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**HATFIELD WOODHOUSE, SOUTH YORKSHIRE**

**ARCHAEOLOGICAL AND HERITAGE ASSESSMENT**

**prepared for**

**DALE PITT AGGREGATES**

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## **DALE PITT AGGREGATES**

### **DALE PITT, HATFIELD WOODHOUSE, SOUTH YORKSHIRE ARCHAEOLOGICAL AND HERITAGE ASSESSMENT**

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## DALE PITT AGGREGATES

### DALE PITT, HATFIELD WOODHOUSE, SOUTH YORKSHIRE ARCHAEOLOGICAL AND HERITAGE ASSESSMENT

#### SUMMARY

*This desk-based archaeological and heritage assessment supports the application for a proposed 6.4ha extension to the existing quarry at Dale Pitt and subsequent restoration as an area of nature conservation.*

*The study area within the vicinity of the proposed development contains limited evidence for recorded earlier prehistoric sites or finds other than occasional flint artefacts of Mesolithic and Neolithic date, together with a Bronze Age spearhead, mostly from the area of Hatfield and which are not accurately provenanced. The scheduled Neolithic timber platform and associated trackway on Hatfield Moors is located some 1.9km to the south-east.*

*Field systems, trackways and possible enclosures of late Iron Age or Roman date are recorded within the vicinity from aerial photographic evidence, mostly located on higher ground to the north or south. Subcircular and subrectangular features have been noted from satellite imagery within the planning application boundary, but these are relatively amorphous and located at a height of some 2m OD, so below the height (4m OD) at which settlement sites of this period in the vicinity would be anticipated, and may therefore be natural though this would require further evaluation. No archaeological features were recorded within the area immediately to the west in advance of mineral extraction.*

*The area of proposed development appears to have remained as carrland throughout most of the medieval period, when it formed part of the royal forest of Hatfield Chase. While some drainage to the north is recorded by the late 18th century, the field itself was not enclosed and drained until 1825. The initial field boundary was subsequently moved further to the west in the latter half of the 19th century but the former drainage ditch survives as a visible cropmark. The sites of two infilled ponds on the north edge of the field are located outwith the planning application boundary.*

*The most substantive changes to the historic environment within the immediate vicinity included the establishment of RAF Lindholme in 1938, which extended as far north as the planning application boundary, while mineral extraction since the late 1980s has been undertaken both to the west (Dale Pitt) and south-west, with most of these areas now being restored to ponds or fishing lakes.*

*The only certain direct physical impacts of the groundworks in advance of mineral extraction include those upon the remains of the ditch associated with the former enclosure field boundary dated to 1825. This is considered of low sensitivity and the magnitude of the effect would constitute less than substantial harm, and could be mitigated by investigation and recording. The potential archaeological features identified within the application boundary would be further evaluated, initially by geophysical survey, in order to establish their nature and significance, and any predicted effects upon them.*

*While both the mineral extraction and the subsequent restoration of the site as a waterbody and area of nature conservation would alter the existing historic environment of the field, this is considered to be mitigated as the proposals would physically form part of a more extensive area of existing lakes and ponds to the west and south. In addition, the current field boundaries would be enhanced and the associated drains would remain unaffected. The residual effect upon the character of the historic environment from the proposed development is accordingly considered to constitute less than substantial harm*

*All of the ten designated heritage assets within the vicinity are located 800m or more from the proposed development, mostly within Hatfield Woodhouse. The proposed development is predicted to be visible from only a single Listed Building, and in this case would have no adverse effects upon either its setting or architectural and historical significance.*

*On the basis of the evidence currently available the proposed development is considered likely to have only a minor effect upon recorded heritage assets of archaeological interest within the planning application boundary. However, it is proposed that this potential is further evaluated, initially by means of geophysical survey, in order to establish the nature and significance of possible features identified from satellite imagery. This would be undertaken in accordance with a brief to be agreed with the South Yorkshire Archaeology Service on behalf of the planning authority.*

## **Note**

As a result of the lockdown restrictions at the time of the study some sources that it was intended to research for the assessment could not be consulted as proposed (as listed in paragraph 4.5 of the report).



## **1.0 INTRODUCTION**

- 1.1 Peter Cardwell (archaeological and heritage consultant) has been commissioned by MWP Planning on behalf of Dale Pitt Aggregates to prepare an archaeological and heritage assessment to support the planning application for a proposed extension to the east of the existing sand quarry at Dale Pitt to the south of Hatfield Woodhouse (centred at SE 686 080).
- 1.2 A scope of works for undertaking the archaeological and heritage assessment study was prepared in July 2020 and was submitted to, and agreed by, the South Yorkshire Archaeology Service (SYAS).
- 1.3 The assessment study addresses all aspects of the proposed mineral extraction and subsequent restoration at Dale Pitt, both in terms of the predicted direct physical effects upon any recorded or potential heritage assets within the planning application boundary, as well as the indirect visual effects upon the setting and significance of the designated heritage assets within the vicinity.
- 1.4 The report describes the location of the proposed development and its environs, and the methodology and information sources utilised while undertaking the study, including reference to relevant planning policy and guidance. It describes the heritage assets within the study area and assesses the potential for any previously unknown or unrecorded archaeological sites to survive within the area. The predicted or potential effects of the proposed development and appropriate strategies for further evaluation and mitigation are discussed. Consultation was maintained with the South Yorkshire Archaeology Service (as the archaeological advisor to the planning authority) during the preparation of the assessment study.
- 1.5 The assessment study was undertaken between July 2020 and February 2021 and has been prepared in accordance with current professional standards and guidance (CIFA 2017) and the scope of works agreed with the South Yorkshire Archaeology Service.

