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**PROPOSED RESIDENTIAL DEVELOPMENT
CLITHEROE ROAD,
WHALLEY
FOR
MAPLE GROVE DEVELOPMENTS LTD**

MAY 2019

MINERAL ASSESSMENT REPORT

19036/MAR

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MINERAL ASSESSMENT REPORT
PROPOSED RESIDENTIAL / COMMERCIAL DEVELOPMENT,
CLITHEROE ROAD, WHALLEY.

1.0 INTRODUCTION

1.1 Instructions

- 1.1.1 *We are instructed by Maple Grove Developments Ltd, Sceptre House, Sceptre Way, Bamber Bridge, Preston, PR5 6AW to prepare a Mineral Assessment Report to supplement a detailed planning application for a mixed residential/commercial development of land referred to as Old Whalley Nurseries, Clitheroe Road, Whalley.*
- 1.1.2 *As part of the pre application validation the local planning authority and Lancashire County Council have established that the application site is located within a Mineral Safeguarded Area (MSA). In light of the established principal of mineral safeguarding within the National Planning Policy, it is necessary to determine the extent and quality of any mineral resources and the likelihood of these being suitable for extraction in an environmentally friendly way.*

1.2 Object

- 1.2.1 *This mineral assessment report has been prepared to assess the likely presence of mineral resources lying within and immediately adjacent to the site. Having assessed the presence of suitable minerals, the report is to present a basic assessment of the importance and viability of these minerals being extracted. This information is then to be collated into an overall assessment of the impact of the development of this site upon the mineral resources within this area.*

1.3 Sources of Information

- 1.3.1 *This report has been prepared using information from the following sources:-*
- *Coda Structures Phase 1 and 2 Engineering and Environment Assessment Report No. 7847 14th February 2019;*
 - *Enviro-check reports dated 3rd June 2014;*
 - *All available old Ordnance Survey maps;*
 - *Site allocations and Development Management Policies (2013);*
 - *The Lancashire Minerals & Waste Local Plan;*
 - *BGS Mineral Resource Information in support of National Regional & Local Planning Report no. CR/05/144N;*
 - *BGS Lancashire Mineral Resources Plan.*
 - *BGS Online resource*

1.4 Limitations Of Report

- 1.4.1 *This report is a desk study report which has been prepared using readily available information in accordance with the project stage requirements, budget and time scales. The opinions expressed in this report and the comments and recommendations given are based upon the information obtained from the desk assessment and an initial site reconnaissance. At this stage intrusive investigations have yet to be undertaken at site to establish actual ground and groundwater conditions and provide data for assessment of the environmental status of the site.*

- 1.4.2 *The information, views and conclusions drawn concerning the site are based in part on information supplied to Robert E Fry & Associates Ltd (REFA) by other parties. REFA has proceeded in good faith on the assumption that this information is accurate. REFA accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to REFA from others.*
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2.0 THE SITE

2.1 Location

- 2.1.1 *The site is irregular in shape and is located upon the eastern side of Clitheroe Road approximately 1km to the north of Whalley Village centre. The site extends to an area of some 6.5 hectares and the centre of the site is situated at approximate National Grid reference SD 73622 37360 within an open semi-rural area. Its location is shown in figure one below.*

