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Pre-Application Advice Supporting Document
Horn Crag Quarry
A.D. Calvert Architectural Stone Supplies Ltd.

Document Reference: 232/5--R1.2 - Pre-App



Minerals
Waste
Environment

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1.0 General

1.1 Introduction

1.1.1 *The Mineral Planning Group Ltd. (MPG) have been commissioned by A. D. Calvert Architectural Stone Supplies Ltd. to seek Pre-Application Advice from Bradford Metropolitan District Council (BMDC) for a proposed dimension stone site located at Horn Crag Quarry ('The Site'), a historic mineral extraction site near Silsden, West Yorkshire.*

1.2 General Description of Development

1.2.1 The Site would be worked as a dimension stone site, extracting block to be taken, by road, to the applicant's processing facilities. The Site would occupy a surface area of approximately 5.9ha, including a short access track to Fishbeck Lane.

1.2.2 The solid bedrock geology of The Site is the *Middleton Grit Unit* of the *Silsden Formation (Millstone Grit Group)*. There are no superficial deposits at The Site, though deposits of till are found at lower elevations, to the southwest and west of The Site, where they are also recorded in available borehole data¹.

1.2.3 A programme of borehole drilling was carried out at The Site to investigate the resource and establish depths to groundwater. The investigations found that the mineral was not suitable for building stone end-uses in the north of The Site, with a predominance of clays and clayey sandstone and siltstone, or, very fractured

¹ The superficial deposits fill the base of 'valleys' in the locale.

sandstone. The remainder of The Site is characterised by extensive, blocky / massive sandstone deposits, often over 25m thick, as visible in the existing faces.

- 1.2.4 Analysis and logging of the recovered cores showed that some of the sandstone may not be suitable for high-grade dimension stone due to, for example, fractures or clay bands. However, these elements of the sandstone would, potentially, be highly suitable for 'walling stone'. The estimated tonnage of walling stone is approximately **80,000 tonnes**.
- 1.2.5 Significant deposits of sandstone suitable for high-grade dimension stone production have been proven across The Site, estimated at approximately **220,000 tonnes²**.
- 1.2.6 The total mineral to be processed is approximately 940,000 tonnes. This figure includes sandstone in the cores that was considered unsuitable for dimension stone known as 'interburden' (and was not included in the figures in paragraphs 1.2.4 and 1.2.5). However, test cutting samples of the interburden has shown that some aspects may be more suitable for dimension stone than the cores suggest. The estimates above are, therefore, considered to be conservative values.

² Estimates are based on average thickness of sandstone in all boreholes, and a 2.4 tonnes per m³ density.

2.0 Planning History

2.1 Previous Planning Applications

2.1.1 Several Planning Applications were made at The Site during the mid-late 1980s, with all known applications being refused³. However, these applications were for The Site to extract crushed rock / aggregate, primarily for the construction of the *Airedale Route* highways project.

2.2.2 Despite these refusals, an enforcement notice issued in December 1987 shows that unconsented extraction had taken place over four years prior to the enforcement action.

2.2 Material Differences in New Proposals

2.2.1 Committee report(s) show that the previous proposals were refused on several grounds, including highways / access issues, need, ecology, and effects on local private water supplies.

2.2.2 Before considering each of these individually, it is important to note that previous proposals were for an aggregate quarry, potentially with crushing, screening and washing of materials on site, as well as the resultant high number of HGVs. The current proposals are for a dimension stone quarry, producing high-grade building stones. All processing would be carried out off-site – only extraction

³ 86/02290/FUL, 86/06567/FUL, 87/01914/FUL, 88/01418/FUL (the latter involved erection of agricultural buildings post-extraction and is labelled refused). Although the online portal states that the other applications are 'awaiting decision', it is presumed that all have been refused.

would take place at The Site.

2.2.3 With regards to highways, the main areas of concern for the previous applications were the high number of HGVs, and the routing of these HGVs through the centre of Silsden. The new proposals would only require a low number of HGV movements (maximum of 5 per day, and 20 total per week).