## **2.0 LOCATION AND DEVELOPMENT PROPOSALS**

- 2.1 Dale Pitt is located approximately 0.5km to the south-east of the centre of Hatfield Woodhouse and 9.5km to the north-east of Doncaster (**Figure 1; Plate 1**). The proposed extension is located to the east of the existing quarry and is defined along its eastern side by Moor Dike Road. The quarry is located within the area of the unitary authority of Doncaster Metropolitan Borough Council (DMBC) and the civil parish of Hatfield.
- 2.2 The application boundary is defined by a single field extending to some 6.4ha. The eastern side is close to the drain adjacent to Moor Dike Road (from which there would be a standoff of 5m), which adjoins Stainforth Moor Road towards the north-east, while there would be a stand-off of 20m from the Woodhouse Sewer to the north. The field is defined by hedges along the western and southern sides, with occasional surrounding trees mostly to the north and east (**Plates 2 and 3**). The area is relatively level with only slight surface undulations, with a discernable maximum height of some 2.0m OD towards the southern centre of the area and a

minimum of some 1.4m OD towards the north. The surrounding landscape rises gradually both to the north-west towards Hatfield Woodhouse and to the south in the vicinity of Woodhouse Grange, in each case attaining in excess of 5m OD, while the area of Hatfield Moors extends eastwards and south-eastwards some 0.7km or more to the east of the application boundary.

- 2.3 The bedrock geology within the application boundary is undifferentiated Triassic rocks consisting of interbedded sandstone and conglomerate, which are overlain by superficial deposits of alluvium consisting of clay, silt, sand and gravel other than within the central and southern part of the area (BGS 2020). The soils throughout the area are classified as of the Soilscape 15 association, being naturally wet very acid sandy and loamy soils (Cranfield University 2020), also categorised as Blackwood 521 series by the National Soil Research Institute comprising a deep permeable sandy soil, seasonally waterlogged by fluctuating groundwater and with rapid lateral saturated conductivity. This soil is derived from gravel from glaciofluvial drift. The soil survey (LRM 2020) identified a single soil throughout the site extending to a maximum depth of 70cm above sand, and consisting of a deep permeable sandy loamy soil between 25–40cm in depth overlying a medium textured sandy loam subsoil between 25–50cm in depth. Groundwater level immediately to the north of the application boundary (BH3) is at 0.23m OD or 1.54m below ground level. At the time of both the soil survey and the site walkover survey the field consisted of stubble from a harvested maize crop.
- 2.4 The application is for the extraction of the mineral within the area, which extends to around 4m to the base of the deposit and is overlain by around 1m of soil and overburden. Access would be from the A614 Bawtry Road to the west through the existing quarry area and would utilise the extant infrastructure. The hedgerow currently defining the west side of the application boundary would be removed. Extraction would be undertaken (at a rate of 10 loads per day) from west to east over a period of some six and a half years (**Figure 2**). Excavation would be undertaken by a backhoe excavator and two dump trucks. The mineral would be worked wet with no dewatering and the area would effectively become a continuation of the void created by the existing works to the west. Soils would be spread around the edges of the void to a gradient of 1:5.
- 2.5 Restoration would be undertaken over a period of up to a further 18 months and would maintain the concepts of the agreed restoration masterplan for that area of the existing planning permission (**Figure 3**). The void created by extraction within the application boundary would merge with that to the west to create a waterbody approximately 8ha in extent to be established as an area of nature conservation. A native hedgerow containing intermittent trees would be planted to the north and a further hedgerow to the east (in advance of extraction), both allowing for a maintenance strip along the Woodhouse Sewer and the ditch along Moor Dike Road respectively, while the existing hedgerow to the south would be enhanced. A variety of native habitats would subsequently be planted to help integrate the new waterbody into the surrounding landscape, which would include an area of wet (carr) woodland within the northern part of the application boundary. In addition, native scrub, marginal and aquatic vegetation, and grassland are also proposed within the wider site boundaries of Dale Pitt.

### 3.0 PLANNING BACKGROUND

- 3.1 The planning context with respect to heritage that is relevant to the assessment includes statutory legislation, the National Planning Policy Framework (2019); the ‘saved’ policies of the Doncaster Unitary Development Plan (1998); the Doncaster Council Core Strategy 2011–2028 (2012); and the Publication Version of the emerging Doncaster Local Plan 2015–2035 (2019).

