirth and Holmbridge are mainly on the valley floor to the north and west. Although residential development has spread up the western side of the Holme Valley to elevated levels, there are very few dwellings at a level above the quarry and these will be at least 2 kilometres distant. At this separation, the quarry will have no impact on visual amenity.
- 8.10 The Kirklees Way footpath passes along the higher ground to the south of the site and views onto the site may be afforded from the Crow Hill section of the path, at a distance of just over 1 kilometre.
- 8.11 Bridleway 94 also skirts the southern boundary of the quarry, leading from Cartworth Moor Road and passing down the escarpment slope to the junction of White Gate Road and Woodhouse Lane. Pedestrians and horse riders are able to see over the dry stone boundary wall into the quarry workings, but not onto the proposed extension. However, the Cartworth Moor Quarries are features of some antiquity and there are many disused quarries and spoil heaps in the locality. These features are essentially part of the landscape and contribute to its interest.
- 8.12 Once restoration has been completed, all trace of the quarry will have been removed.

Agricultural Assessment

- 8.13 The field which would be taken into the quarry is improved grassland and is let out for pasture by the Applicant. The land is graded 4 on the Ministry of Agriculture, Fisheries and Food Agricultural Land Classification system. The loss of 0.71 hectares of pasture will not have a significant effect on any agricultural holding.
- 8.14 The soil is thin, with a shallow topsoil overlying weathered rock. The soil will be carefully stripped, using a backactor and dump truck, and stored in the soil storage area shown on drawing 10172/03. Where possible, the topsoil and any subsoils will be stripped and stored separately.
- 8.15 Use of overburden and reject stone from the extension together with some of the stripped soils will bring 0.52 ha of the southern quarry back into use, as shown on drawing 10172/03. A 5 year aftercare scheme will be implemented to bring the land back into full agricultural use for grazing. Restoration of the remaining parts of the quarry, including the extension area will have to await the completion of mineral extraction and backfill.

Noise Assessment

- 8.16 A noise assessment has been carried out by S & D Garritt Ltd and is attached as Appendix 3. The Assessment followed guidelines set out in the Framework Planning Practice Guidance, and specifically those applicable to mineral workings. The Practice Guidance sets out a number of standards which should be met, summarised as:
- During daytime from 07.00 to 19.00 hours the sound level at noise-sensitive properties should not exceed the background level by more than 10 dBA.
 - In some circumstances it may not be possible to meet this requirement without unreasonable burden of the mineral operator in which case the upper limit between 0700 to 1900 hours is 55 dB LAeq (1-hour) at noise-sensitive properties.
 - During the evening from 19.00 to 22.00 hours the 55 dB LAeq (1-hour) limit applies even if the background level is greater than 45 dB LA90.
 - At night between 22.00 to 07.00 hours the sound level at noise sensitive properties should not exceed 42 dB LAeq (1-hour).
 - Where the site noise is tonal in character it may be appropriate to set specific limits for this element of the noise.
 - Peak or impulsive noise, which may include reversing beepers, may need specific limits and should not occur regularly at night.
 - It is often necessary to raise the noise limits to allow temporary phases in a development. Examples include baffle mound construction, soil stripping, removal

of spoil heaps and construction of new permanent landforms. A limit of 70 dB LA_{eq} (1-hour) is suggested for periods of up to 8 weeks per year.