2.2.4 Equally, no HGVs would travel south and through Silsden, instead travelling northwards and on to the wider highway network as shown in the attached Routing Plan. This route would always be used by HGVs leaving The Site, due to the location of the applicant's saw sheds and processing facilities.

2.2.5 Whilst the road network in the immediate surroundings of The Site is, indeed, characterised by 'local' single carriageway roads, this constitutes a short (approx. 1km) distance of the proposed HGV routing. Fishbeck lane could readily be upgraded to incorporate passing places to allow HGVs space to wait whilst other users pass⁴.

2.2.6 The 'need' for crushed rock from the quarry was disputed in the previous applications. Whilst it was intended that this would, at the time, create a supply for a local major road building scheme, it was noted that there were several other suitable sources of similar materials. However, in the new proposals, the rock extracted at The Site would not be crushed for use as general fill material. The stone would be extracted only for high-grade dimension stone uses⁵.

⁴ In the exceptionally unlikely event that two vehicles are using Fishbeck Lane at the same time.

⁵ Any mineral unsuitable for dimension stone uses (mineral wastes) may be sold in low volumes as aggregate or used in the restoration of the site.

- 2.2.7 The previous proposals were considered to cause a potential negative impact on ecology at The Site, in particular with respect to badger setts. It is not known if badgers still occupy The Site, but a Phase 1 Ecological survey would be carried out to assess the proposal's scope for impact on, and potential for net gains in, biodiversity. The restoration scheme would also be ecologically driven, in order to produce a net gain in biodiversity at The Site.
- 2.2.8 The Site's southern boundary forms part of a rudimentary but longstanding private water supply for several properties on Fishbeck Lane, and Fishbeck Farm (on the western side of the A6034 – Bolton Road). There is no indication in Horn Crag quarry's title that there is a legal requirement for the owners of Horn Crag to uphold this supply of water.
- 2.2.9 The water supply is fed from a man-made spring on the western side of The Site, which fills two chambers from a single 3" pipe. Information provided by a local resident suggests this is the sole water supply to the residential properties, and is often intermittent and of poor quality. A CCTV drain survey has shown that the pipe is short and leads to blocky sandstone through which water emerges. The applicant has, therefore, offered to provide a new borehole to replace this supply for the local residents.
- 2.2.10 Exploratory borehole drilling recorded varying groundwater levels across the site, approximately following the topographic contours. However, The Site's hydrogeological regime is clearly complex, as the borehole results would suggest the base of The Site should be flooded, which it is not.
- 2.2.11 Nevertheless, a hydrogeological risk assessment (HRA) will be undertaken and

appropriate measures to protect ground (and surface) water will be implemented at The Site.

3.0 Operational Details

3.1 Extraction

3.1.1 Extraction would likely commence from the north, working southwards initially. The working direction would then move around a 'sump' (see Section 3.5) in the lowest aspect of the existing quarry floor, finishing in the southwest extent of The Site, near to the entrance. Working would take place to, approximately, the level of the existing quarry floor, though the HRA will ultimately determine the final working heights / landform.

3.1.2 There is a limited amount of quarry backfill in the existing quarry floor. This area would not be worked extensively for mineral, instead being prepared and then used for an entrance and turning area, loading and stockpiling.

3.2 Restoration

3.2.1 A detailed restoration scheme would be provided with any planning application at The Site. However, it is proposed that restoration would be ecologically driven, to achieve substantial net-gains in biodiversity. Additionally, restoration would take into account landscape impact, using only mineral waste and retained overburden to achieve a landscape feature befitting the name 'Horn Crag'.

3.2.2 No materials would be imported for the purposes of restoration.

3.3 Rate of Working and HGV Movements

3.3.1 It is proposed that working would take place over some 18 years. This would allow for 15-20 HGV movements⁶ per week to extract the estimated tonnage (approx. 400 tonnes per week / 20,000 tonnes per year). This timescale would also allow for the 'peaks and troughs' in extraction rates that are common at small dimension stone sites due to changes in market demand.

