

HAMMOND FARMS & LANGRIDGE HOMES LTD

MINERAL SAFEGUARDING:

DORKET HEAD BRICK WORKS & QUARRY

1. Background

At the request of Hammond Farms and Langridge Homes Ltd, who are the owners of agricultural land located to the west and south-west of Dorket Head Brickworks, Greenfield Associates were commissioned to undertake a geological review of the safeguarding maps to determine their validity and determine if they are factually correct. Greenfield Associates are a specialist geological consultancy that works solely within the UK minerals and quarrying industry. The Company has over 20 years experience within this sector, including landsearch expertise, substantial minerals development and geological/ exploration experience.

As part of the emerging Gedling Local Plan (GLP) formulation, Ibstock brick have suggested that the plan has “not given due regard to minerals safeguarding in putting forward several allocations in close proximity to its Dorket Head Brickworks”.

Dorket Head Brickworks are located on a topographical ridge that extends east-west on the north-eastern edge of Nottingham, approximately 750m north of Arnold. The brickworks and adjacent quarry lie at a level of about 135m AOD, with the land falling in elevation to the south and west to about 100m AOD at the A60/A614 roundabout.

There have been over 175 years of “clay-ware” activities on the Dorket Head site, but the current brick clay extraction area is located to the east of the brickworks factory, separated by Calverton Road. The Hammonds Farm ownership, the brickworks and extraction areas are shown on Figure 1, together with the Lodge Farm (H5) allocation area and the proposed 81 residential properties on the Hammond Farms land within the emerging GLP.

The Planning Inspector for the GLP has referenced the National Planning Policy Framework (NPPF) that clearly states that developments should not needlessly sterilise mineral resources of local and national importance. However, the proposal maps in the GLP show potential allocations that lie within the Brick Clay safeguarding area for the Dorket Head Brickworks, as given in the emerging Nottinghamshire Minerals Local Plan – Inset Map 19 in the Submission Draft of the MLP.

The safeguarding area has been digitised from the MLP and this safeguarding area has been overlain on the local Ordnance Survey base map (see Figure 2). This safeguarding area covers all of the land to the south and west of Dorket Head Quarry and Brickworks, including the Hammond Farm area. It should be noted that the latest OS map (1:25,000 scale) shows a large area of housing located on the northern edge of Arnold, which is not shown on the MLP safeguarding plans (see Figure 2) The MLP is therefore using an OS map that is clearly out of date. However plans in the GLP show the 250m buffer zone to the residential properties that uses the latest OS maps. This provides a level of

confusion between the published maps in the emerging MLP and the plans used in the GLP process.

2. Publish Geological & Minerals Development Information

Historical anecdotal evidence from Hammond Farms indicates that brick clay is not present on their land, due to the drillers logs provided during the installation of deep water borehole for agricultural abstraction that was located in the western part of the site.

A review of the published geological maps of the area, which are given on the British Geological Survey (BGS) "open geology of Britain viewer" indicates that the quarry and brickworks are underlain by the deposits of the Mercia Mudstone Group of Triassic age.

The operations at Dorket Head exploit measures contained within the Gunthorpe Member of the Mercia Mudstone, as confirmed in the BGS maps and also within the geological statements included within the available planning application for the extension.

The top of the extraction sequence is marked by the Top Skerry, whilst the base is defined by the Bottom Skerry. These are typically siltstones/fine sandstones that are relatively strongly lithified and contain limited amounts of water. The Top and Bottom Skerry bands, are discarded and the intervening "Ivory Clay" and "Red Clay" units are then used in the manufacture of the bricks.

The Gunthorpe Member is approximately 20m thick in the Docket Head area, as proved in the eastern extension area exploratory drilling. This confirms that thickness of the extraction sequence ranges from 19m to 22m along the northern and eastern boundaries to as little as 5m along the southern boundary, where the topography rapidly falls away.

The strata of the Gunthorpe Member dip consistently to the south-east at approximately 2°, this is supported by borehole drilling within the existing extraction area as well as observations of current and historically exposed faces.

