Minerals
Evidence Report 2017

Evidence Base

CALDERDALE LOCAL PLAN

Calderdale Council

Contents

Appendix 1 - Site Assessment Reports

1 Introduction

1.1 Minerals are an important element in the national, regional, and local economy. Mineral workings can contribute significantly to the local economy but this must be done in accordance with the principles of sustainable development. As the Minerals Planning Authority (MPA), Calderdale Council is responsible for applying national and local policies to ensure there is a sufficient and sustainable supply of minerals to meet the needs of society, whilst protecting the environment and local communities. Minerals development is different to other types of development as they can only be worked where they naturally occur - this can result in conflict between the benefit extraction can bring and the impacts that can arise from mineral operations.

1.2 The planning framework for mineral extraction has to balance the impact on the local environment from extracting locally sourced materials, compared to the impact an increased amount of imported materials can have. Continued use of locally won minerals can reduce the district's CO_2 emissions, through a reduction in the importation of building materials, alongside providing employment opportunities. The Local Plan will need to ensure that the approach to mineral extraction is balanced with other social, environmental and economic objectives through the Sustainability Appraisal process.

1.3 The National Planning Policy Framework (NPPF) refers to the need to reduce reliance on primary extraction through an increased use of recycled and secondary aggregates. Recycled aggregates can consist of construction / demolition wastes and road planings; Secondary aggregates can include mineral waste or industrial wastes.

2 Geology

2.1 The geology of Calderdale is typically made up of an ever changing succession of sandstones, gritstones, shales and mudstones. The sandstones and millstone grit continue to be extracted for building stone and crushed aggregate, contributing significantly to regional and national output. Shale, mudstones and clays have been extensively worked in Halifax, Elland, Hipperholme, Shelf and Todmorden, and although many of the workings no longer operate, some small workings continue.

2.2 In terms of other minerals, there are surface coal resources mainly in the east of the district, and within this resource there are associated Brick and Fire Clays. Some sites produce recycled aggregates, but there are no sand and gravel workings operating in Calderdale at present, due to the lack of a viable resource. In terms of land based oil and gas (hydrocarbons) BGS and DECC mapping[(i)] indicates there are potential resources in the very western part of the district, as well as a limited resource overlapping the boundary with Kirklees.

2.3 Mineral workings in Calderdale have historically provided the local building stone that adds to the local identity and quality of the built environment, enhancing and conserving the overall environment. Stone from Calderdale is also important nationally, reflected in its use to maintain prominent heritage sites, such as St Johns, Jesus, and Corpus Christie Colleges in Cambridge, the Royal Courts of Justice, the Monument, and St Paul's Cathedral, London. In addition, stone quarried from Calderdale was has been used in construction projects for the London Olympics.

2.4 Minerals quarried in Calderdale are therefore a vital source of materials when restoring historic buildings and nationally significant development. Other end uses for minerals worked in Calderdale include brick and pipe manufacture, with pipe manufacturing continuing to take place in the district. Brick Clays and Fireclays are both minerals which are considered as an important material to meet society's needs according to the NPPF.

i The Carboniferous Bowland Shale Gas Study: Geology and Resource Estimation, BGs & DECC, 2013

3 National Policy

3.1 National mineral policy in the form of the NPPF recognises that minerals are essential to support the economy and quality of life, and the local plan is required to incorporate policies for the extraction of locally and nationally important minerals, whilst recognising the contribution secondary or recycled minerals make to construction and infrastructure[ii].

3.2 The NPPF requires that MPAs plan for a steady and adequate supply of minerals by preparing a Local Aggregate Assessment (LAA) and participate in an Aggregates Working Party (AWP) taking account of published National and Sub National Guidelines on future provision which should be used as a guideline when planning for the future demand for and supply of aggregates.

3.3 The Yorkshire & Humber AWP publishes an annual monitoring report providing sales and reserves data for each of the sub regions; for the purposes of the Yorkshire & Humber AWP West Yorkshire is a sub region with South Yorkshire. Of particular importance to Calderdale, in 2015 the report concluded that sub regional crushed rock sales figures increased by 5% compared to 2014, whilst crushed rock reserves were up by 8%. In terms of West Yorkshire, the increase of crushed rock reserves compared to 2014 was up by 31%.

3.4 The LAA is prepared jointly by the West Yorkshire MPAs and is based on a rolling average of 10 years sales data and other relevant local information and an assessment of all supply options (including marine dredged, secondary and recycled aggregate sources). The most recent West Yorkshire LAA was approved in 2016 and combines the aggregate data at a sub-regional level for the year 2015. More details on the LAA figures can be viewed in chapter 5.

ii Recycled aggregates can consist of construction / demolition wastes and road planings; secondary aggregates can include mineral waste or industrial wastes

4 Mineral Resources in Calderdale

Coal

4.1 The extent of the surface coal reserves are indicated on Map 6.2. This shows that the vast majority of reserves are located in the eastern part of the district, with a smaller area of reserves in the west of the Borough. At present, there is one small opencast coal mine in Calderdale, which is part of a site which also extracts clay, although the quantity of coal extracted has not been significant, and the site itself is worked infrequently. The latest extraction for surface coal appears to have occurred in 2010[iii]

Sand and Gravel

4.2 Sand and Gravel are defined on the size of the rock particle. The term gravel refers to particles between 4mm and 80mm, with sand considered to be finer than 4mm but coarser than 0.063mm[iv]

4.3 The 2007 report prepared by LUC on behalf of the regional assembly[v] suggested that the West Yorkshire apportionment be increased from 5.5 mt, however, a subsequent Sand and Gravel study in 2009[vi] indicated that industry representatives considered that the 'preferred option' put forward by the LUC report was unrealistic, and that a "continuation of the current situation, with the majority of the apportionment being met from North Yorkshire as the most realistic option"[vii]

4.4 In addition, the 2009 report concluded that any increase in supply from West Yorkshire is likely to be minimal, because of the lack of large contiguous amounts of sand and gravel, and problems with ease of access to any sites. The study highlighted that the "threshold of a resource site to be economically viable is indicated by the extractive industry as being 1 to 1.5 million tonnes". The viability of the lower range of this figure would be dependent on the potential for extensions to the site and that planning costs would be minimised. The viable range is considered to translate into an area of approximately 10 to 25 hectares, the size dependent on the thickness of the deposit.

4.5 The district does not therefore appear to have any identified and viable sand and gravel resources, and has to import this type of material. There are no applications pending for this type of mineral extraction, and at present there is no evidence of any reserves that the industry consider viable.

4.6 Kirklees have identified a small area of sand and gravel to protect through designating a MSA adjacent to Calderdale's border; however, this resource lies underneath both Armytage Road Industrial Estate and Lowfields Industrial Estate; therefore for this reason and given the comments from industry over the viability of small sites, it is not proposed to identify a

iii figures from BGS in 2009 Coal: Open Cast Coal Statistics, http://www.bgs.ac.uk/mineralsuk/mines/coal/occ/home.html showed this site produced approximately 1,254 tonnes of saleable coal

iv Mineral Resource Information in Support of National, Regional and Local Planning: West Yorkshire, British Geological Survey 2006. The principle uses are in concrete, mortar and asphalt, as well as in construction fill.

v Phase 2 Sand and Gravel Study For Yorkshire and Humber: Appraisal of Apportionment Options, Land Use Consultants, 2007

vi West Yorkshire Sand and Gravel Resources: Investigating the potential for an increased sub regional apportionment, British Geological Survey 2009

vii Yorkshire & Humber Region Aggregates Working Party, Annual Report 2008.

MSA for sand and gravel, unless consultation responses during the Local Plan preparation indicate otherwise. For information, map 6.3 illustrates the extent on the inferred sand and gravel resources in Calderdale.

Sandstone

4.7 Sandstone, commonly referred to as 'York Stone' has and continues to be the primary mineral extracted in Calderdale, and as mentioned, is a valued product nationally.In 1900 the Halifax area hosted in excess of 40 Elland Flagstone quarries. In the present day, West Yorkshire as a whole has the largest concentration of sandstone quarries in Britain. There is a single quarry operation in Todmorden that extracts Gritstone. Map 6.1 illustrates the inferred unconstrained Sandstone resources in Calderdale.