3.3.2 There would be no more than 5 HGV movements on any one working day, as well as the maximum of 20 HGV movements per week.

3.4 Hours of Working

3.4.1 The following hours of work are proposed:

07:30 – 18:00 hours Monday to Friday

08:00 – 13:00 hours Saturdays

3.4.2 No production work would be undertaken on Saturday afternoons, Sundays or Bank Holidays, when only maintenance of the plant and equipment would be carried out.

3.5 Water Management

3.5.1 Surface water run-off would be managed by way of drainage ditches and a quarry

⁶ Into and out of The Site.

sump (see para. 3.5.4). A flood risk assessment (FRA) would be carried out for The Site.

3.5.2 Surface water run-off from The Site would not be increased above existing levels.

3.5.3 Exploratory borehole investigations have shown that groundwater (perched) is, on average, approximately 11-12m below current ground levels, roughly following the topographic surface. Groundwater flow appears to be towards the southwest. Working is likely to take place below the groundwater depths struck in the exploratory boreholes, though as stated, the groundwater levels at The Site are complex, and the base of the existing quarry is dry.

3.5.4 Currently, this perched groundwater exits at surface on the site's western boundary, feeding the water supply described in Section 2.2. However, during excavation, it may be necessary to collect groundwater in the quarry sump. The sump will be located in the lowest point in the quarry floor at any one time. It is not considered that large volumes of groundwater will be directed to this sump, based on the nominal volumes that currently feed the water supply.

3.5.5 Nevertheless, a hydrological study will confirm the required size of the quarry sump to accommodate both surface water and groundwater.

4.0 Planning Policy

4.1 Introduction

4.1.1 The provision of the Town and Country Planning Act (1990) as amended,

indicates a presumption in favour of development proposals which are in accordance with the Development Plan.

4.2 The Development Plan

4.2.1 The Development Plan for this proposal is a combination of the following adopted local plans so far as they are relevant:

- The National Planning Policy Framework (NPPF)⁷ 2018
- BMDC Core Strategy Development Plan Document (DPD) 2017
 - Partial Review of Core Strategy (ongoing)

4.3 National Policy

4.3.1 The National Planning Policy Framework (NPPF) was adopted in March 2012 with a revised version adopted in 2018. The NPPF sets out the Government's approach to Planning and Sustainability, and replaces Planning Policy Statements (PPS) and Planning Policy Guidance (PPG), which previously set out the Government's National policies on land-use planning.

4.3.2 Chapter 17 (paragraphs 203 - 211) of the NPPF is dedicated to: - *'Facilitating the sustainable use of minerals'*.

4.3.3 Paragraph 203 states:

⁷ Supplemented by the NPPG.

“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.”

The proposed extraction of mineral for dimension stone at Horn Crag Quarry supports the maintenance of a ‘sufficient supply’ in a number of ways:

1. The rock extracted at Horn Crag Quarry is considered to produce very high-quality dimension stone, based on initial cutting tests. The stone would be processed at the Applicant’s existing stone yard near Leyburn. There is already a proven market for this type of stone. Similar (appearance and texture) building stone from the Millstone Grit Group has been used extensively in buildings in the region (West and North Yorkshire). A continued supply of this stone is therefore vital to repair and maintain these historic assets.
2. For the maintenance and reinforcement of local distinctiveness, ‘new builds’ are, where properly conceived, designed to be ‘in-keeping’ with their surroundings, which, in this region, feature stone built properties, using dimension stone extracted from the Millstone Grit Group.

4.3.4 Paragraph 205 states:

“When determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy.”

If approved, stone extraction at Horn Crag Quarry would create 'direct' economic benefits by employing 4 staff directly. Indirectly, quarries create further jobs, for example in the processing of stone, logistics, construction, etc. and contribute to both the local and wider economy. The applicant informs MPG that currently, the main market for stone products to be produced from The Site is across West and North Yorkshire.