#### Statutory Legislation

- 3.2 Scheduled Monuments are designated by the Secretary of State for Digital, Culture, Media and Sport on the advice of Historic England as selective examples of nationally important archaeological remains. Under the terms of Part I Section 2 of the ***Ancient Monuments and Archaeological Areas Act 1979*** it is an offence to damage, disturb or alter a Scheduled Monument either above or below ground without first obtaining permission (Scheduled Monument Consent) from the Secretary of State. This Act does not allow for the protection of the setting of Scheduled Monuments.
- 3.3 When considering whether to grant planning permission for development which affects a Listed Building or its setting, Section 66 of the ***Planning (Listed Buildings and Conservation Areas) Act 1990*** places a statutory duty on a local planning authority or, as the case may be, the Secretary of State to ‘*have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses*’.
- 3.4 Every application for an EIA development is subject to the requirements of the ***Town and Country Planning (Environmental Impact Assessment) (England) Regulations 2017*** which, amongst other things, define the EIA process and identify the information for inclusion in Environmental Statements (Schedule 4). This includes a description of the development; a description of the current state of the environment (baseline scenario); a description of factors likely to be significantly affected by development, listed as (*inter alia*) ‘*material assets, cultural heritage, including architectural and archaeological aspects*’; the likely significant effects which ‘*should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development*’; and the measures envisaged to ‘*avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements*’.

#### National Planning Policy Framework (2019)

- 3.5 The National Planning Policy Framework and supporting Planning Practice Guidance sets out the Government’s planning policies for England and how these should be applied. The purpose of the planning system is stated as being to contribute to the achievement of sustainable development, which means that this has three overarching objectives – economic, social and environmental – the latter objective being (*inter alia*) to contribute to protecting and enhancing our natural, built and historic environment (paragraphs 7 and 8).

- 3.6 Chapter 16 on *Conserving and enhancing the historic environment* states that heritage assets are an irreplaceable resource and should be conserved in a manner appropriate to their significance (paragraph 184).
- 3.7 In determining applications, local planning authorities should require an applicant to describe the significance of any heritage asset affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. Where a development site may include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation (paragraph 189).
- 3.8 Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including any affect upon setting) and take this into account to avoid or minimise any conflict between the conservation of the heritage asset and any aspect of the proposal (paragraph 190). Where there is evidence of deliberate neglect of, or damage to, a heritage asset the deteriorated state should not be taken into account in any decision (paragraph 191). In determining applications, local planning authorities should take account of a) the desirability of sustaining and enhancing the significance of heritage assets; b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and c) the desirability of new development making a positive contribution to local character and distinctiveness (paragraph 192).
- 3.9 When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (paragraph 193). Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification. Substantial harm to or loss of: grade II listed buildings, or grade II registered parks or gardens, should be exceptional; assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II\* listed buildings, grade I and II\* registered parks and gardens, and World Heritage Sites, should be wholly exceptional (paragraph 194).
- 3.10 Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or specified exceptions apply (paragraph 195). Where development will lead to less than substantial harm to the significance of a designated asset, this harm should be weighed against the public benefits of the proposal (paragraph 196).
- 3.11 The effect of an application on the significance of a non-designated heritage asset should be taken into account when determining the application. A balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset (paragraph 197).
- 3.12 Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in

part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible (paragraph 199).

### **Doncaster Unitary Development Plan (1998)**

- 3.13 Relevant 'saved' heritage policies of the Doncaster Unitary Development Plan within Chapter 5 on *Environment* are those policies quoted below. All relate to heritage assets of archaeological interest. There are no relevant 'saved' policies within Chapter 12 on *Minerals*.

- 3.14 Policy ENV36 states that:

*'Where information about the archaeology of a site is insufficient to determine a planning application, the applicant will be required to provide an archaeological evaluation of the site to the satisfaction of the Borough Council'.*

- 3.15 Policy ENV37 states that:

*'Development which would have a significant adverse affect on an archaeological site of national importance (whether scheduled or not), its character or its setting will not normally be allowed.'*

*'In determining development proposals affecting sites of local archaeological importance, the desirability of preserving the site and its setting will be an important consideration'.*

- 3.16 Policy ENV38 states that:

*'Where development is to be allowed which would impinge on an archaeological site, planning permission will, depending upon the importance of the site and opportunities for preservation, be subject to:*

- a) conditions to ensure preservation of the archaeology in situ and/or*
- b) conditions to ensure an adequate record of the site is made by an archaeological body approved by the Borough Council'*

### **Doncaster Council Core Strategy 2011–2028 (2012)**

- 3.17 Policy CS15 of the adopted Doncaster Council Core Strategy on 'Valuing our Historic Environment' states that:

*'Doncaster's historic environment will be preserved, protected or enhanced in accordance with the principles (inter alia) set out below.'*

- A) Proposals and initiatives will be supported which preserve and, where appropriate, enhance the heritage significance and setting of the borough's heritage assets, especially those elements which contribute to the distinct identity of the borough. These include (inter alia):*

1. *the nationally-important waterlogged archaeological remains at Sutton Common, Thorne Moor, and Hatfield Moor;*

*B) Proposals will be supported which protect or enhance the heritage significance and setting of locally identified heritage assets such as buildings of local architectural or historic interest, locally important archaeological sites and parks and gardens of local interest.'*

#### **Doncaster Local Plan 2015–2035: Publication Version (2019)**

- 3.18 Relevant policies on the Historic Environment within the emerging Doncaster Local Plan commence with that on Valuing our Historic Environment (Strategic Policy) which is in effect the same as Policy CS15 of the Core Strategy, although those areas that contribute to the distinct identity of the Borough also include (6) *sites and structures associated with aviation history including the heritage of the second world war and cold war.*

- 3.19 Policy 36 on Understanding and Recording the Historic Environment states that:

*Proposals that affect known or potential heritage assets will require*

*A) The provision of a heritage statement (or its equivalent) that includes:*

1. *sufficient information to gain an understanding of the potential impact that the proposals will have on the significance of any heritage assets or historic environment likely to be affected; and*
2. *for heritage sites with archaeological interest, at least a desk-based assessment and, where appropriate, the results of field evaluation.*

*B) In the exceptional circumstances where harm could be justified, detailed investigation and recording will be required to an agreed standard in advance of any alteration, demolition or groundwork to ensure that an understanding of the affected heritage asset is gained and that knowledge is widely publicised including deposition of the site archive with the relevant archive repository and deposition of a report on the results with the South Yorkshire Sites & Monuments Record (Historic Environment Record).*

- 3.20 Policy 37 on Listed Buildings states that:

*Development proposals affecting a listed building or its setting will be assessed against the following principles (inter alia):*

*A) Proposals that enhance or better reveal the significance of a listed building or structure will be supported. Proposals that harm the significance of a listed building or its setting will not be supported other than in circumstances where the harm is clearly outweighed by the public benefits of the proposal having regard to the significance of the heritage asset affected.*

3.21 Policy 40 on Development Affecting Archaeology states that:

*Development affecting archaeological remains will be assessed against the following principles:*

- A) Development that would result in harm to the significance of a scheduled monument or other nationally important archaeological assets will not be permitted other than in exceptional circumstances.*
- B) Development affecting other archaeological assets will need to demonstrate how any benefits will outweigh harm to the site. When development affecting such sites is justifiable, the Council will seek to ensure preservation of the remains in situ as a preferred solution. When in situ preservation is not justified, the developer will be required to make adequate provision for appropriate investigation and recording including excavation in accordance with Policy 26.*

3.22 Policy 41 on Buildings or Structures of Local Interest states that:

*Development proposals affecting buildings that have been identified as of local interest will be assessed against the following principles (inter alia):*

- B) Proposals should seek to avoid harm to those features, including setting, which contribute to the significance of the building of local historic interest. Where proposals result in harm or substantial harm to the significance of a building of local historic interest a balanced judgement will be made taking into account the degree of harm and relative significance of the heritage asset.*

**Planning practice guidance**

3.23 In addition to the Government guidance and adopted local planning policy, further supporting planning practice guidance or other documentation is considered relevant to the preparation of the archaeological and heritage assessment, and specifically the following documents:

ArchHeritage (2019) *The Past, Present and Future of Minerals Extraction in the Doncaster Metropolitan District: Impact on Cultural Heritage*

English Heritage (2008) *Mineral Extraction and Archaeology: A Good Practice Guide*

Historic England (2016) *Preserving Archaeological Remains: Decision-taking for Sites under Development*

Historic England (2017) *Historic Environment Good Practice Advice in Planning: 3 – The Setting of Heritage Assets*

South Yorkshire Archaeology Service (2011) *Yorkshire, the Humber & North East: A Regional Statement of Good Practice for Archaeology in the Development Process*

## **4.0 METHODOLOGY AND INFORMATION SOURCES**

4.1 The principal aims of the archaeological and heritage assessment are:

- to identify all known heritage assets (buildings, sites, finds, places, areas and landscapes of archaeological, historical, architectural and artistic interest) and their significance which lie within, or adjacent to, the study areas;
- to identify any areas with the potential to contain previously unrecorded heritage assets of archaeological interest;
- to assess the effects of the proposed development and ancillary works in terms of its physical (direct) impact upon heritage assets and the visual (indirect) impact on the setting of designated heritage assets in the vicinity;
- where features are found to be affected, an assessment of the significance and degree of effect (both beneficial and adverse) along with the likely short term and long term effects of the development;
- identification of those features or areas which require further evaluation in order to fully establish either the significance of the heritage asset and/or the likely development effect;
- identification of those features which should be retained and/or enhanced because of their intrinsic importance;
- identification of potential mitigation measures that could be built into the development proposals in order to avoid, reduce or remedy any potential adverse effects identified;
- assessment of the degree of conflict and/or compliance with local plan policies relevant to archaeology and the built environment and national planning guidance.

4.2 The assessment is based upon a review of all existing available information supplemented by a site walkover survey.

4.3 The following organisations or individuals were consulted for the assessment:

- South Yorkshire Archaeology Service
- Doncaster Metropolitan Borough Council; Dale Pitt Aggregates

4.4 The following data sources were utilised for the assessment:

- South Yorkshire Sites and Monuments Record (SYSMR)
- National Record of the Historic Environment (NRHE)
- National Heritage List of England (NHLE)
- Portable Antiquities Scheme database
- published and unpublished historical and archaeological studies
- cartographic sources (mainly historic Ordnance Survey maps)
- Scheduled Monument descriptions



- Listed Building schedules
- lidar data
- Google Earth images

4.5 It should be noted that as a result of Covid-19 or other restrictions it was not possible to consult a number of information sources as was originally proposed within the agreed scope of works, and primarily the following:

- Historic England Archives
- Doncaster Archives
- Borthwick Institute for Archives
- Doncaster Museum and Art Gallery
- Doncaster and Hatfield Libraries (local studies)

As a consequence it was not possible to research a number of the cartographic sources (such as enclosure and tithe maps) as well as vertical and oblique aerial photographs in particular, and detailed plots of features recorded by the National Mapping Programme could not be obtained. It may therefore be necessary to undertake further research of these information sources at a future date.