Crushed Rock

4.8 The term 'crushed rock' in this instance generally refers to the sandstone resources that exist in Calderdale. When crushed these are suitable for use in aggregates, although according to the BGS most are too weak and porous to make good quality aggregate for roadstone and concrete, although may be suitable for construction fill and for the production of manufactured sand to produce reconstituted stone products[viii]

Brick Clay

4.9 There are a small number of Brick Clay extraction sites within the Borough. The Brick Clay resources within Calderdale are coterminous with the surface coal resources. The NPPF recommends that brick clay resources are safeguarded, and refers to specific types of brick clay, including fireclay (quarried in Calderdale). Clay that is quarried in Calderdale is used to supply the pipe manufacturer within the district. Map 6.2 shows the full extent of the unconstrained Clay reserves in Calderdale.

Peat

4.10 Peat extraction does not occur within Calderdale, although there are deposits in the upland moorland areas. Since Peat acts as a Carbon sink, any extraction is in conflict with the drive towards reducing Carbon emissions. In addition, as alternatives to Peat as a growing media and soil improver in the horticultural market become accepted, the demand for extraction will decrease. As the majority of the Peat resource is within the SPA and SAC designation, there is the potential for harmful impacts on biodiversity from extraction of this mineral. Given the above it is not proposed to include any safeguarding areas for Peat, nor identify any sites, especially as the NPPF states that plans should not identify sites or extensions to existing sites for peat extraction.

Recycled and Secondary Aggregates

4.11 The Local Plan can contribute to an increase in the use of recycled and secondary aggregates through sustainable construction policies and policies that support development of aggregate recycling facilities. The latest estimate (for 2016) concerning recycled and secondary aggregates within Calderdale was approximately 85,000 tonnes.

viii Mineral Resource Information in Support of National, Regional and Local Planning: West Yorkshire, British Geological Survey 2006

5 Sub Regional Apportionments

Local Aggregates Assessments

5.1 In terms of Sand and Gravel resources, the 2016 LAA (2015 data) repeats an earlier BGS report[(ix)] which considered that it was unlikely there were remaining areas which could be economically worked in Calderdale. Although there are sand and gravel deposits within Calderdale, these tend to be very small and offer limited opportunity to the industry. Consequently the BGS report indicated that the vast majority of sand and gravel deposits suitable for concreting aggregate within the Calder area were considered unworkable due to both planning and economic factors. On the basis that only sites containing in excess of 1 to 1.5 million tonnes are considered, for a deposit of six to seven metres thick, 10 hectares would be the minimum viable area. The lesser the thickness of the deposit, the larger the overall site area is required.

5.2 The Borough has a number of sandstone quarries, some of which produce crushed rock as a by-product of the building stone product, although the actual tonnages produced at the majority of sites is small. Subsequent permissions have been granted for extensions to existing sandstone quarries; planning statements accompanying the applications indicate that these will continue to produce some crushed rock, ensuring Calderdale continues to make a contribution the sub regional crushed rock apportionment. The West Yorkshire LAA identified that the 10 year average sales figure is around the 0.86 million tonnes (mt) mark for West Yorkshire, and based on reserves of some 33.74mt this would mean a land bank of some 39 years and 3 months.

Table 5.1 West Yorkshire Crushed Rock Sales 2006-2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten year average
Crushed Rock Sales - Million tonnes	1.1	1.1	0.9	0.9	0.53	0.43	0.79	0.78	1.03	1.03	0.86

Source: West Yorkshire Local Aggregate Assessment 2016 (2015 data), West Yorkshire Combined Authority,2016

Table 5.2 West Yorkshire Crushed Rock Landbank

Crushed Rock Reserves as at 31/12/15	10 year Crushed Rock Sales Average	Crushed Rock Landbank (Based on Average Sales)
33.74 mt	0.86 mt	39 years and 3 months

Source: West Yorkshire Local Aggregate Assessment 2016 (2015 data), West Yorkshire Combined Authority,2016

ix West Yorkshire sand and gravel resources: Investigating the potential for an increased sub-regional apportionment" BGS, 2009

5.3 At first glance the figures would appear to suggest the estimated landbank of permitted crushed rock reserves is far in excess of the minimum 10 year landbank recommended by the NPPF, and that future policy should reflect this significant level of reserves. However, further analysis suggests that a significant proportion of the permitted reserves are unsuitable for higher specification uses, for example concrete making and roadstone. This analysis is supported by the very high tonnages of crushed rock imported into West Yorkshire, especially from the Yorkshire Dales National Park, an area that the NPPF indicates extraction should be reduced. Further to this, the LAA illustrates that West Yorkshire as a whole is unable to meet its own aggregate needs from reserves within its borders, and therefore is reliant upon imports from neighbouring authorities. The table below illustrates that some 80% of Crushed Rock consumption is met by imports.

Table 5.3 - Proportion of Aggregate Consumption Met by Imports (2009)

Aggregate	Consumption ('000 tonnes)	% of Consumption met by Imports
Sand and Gravel	810	94%
Crushed Rock	2,332	80%

Source: West Yorkshire Local Aggregate Assessment 2016 (2015 data), West Yorkshire Combined Authority,2016

5.4 Reliance on the traditional imports of high quality crushed rock aggregate would appear to place the sub region and the Borough at risk in terms of the continuation of supply from other areas should levels of production fall in those areas; however the West Yorkshire LAA suggests that those areas which export high levels of crushed rock will continue to do so.

5.5 With regards to the North Yorkshire LAA, it is noted that 47% of crushed rock aggregates produced in the North Yorkshire sub region in 2015 were extracted in the Yorkshire Dales National Park. The LAA goes on to state that in 2014, of the 3.2 million tonnes of aggregates extracted within the YDNP, between 0.8 and 1 million tonnes were exported to West Yorkshire.

5.6 Although the North Yorkshire Sub Region LAA (NYLAA) which includes the Yorkshire Dales National Park (YDNP) moves towards reducing reliance on the Yorkshire Dales National Park, it goes on to state that 'in practise the Yorkshire Dales National Park has a substantial landbank of crushed rock and is expected to be able to continue maintaining supply over the period to 2030 and beyond'.

5.7 Therefore it is not considered that the lack of provision within the NYLAA to either maintain aggregate supplies from the YDNP, or compensate for a reduction in these supplies with an equivalent increase in apportionments elsewhere within North Yorkshire, is a significant short/medium term threat to the future continuity of crushed rock aggregate supplies to West Yorkshire.

5.8 Similarly, the Derby, Derbyshire and Peak District LAA states that Derbyshire and the Peak District National Park is a significant net exporter of aggregate grade crushed rock to other areas, amounting to an average of around 8 million tonnes each year. Derbyshire has significant resources of hard rock compared to many other areas in the country and it will

be important, therefore, to maintain this level of supply in order to sustain and stimulate national economic growth.

5.9 The picture of crushed rock supply is therefore one of continuation of exports in the medium term, supported by the local quarries producing crushed rock as a by-product to the building stone that is the most common mineral worked in Calderdale. The ongoing production of the relatively small quantities of crushed rock in the Borough does make a contribution to the local demand for lower specification bulk aggregates and building sand.

5.10 Table 5.3 sets out that approximately 94% of the sand and gravel consumed in West Yorkshire is imported from outside of the sub region. As the Borough is not considered to have viable reserves of sand and gravel, there is a need to ensure that, as with high specification crushed rock, a continuation of supply can be secured from outside the sub region. The 2016 LAA (2015 data) states that the West & South Yorkshire sand and gravel landbank is 11 years.

5.11 With regards to sand and gravel, whilst the North Yorkshire LAA highlights potential short term supply issues, it does acknowledge that there is continuing industry interest in securing new permissions and this implies that the remaining sand and gravel resources within North Yorkshire is present in quantities capable of continuing to supply a significant proportion of West Yorkshire's requirement in the short to medium term, subject to these permissions being granted. The document also suggests that crushed rock may be suitable for concreting uses, which may help mitigate against the potential reduction in sand and gravel supply.

5.12 Although the South Yorkshire LAA considers that it is unlikely flows of sand and gravel into West Yorkshire will be sustained in the future, there is the potential for the substantial remaining reserves of limestone to play a role in meeting West Yorkshire's future demands for concreting and other non-concreting construction projects.

6 Consulting on Mineral Safeguarding Areas

6.1 The National Planning Policy Framework (NPPF) requires Mineral Planning Authorities to safeguard mineral resources, through Mineral Safeguarding Areas (MSA). MSAs are intended to protect existing and potential future resources of minerals, in order that non mineral development does not sterilise potential resources, either directly or adjacent to proven resources, and prevent mineral extraction taking place. MSAs should be based on British Geological Survey (BGS) data and local mineral information provided by the industry.