4.3.5 Paragraph 205 goes on to state, *"In considering proposals for mineral extraction, minerals planning authorities should:*

[...]

- 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."*

Horn Crag Quarry would fall wholly into this category (small-scale building stone quarry).

4.3.6 Paragraph 205 is reinforced by National Planning Policy Guidance (Minerals) Paragraph: 016 Reference ID: 27-016-20140306, which states that, *"Mineral planning authorities should recognise that, compared to other types of mineral extraction, most building stone quarries are small-scale and have a far lower rate of extraction when compared to other quarries. This means that their local environmental impacts may be significantly less. Such quarries often continue in operation for a very long period, and may be worked intermittently but intensively ("campaign working"), involving stockpiling of stone."*

4.4 Regional Policy – Core Strategy DPD (2017)

- 4.4.1 The Core Strategy Development Plan Document (DPD) was formally adopted in July 2017. This is the key strategic document within Bradford’s emerging Local Plan. Whilst the policies included within it do not replace every policy under the RUDP, those relevant to this application have been replaced. Therefore, the following discussion addresses the new policies and supporting strategic guidance. It is also noted that there is an on-going Partial Review of the Core Strategy DPD, however, this does not affect the policies relevant to this development.
- 4.4.2 Policy EC1 determines the general ways in which a successful and competitive economy of the Bradford area should be delivered via the Core Strategy. Bullet point K) states: “(*...plans, strategies, investment decisions and programmes and planning decisions should help to deliver:)* *Opportunities for business relating to the District’s unique environmental assets and challenges, including extraction industries [...]*”
- 4.4.3 Paragraph 5.5.1 of the Strategy goes on to say, “*Maintaining a steady and adequate supply of minerals is essential to the economy...*”
- 4.4.4 Paragraph 5.5.2 states, “*Supporting new investment in minerals extraction is both a responsibility, in terms of Bradford playing its part in supplying the raw materials necessary for economic growth, but is also an opportunity, in terms of enhancing Bradford’s reputation as a supplier of high quality building materials and increasing skilled employment particularly in rural areas.... [our bolding]*”

Horn Crag Quarry would, if approved, contribute to all of the elements highlighted by this paragraph, with particular regard to employment in rural areas.

4.4.5 *Policy EN9: New and Extended Minerals Extraction Sites:-*

*B) Proposals to open up a new minerals extraction site on previously developed land, **re-open a disused minerals extraction site**, or extend an existing minerals extraction site, will be supported in principle provided that all of the following criteria are met: [Our bolding]*

1. The proposal accords with the policy for the specific mineral proposed to be extracted, as set out in policies EN10 and EN11, and;

2. The development would not result in unacceptable adverse impacts on people or the environment in terms of pollution, flooding or land stability risks, or harm to amenity, the setting of heritage assets or the character of the landscape, taking into account the cumulative effects associated with all existing or approved developments affecting the area and the environmental criteria set out in other Local Development Plan Policies, and;

3. The development would not lead to a long-term net loss of biodiversity, to the loss or significant deterioration of any irreplaceable habitats, or to the permanent disruption of a significant ecological network, and;

4. If the proposal is to extend an existing minerals extraction site: existing

permitted reserves are close to exhaustion and those parts of the existing site which it is practicable to restore, without unreasonably constraining future minerals extraction activity, have been restored.”

- 4.4.6 The proposed extension does not contradict the conditions imposed by Policy EN9 Part B, and as such, the council is, in principle, encouraged by its own policies to adopt a supportive stance towards the proposed development.
- 4.4.7 Paragraph 5.5.10 states, “ *These materials [high quality building stone] are used in both new build development projects, public realm paving schemes, and for the repair and extension of traditional buildings. The market for stone products from the District extends throughout the Region and beyond, with a demand for bespoke natural ‘York Stone’ masonry for quality development projects throughout the country”.*

The applicant’s processing facilities are based near Leyburn. However, we are informed that their primary market areas cover both West and North Yorkshire, and beyond, highlighting the local, regional and even national importance of the supply of this type of building stone.