4.6 Information regarding the detailed location of the metal-detected finds on the Portable Antiquities Scheme website is restricted (publicly limited to the kilometre square). While accurate locational information was obtained on specific finds from the South Yorkshire Sites and Monuments Record, this has not therefore been reproduced in the report or plotted on the supporting figures.

4.7 A site walkover survey of the proposed development area was undertaken in late October 2020. The field was a harvested maize crop and surface visibility varied between good and poor (where there was ground cover vegetation). The full extent of the field was walked along transects that were approximately 25m apart ( $\approx 10\%$  sample of the area). As the surface finds noted were few in number and consisted of small quantities of ceramic material (most probably land drain fragments) of post-medieval or modern date, some plastic and a single fragment of glass the locations were not recorded and none of the material was collected.

4.8 All designated heritage assets within the study area from which the proposed development might be visible were visited (or the nearest publicly accessible location) in late October 2020 in order to establish any such intervisibility and the potential effects upon their settings and significance.

### **Prediction methodology**

4.9 The impact assessment is based upon a staged methodology consisting of:

**Step 1:** Identify heritage assets that could be directly or indirectly affected by the development proposals.

**Step 2:** Establish the sensitivity (or significance) of the heritage assets within the study area(s) in accordance with Table A.

**Table A: Definitions of sensitivity for heritage assets**

Sensitivity	Level of importance	Examples of heritage assets
Very high	International	An internationally important site eg World Heritage Site.
High	National	Nationally designated heritage asset eg Scheduled Monument, Listed Building, Conservation Area, Registered Historic Park and Garden, Registered Battlefield, and unscheduled archaeological site or unlisted building worthy of such designation.
Medium	County	Archaeological site or unlisted building considered to be of county importance.
Low	Local	Unscheduled archaeological site and unlisted building considered to be of local importance. Site with a local value or interest for educational or cultural appreciation. Site that is so badly damaged that too little remains to justify inclusion at a higher grade.

**Step 3:** Assess the magnitude any direct and indirect adverse effects of the development upon the heritage assets identified and their significance in accordance with Table B. Any beneficial effects would also be identified utilising the same nomenclature for degrees of magnitude.

**Table B: Magnitude of effects**

Magnitude	Scale of change
Extreme	Complete destruction of the archaeological, architectural, historic and/or artistic interest of the heritage asset or total loss of contribution of setting to significance of heritage asset.
Very substantial adverse	Almost complete destruction of the archaeological, architectural, historic and/or artistic interest of the heritage asset or change to its setting that would very substantially alter the significance of the heritage asset.
Substantial adverse	Considerable destruction of or damage to the archaeological, architectural, historic and/or artistic interest of the heritage asset or change to its setting that would substantially alter the significance of the heritage asset.
Moderate adverse	Partial destruction of or damage to the archaeological, architectural, historic and/or artistic interest of the heritage asset or change to its setting that would moderately alter the significance of the heritage asset.
Slight adverse	Limited destruction of or damage to the archaeological, architectural, historic and/or artistic interest of the heritage asset or change to its setting that would slightly alter the significance of the heritage asset.
Negligible adverse	Very limited destruction of or damage to the archaeological, architectural, historic and/or artistic interest of the heritage asset or change to its setting that would negligibly alter the significance of the heritage asset.
No change	No material change to the archaeological, architectural, historic and/or artistic interest of the heritage asset or alteration to its setting.

**Step 4:** Identify measures to minimise harm and maximise enhancement.

**Step 5:** Establish the significance of the residual effect upon heritage assets in accordance with Table C.

**Table C: Significance of effects**

Sensitivity	Magnitude of effects					
	Extreme	Very substantial	Substantial	Moderate	Slight	Negligible
<b>Very high</b>	Very severe	Severe	Severe/major	Major	Major/moderate	Moderate
<b>High</b>	Severe	Severe/major	Major	Major/moderate	Moderate	Moderate/minor
<b>Medium</b>	Severe/major	Major	Major/moderate	Moderate	Moderate/minor	Minor
<b>Low</b>	Major	Major/moderate	Moderate	Moderate/minor	Minor	Minor/neutral

Key:		Significant			Not significant	
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- 4.10 In accordance with the Environmental Impact Assessment Regulations the predicted effects state whether these were: positive or negative (beneficial or adverse); direct or indirect; cumulative; short-term, medium-term or long-term; and permanent or temporary.
- 4.11 The prediction and assessment of indirect effects upon the setting (and significance) of designated heritage assets is based upon the criteria contained in the current Historic England (2017) guidance. The assessment reflects the contribution that setting makes to the significance of the asset. The potential beneficial effects upon the setting of heritage assets from the restoration of the quarry is considered.
- 4.12 The assessment of residual effects upon the significance of a heritage asset set out in the National Planning Policy Framework is based upon 'substantial harm' or 'less than substantial harm'. While not necessarily leading to 'total loss of significance', for the purposes of the assessment study any effect identified as either very severe adverse, severe adverse or severe/major adverse would be considered to constitute 'substantial harm'.