6.2 Designations of MSAs do not carry a presumption that any resources will be worked, nor do they preclude other forms of development taking place. MSAs simply provide a policy tool which will be an alert to the fact that minerals may be sterilised by the non-mineral development and that this should be taken into account by the planning process, both when preparing Local Plan site allocations and during the development management[(x)] process. The MSA designation will replace the Replacement Calderdale Unitary Development Plan (RCUDP) policy M4, 'Safeguarding Mineral Resources'.

6.3 The eventual MSA policy in the Local Plan is intended to both safeguard potentially valuable minerals from needless sterilisation and to alert potential applicants of non-mineral development to the presence of the mineral resource, encouraging prior extraction if appropriate. The detailed extent of the MSAs will be identified on the Local Plan Allocations and Designations map.

Progress to Date

6.4 The Council has consulted previously on proposed Mineral Safeguarding Areas through prior work on the Core Strategy. The Minerals and Waste Objectives and Policy Options document that was part of the Refined Issues and Options consultation (January - March 2011) included a section on MSAs. It presented suggested options as to how to approach designating MSAs in the Core Strategy by applying the British Geological Survey guidance. The original BGS guidance that was published in 2007 has been superseded by updated guidance in 2011[(xi)] which was published as a result of the call for updated advice in relation to designating MSAs.

6.5 The 2011 guidance proposed a seven step process to defining and using MSAs. These seven steps were broken down further into a number of other specific stages:

- Step 1 - Identify the best geological and mineral resource information;
- Step 2 - Decide which mineral resources to safeguard and the physical extent of MSAs;
- Step 3 - Undertake consultation on draft MSAs;
- Step 4 - Decide on the approach to safeguarding in the Core Strategy;
- Step 5 - Include Development Management policies in a DPD;
- Step 6 - Include safeguarding in district level DPDs - Not Applicable to Calderdale;
- Step 7 - Include Mineral Assessments in the Local List of information requirements.

6.6 Steps 1-3 are about establishing a methodology for identifying and establishing MSAs, step 4 is concerned with how matters relating to MSAs should be linked to development plan policies, whilst steps 5 -7 address how development management policies and mechanisms

x Mineral Safeguarding in England: good practice advice, British Geological Survey, The Coal Authority, 2011
xi Mineral Safeguarding in England: good practice advice, British Geological Survey, The Coal Authority, 2011

should be included to ensure that mineral resources are taken into account in planning decisions.

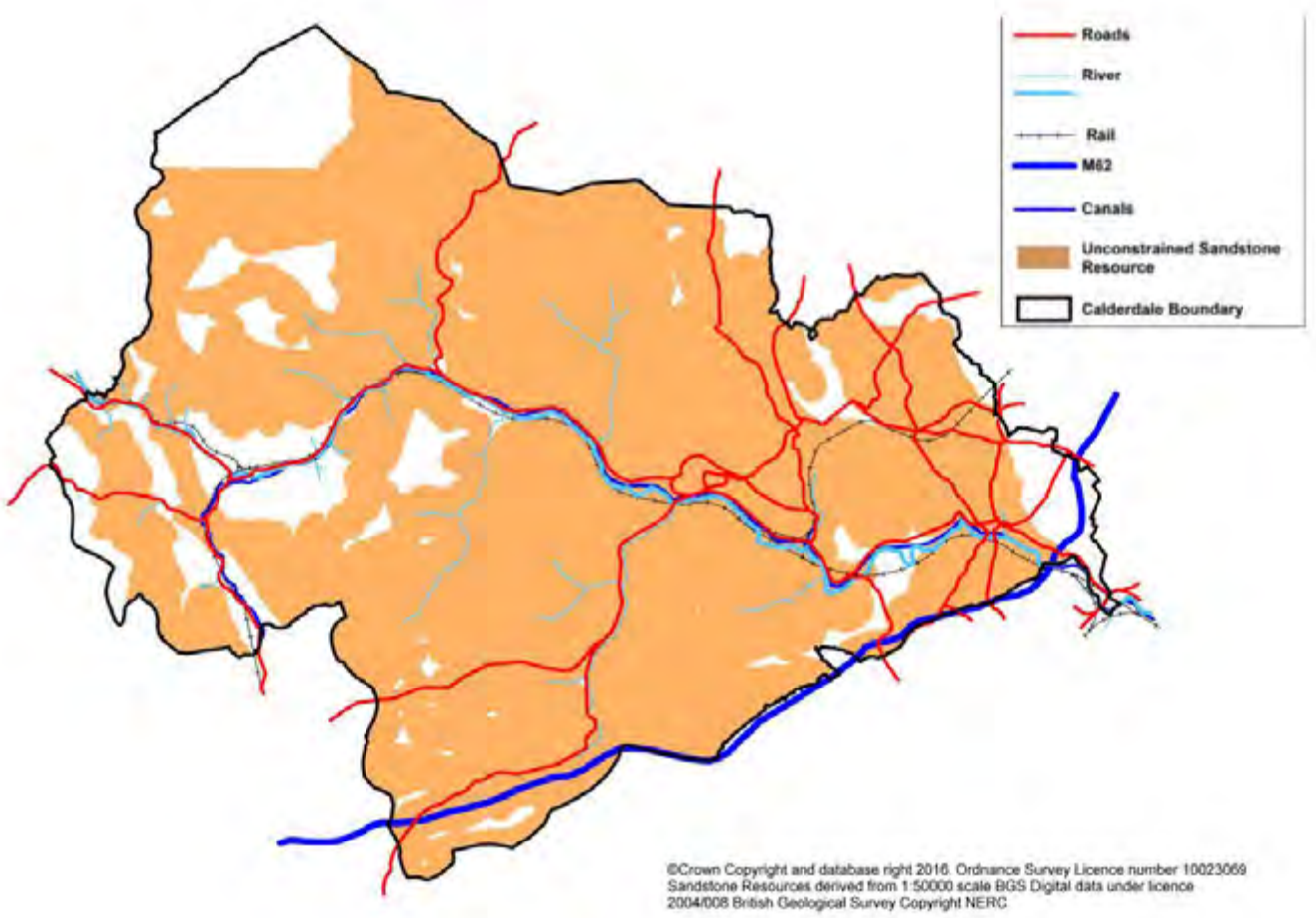
6.7 Although the guidance was published prior to the NPPF, and was intended for informing preparation of a Development Plan Document within a Local Development Framework (LDF), the methodology is still considered appropriate for the Local Plan. The main focus of this section and the Local Plan Initial Draft therefore are steps 1-4.

Step 1 - Identifying the best geological and mineral resource information.

6.8 The Council has used the BGS resource data in order to inform the extent of the MSAs. Additionally, a minerals stakeholder was held in October 2012, and two public consultations have also informed the process. The entire unconstrained resources of sandstone and surface coal and associated clays are presented below. This shows that much of the district is underlain by sandstone. Following the Preferred Options, updates to data on sandstone resources was made available by the BGS, and this informed the unconstrained resource map for sandstone. The sandstone resources are made up of the following types of stone considered to be of economic importance:

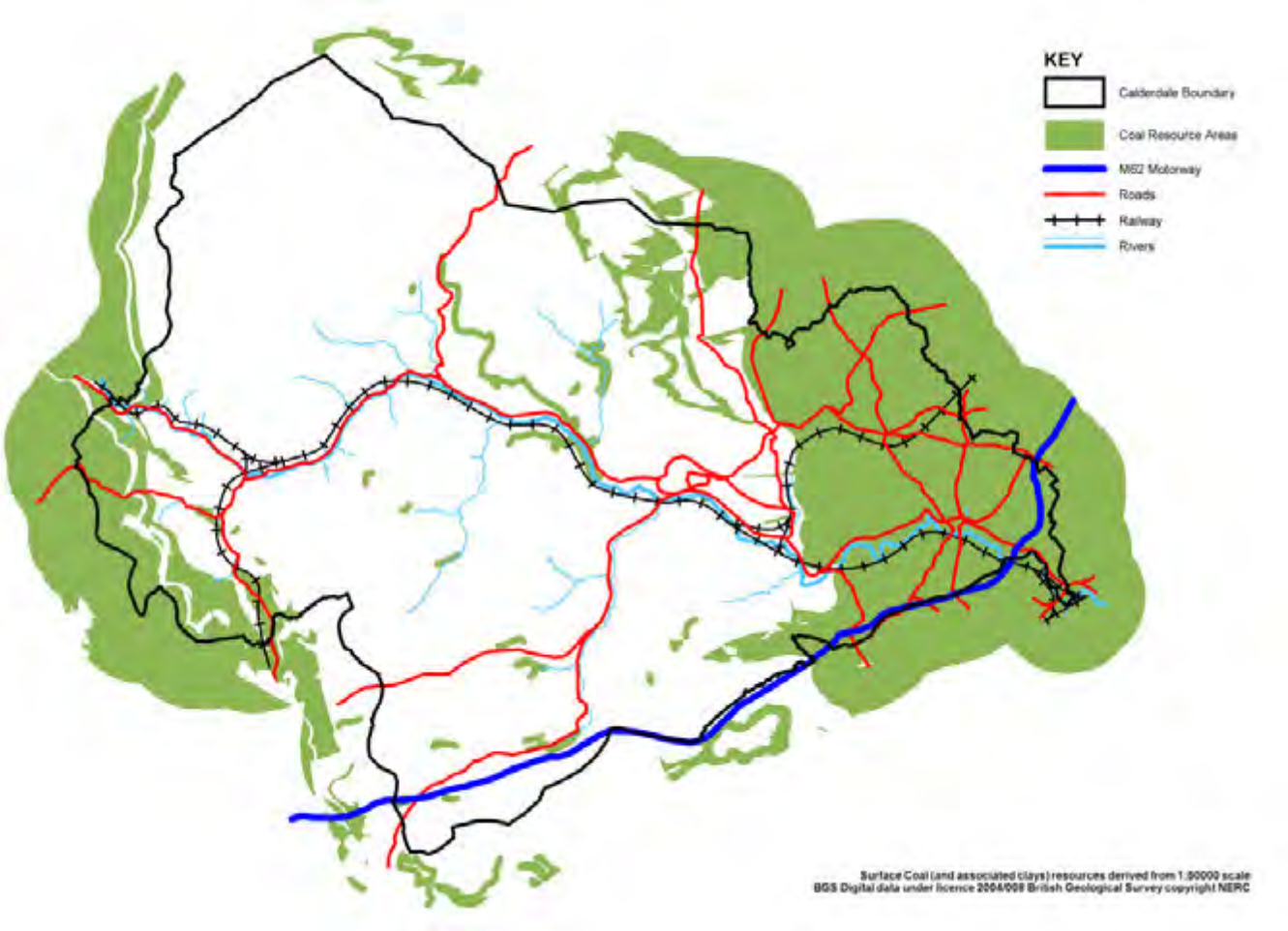
- Grenoside Sandstone;
- Greenmoor Rock;
- Elland Flag;
- Rough Rock;
- Rough Rock Flags;
- Huddersfield White Rock;
- Woodhouse Flags;
- Guiseley Grit;
- Midgley Grit;
- East Carlton Grit;
- Lower Kinderscout Grit.

Map 6.1 Map showing unconstrained sandstone resource



6.9 The following map shows the unconstrained surface coal resources and associated clay resources.

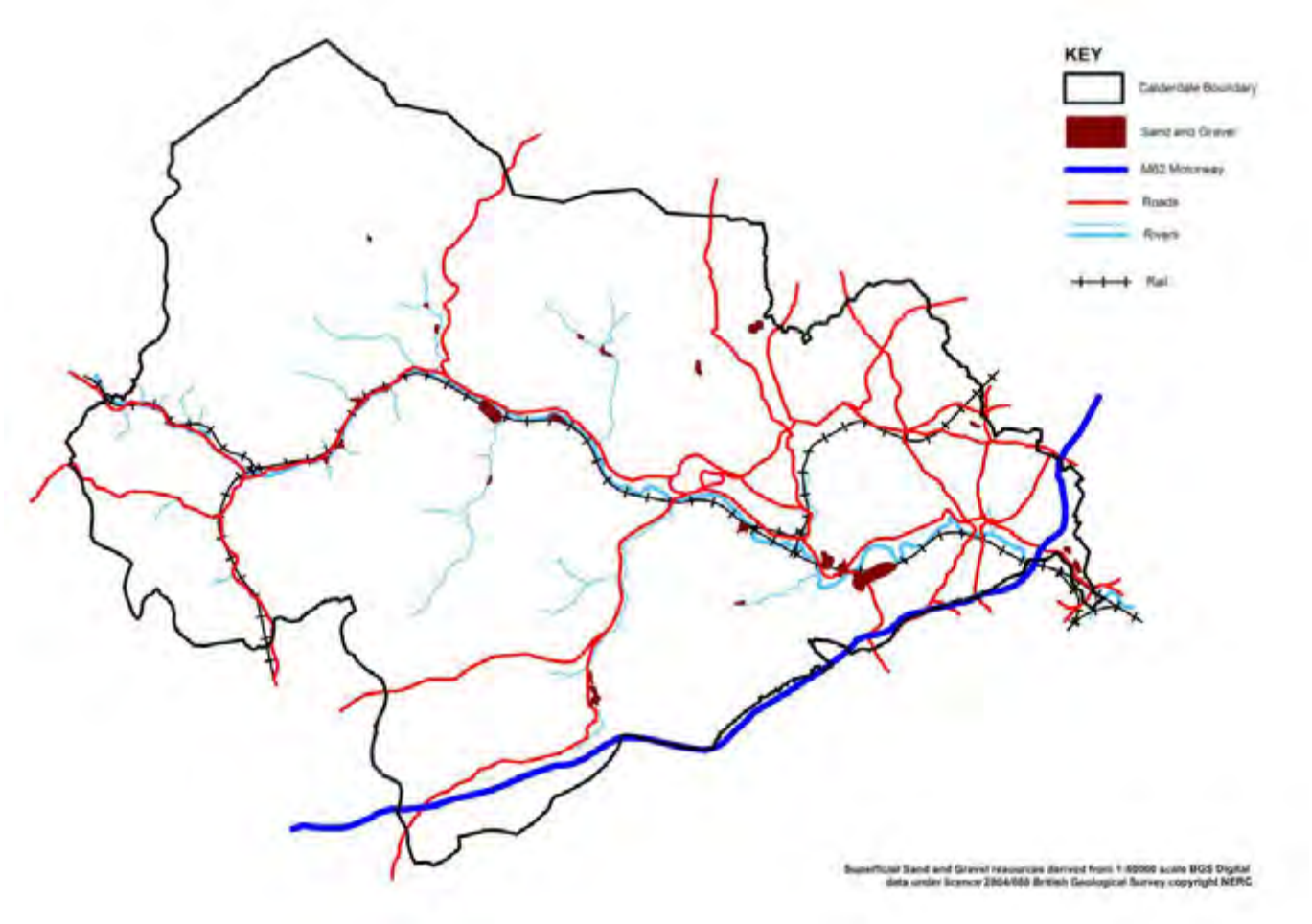
Map 6.2 Unconstrained Surface Coal Resources and Associated Clays



6.10 In relation to Sand and Gravel, a number of comments were received from industry concerning the proposal not to safeguard sand and gravel. The reasoning behind this was based on a regional report carried out by the BGS[xii], which considered the size of site necessary to be viable for the industry. Those consultees that did comment on the proposal not to safeguard sand and gravel were concerned that it was necessary to safeguard what limited inferred resources there was, especially given the limited contribution of West Yorkshire as a whole to the regional sand and gravel apportionment. The following map illustrates the inferred extent of the unconstrained Sand and Gravel resources within Calderdale.

xii West Yorkshire sand and gravel resources: Investigating the potential for an increased sub-regional apportionment" BGS, 2009

Map 6.3 Map showing Unconstrained Sand and Gravel Resources



Step 2 - Decide which minerals resources to safeguarded and the the physical extent on the MSAs

6.11 In the current plan's safeguarding policy, there is no differentiation between mineral types; in both the Core Strategy Refined Issues and Options and Preferred Options it was proposed to identify separate MSAs for each mineral. The comments received during the consultations appeared to support this approach, and therefore it was initially proposed to identify MSAs for the following minerals:

- Surface Coal;
- Fireclay;
- Sandstone (incl Gritstone);

6.12 It is considered that these three mineral types represent the most important economically in Calderdale, now and in the future. The area has a long history of Sandstone and Gritstone quarries, and nearly all the active quarries within Calderdale extract this type of mineral. Whilst Surface Coal extraction in the Borough is not taking place presently, nevertheless it is considered appropriate to identify safeguarded areas for this mineral resource as it is still expected to form an important part of the future energy mix of the country. The extent to which Calderdale's coal resources will play in supplying demand is unclear, but the proposal is to safeguard this type of mineral. Fireclay, which is limited to a small number of quarries, has also been an important mineral in the past, and industries such as brick works and pipe manufacturing have established as a result.