Underlying the Gunthorpe member is the Radcliffe Member, which comprises mainly mudstone and siltstone, with the Tarpoley siltstone mapped at the base of the Mercia Mudstone. Beneath the Mercia Mudstone Group, the sandstones for the Sherwood Sandstone Group are mapped. The published geological map of the area, with the boundary of the Gunthorpe Member (brick clay) highlighted, is shown in Figure 3.

The published geological information from the BGS maps, confirms that the Gunthorpe Member (the "brick clay") is not present to the west and south-west of the Dorket head Brickworks. The published maps show the surface outcrop of the various geological units, which reflects the topography of the area and the shallow dip (sub-horizontal) of the strata. Figure 4 shows the local topography in the area of Dorket Head brickworks, together with the limits of the Gunthorpe member.

This confirms that as the ground levels fall to the west from the high-level ridge on which the brickworks is located, the Gunthorpe Member thins out, with the underlying formation then mapped at surface. As the topography continues to fall, the older stratigraphical units crop out at surface, until the Sherwood Sandstone is present to the west of the A60. This plan also confirms the information included within the geological statement included within the quarry extension planning that stated that the brick clay thins to the south, with the falling topography.

3. Proposed Safeguarding Area

It is considered that the Safeguarding Area contained for brick clay contained within the emerging MLP is incorrect, as the shaded area shown on the maps extends well beyond the outcrop of the mapped "brick clay deposits". The water abstraction borehole on the Hammond Farms site did not prove brick clay and thus it is suggested that representation be made to Nottinghamshire County Council as part of the emerging Minerals Plan process to amend the clay safeguarding plans.

4. Gedling Local Plan Allocations & Brick Clay Safeguarding

The GLP shows buffer zone to residential properties of 250m where brick clay extraction would not be permitted. If these buffer zones are included with the mapped outcrop of the Gunthorpe Member brick clay deposit and the land ownership of Hammond Farms, there is only a small area in the eastern part of the Hammonds Farms site that lies within the brick clay area that could potentially be worked. This is shown graphically on Figure 5 – area shaded green.

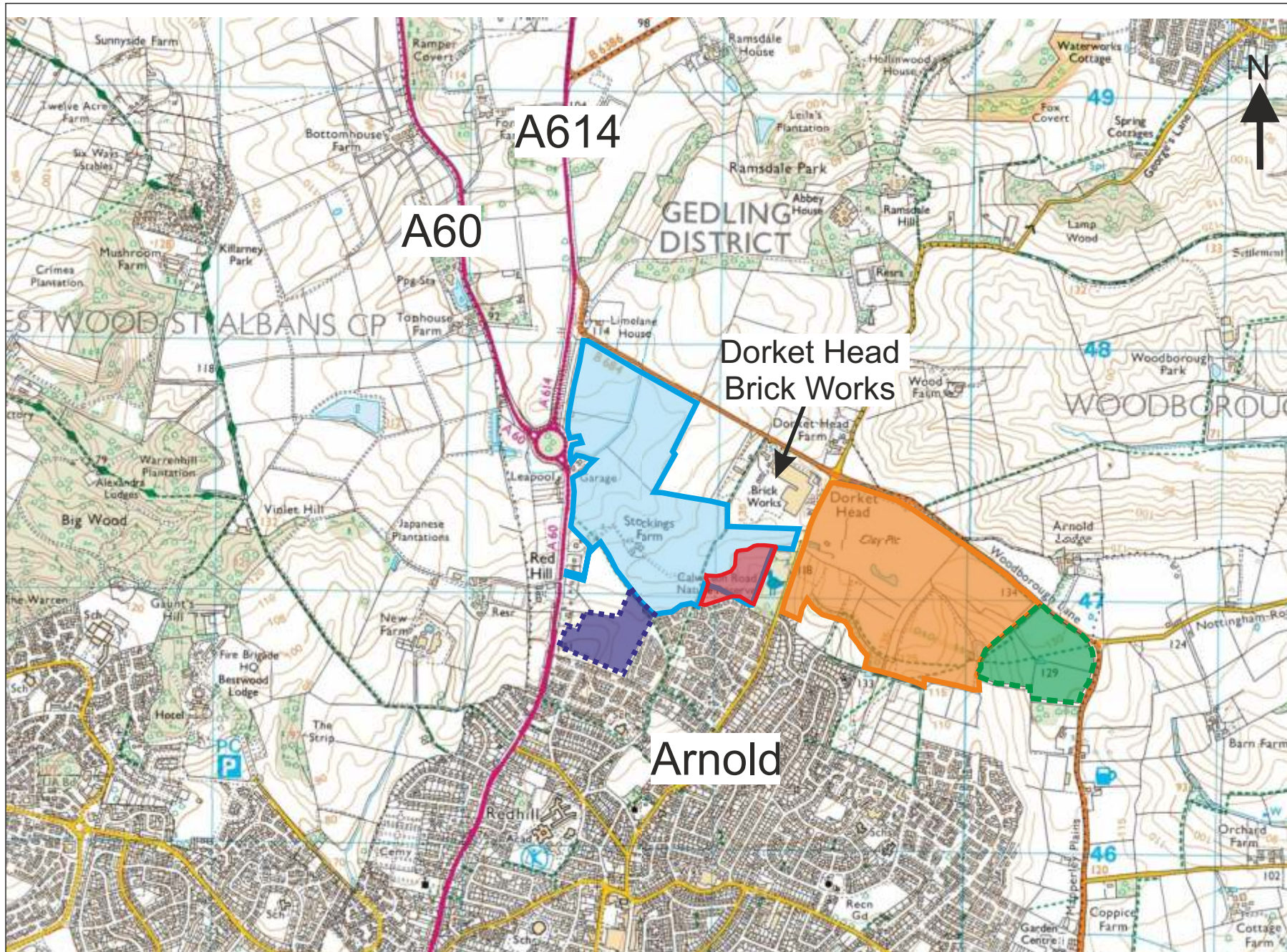
The allocation areas included within Lodge Farm (H5 allocation) and the proposed Hammond Farms/ Langridge Homes allocation of 81 properties do not therefore lie within the potential area of "brick clay" safeguarding, if the plans were updated as per the published geological maps.