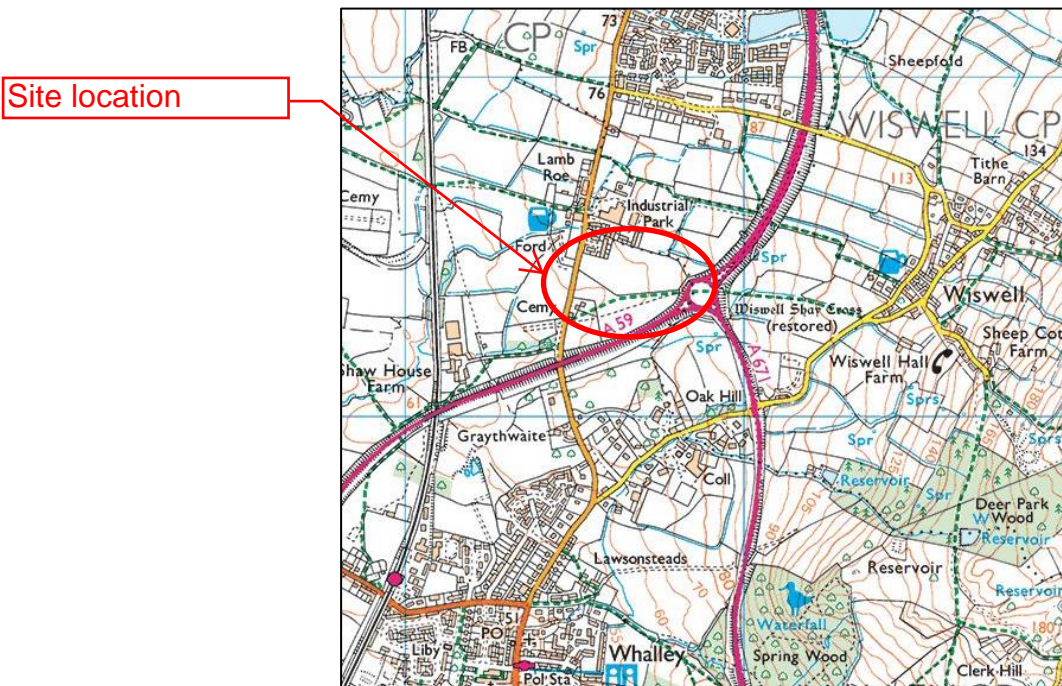


Figure 1: Site Location



Figure 2 – Preliminary Development Areas

2.2 Description, Geographic Setting & Topography

2.2.1 *The site comprises of agricultural land divided into two fields, the boundaries of which are made up by hedgerows. The southern and western boundaries are formed against the adjoining A59 trunk road. A field boundary extends through the central area of the site from east to west.*

2.2.2 *The topography of the site is sloping from east to west. The adjacent roundabout on the A59 forms the high point of adjoining land. Generally, the gradients appear to be in the order of some 1 in 15 - 25 but locally steeper gradients appear to be present. The site does contain sporadic trees but mature trees and hedgerows are also present at the boundary and within immediately adjoining land.*

2.3 Proposed Development

2.3.1 *At the time of preparation of this report various option schemes have been proposed for the development of the site. The proposals do however comprise of traditional residential developments with an associated care home facility within the western portion of the site whilst the eastern portion is to be utilised for commercial purposes. The variation between the various current options are considered to be details for approval, however all options show the whole site to be developed. A representative development option plan is appended for general reference.*

2.3.2 *It is acknowledged that the development proposals for this site are likely to be amended as a result of local planning requirements. It is however anticipated that the current proposals will be representative of the final development approval. However, if the final development proposals are radically different from the current proposals, then recommendations made within this report may become inappropriate.*

3.0 SITE GEOLOGY

3.1 Resources

3.1.1 We have been provided with a copy of an Enviro-check report which gives details of all recorded environmental features relating to the site and its immediately surrounding area. We have also been provided with copies of all available old Ordnance Survey maps for the area and these also give historical guidance regarding the former usage of the site and its immediate vicinity. Geological features are also included with the Enviro-check report. A more detailed assessment of the geology of the area is given by the BGS Online resource.

3.2 Superficial Deposits

3.2.1 The superficial deposits located within the site area are indicated to comprise of glacial till. This material is considered to comprise of boulder clay type material with interspersed lenses and bands of silt, sand and gravel. Glacial till has little economic merit and is not considered to represent an important mineral resource. The BGS Borehole scans section includes information to suggest that within the proximity of the site these superficial deposits extend to depths in the order of 7m or so before bedrock is encountered.