## 5.0 BASELINE INFORMATION ON HERITAGE ASSETS

- 5.1 Data was collected for all heritage assets within 2km of the planning application boundary (**Figure 4**), although the assessment primarily concentrates upon those heritage assets located within 1km of the proposed development area. These heritage assets within 1km of the proposed development area are listed in **Table 1** below. The sites listed in numerical order are those recorded by the South Yorkshire Sites and Monuments Record (SYSMR), followed by sites that have been identified as part of the study and allocated numbers (S1–S6) (indicated on **Figure 5**). Sites recorded in the Historic England National Record of the Historic Environment (PastScape) are listed where not otherwise identified. Information regarding the specific location of most finds recorded by the Portable Antiquities Scheme remain restricted and these have not therefore been listed or plotted on

the figures, but are discussed in the text where relevant (referenced with the prefix SWYOR).

- 5.2 A central National Grid Reference (NGR), suggested classification and date are provided for each site. Sites (if extant) are graded as being of high (national), medium (regional) and low (local) significance (importance) based upon their designation, professional judgement and the criteria set out in Annex 1 of the guidance on identifying, protecting, conserving and investigating nationally important archaeological sites (DCMS 2010). Listed Buildings are graded by their designation.

**Table 1: Heritage assets within 1km of planning application boundary**

SYSMR	NRHE Other	NGR	Classification	Period	Grade
<i>Heritage assets of archaeological interest</i>					
706	57718	SE 6800 0700	Spearhead	Bronze Age	–
3583	–	SE 6752 0812	Dovecote	Late 18th century	Low Medium
4344	–	SE 6850 0700	RAF Lindholme	20th century	Low
4645	–	SE 6905 0757	ROC monitoring post	20th century	Medium
4987	–	SE 6853 0658	Field system	Iron Age–Roman	Low
–	57694	SE 6800 0700	Microlith and flints	Mesolithic Neolithic	–
–	57707	SE 6700 0800	Axe	Bronze Age	–
–	1439917	SE 6858 0916	Field boundaries	Uncertain	Low
–	1439922	SE 6830 0799	Quarries	20th century	Low
–	S1	SE 6846 0845	Farmstead (Hollin Bridge Farm)	18th century	Low
–	S2	SE 6916 0824	Farmstead (Moor Farm)	19th century	Low
–	S3	SE 6907 0819	Brickworks	19th century	Low
–	S4	SE 6856 0818	Pond	19th century	Low
–	S5	SE 6847 0813	Pond	19th century	Low
–	S6	SE 6903 0772	Farmstead (White Bridge Farm)	Late 19th century	Low
<i>Listed Buildings</i>					
–	1151618	SE 6772 0848	Elmtree House	18th–early 19th century	II
–	1151619	SE 6758 0829	Glen Cottage	Early 18th–19th	II

SYSMR	NRHE Other	NGR	Classification	Period	Grade
				century	
–	1151620	SE 6758 0831	Outbuildings at Hepworth's Yard	Late 18th century	II
3569	1192295	SE 6840 0900	Cartshed with dovecote at Stonehill Farm	<i>Circa</i> 1800	II
–	1286647	SE 6764 0839	Bawtry Road Farmhouse	Early 19th century	II
–	1286682	SE 6774 0848	Barn at Elmtree House	17th–18th century	II
–	1314804	SE 6834 0899	Stonehill Farmhouse	<i>Circa</i> 1800	II

- 5.3 The majority of the heritage assets within the more immediate area are graded of medium or low sensitivity, although there are seven Listed Buildings within the area, though all are 800m or more from the planning application boundary. The only Scheduled Monument is located within the wider area and almost 2km from the application boundary (the Neolithic timber trackway on Hatfield Moors). In addition to this site and stray finds of prehistoric date, there is also evidence of trackways and field systems of probable Iron Age and Roman date mostly recorded from aerial photographic sources, as well as military remains of 20th century date relating to both the Second World War and the Cold War, and particularly those relating to RAF Lindholme immediately to the south of the application boundary. As a consequence, although individual sites may be graded as of low sensitivity, it is accepted that groups of such sites may have a greater significance within a local or regional context and are therefore collectively of medium sensitivity.
- 5.4 Sites within the assessment study area are summarised below in chronological order, concentrating upon those within the immediate vicinity of the development. The principal description of a heritage asset is referenced by an emboldened SYSMR number, reference from the National Record of the Historic Environment (NRHE) or site identified by the present study (prefixed with an S). Selected heritage assets within the wider area are also referenced in order to place those assets discussed within their wider context.

### Earlier prehistoric

- 5.5 The earliest evidence for possible settlement or activity of prehistoric date (pre-Iron Age) within the study area or its wider vicinity is the recovery of a microlith, and possibly Neolithic flints, from the same site, together with flints of uncertain date from an unspecified Mesolithic site (**NRHE 57694**) on Hatfield Moors. The location of both the site and flints is uncertain, and could therefore be to the south-east of the study area, but together with other finds from the wider vicinity suggest the exploitation of the wetlands during this period (ArcHeritage 2019, 31; 110).