- 8.17 The Assessment was undertaken for three of the closest dwellings, Quarry House to the north, 1 White Gate Road to the west and dwellings on Cartworth Bank Road to the east. Ambient noise levels were monitored at the closest dwelling, which is Quarry House. It should be noted that this dwelling is in the ownership of the Applicant. The typical representative background sound level including Saturdays was identified as 30 dB LA₉₀.
- 8.18 The Assessment predicted worst case sound levels at between 29 to 49 dB LA_{eq} other than at Quarry House, where the sound levels were predicted at between 45 and 60 dB LA_{eq}. These predictions were based on the nearest and furthest operations at the surface.
- 8.19 The conclusion was that at all three locations, the highest noise levels could exceed 40 dB LA_{eq} (ambient 30 plus 10), but would comply with the upper limit of 55 dB LA_{eq}. However, the Assessment concludes that It is likely that with appropriate selection of plant items and good noise management that the on site 'real life' sound levels will fall between the predictions of high and low source levels.
- 8.20 Barrier attenuation has been assumed as being 10 dBA to all dwellings apart from White Gate Road where an attenuation of 12 dBA has been assumed. It is likely that the actual attenuation realised on site will be more than these allowances due to the large differences in height between source and receiver, especially at White Gate Road to the west.
- 8.21 The three current planning permissions all impose a limit of 45 dB LA_{eq}, which has been the limit which the Applicant has been working to for the past 16 years. The proposed extension, whilst closer to Quarry House than the current working area, is further away from the White Gate Road dwellings and equidistant from the dwellings on Cartworth Bank Road. The Applicant is unaware of any complaints regarding noise over this 16 year period.
- 8.22 For the vast majority of the time, quarry plant will work below ground levels, and only the soil stripping activities will be on the original ground surface. These activities can be conducted within the recommended limit of 70 dB LA_{eq} which is available for up to 8 weeks per year. It is anticipated that noise generated by quarry operations, with the exception of soil stripping and replacement, can meet a limit of 45 dB LA_{eq}.

Dust Assessment

- 8.23 This assessment deals primarily with the potential for dust emissions arising from the Site.
- 8.24 The exhaust emissions from Site mobile plant, generators and from road transport are likely to be very small when compared with ambient NO₂ and particulate levels due to the low level of activity. Guidance published by Environmental Protection UK (EPUK and the Institute of Air Quality Management (IAQM) "Land-Use Planning and Development Control: Planning for Air Quality 2015", suggests that assessment of exhaust emissions is only necessary with a change of HGV traffic flows in excess of 100 movements per day Average Annual Daily Traffic AADT where the site is not within or adjacent to a declared Air Quality Management Area (AQMA). This is not exceeded at Hillhouse Edge Quarry.
- 8.25 The assessment has therefore concentrated on the issue of prevention rather than measurement of background air quality levels and comparison with quantitative predictions.
- 8.26 The National Planning Policy Framework (NPPF) describes the policy context in relation to pollutants including air pollutants. The Government's objective is that planning should help to deliver a healthy natural environment for the benefit of everyone and safe places which promote wellbeing. To achieve this objective;
"the planning system should contribute and enhance the natural and local environment by: [...] preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of land, air, water or noise pollution or land instability." (Paragraph 109)
Specifically in terms of development with regard to air quality:
"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan." (Paragraph 124)
- 8.27 Further guidance to the NPPF is set out in the web based Planning Practice Guidance.
- 8.28 Kirklees Council has declared nine AMQAs, all of which are within the urban areas of Huddersfield and Dewsbury. None of are located within the vicinity of the Quarry.