6.13 Following comments submitted by industry and neighbouring authorities, further consideration has been given to safeguarding the limited sand and gravel resource. It was initially proposed not to safeguard sand and gravel as the resources were not considered to be of an extent that would be of interest to industry. There were no objections to this approach in the Core Strategy Refined Issues and Options, however industry submitted an objection to this approach during the Core Strategy Preferred Options consultation, stating that the BGS report and map for mineral resources in West Yorkshire "showed potential resources in the Calder valley between the Kirklees border around Nun Bank Wood and Elland Park Wood". In addition, "despite the perceived lack of interest in this material and the developed state of the land it has been identified as a potential resource and should be safeguarded for the long term. The fact that there is so little of it in the District emphasises the importance of conserving what remains for future generations".

6.14 Kirklees MPA have identified small pockets of Sand and Gravel in their Core Strategy submission document, one of which is adjacent to the Calderdale / Kirklees border.

6.15 In terms of establishing the extent of the MSAs, initially a number of constraints were proposed to refine the extent of the MSAs. These included the existing Urban Area, Sites of Special Scientific Interest (SSSI), Scheduled Ancient Monuments, Potentially Unstable Land, Conservation Areas, and areas at a high risk of flooding.

6.16 The following section reports on how previous consultations have shaped the proposed Local Plan MSA.

Step 3 - Undertake consultation on draft MSAs

6.17 The Core Strategy Refined Issues and Options paper proposed a number of potential approaches to refining the extent of the MSA from the entire resource. It was suggested that to allocate the entire resource as a MSA would be unrealistic. In order to refine the MSA, certain designations and allocations were proposed to be excluded from the MSA. The original list of potential constraints was as follows:

- Sites of Special Scientific Interest (SSSI);
- Scheduled Ancient Monuments (SAM);
- Potentially Unstable Land;
- Conservation Areas;
- Urban Areas; and
- Flood Risk Zones.

6.18 Comments received from the Coal Authority during the Core Strategy Preferred Options consultation suggested that the entire coal resource area should be identified within a Coal MSA, and objected to any refinement of the coal resource area. This was tempered by the acknowledgement that some form of sifting of applications would be required to effectively manage the planning process. Other consultees felt that there needed to be some element of refinement, and suggested additional constraints to those proposed.

6.19 There was also the suggestion of a 'buffer zone' placed around the mineral resource; this would allow for engineering works or to prevent incompatible development encroaching on a mineral resource for example a residential development. The BGS guidance contained indicative guidelines concerning the extent of buffer zones based on the types of resource to be extracted, for example if the mineral is a softer rock, (Sand and Gravel, Coal, etc.)

where no blasting would be required, then the suggested buffer is 250 metres. Comments received on the option of a buffer zone contrasted between those who were against the concept of buffer zones, referring to the adequate protection in existence through MPS2, and those who were in favour of applying buffer zones in line with the BGS guidance. In looking at the BGS data, it is important to remember the mineral resources are 'inferred' and therefore whilst they may have economic potential, there is no guarantee that without drilling and testing taking place.

6.20 The Core Strategy Preferred Options presented a refined set of MSAs. This stage proposed that two MSAs would be proposed, one for Sandstone, and one for Surface Coal, which included the Fire Clay resource as these are coincidental with the inferred Coal resources. Again, there were a number of constraints proposed, which were the existing urban area, Conservation Areas, Special Protection Areas (SPA), Special Areas of Conservation (SAC), and Sites of Special Scientific Interest (SSSI). The Preferred Options also proposed that proposals of 5ha or more within the urban area should be required to explore the potential for prior extraction. Whilst the policy encouraged all non-minerals development proposals within a MSA to explore the potential for prior extraction, sites above 0.5ha were required to carry this out.

6.21 In addition to mineral resources, previous consultations have supported the approach to including existing sites within MSAs.

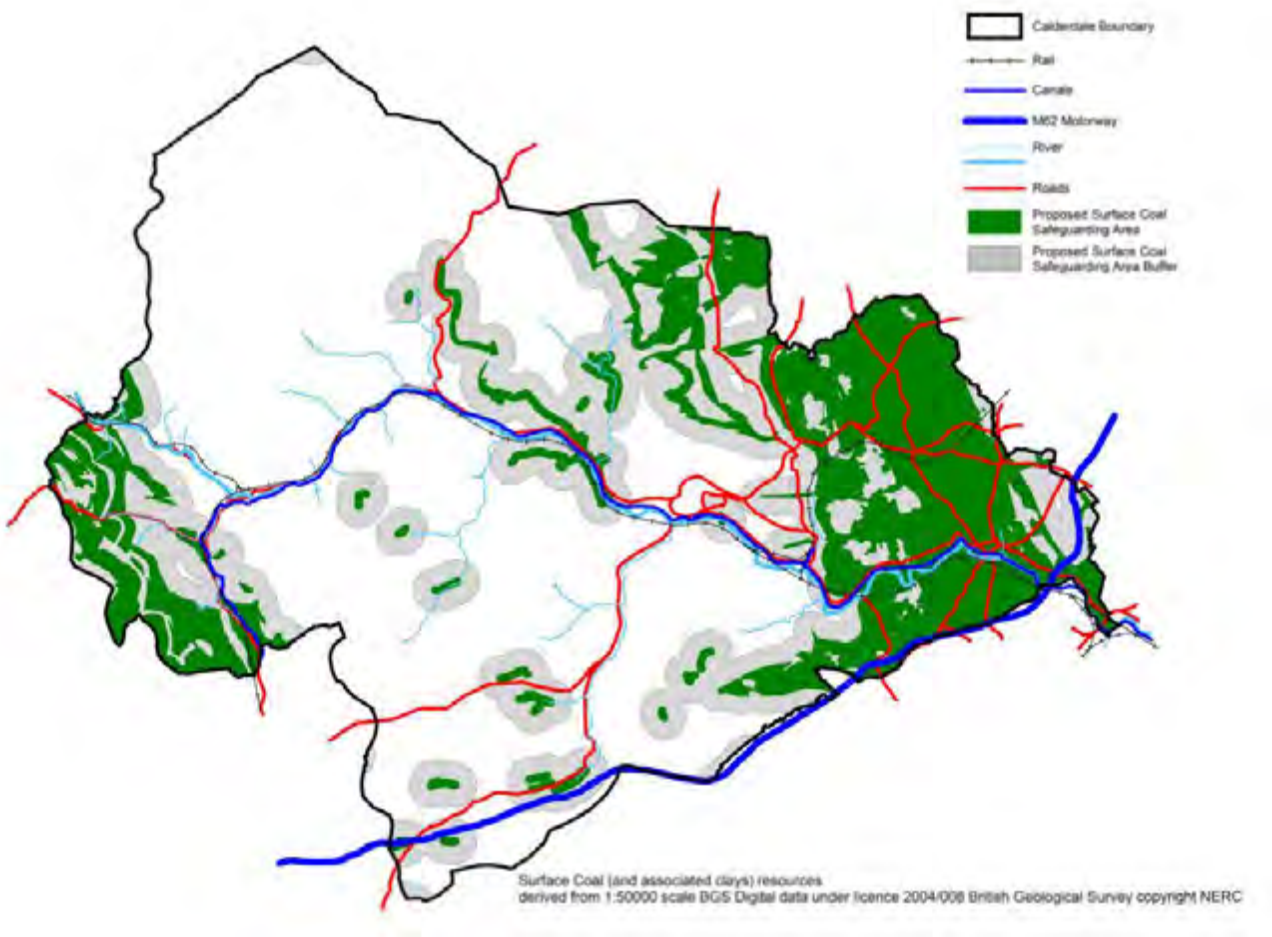
6.22 Therefore the next stage of Local Plan consultation is intended to be used to refine the approach to designating MSAs, by presenting a draft MSA taking into account comments received from previous consultations.

Proposed Coal MSA

6.23 Map 6.2 illustrates the entire, unconstrained surface coal resource within Calderdale. This shows that the main resources are located in the eastern part of the district, with the western edge of the district also identified as a potential resource. In the Refined Issues and Options document the proposal to exclude some areas from the potential coal MSA was opposed, and it was suggested the entire resource be identified as an MSA.