5. Conclusions & Recommendations

1. The mineral safeguarding area for brick clay at Dorket Head, as shown in the Nottinghamshire Minerals Local Plan is not correct.
2. Representation should be made to Nottinghamshire County Council Minerals Planning department to amend the safeguarding area to reflect the mapped outcrop of the brick clay deposit (Gunthorpe Member of the Mercia Mudstone Group) in the area of Dorket Head. The base maps used in the emerging MLP showing the safeguarding area should also be updated.
3. Representation should be made to Ibstock Brick to provide them with the detailed information included in this assessment and to allow them to amend and withdraw their concerns about mineral safeguarding on the land to the south-west of Dorket Head Brickworks
4. The Planning Inspector dealing with the Gedling Local Plan should be provided with the geological information contained within this document to allow a full and accurate appraisal of the merits of the any potential housing allocation area, using the correct geological information for the area.



S J Rees B.Sc., M.Sc., C.Geol, FGS, MIQ
for **Greenfield associates**
23rd February 2017



Key

- Hammond Land Ownership
- Quarry Extraction Area
- 2013 Quarry extension
- Proposed Housing 81 Dwellings
- H5 Allocation

Figure 1

Based upon the 2017 Ordnance Survey 1:25,000 map with the permission of The Controller of Her Majesty's Stationary Office Crown Copyright Greenfield Associates, 1 Commercial Rd, Keyworth, Nottingham Licence No. 100020505