- 8.29 Dust sensitive receptors in the locality are limited to a small number of dwellings which are within 300 metres of the Application boundary. The hamlet of Hill House is 80m from the western application boundary. The four houses in the hamlet lie at 288m aod at the foot of the Huddersfield White Rock escarpment and are thus also well shielded from site operations. Quarry House is 35m distant to the north and is situated within a disused quarry at a depth of approximately 9m below original ground level. The house is thus well shielded from quarry operations.
- 8.30 Old Yew and Nether Hill House Farm are 225m and 190m to the north respectively and also lie at the foot of the escarpment feature being shielded by it. Another small hamlet at Well House, comprises 12 houses and is situated around 260m to the north east, down the dip slope at a height of 300 metres above ordnance datum. There are a number of other isolated dwellings, mainly farms, within 500 metres of the site boundary. These dwellings are however, either well below the quarry level and to the west, or further down the dip slope to the north and east.
- 8.31 There are no ecologically designated sites in the immediate vicinity of the Quarry. Deciduous Woodland Habitat is recorded 400m to the east and south east, but is unlikely to be affected by quarry operations, as is the South Pennine Moors SAC/SPA and Dark Peak SSSI which is located 1.7km to the south. The woodland and surrounding agricultural land are in any case considered as low sensitivity receptors.
- 8.32 Prevailing winds will blow from sectors in the south and west which will not deposit dust on any of the nearby dwellings.
- 8.33 All of the operations and activities proposed on site have the potential to generate dust. In quarrying, dust is generally created by firstly the breaking of materials, secondly by the handling of previously broken materials, and thirdly by the movement of mobile plant and lorries over the ground.
- 8.34 For dust to become airborne, energy is required to overcome the gravitational and cohesive forces binding dust particles together or to a surface. Dust particles are dispersed by suspension in moving air, and the area of dispersal is affected by particle size and wind speed as well as by particle shape and density.
- 8.35 The largest proportion of dust likely to be emitted from site operations will be large dust particles of size greater than 30 μm , which will largely be deposited within 100m of their source. Finer dusts of size up to 30 μm may travel further, but concentrations will decrease rapidly with distance from the source, due to dispersion and dilution.

8.36 Dust control will be concentrated on the prevention of dust emissions beyond the site boundary and will be centred on the use of water to condition materials and damp down running surfaces. However, in dry windy conditions it can become difficult to maintain effective dust controls and so when local wind speeds exceed 20m per second in dry conditions, all site operations would be suspended that have the potential to give rise to fugitive dust emissions beyond the Site boundaries.

8.37 The existing planning permission for the northern part of the Quarry (2013/70/93800/W0) carries condition 53 related to dust emissions, which states:

"The site shall be operated at all times in accordance with the dust suppression measures detailed in section 8.5 of the supporting statement produced by MWP Planning and dated November 2013."

Activities with the potential to give rise to dust emissions

8.38 The primary sources of dust at the Quarry will be:

- the soil stripping operation and the formation of soil mounds;
- the mineral extraction operation, including drilling and blasting;
- the mineral processing, stockpiling and loading out operations;
- the movement of mobile plant around the site and lorries leaving and entering the site. This is likely to be the main source of Site emissions;
- the placement of soils as part of the restoration process.

8.39 The creation and dispersion of dust will be highly dependent on weather conditions. Wind speed can determine the amount of dust raised, while wind direction determines those areas that may be affected. Higher wind speed increases the potential for airborne dust to be generated with the suspension and entrainment of particles in airflow. Precipitation will suppress dust generation.

8.40 The amount of dust generated by each activity depends on the size of particles and, crucially, upon their moisture content.

Soils Handling

8.41 Soils have to be stripped in advance of site operations, from extraction areas, haul routes and other operational areas. The protection of soil resources require that the stripping and replacement of soils can only take place in dry conditions, usually between April and October, and fugitive dust emissions are therefore possible. The soil stripping and replacement process are very similar to normal agricultural operations such as ploughing and cultivation which already take place on and around the site. Soil handling operations are however transitory and are only likely to occur over a period of

a few weeks. The only realistic means of controlling dust emissions is to suspend operations when fugitive dust emissions are likely to impact on residential, woodland and agricultural areas external to the site boundary and that is in dry windy conditions.

- 8.42 There is a potential for short term moderate to high levels of dust emissions in the absence of mitigation measures.

Excavation Activities

- 8.43 Mineral extraction will take place all year round using mechanical methods. The potential for dust generation arising from these operations is therefore considered to be low to moderate without mitigation measures.