6.24 In order to reflect a consistent approach to coal MSAs, the intention is to designate the entire resource as the coal MSA, with a criteria based policy that excludes certain types of planning applications from the requirement, in order to avoid unnecessary delays in processing minor applications. The different types of planning applications that are excluded from the requirement to explore prior excavation are set out in the Draft Local Plan in the Safeguarding Policy. The following map illustrates the proposed Local Plan Initial Draft Surface Coal and Associated Clays MSA.

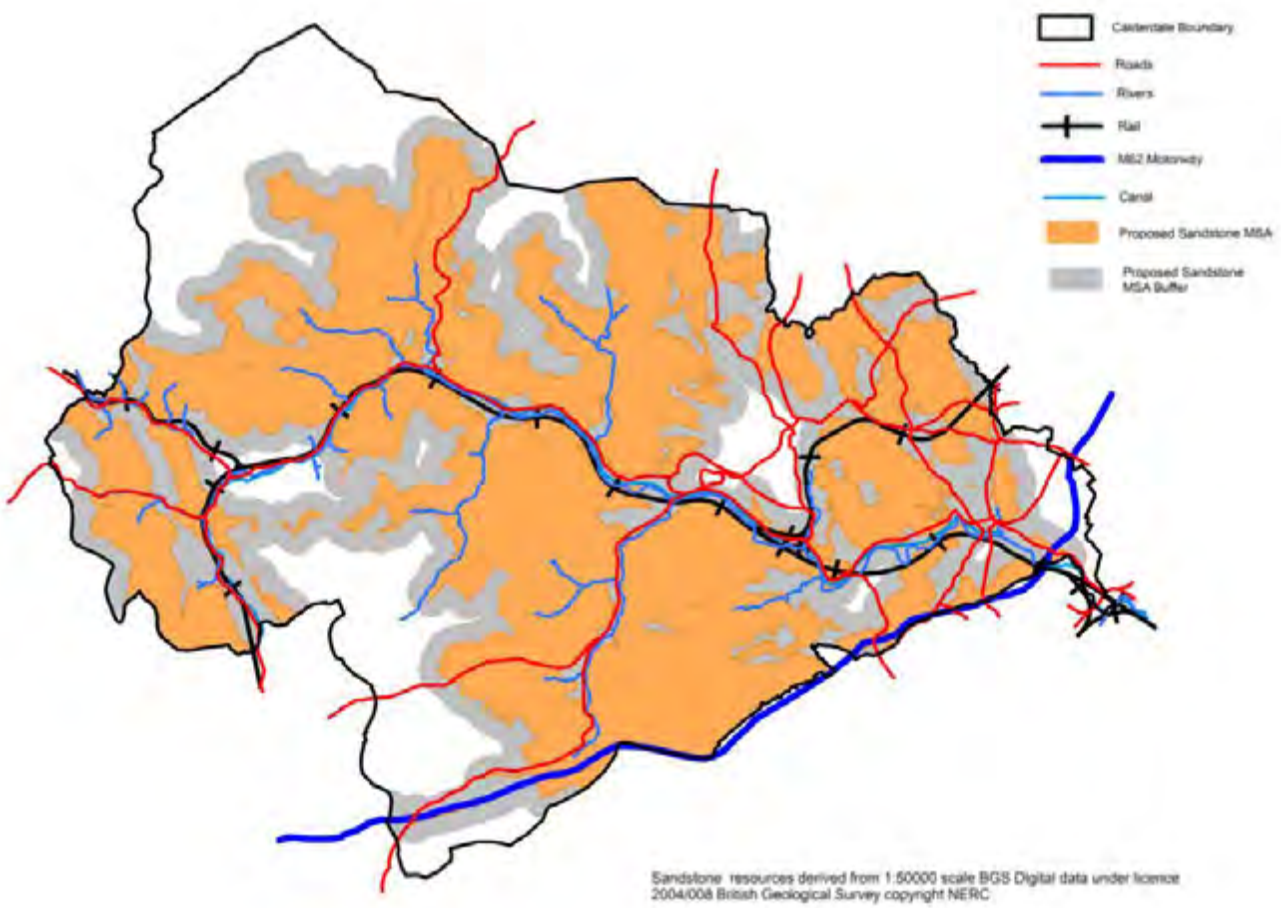
Map 6.4 Proposed Draft Local Plan Surface Coal and Associated Clays MSA



Proposed Sandstone MSA

6.25 The length of time required to extract from urban sites may prevent prior extraction taking place in the urban area, especially as in Calderdale there are few sites that could be identified where the size of site combined with a separation from residential development are to be found. Therefore in terms of the draft sandstone MSA, it is proposed to exclude the urban areas from the MSA for sandstone. The following map shows the proposed extent of the sandstone MSA. Detailed mapping is available to view on the Local Plan Initial Draft map.

Map 6.5 Proposed Draft Local Plan Sandstone MSA



7 Local Plan New Mineral Site Assessment

7.1 In all, there were two sites submitted to the council proposing mineral extraction sites, both adjacent to an existing quarry in Southowram, Pasture House Quarry. Part of one of the sites was awarded planning permission in 2014, although the remainder of the site is considered as a proposed allocation in the Local Plan, referred to as 'Pasture House Quarry site b'. The following table sets out the site assessment criteria for the proposed new mineral sites within the Local Plan.

Table 7.1 Draft Local Plan - Proposed New Mineral Allocation Site Assessment Criteria

Site Assessment Criteria	Comments	Impact	Additional Comments
Stage 1.			
Existing Mineral Area of Search?	Is the site within an existing mineral area of search?	Yes? = Positive	The RCUDP includes a designation of a 'Minerals Area of Search' which is a form of safeguarding area, indicating the presence of a mineral resource.
Available?	Has the owner indicated the site is available for the proposed use?	Yes? = Positive	Availability information will be established through the Call for Sites.
Proven Mineral Resource?	Are there proven mineral resources at the site?	Yes = Positive No = Negative	A positive impact will be indicated by the site lying within either and an existing Area of Search' designation and / or a proposed 'Mineral Safeguarding Area' designation.
Stage 2			
Biodiversity Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their biodiversity value.
Geological Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their geological value.
Built Heritage?	Is the site adjacent to any heritage assets?	Outcome will be dependent on the proximity of any heritage assets.	The effect of a minerals related development on the setting of the local built heritage will be considered.

Landscape Character?	What are the landscape characteristics of the site and surrounding area	Outcome will be dependent on the impact of the site on the objectives of the landscape character area.	The Calderdale Landscape Character Assessment will be used in order to consider the impact.
Air Quality?	Would the site lie within or in close proximity to an Air Quality Management Area?	Outcome will be dependent on the site's proximity to an AQMA.	Although a site may not be either within or immediately adjacent to a AQMA an increase in traffic associated with the site can have negative impacts.
Agricultural Land Quality?	What grade is the agricultural land?	The best agricultural land Calderdale has is Grade 3 (Moderate / Good) agricultural land.	Although there will be a preference for sites on poor quality agricultural land, mineral extraction is a temporary land use and there may be an opportunity through restoration to return the land to its previous agricultural quality.
Green Belt?	Is the site within the Green Belt?	Majority of sites are within the Green Belt but the impact will still need to be assessed.	The NPPF states that minerals extraction is not considered inappropriate development in the Green Belt provided it preserves the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt.
Water Quality / Flooding?	What would the impact be on water quality and flood risk?	Outcome will be dependent on the location of the site in relation to flood risk zones and groundwater.	The SFRA and the Groundwater Protection Zones data will be used to assess the potential impact.
Compatibility with neighbouring uses?	Would the site be compatible with existing neighbouring uses or likely to cause conflict?	The outcome would be dependent on the location of the site in relation to non-compatible uses.	The NPPF technical guidance states that Minerals Planning Authorities are expected to ensure that plan proposals do not have an unacceptable adverse effect on the natural or historic environment or human health. Examples of sensitive receptors in relation to dust include Hospitals and Clinics (High

			Sensitivity) Residential Areas (Medium Sensitivity).
Public Rights of Way?	Are there existing Public Rights of Way in the site?	The impact will be dependent on the existence of any PROW.	PROW have been temporarily re-routed in order to facilitate minerals extraction.
Highways?	Would the capacity of the local highway be able to accommodate additional transport movements related to the minerals site?	Minerals are unlike other forms of development as they require to be worked where they are found, which is not always in the most suitable area in terms of the road network.	The extension to an existing site may use an existing access points although there may be an increase in vehicle movements.
Noise and Vibration?	What would the impacts be on the nearest sensitive receptors	The impact would be dependent on the location of the site in relation to the nearest sensitive receptors.	The NPPF states that any unavoidable noise emissions are controlled, mitigated, or removed at source.
Climate Change?	Will development of the site have an impact on the adaptation to and mitigation of climate change impacts?	The impact will be dependent on a number of factors, e.g. reduction in reliance on imports and the associated carbon emissions.	What are the impacts on Climate Change as a result of extraction and restoration?
Economic and Employment impacts?	The local minerals industry preforms an important role in providing skilled job opportunities both on and off site.	The impact will be dependent on the individual nature of the site in relation to new or existing job levels.	The NPPF states that great weight should be given to the benefits of the mineral extraction, including to the economy.