Title
Land Ownership

Project
Safeguarding Investigation

Site
Dorket Head, Arnold

Scale
0m 250m 500m

Project No.
DHC/HF/100

Hammond Farms

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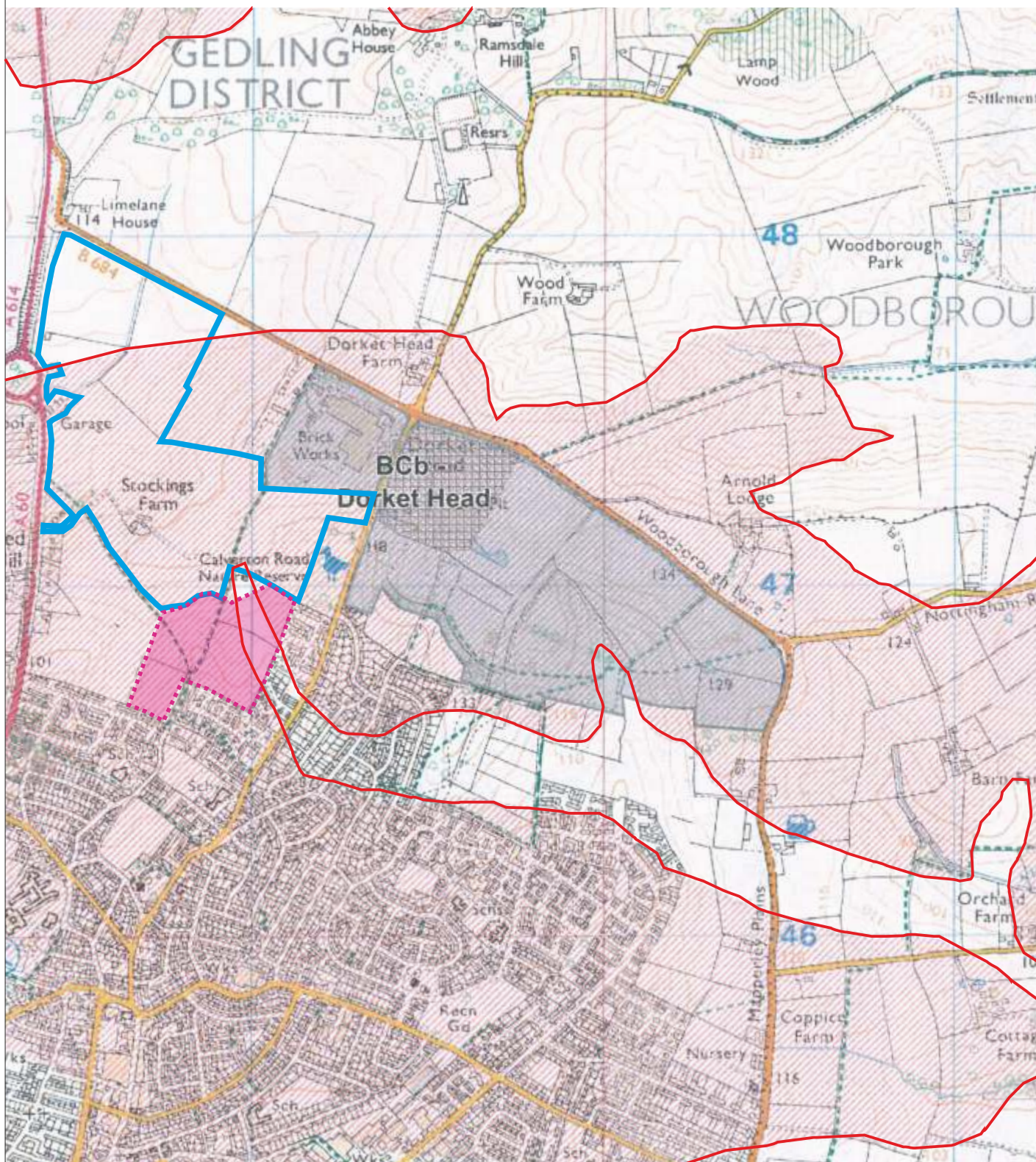