- 4.4.8 Para. 5.5.12 states “ *Stone extraction is currently concentrated in the Elland Flag, Rough Rock and Woodhouse Grit rock units; however a number of other distinct sandstone types occur within the District and there is therefore the potential to further diversify the supply of building stones”.* The rock unit to be worked at Horn Crag is the Middleton Grit / Silsden Formation (part of the Millstone Grit Group, as are those units listed above by BMDC). The proposed working of this rock presents an opportunity to diversify the supply sources of appropriate

building stone in the region.

- 4.4.9 Policy EN10, part B states, “ *When considering the merits of proposals for new or extended building, roofing and paving stone quarries, any evidence that the proposal would result in an increased supply of particularly scarce building, roofing or paving stones, such as stone slates, riven flags, or matching stones needed for the repair of historic buildings or monuments, will be accorded significant weight.*”

Whilst there is no direct evidence that stone from Horn Crag Quarry has been used in historic buildings, it is listed in the British Geological Survey (BGS) Building Stone Atlas as a building stone source (as ‘Horn Crag Stone’). It is, therefore, highly likely that stone from the quarry has been used historically in the local area. Equally, the patina, appearance and chemical properties of the building stone produced at The Site will be suitable for the repair, or, restoration of buildings within the region made from similar stone.

- 4.4.10 In addition to policy EN10 and the discussion above, paragraph 5.5.17 further highlights the importance of a supply of high quality building stones such as those proposed to be produced from Horn Crag Quarry, “ *Particularly strong support is offered to minerals development which would result in an increased supply of scarce building, roofing or paving stones, such as stone slates, riven flags, or matching stones needed for the repair of historic buildings or monuments.*”

4.5 Need

- 4.5.1 It is acknowledged that there is a current housing supply crisis in the UK, and as such, the Government is (as a priority) looking to address the issue. An essential element of providing for an increase in house building is an adequate supply of suitable building stone⁸ to the UK construction industry, in order to deliver the necessary housing, whilst maintaining 'local distinctiveness'.
- 4.5.2 As previously discussed, Horn Crag Quarry could contribute to the required supply of both materials for building houses, and, importantly, could provide stone suitable for the maintenance of local distinctiveness. The Middleton Grit Unit / Silsden Formation to be worked at Horn Crag Quarry is highly likely to have been used in several buildings local to The Site.
- 4.5.3 The farmsteads that define the local moorland building vernacular surrounding Horn Crag Quarry are also built from locally sourced Millstone Grit Group rock, and whilst not recorded in the BGS Building Stone Atlas, share the same, or similar, appearance and patina as stone to be produced at Horn Crag Quarry.
- 4.5.4 There is a vast list of Geological Formations and Units within the Millstone Grit Group of rocks (often with more than one name for the same unit). It is, therefore, almost certain that the Middleton Grit Unit to be worked at Horn Crag Quarry would be suitable for the repair and maintenance of many historic buildings whose building stone would match, or, be almost indistinguishable from the Middleton Grit, as well as for appropriately designed new build developments.

⁸ And aggregates

4.6 Alternatives

4.6.1 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999/293) states that information to be included in an Environmental Statement must include:

“An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects”.

4.6.2 In this instance, there are no clear alternatives to the proposal. The ‘need’ for Horn Crag Quarry has been demonstrated, with a clear market for the products to be produced. An extensive sieve analysis of historic quarry sites in the region removed all but Horn Crag Quarry as viable.

4.6.3 Therefore, the only alternative is to source, investigate, permit and market a new ‘greenfield’ site that could produce equivalent stone, both in terms of quality, characteristics and quantity.