- 5.6 The only direct evidence for settlement of prehistoric date within the study area is that of the late Neolithic timber platform and associated trackway (**SYSMR 4830; NHLE 1443481**) recorded on Hatfield Moors some 1.9km to the south-east of the planning application boundary. The site was first identified in the 1990s during mechanical peat cutting, and was then exposed and the remains sampled archaeologically between 2004–2005. The platform is roughly rectangular and measures approximately 13m by 5m. It was surrounded by water or marsh in the Neolithic period, being linked to dry land to the south by a 45m long trackway. Both are of corduroy construction using Scots Pine, and being radiocarbon dated to 2900–2500 BC are the earliest identified such corduroy construction known in Britain. The nature of the monument suggests that it was probably a ritual rather than a utilitarian structure. The environmental evidence recovered during the investigations indicates that there was a change in the surrounding area from a mosaic of woodland, heath and small ponds in the Mesolithic to an increasingly wet environment of expanding peat mire resulting in a total loss of woodland. Following the excavation the site was reburied and re-wetted, and subsequently scheduled.
- 5.7 Further evidence for activity of possible Neolithic date within the study area is provided from the recovery of stray finds, and specifically a flint flake (**SYSMR 1845**), flint graver (**SYSMR 1846**) and a flint flake tool (**SYSMR 1847**) from an area to the north of Sandtoft Road some 1.8km to the north-east of the planning application boundary. A concentration of 13 flints of both Neolithic and Bronze Age date (**SYSMR 5458**) has also been collected during fieldwalking on Hatfield Moors approximately 300m to the west of the Neolithic platform and trackway.
- 5.8 No sites of Bronze Age date are recorded within the study area. Finds recovered from the area include that of a looped and socketed axe (**NRHE 57707**) found before 1911 within the area of Hatfield Woodhouse, though its precise find-spot is unknown. A bronze spearhead (**SYSMR 706; NRHE 57718**) of Middle to Late Bronze Age date has been found within the area of Hatfield, although its accurate provenance is unknown and may therefore have been recovered some distance to the north-west of the study area.

### **Iron Age and Roman**

- 5.9 There are no settlement sites of either Iron Age or Roman date recorded within the study area. A Google Earth image of the area (**Plate 1**) does show three amorphous subcircular or subrectangular features visible as darker features of variable size located within the central southern part of the application boundary (the slightly raised area within the site) with a further three or four similar features along the eastern edge of the site (**Figure 5**). While it is possible that these could be either ring gullies or even barrows (some of the features contain a central darker area) of archaeological interest a natural origin is equally possible and this would need to be determined by further evaluation. In addition, sites of this date within the region are rarely found below 4m OD (ArchHeritage 2019, 143). No features are evident on the lidar data researched.
- 5.10 Occupation during the Iron Age and Roman periods is, however, attested by a number of areas of trackways and associated field systems, together with finds of pottery of Roman date, recorded within the study area. The former are peripheral to a complex archaeological landscape focussed on the Magnesian Limestone

belt to the west that has been recorded as cropmarks from aerial photographic sources researched for the National Mapping Programme (NMP) undertaken by English Heritage (now Historic England) and the evidence plotted and collated (Deegan 2006) and then subsequently synthesised (Roberts *et al* 2010). No features are recorded within the application boundary. The detailed plots of cropmarks within the study area as recorded by the Historic England Archive could not be obtained and therefore are not included on the figures.

- 5.11 Such a field system of probable Iron Age or Roman date (**SYSMR 4987; NRHE 1439919**) is recorded from aerial photography some 0.8km or more to the south of the application boundary (at a height of some 5m OD). One of the boundaries that forms part of this field system was subsequently identified by geophysical survey (**ESY 989**) together with anomalies of possible additional linear features associated with the field system or later airfield (STATS 2009).
- 5.12 Field boundaries of possible Iron Age to medieval date are recorded some 1.4km to the north-west (**SYSMR 3360**) on Acomb Common (at a height of some 5m OD or more), to the south-west of which is located a short length of a double-ditched trackway (**SYSMR 3361; NRHE 1439910**). Finds of Romano-British greyware pottery (**SYSMR 3444**) and of Roman Samian pottery (**SYSMR 2787**) have been found to the west of the former and latter respectively.
- 5.13 Further features of uncertain date have also been plotted from aerial photographs some 0.9km or more to both the north and north-east of the application boundary and include field boundaries, ditches and a pit (**NRHE 1439906**), field boundaries (**NRHE 1439917**) and a ditch or possible enclosure (**NRHE 1439932**). At least some of these may also form part of field systems within the wider Iron Age or Roman period landscape, although it is considered that features associated with NRHE 1439906 may be medieval or post-medieval in date.
- 5.14 The only find of probable Roman date that is recorded within the vicinity of the application boundary (some 450m distant) is that of a solid copper-alloy figurine, probably of Hercules (SWYOR-B7DE82). Other finds of Roman date, including a further figurine, brooches and a coin, have been found in the area to the west of Hatfield Woodhouse.
- 5.15 Finds of uncertain date have been recovered from an area to the north of Hatfield Woodhouse, and these consist of a lead object (**SYSMR 2743**), a lead letter 'S' (**SYSMR 2746**) and a lead weight (**SYSMR 2747**).