Figure 2




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Title
Safeguarding Extent

Project
Safeguarding Investigation

Site
Dorket Head

Key

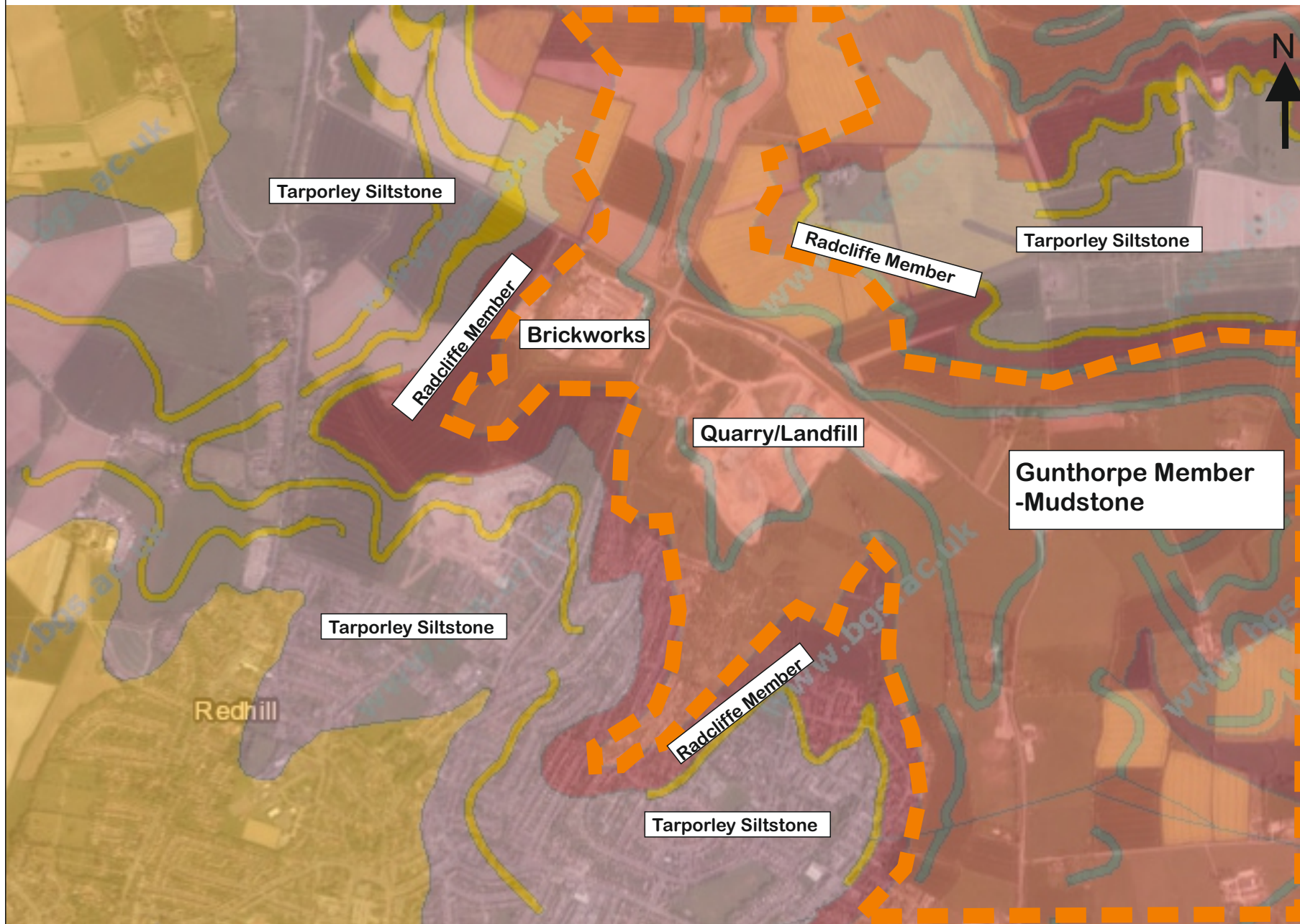
-  MLP Safeguarding Area
-  Hammonds Landownership
-  Housing development (not shown on MLP OS base map)

Project No.
DH/HF/100

Scale
nts

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Key


 Extent of Gunthorpe Member (brick clay)