Drawing Title:
HGV Routing Plan

Key:



Site location

Notes:

Drawn by:	MS
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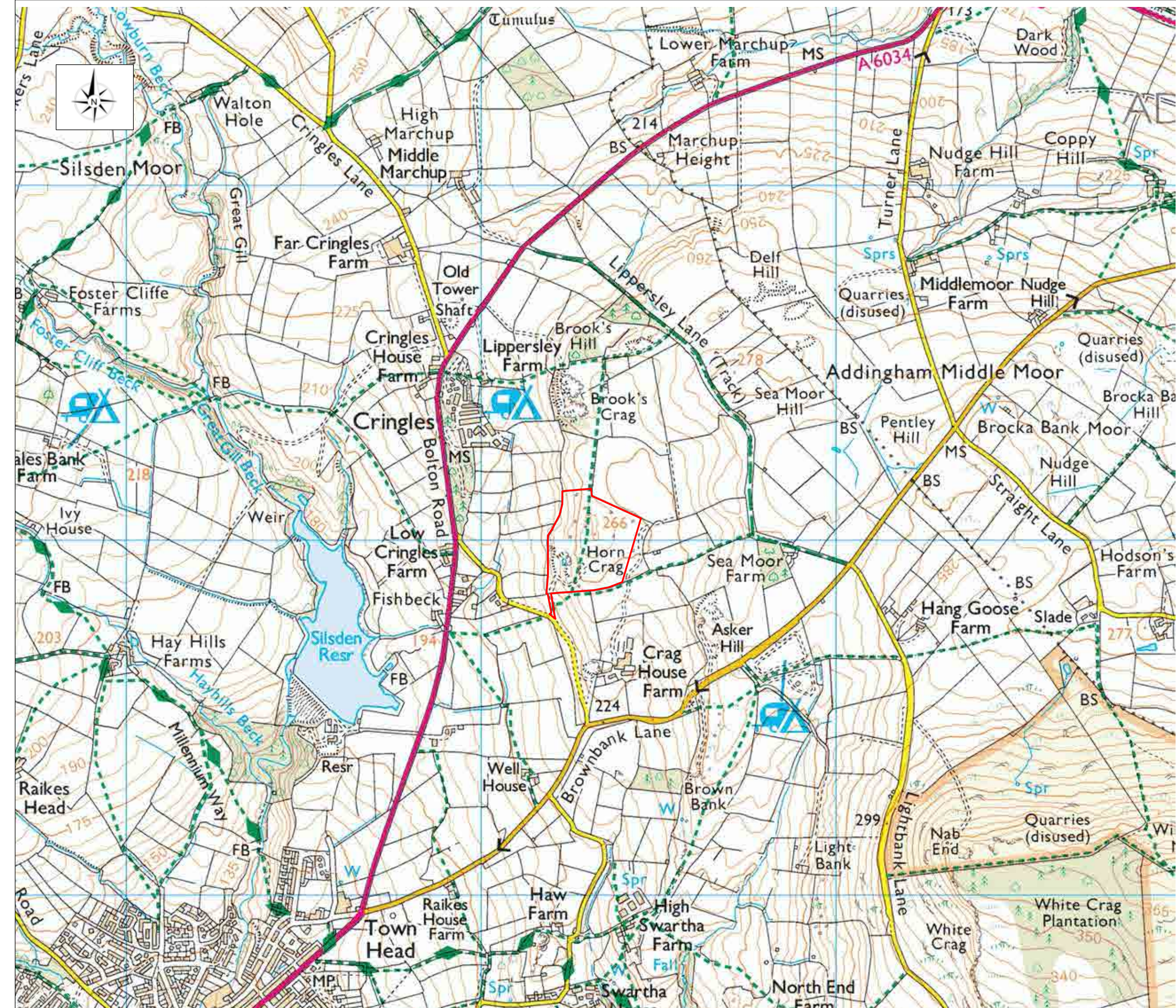
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Client:
A. D. Calverts

Site:
Horn Crag Quarry

Drawing Number: 232/5 - 1	Rev: 1.0
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Date:
01/04/2020