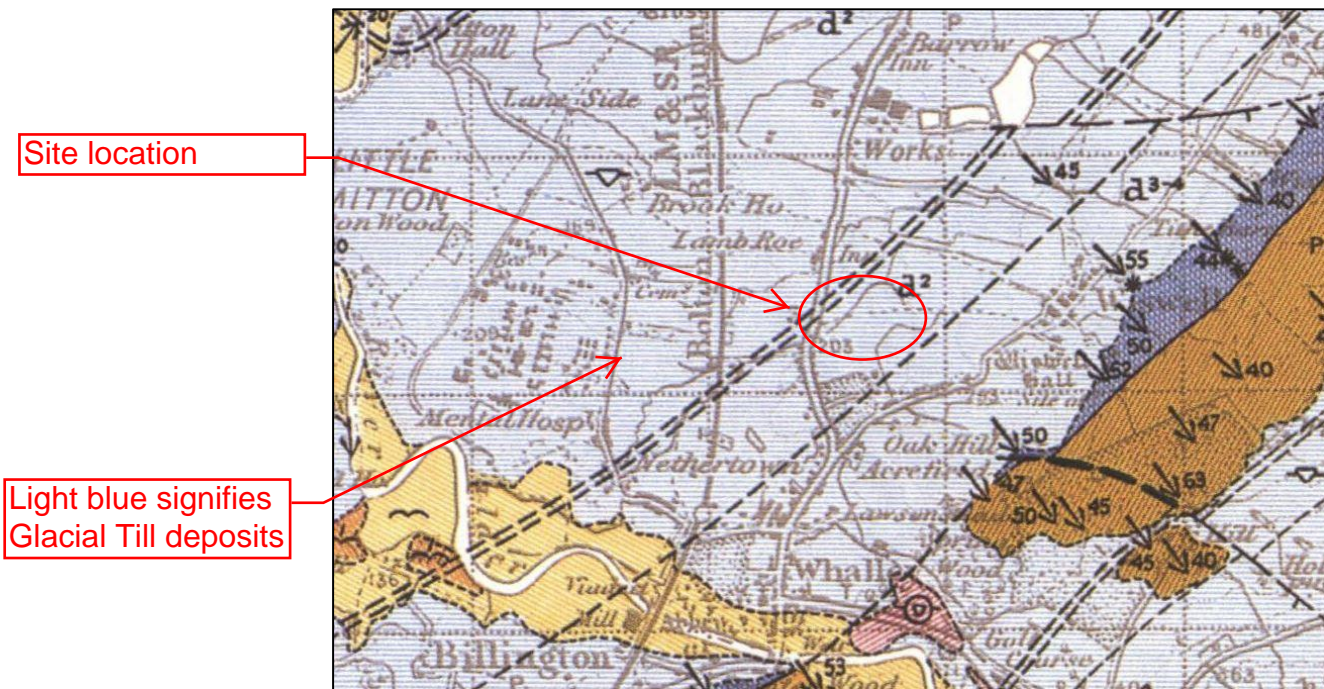


Figure 3 - Superficial Deposits

3.3 Solid Geology

3.3.1 The majority of the site is underlain by the Rad Brook Mudstone member comprising of mudstones laid down within the Carboniferous period. At the north western corner of the site a very thin band of Hodderense Limestone is indicated to be present. This material represents a limestone with micritic nodules, sporadic interbedded pack stones and common mudstones. This band of material is typically recorded to have a thickness in the order of some 15m or so in this area. Immediately to the north west of the limestone band the rocks comprise of undifferentiated Clitheroe Limestone Formation and Hodder Mudstone Formation rocks, primarily being represented by mudstone deposits.