Figure 3

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Title
Geological Map

Project
Safeguarding Investigation

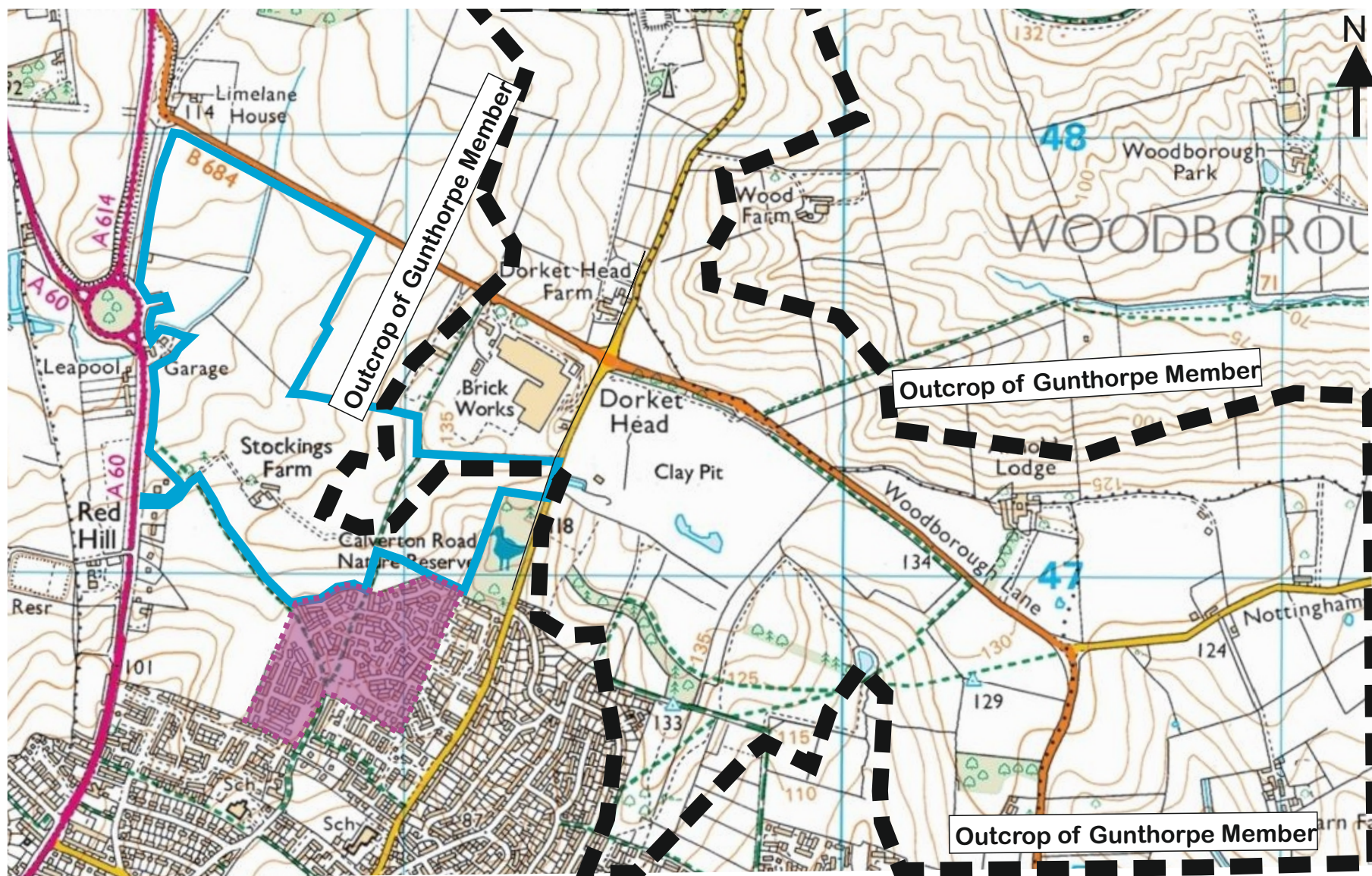
Site
Dorket Head, Arnold

Scale
nts

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Key

Hammonds Land Ownership

Housing development (not shown on MLP OS base map)

Figure 4

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Title Gunthorpe Member Outcrop