Drawing Title:
Site Plan



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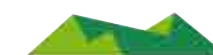
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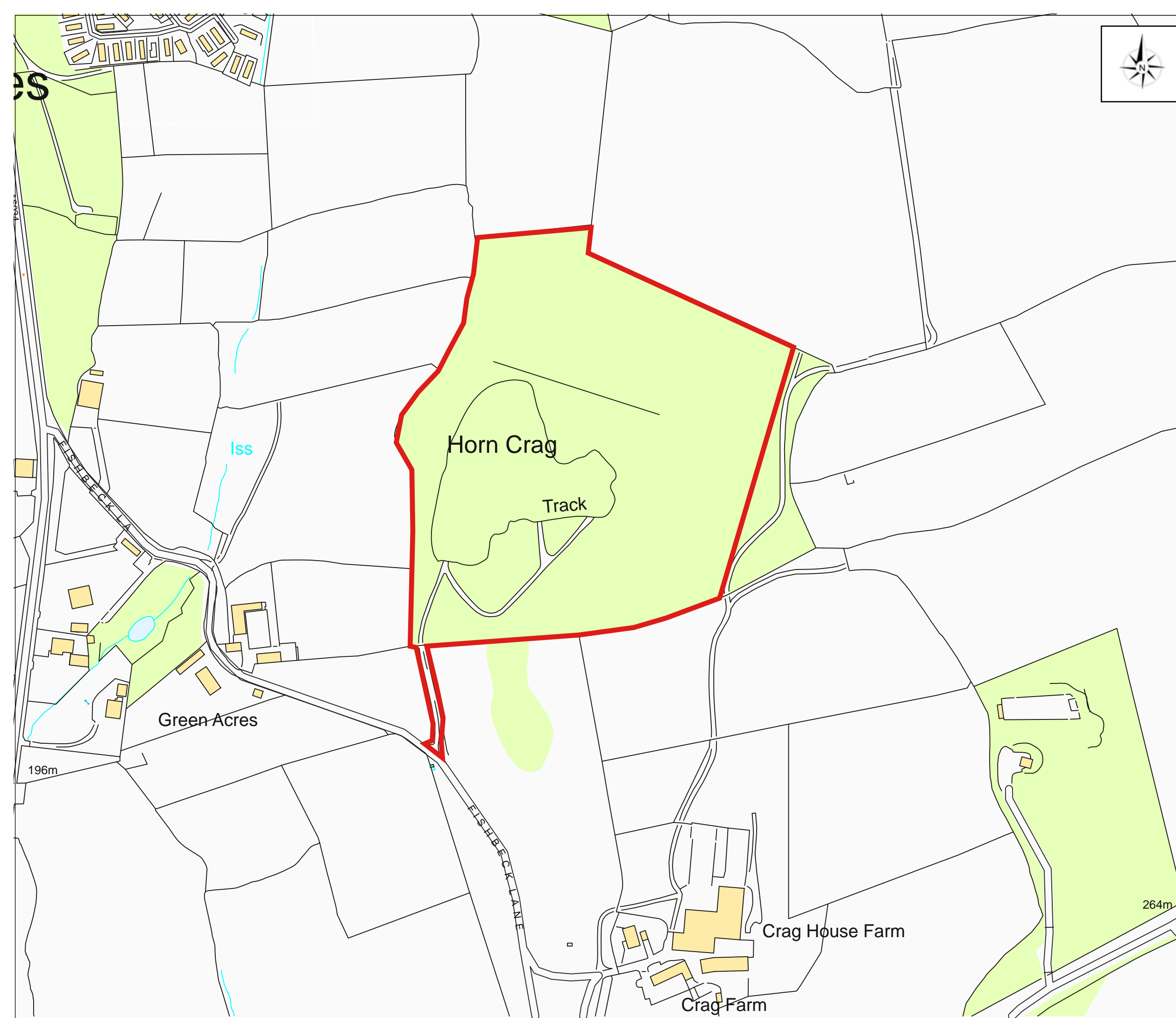
Client:
A. D. Calverts