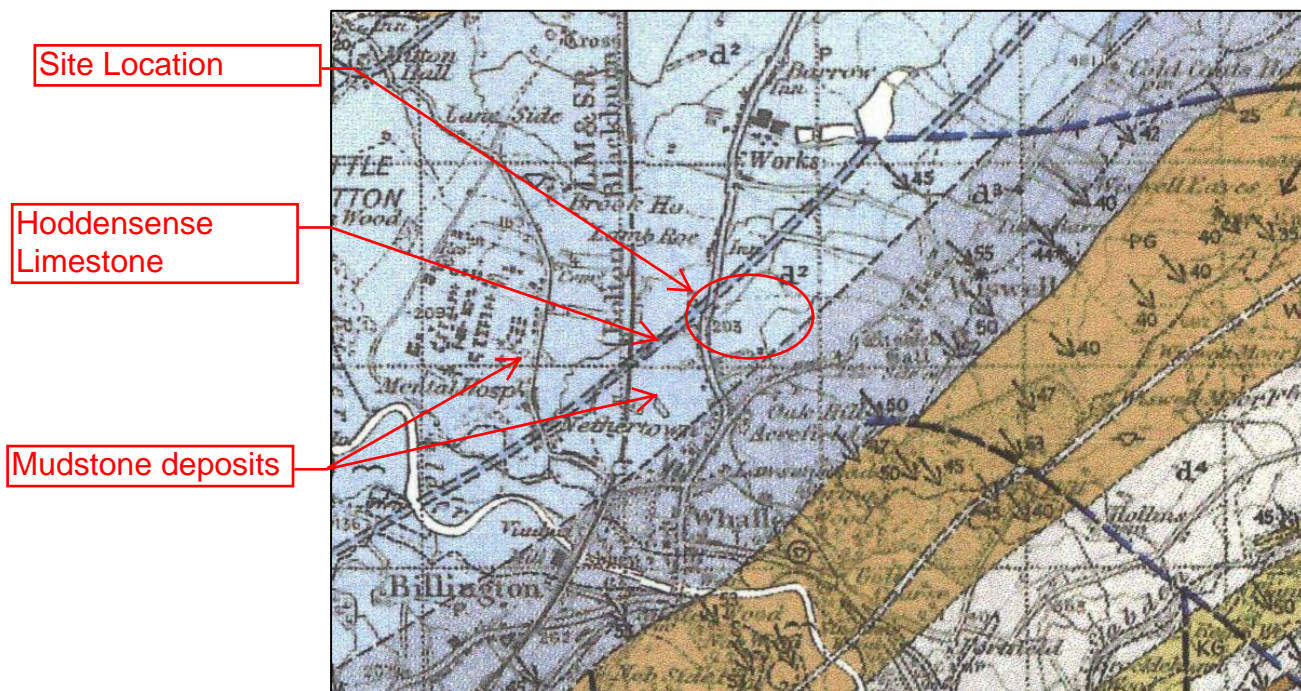


Figure 4 – Bedrock

3.4 Geological Structures

3.4.1 The British Geological Survey information does not indicate the presence of any significant geological faulting within the immediate proximity of the site. The BGS do however indicate that the rocks in this area have a very steep angle of dip which is recorded to be in the range of 40° – 55° towards the south east. The Hodderense Limestone band is therefore anticipated to lie below a significant portion of the site, though at a very rapidly increasing depth towards the south west.

3.5 Ground Workings

3.5.1 The geological section of the Enviro-check report has confirmed that Whalley Brick and Tile Works extracted 'common clay and shale' as part of their operations. These workings extended to a very limited area to the south west of the site and, in fact, reference to the historic Ordnance Survey maps indicates that these workings were ceased in excess of 100 years ago. There are no other records of any extraction works being undertaken in the past in the rocks present within the study site. These rocks are therefore considered to have a minor economic merit.

3.6 Mining

3.6.1 Coal mining activities are not recorded to have taken place with this area and there are no recorded deposits of economically viable coal which may be of future importance.

3.6.2 There are no records of any non-coal mining activity having taken place within the site or its immediate proximity. Here again, there are no recorded deposits which may give rise to any previous or future non coal mining activity.

3.7 Hydrogeology

- 3.7.1 *The superficial deposits identified within the site area are designated as unproductive strata. These strata relate to deposits that may have been designated as non-aquifer due to low permeability and low ground water retention.*
- 3.7.2 *The bedrock strata within this area is considered to comprise of a Secondary Aquifer type A. This type of aquifer comprises of rocks with a medium intergranular or fracture permeability usually providing a moderate level of water storage which may support water supplies or river base flows on a local scale.*
- 3.7.3 *The Enviro-check report has identified no Environment Agency detailed water courses within the site area. There are however water courses within the immediate proximity of the site to the north and south.*