Processing Plant and Stockpiles

- 8.44 Excavated rock from the quarry face would be transported to the saw sheds and any crushers and screens brought in periodically to manufacture aggregate, which will be located on the quarry floor. Transportation distances will be short. The operation of the processing plant would be controlled through an Environmental Permit with strict controls relating to dust emissions.
- 8.45 Processed material would be transferred to stockpiles using a wheeled loading shovel which would also load lorries taking the aggregate offsite.
- 8.46 The handling and processing of the rock has the potential to generate significant volumes of dust. The location of the plant and handling operations on the floor of the quarry would reduce the potential for dust movement across the site boundary due to the physical barrier created by the quarry faces and as a result, the potential for dust generation is considered to be moderate.
- 8.47 Stockpiles of processed aggregate would be located on the quarry floor close to where the processing plant would be located, thus minimising transportation distances. The deposit onto and loading out from the stockpiles can have significant potential to generate dust, especially in dry windy weather. Stockpiles containing fines would have the highest potential for generating dust, whilst those containing coarse products would have the lowest. Stockpiles including fines tend to develop surface crusts which limit dust emissions unless disturbed and crusting can be encouraged using water sprays and coagulation agents. The potential for dust generation is considered to be high.

Transportation

- 8.48 Raw materials would be transported within the quarry using wheeled loaders over relatively short distances. The areas traversed would be the quarry floor, comprising un-paved hard rock. Such "haul" routes would have a covering of loose material, some of which will arise from erosion of the rock surface. Dust emissions in such circumstances increase with the transporting vehicle weight and speed. Internal haul roads are therefore considered to have a high potential for dust generation.

Mitigation Measures

- 8.49 Table 1 following summarises the different activities and their potential for dust generation.
- 8.50 Industry good practice measures are based on guidance issued by the Minerals Industry Research Organisation (MIRO) and Process Guidance notes published by Defra. The later includes PG 3/08 (12) Quarry Processes and PG 3/16 (12) MobileCrushing and Screening.

Table 1: Dust Sources

Activity	Emission Magnitude	Location
Soil Stripping and Replacement	Moderate to High	Original ground surface and quarry floor
Excavation	Low to Moderate	Levels below original ground surface
Processing	Moderate	Quarry floor
Stockpiling and Handling	Moderate to High	Quarry floor
Transportation	High	Quarry floor

Soil Stripping and Replacement

- 8.51 The primary mitigation that would be implemented would be the avoidance of soil stripping and replacement activities during inclement weather conditions when the wind speeds create the potential for dust to be blown well beyond the area of soil handling itself. The duration and frequency of soil handling would be minimised.

Excavation

- 8.52 Where material handling takes place, double handling would be avoided wherever possible and drop heights from machine buckets would be minimised. Spillage from machine buckets would also be minimised by avoiding overloading. The use of portable water sprays would be considered if necessary.

Processing Plant

- 8.53 The Environmental Permit controlling the processing plant would require a number of mitigation measures to be applied, including the following:
- The use of variable height conveyors, wind boards and chutes on conveyors;
 - The use of dust spray bars on crusher or dust arrestment if available;
 - All conveyors should be fitted with belt scrapers and dust catch plates; and
 - All materials should be deposited carefully into screens and crushers by reducing drop heights.

Stockpiling and Handling

- 8.54 All stockpiles would be located on the quarry floor in discrete areas where machines or other vehicles are at least risk of running over the stockpiled materials. All stockpiles containing fines would be conditioned with water where necessary and the area around the stockpiles will be maintained in a clean and tidy condition.

Internal Haul Routes

- 8.55 All vehicle speeds will be restricted but the main mitigation measure would be the use of a water bowser in dry windy conditions.

Quarry Access Road

- 8.56 The road would be damped down with a water bowser as and when required.

Conclusions

- 8.57 This Assessment has covered the continued operation of the Quarry including activities within the proposed northern extension. It has considered the various site activities and the potential for dust impacts to arise from them. Impacts from traffic and plant emissions have been screened out as below the relevant criteria and so not considered significant.
- 8.58 The Assessment has been based on a qualitative approach and no quantitative measurements have been taken. The sources and impacts of deposited dust have been described and potential receptors identified. Risk levels were determined for sensitive receptors on the basis of distance and wind direction.

8.59 Given the mitigation measures proposed, it is considered that the risk of impacts on nearby dwellings are assessed as insignificant or acceptable. Similarly, the risk of impacts on adjacent woodland and agricultural operations are assessed as insignificant or acceptable.