Site:
Horn Crag Quarry

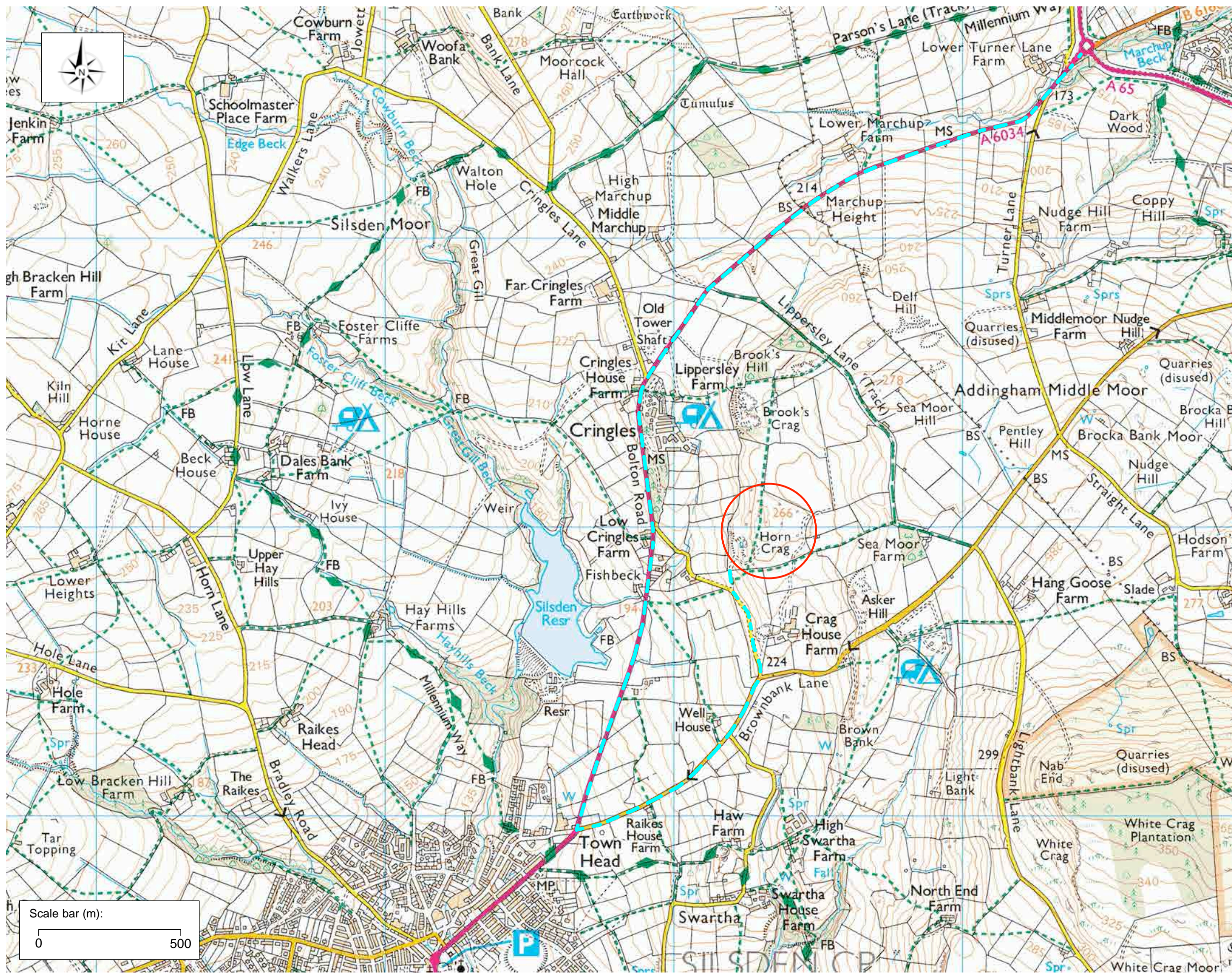
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Rev:
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Date:
18/05/2020



Drawing Title: HGV Routing Plan



Key:

-  Site location
-  HGV Routing

Notes:	
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Scale:	See scale bar
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Site:	Horn Crag Quarry
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Date: 01/05/2019	