4.0 MINERAL PLANNING

4.1 Safeguarding

- 4.1.1 *The safeguarding of non-renewable resources such as mineral for the benefit of future generations is considered to be an aspect of sustainable development. The National Planning Policy Framework (DCLG 2012) requires mineral planning authorities to define mineral safeguarding areas when preparing local plans in order that known locations of specific mineral resources of local or national importance are not needlessly sterilised by non-mineral development, albeit that these carry no presumption that the resource will be worked. Where it is deemed necessary for non-mineral development to take, place prior extraction is to be encouraged where practical and environmentally feasible.*
- 4.1.2 *It is important to note that the purpose of designating mineral safeguarding areas is not to restrict the rights of the landowner but to ensure that due consideration is given to the potential sterilisation of the mineral resource if an application for alternative development is brought forward. Furthermore, a MSA does not imply any presumption that mineral working will ever be permitted.*
- 4.1.3 *The adopted development plan for the application site comprises the joint Lancashire Minerals and Waste Location Plan (2013) and the stated policies of the West Lancashire Local Plan (2012). District wide local plan policies relating to the residential development of the application site are dealt in the planning statement which has been submitted to support the current planning application. Consequently this document does not seek to revisit the assessment but rather to address such mineral related policies that are pertinent to the application.*
- 4.1.4 *The joint Lancashire Minerals and Waste Core Strategy (2009) along with the site allocations and development management policies (2013) represent the development plan in respect of minerals relating to the application proposals.*
- 4.1.5 *The Lancashire Minerals and Waste Location Plan (LMWLP) requires minerals that have economic environmental or heritage value and potential for extraction now or in the future to be identified and shown as mineral safeguarding areas on the policies map. Reference to the policies map available on the Lancashire County Council website indicates that in fact the plan is based upon the BGS Mineral Resources Plan for Lancashire*

The limestone sequence is much thicker and significantly different in lithology dark grey shale limestones interbedded with mudstones predominate. The limestone are very variable in character are folded and steeply dipping. Partial replacement of the limestones by silica and dolomite is a common feature. The limestones are also mostly concealed beneath superficial deposits. Most of the limestone are impure or are of a low and variable chemical purity. Knoll-wreath limestones are developed around Clitheroe and these form relatively consistent deposits of high purity limestone, the Knoll-wreaths range in thickness from less than 30m – over 600m and area formed of massive mid grey fine grain limestone.' *The most economically viable limestones are the Chatburn limestones, the deposits of which are located well to the south west of the site.*

5.2.3 *The limestone band identified on the minerals plan represents a material which extends typically to a thickness anticipated to be only in the order of some 15m. It lies below a potentially significant thickness of Glacial Till deposits and has a very steep geological dip extending below the site. Available information suggests that it is of a variable quality and it is not indicated to represent a high quality mineral reserve. The economic viability of this limestone is considered to be extremely low.*

5.2.4 *In considering the possible economic extraction of this limestone it is important to acknowledge that the site represents an area of up to some 6.5 hectares. It is bounded by a major trunk road to the south and east, whilst Clitheroe Road to the west also forms a strategic boundary. Land to the north of the site has already been developed predominantly in a residential manner. Careful assessment of the site area and the likely economic importance of this limestone band suggests that the viability for extraction of this potential resource at this site is extremely low.*

5.2.4 *At present it is the policy of Lancashire County Council with regard to managing mineral production that development will not be supported for any new extraction of sand and gravel, limestone, gritstone or brick shale. This policy confirms that under the present conditions, the gritstone present below the north eastern section of this site is not considered to represent an important resource as it contains only gritstone material for which other more economically viable resources are available within other areas of Lancashire.*

6.0 CONCLUSIONS

6.1 *Factors Limiting the Merit of the Resource*

6.1.1 *After careful consideration and assessment of all publically available policy document statements, maps and other resources draws the following conclusions: -*

- The currently safeguarded limestone band is of a very limited thickness and of a variable quality. It is expected to be of little economic merit;*
- The geological dip of the band is very steep and would require extensive removal of non-economic Glacial Till superficial deposits and mudstone bedrock;*
- The resource lies in an area of current agricultural and residential development which would be negatively impacted by subsequent extraction activities;*

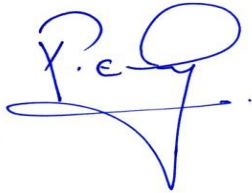
- *Mineral extraction in this location would impact significantly upon the existing natural surface water drainage systems in the vicinity and may require the rerouting of a tertiary water course and tributaries;*
- *Lancashire County Council have a stated policy of not supporting development applications for the extraction of limestone.*

6.2 Overall Probability of Extraction

6.2.1 *Whilst the proposed development area is impacted by a mineral safeguarding area, it is our opinion that the mineral present has a very low economic value and existing environmental and engineering limitations reduce the economic viability of the limestone deposits within this area to negligible proportions.*

6.2.2 *It is our opinion that the redevelopment of this site on a residential / commercial basis will not negatively impact upon any economic viable mineral resources which may be present within this area.*

Signed for and on behalf of
R E FRY & ASSOCIATES LIMITED



R E FRY B Sc (Hons), C Eng., MI Struct.E.