8.60 Once quarrying has ceased and restoration completed, all sources of potential dust nuisance will have been removed and so there will be no residual impacts.

Traffic Assessment

8.61 The primary product of the quarry is masonry stone. Sales of which average around 1000 to 1500 tonnes per year. This material is removed from the quarry in 1½ tonne loads by way of Cartworth Moor Road and Cartworth Bank Road direct to Holmfirth.

8.62 The secondary product, the stone not used for the production of masonry stone, is sold as aggregate and as gabion and walling stone. The quarry produces aggregate and the walling/gabion stone periodically and it is removed from the quarry in HGVs in 20 tonne loads by way of Cartworth Moor Road, Linshaws Road and Bare Bones Road to Dunford Road. The Planning consents limit the number of HGV loads removed from the quarry to 4 per day.

The Road Network

8.63 Cartworth Moor Road, outside the quarry, is surfaced and maintained by the Highway Authority. Some 400m south of the quarry lies Moorfield House Farm, the only property fronting the road. From the Farm to Linshaws Road, it is unmade and maintained by the quarry.

8.64 Linshaws Road/Bare Bones Road is surfaced and maintained by the Highway Authority but it has restricted width. The route provides access to farms, quarries and other properties to the south of Holmfirth. It therefore carries occasional HGVs as well as tractors and cars.

8.65 The width of Linshaws Road and Bare Bones Road is generally sufficient to permit a lorry and car travelling in opposite directions to pass, but this entails both vehicles travelling on the edge of the carriageway. Two large vehicles have difficulty in passing without one of them going off the surfaced carriageway. In many places, there is evidence of damage to the edge of the carriageway.

8.66 To the east of the junction of Linshaws Road/Bare Bones Road with Dunford Road and Flight Hill, the roads are suitable for the passage of HGVs.

The Limitation on number of loads

- 8.67 Condition 8 of the Northern Quarry planning permission 2013/70/93800/W0 states that *"The total number of vehicle movements, including access to and egress from the site indicated by red hatching on approved drawing no. C6299/50 shall not exceed 8 in any one day."*

In an email dated 26 July 2013, the Council advised that the limit applied to HGVs and not to light goods vehicles, vans or cars.

- 8.68 No increase in this limit is sought and the public highway in the vicinity of the quarry is able to accommodate quarry traffic subject to the existing conditions without any significant implications for highway safety or the environment.
- 8.69 A planning permission obtained for the immediately adjacent Windy Ridge Quarry (2012/62/93305/W) included as condition 4, a requirement for the Quarry to make a financial contribution to the repair and maintenance of the unmade section of Cartworth Moor Road. An appeal (APP/Z4718/A/13/2203688) was submitted to the Planning Inspectorate to have this condition removed on the grounds of unreasonableness. A decision on the appeal was issued in February 2014 and deleted the conditions relating to a financial contribution. The reasons for the appeal decision apply equally to Hillhouse Edge Quarry and therefore a contribution to the repair of Cartworth Moor Road should not be required.
- 8.70 The Applicant is prepared to accept that condition 8 of 2013/70/93800/W0 can be carried over onto a new Planning permission for the proposed extension of quarry workings.

Hydrogeological and Flood Risk Assessment

- 8.71 A Hydrogeological and Flood Risk Assessment has been prepared by SM Foster Associates Ltd and is attached as Appendix 4.
- 8.72 The Risk Assessments were carried out with the aim of establishing a reliable understanding of the prevailing groundwater regime in the area as the basis for consideration of potential water resource and flood risk impacts associated with proposed development of the quarry. The study has referenced a detailed site survey, a review of all available and relevant information and independent analysis of the hydrogeology of the area.
- 8.73 Groundwater in the Huddersfield White Rock aquifer generally flows north eastwards towards the Ribble Valley with an average hydraulic gradient of 0.05. A groundwater divide, approximately coincident with the surface water divide, is located adjacent to

the eastern boundary of Hillhouse Edge Quarry separating two small sub-catchments which drain north westwards to springs and wells along the western periphery of the outcrop.