APPX 1 Site Assessment Reports

1.1 The following section documents the assessment of the two proposed extensions to Pasture House Quarry against the Local Plan Initial Draft Minerals Site Selection Methodology, in order to establish their suitability for allocation.

Table 1.1 Draft Local Plan - Proposed New Mineral Site Allocation Site Assessment Report - Pasture House Quarry Site a

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
Stage 1.				
Existing Mineral Area of Search?	Is the site within an existing mineral area of search?	Yes? = Positive	The RCUDP includes a designation of a 'Minerals Area of Search' which is a form of safeguarding area, indicating the presence of a mineral resource.	The proposed extension to Pasture House Quarry (site a) is within the existing RCUDP Area of Search Designation.
Available?	Has the owner indicated the site is available for the proposed use?	Yes? = Positive	Availability information will be established through the Call for Sites.	The site is considered available as the landowner has submitted the site through a Call for Sites exercise.
Proven Mineral Resource?	Are there proven mineral resources at the site?	Yes = Positive No = Negative	A positive impact will be indicated by the site lying within either and an existing Area of Search' designation and / or a proposed 'Mineral Safeguarding Area' designation.	The proposed extension to Pasture House Quarry (site a) is within the existing RCUDP Area of Search Designation, and also within the proposed Local Plan Sandstone MSA.
Stage 1 Summary	Overall the site is considered as suitable for inclusion in the Local Plan. The site is a proposed extension to an existing minerals site (Pasture House Quarry), is available and lies within the existing RCUDP 'Area of Search' designation and the proposed Local Plan Sandstone Mineral Safeguarding Area.			

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
Stage 2				
Biodiversity Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their biodiversity value.	The site is not within either an international or nationally designated site. The nearest locally designated wildlife site is Cromwell Wood which is within 300m of the closest point of the site.
Geological Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their geological value.	The site is not within a nationally designated geological site nor is it within close proximity to a Local Geological Site.
Built Heritage?	Is the site adjacent to any heritage assets?	Outcome will be dependent on the proximity of any heritage assets.	The effect of a minerals related development on the setting of the local built heritage will be considered.	The site is not within or adjacent to a conservation area; although there is a listed property to the north (Ivy House) and to the south east (Church Of St Anne in The Grove).
Landscape Character?	What are the landscape characteristics of the site and surrounding area	Outcome will be dependent on the impact of the site on the objectives of the landscape character area.	The Calderdale Landscape Character Assessment will be used in order to consider the impact.	The site is not within a specific Landscape Character Area; to the east and north there is a 'Wooded Rural Valleys (Shibden Valley, Shibden Dale)' Landscape Character Type.
Air Quality?	Would the site lie within or in close proximity to an Air Quality Management Area?	Outcome will be dependent on the site's proximity to an AQMA.	Although a site may not be either within or immediately adjacent to an AQMA an increase in traffic associated with the site can have negative impacts.	The site lies some distance from the nearest AQMA and is therefore not expected to have a significant impact on the AQMA as a result of extraction; however traffic generated by the proposal would be likely

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
				to have a limited impact on the AQMAs. In addition, dust emissions from any extraction would need to be monitored and conditions applied to any future permission in order to minimise any adverse impacts.
Agricultural Land Quality?	What grade is the agricultural land?	Calderdale only has Grade 3 (Moderate / Good) agricultural land.	Although there will be a preference for sites on poor quality agricultural land, as minerals is a temporary land use there may be an opportunity through restoration to return the land to its previous quality in terms of agricultural quality.	The site overlies Grade 4 agricultural land therefore other higher quality agricultural land elsewhere is not affected.
Green Belt?	Is the site within the Green Belt?	Majority of sites are within the Green Belt but the impact will still need to be assessed.	The NPPF states that minerals extraction is not considered inappropriate development in the Green Belt provided it preserves the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt.	The site is within the existing Green Belt; however this proposal would form an extension to an existing site which has been considered acceptable in Green Belt terms. It is not known whether any structures are proposed on the site during the extraction phase, although the suitability of these would be determined through the relevant Green Belt policies.
Water Quality / Flooding?	What would the impact be on water	Outcome will be dependent on the location of the site in	The SFRA and the Groundwater Protection Zones data will be used to	The site is outside of flood risk zones 2, 3,3ai, and 3b.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
	quality and flood risk?	relation to flood risk zones and groundwater.	assess the potential impact.	The site is also outside any of the Groundwater Protection Zones.
Compatibility with neighbouring uses?	Would the site be compatible with existing or proposed neighbouring uses or likely to cause conflict?	The outcome would be dependent on the location of the site in relation to non-compatible uses.	The NPPF technical guidance states that Minerals Planning Authorities are expected to ensure that plan proposals do not have an unacceptable adverse effect on the natural or historic environment or human health. Examples of sensitive receptors in relation to dust include Hospitals and Clinics (High Sensitivity) Residential Areas (Medium Sensitivity).	Residential properties are in close proximity to the western edge of the proposed site. To the east is an existing quarry operation, and to the south is a mixture of residential and fields. Any allocation would therefore need some form of stand-off between the properties and the area of extraction identified.
Public Rights of Way?	Are there existing Public Rights of Way in the site?	The impact will be dependent on the existence of any PROW.	PROW have been temporarily re-routed in order to facilitate minerals extraction.	A Public Right of Way (PROW) runs from across the site and along the eastern boundary therefore this would need to be diverted and / or considered in the extraction phase.
Highways?	Would the capacity of the local highway be able to accommodate additional transport movements	Minerals are unlike other forms of development as they require to be worked where they are found, which is	The extension to an existing site may use an existing access points although there may be an increase in vehicle movements.	In terms of the capacity of the local highways, the stone extracted from the proposed site would be likely to go to the Marshall's processing facility nearby in the first instance.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
	related to the minerals site?	not always in the most suitable area in terms of the road network.		
Noise and Vibration?	What would the impacts be on the nearest sensitive receptors	The impact would be dependent on the location of the site in relation to the nearest sensitive receptors.	The NPPF states that any unavoidable noise emissions are controlled, mitigated, or removed at source.	Any application would need to carry out the requisite noise and dust emissions assessments in line with the NPPF and the proposed Local Plan policies.
Climate Change?	Will development of the site have an impact on the adaptation to and mitigation of climate change impacts?	The impact will be dependent on a number of factors, e.g. reduction in reliance on imports and the associated carbon emissions.	What are the impacts on Climate Change that can be delivered through extraction and restoration?	Local extraction can mitigate the impacts of climate change as it would reduce reliance to some extent on imported stone and therefore achieve a reduction in the carbon footprints of developments that use the mineral product(s); however the industry can have a high energy use which has a negative impact on climate change. Restoration of the site would also provide opportunities to mitigate to climate change.
Economic and Employment impacts?	The local minerals industry preforms an important role in providing skilled job opportunities both on and off site.	The impact will be dependent on the individual nature of the site in relation to new or existing job levels.	The NPPF states that great weight should be given to the benefits of the mineral extraction, including to the economy.	It is not known how many additional jobs the proposal would create, although the minerals industry is an important part of the local economy.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment
Summary – Stage 2				
The proposed site is an extension to an existing site (Pasture House Farm). The site is not expected to have a significant impact on the international and nationally designated biodiversity or geological sites. Although there are listed properties to the north, east and south, other development (including another part of the existing quarry) is closer to the eastern and southern heritage assets and would likely to screen the proposed extraction. The greatest impact therefore would be on the listed property to the north of the proposed site. Residential properties are in close proximity to the western edge of the proposed site; therefore any proposal should incorporate an appropriate standoff from housing to the west and southern boundaries of the site. A Public Right of Way (PROW) runs east west through the site and also along the eastern boundary of the site. Noise and dust emissions as a result of the extraction process would need to be monitored and a full assessment provided with any future allocation. Overall, the site is considered suitable as a potential allocation; it is an extension to an existing site, and would be expected to supply the nearby processing facility which would help minimise transport impacts. However significant mitigation would be required with respect of the nearby residential properties.				