Project Safeguarding Investigation

Site Dorket Head, Arnold

Scale
nts

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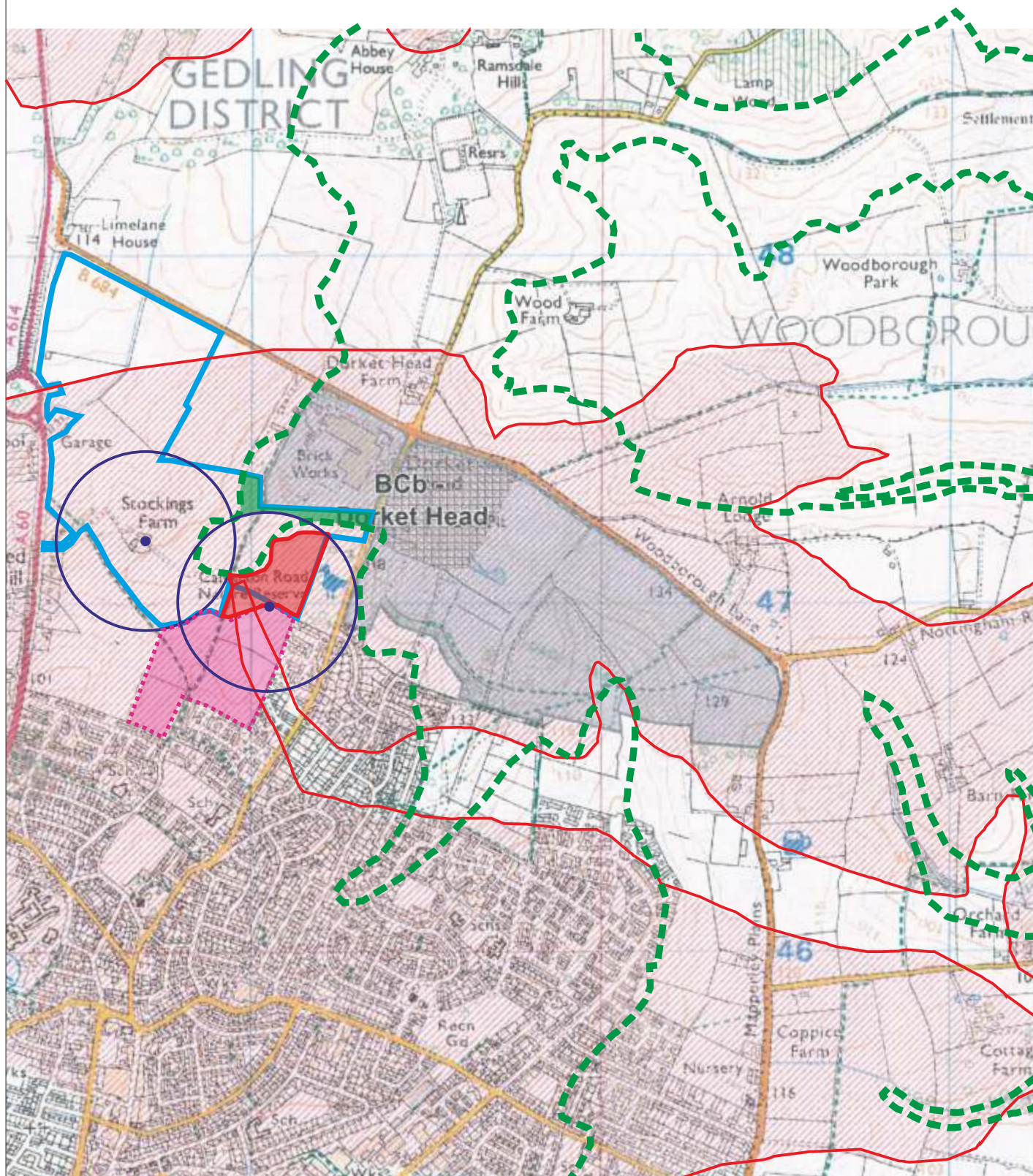


Figure 5

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Title Extent of potential resource

Project Safeguarding Investigation

Site Dorket Head, Arnold

Key

- MLP Safeguarding Area
- Hammonds Landownership
- Gunthorpe Member (brick clay)
- 250m Buffer zone
- Potential brick clay resource
- Housing (not shown on OS)
- Proposed 81 dwellings

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DH/HF/100

Scale
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