- 8.74 The Huddersfield White Rock aquifer is the source of spring and well water at Well House, Rising Sun, Hill House Edge (Quarry House), Hill House, Wood Top, Lane Bottom, Upper Woodhouse and Lower Woodhouse. Other properties in the area receive water sourced from other geological units. All local properties that previously depended on spring water supplies have now been connected to a mains water supply.
- 8.75 Existing quarry operations at Hillhouse Edge Quarry have had no effect on water resources in the north and east of Cartworth Moor. Backfilling and restoration of the southern area may have led to a reduction in recharge potential in that area, leading to reduced recharge in the catchment draining to peripheral springs at Hill House, Wood Top and Lane Bottom. However, there is no evidence to indicate that there has been any loss of resource at these locations.
- 8.76 As a consequence of improved water and effluent management systems on the site, potential sources of groundwater contamination have been significantly reduced in recent years. Whilst pathways to the groundwater system will continue to be present as the quarry is developed, there is currently no evidence to suggest that such development would have an adverse impact on local groundwater quality.
- 8.77 On the basis of available evidence it is considered that no additional on-site surface water control measures are required in relation to flood risk management. The proposed development is unlikely to have any adverse impact on flood risk at the site or the surrounding area.
- 8.78 Surface water management improvements works were fully implemented at the site following a grant of planning permission in 2003. These measures are considered to provide an adequate level of protection for surface water and groundwater resources within the site and surrounding area. On this basis it is considered that no additional monitoring or management measures are required.
- 8.79 This Hydrogeological and Flood Risk Assessment has demonstrated that, subject to continuation and maintenance of existing surface water and effluent management systems at the site, the proposed northern extension of Hillhouse Edge Quarry is unlikely to have any adverse impact on local water resources or flood risk.

Ground Stability Assessment

- 8.80 Due to the closeness of a number of old quarry faces to the north western corner of the proposed extension area, a stability assessment was undertaken with the aim of recommending safe stand-offs for the quarry excavation. The Assessment has been prepared by ARP Geotechnical Ltd and is attached as Appendix 6.
- 8.81 The recommendations from the assessment have been incorporated into the design of the Scheme of Working and Restoration set out in this Application.
- 8.82 The assessment reached a number of conclusions as follows:
- A cut angle of a maximum of 80 degrees is recommended for the proposed north, east and west faces of the quarry;
 - A standoff of 10m is recommended for the northern and western quarry boundaries/faces. In practice, this has been taken as a 10m stand-off against the external quarry faces. Away from the external faces on the northern and western boundaries, the stand-off has been reduced to 5m;
 - A standoff of 3m is recommended for the eastern quarry boundary/face;
 - A standoff zone should be maintained at the base of the slope, within the bounce range of rocks. A 5m offset from the toe of the slope should be maintained;
 - A crest standoff should be maintained, marked by the presence of a soft earth bund approximately 1m high, at an offset from the crest of at least a metre; and
 - Catchment management should be maintained, and vegetation should be specifically selected such that deep or tap rooting species are avoided.

9. CONCLUSION

- 9.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that all planning applications should be determined in accordance with the Development Plan unless material considerations indicate otherwise. The Government's National Planning Policy Framework also sets a presumption in favour of sustainable development at the heart of the planning system whilst maintaining the need to accord with the Development Plan.
- 9.2 The proposal to extend the Quarry has been shown to achieve an acceptable level of impacts on the environment. It complies with the requirements for sustainable development by meeting a local demand for masonry stone. Employment levels are maintained as is the contribution of the operation to local economic activity.
- 9.3 The Development Plan contains a number of policies against which a subjective professional judgement on compliance has to be made. This appraisal has

demonstrated that the proposed development is fully in compliance with key Development Plan policies, is classed as a sustainable development and that the benefits outweigh any harm caused.