Table 1.2 Draft Local Plan - Proposed New Mineral Site Allocation Site Assessment Report - Pasture House Quarry Site b

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
Stage 1				
Existing Mineral Area of Search?	Is the site within an existing mineral area of search?	Yes? = Positive No? = Negative	The RCUDP includes a designation of a 'Minerals Area of Search' which is a form of safeguarding area, indicating the presence of a mineral resource.	The proposed extension to Pasture House Quarry (site b) is within the existing RCUDP Area of Search Designation.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
Available?	Has the owner indicated the site is available for the proposed use?	Yes? = Positive No? = Negative	Availability information will be established through the Call for Sites.	The site is considered available as the landowner has submitted the site through a Call for Sites exercise.
Proven Mineral Resource?	Are there proven mineral resources at the site?	Yes? = Positive No? = Negative	A positive impact will be indicated by the site lying within either and an existing Area of Search' designation and / or a proposed 'Mineral Safeguarding Area' designation.	The proposed extension to Pasture House Quarry (site a) is within the existing RCUDP Area of Search Designation, and also within the proposed Local Plan Sandstone MSA.
Stage 1 Summary	Overall the site is considered as suitable for inclusion in the Local Plan. The site is a proposed extension to an existing minerals site (Pasture House Quarry), is available and lies within the existing RCUDP 'Area of Search' designation and the proposed Local Plan Sandstone Mineral Safeguarding Area.			
Stage 2.				
Biodiversity Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their biodiversity value.	The site is not within either an international or nationally designated site. The nearest locally designated wildlife site is Cromwell Wood which is within 300m of the closest point of the site.
Geological Value?	Is the site outside of an international or nationally designated site?	Yes = Positive No = Negative	Starting point is the location of the site in relation to sites designated for their geological value.	The site is not within a nationally designated geological site nor is it within close proximity to a Local Geological Site.
Built Heritage?	Is the site adjacent to any heritage assets?	Outcome will be dependent on the proximity of any heritage assets.	The effect of a minerals related development on the setting of the local	The site is not within or adjacent to a conservation area; though there is a listed property to the south

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
			built heritage will be considered.	(Cross Platts Farmhouse) and to the south west (Church Of St Anne in The Grove).
Landscape Character?	What are the landscape characteristics of the site and surrounding area	Outcome will be dependent on the impact of the site on the objectives of the landscape character area.	The Calderdale Landscape Character Assessment will be used in order to consider the impact.	The site is not within a specific Landscape Character Area; to the east and north there is a 'Wooded Rural Valleys (Shibden Valley, Shibden Dale)' Landscape Character Type.
Air Quality?	Would the site lie within or in close proximity to an Air Quality Management Area?	Outcome will be dependent on the site's proximity to an AQMA.	Although a site may not be either within or immediately adjacent to an AQMA an increase in traffic associated with the site can have negative impacts.	The site lies some distance from the nearest AQMA and is therefore not expected to have a significant impact on the AQMA as a result of extraction; however traffic generated by the proposal would be likely to have a limited impact on the AQMAs. In addition, dust emissions from any extraction would need to be monitored and conditions applied to any future permission in order to minimise any adverse impacts.
Agricultural Land Quality?	What grade is the agricultural land?	The highest quality agricultural land within Calderdale is Grade 3 (Moderate / Good)	Although there will be a preference for sites on poor quality agricultural land, as minerals is a temporary land use there may be an opportunity through restoration to return the land to its	The site overlies Grade 4 agricultural land therefore is other higher quality agricultural land elsewhere is not affected.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
			previous quality in terms of agricultural quality.	
Green Belt?	Is the site within the Green Belt?	Majority of sites are within the Green Belt but the impact will still need to be assessed.	The NPPF states that minerals extraction is not considered inappropriate development in the Green Belt provided it preserves the openness of the Green Belt and does not conflict with the purposes of including land in Green Belt.	The site is within the existing Green Belt; however this proposal would form an extension to an existing site which has been considered acceptable in Green Belt terms. It is not known whether any structures are proposed on the site during the extraction phase, although the suitability of these would be determined through the relevant Green Belt policies.
Water Quality / Flooding?	What would the impact be on water quality and flood risk?	Outcome will be dependent on the location of the site in relation to flood risk zones and groundwater.	The SFRA and the Groundwater Protection Zones data will be used to assess the potential impact.	The site is outside of flood risk zones 2, 3,3ai, and 3b. The site is also outside any of the Groundwater Protection Zones.
Compatibility with neighbouring uses?	Would the site be compatible with existing or proposed neighbouring uses or likely to cause conflict?	The outcome would be dependent on the location of the site in relation to non-compatible uses.	The NPPF technical guidance states that Minerals Planning Authorities are expected to ensure that plan proposals do not have an unacceptable adverse effect on the natural or historic environment or human health. Examples of sensitive receptors in relation to dust	Residential properties (Barker Royd Farm) are in close proximity to the south western edge of the proposed site; to the north and west is an existing quarry operation, and to the south are a mixture of residential, fields, and minerals processing facility.

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
			include Hospitals and Clinics (High Sensitivity) Residential Areas (Medium Sensitivity).	
Public Rights of Way?	Are there existing Public Rights of Way in the site?	The impact will be dependent on the existence of any PROW.	PROW has been temporarily re-routed in order to facilitate minerals extraction.	A Public Right of Way (PROW) runs along the southern and eastern boundary.
Highways?	Would the capacity of the local highway be able to accommodate additional transport movements related to the minerals site?	Minerals are unlike other forms of development as they require to be worked where they are found, which is not always in the most suitable area in terms of the road network.	The extension to an existing site may use an existing access points although there may be an increase in vehicle movements.	In terms of the capacity of the local highways, the stone extracted from the proposed site would be likely to go to the Marshall's processing facility nearby in the first instance.
Noise and Vibration?	What would the impacts be on the nearest sensitive receptors?	The impact would be dependent on the location of the site in relation to the nearest sensitive receptors.	The NPPF states that any unavoidable noise emissions are controlled, mitigated, or removed at source.	Any application would need to carry out the requisite noise and dust emissions assessments in line with the NPPF and the proposed Local Plan policies.
Climate Change?	Will development of the site have an impact on the adaptation to and mitigation of climate	The impact will be dependent on a number of factors, e.g. reduction in reliance on imports and the associated	What are the impacts on Climate Change that can be delivered through extraction and restoration?	Local extraction can mitigate the impacts of climate change as it would reduce reliance to some extent on imported stone and therefore achieve a reduction in the carbon

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
	change impacts?	carbon emissions.		footprints of developments that use the mineral product(s); however the industry can have a high energy use which has a negative impact on climate change. Restoration of the site would also provide opportunities to mitigate to climate change.
Economic and Employment impacts?	The local minerals industry preforms an important role in providing skilled job opportunities both on and off site.	The impact will be dependent on the individual nature of the site in relation to new or existing job levels.	The NPPF states that great weight should be given to the benefits of the mineral extraction, including to the economy.	It is not known how many additional jobs the proposal would create, although the minerals industry is an important part of the local economy.
Summary - Stage 2				
The proposed site is an extension to an existing site (Pasture House Farm). The site is not expected to have a significant impact on the international and nationally designated biodiversity or geological sites. There are listed properties to the south and south west, although the impact on these arising from the proposal is uncertain. In terms of Air Quality, the site is not predicted to have a significant primary impact on an AQMA, especially as the materials are likely to be transported to the nearby processing facility; although secondary impacts through the transportation of materials may have an impact. A group of residential properties are in close proximity to the south western edge of the proposed site; therefore any proposal should incorporate an appropriate standoff from housing. A Public Right of Way (PROW) runs along the southern and eastern boundary of the site. Noise and dust emissions as a result of the extraction process would need to be monitored and a full assessment provided with any future allocation. Overall, the site is considered suitable as a potential allocation; it is an extension to an existing site, and would be expected to supply the nearby processing facility which would help minimise transport impacts, and support local employment. However, as with the proposed extension to				

Site Assessment Criteria	Comments	Impact	Additional Comments	Site Assessment of Pasture House Quarry Site b
the west of the existing site, significant mitigation would be required with respect of the nearby residential properties.				