### Medieval

- 5.16 There is no evidence for any pre-conquest settlement during Anglo-Saxon period within or near the study area other than from documentary sources, although four iron spearheads of Saxon date (**SYSMR 702; NHLE 57702**) are recorded from 'near Hatfield' although their exact provenance is unknown and they may have been found some distance to the north-west.
- 5.17 Hatfield pre-dates the Norman Conquest, its Old English name being 'a tract of open uncultivated land' and possibly first recorded by Bede as *Heathfelth* in 731 (Smith 1961, 7; Mills 2003, 231), although it remains uncertain whether the battle

in 632 between Edwin of Northumbria, and Cadwallon and Penda of Mercia, took place in the vicinity (Hatfield Town Council). It is recorded as *Hedfeld* at the time of the Domesday Survey of 1086 and as within the hundred of Strafforth. At the time of the Conquest it was held by Earl Harold, but had become part of a large estate held by William de Warenne (of Conisbrough Castle). At the time of the survey the households within Hatfield consisted of twelve freemen and a priest, with resources of six ploughs and woodland, and a church ([opendomesday.org](http://opendomesday.org)). Hatfield Woodhouse is not specifically recorded.

- 5.18 The area surrounding Hatfield, with the village approximately at its centre, was to become part of Hatfield Chase, a forest some 70,000 acres in extent. Originally owned by the Warenne family, it became a royal forest in the 14th century and is recorded as the *forest of Haytefeld* in 1405 (Smith 1961, 8).
- 5.19 The only find of medieval date recorded in the vicinity of the application boundary (some 450m distant) is a lead-alloy trading weight in the shape of a decorated shield and probably dating to the 14th or 15th century (SWYOR-B828C8). A number of other finds of medieval date have been found by detectorists within the study area but these have predominantly been recovered from areas to the north and west of Hatfield Woodhouse.

#### **Post-medieval and modern**

- 5.20 The earliest relatively detailed mapping of the study area is the survey of Yorkshire by Thomas Jeffreys published in 1771. At this date the settlement of Hatfield Woodhouse is mapped in approximately its current form. Most of the buildings of historic interest within the village were either extant by this date or were constructed by the early 19th century. Those that are listed are included in **Table 1**.
- 5.21 The area within and around the proposed application boundary is depicted as unenclosed moor and heathland on the north-western edge of Hatfield Moor. There had, however, been some drainage of the area as the existing Woodhouse Sewer immediately to the north is depicted, which continues north-eastwards on the alignment of the existing drain to the north of the sewage works beyond which it becomes more sinuous. Neither the Hatfield Waste Drain nor the Moor Dike is depicted on the Jeffreys map.
- 5.22 The first edition Ordnance Survey map of 1853 (**Figure 6**) depicts the area as part of a rectilinear field pattern typical of the enclosure of the wetlands on Hatfield Moors and elsewhere. The application boundary is divided between a detached part of the township of Thorne to the north and west and a detached part of Stainforth township to the south-east (the enclosure award for both townships, together with that for Hatfield, date to 1825 but could not be consulted). The farmsteads at Hollin Bridge Farm (S1) to the north of the application boundary and Moor Farm (S2) to the east are both extant at this date, and the former at least pre-dates the enclosure (Hollin Bridge is documented in 1646 (Smith 1961, 10) and buildings are depicted at this location on Jeffreys' map of 1771). A brickworks (S3) is located some 320m to the east in the field to the south of Moor Farm, and both a brick kiln and a brick yard, together with possible areas for extraction to the west, are depicted.



- 5.23 On the first edition map approximately the western third of the application area forms part of a separate field that extends to the west, this division presumed to have been a ditched boundary, now visible as a cropmark (**Plate 1**), and which may have been associated with an adjacent hedgeline. In addition to the earlier Woodhouse Sewer the proposed development area is now also defined by part of Hatfield Waste Drain to the north (crossed by a wooden bridge) and by Moor Dike Road and its associated drain to the east, both of which are presumed to date from the 1825 enclosure. A pond (S4) is depicted along the northern edge of the field boundary, with a smaller pond (S5) to the west (the sites of both being located outwith the application boundary). The area falls within the Wetland Enclosure character zone of the South Yorkshire Historic Environment Characterisation within the Doncaster Zone, and is located within a large area along the western side of Hatfield Moor within which reclamation for agriculture was improved by the use of 'dry warping' with alluvium extracted from former riverbeds on the Don and Idle and transported to the moor (SYHECP 2020, 9).
- 5.24 By the time of the Ordnance Survey map of 1892 (**Figure 7**) the field boundary that was previously depicted within the application area has been removed (and the ditch infilled) and the existing boundary established (which does not therefore qualify as 'important' with respect to archaeology and history under the terms of the Hedgerow Regulations 1997). The brickworks to the east are no longer extant by this date, with only water-filled former extraction pits being depicted within the north-western part of the area. White Bridge Farm (S6), located some 290m to the south-east of the application boundary, has been established by this date.
- 5.25 There is little change both in the application boundary and within the surrounding area during the early part of the 20th century, although the smaller of the two ponds has been infilled by the time of the Ordnance Survey map of 1906 (and the larger pond by 1963).
- 5.26 RAF Lindholme (**SYSMR 4344**) was constructed to the south of the application boundary from May 1938 (originally as RAF Hatfield Woodhouse). This was planned as a typical bomber airfield of the expansion period with the technical site on the southern boundary of the grass landing area backed by workshops and the living accommodation. It opened in June 1940 and was upgraded in 1942 to include hard standings for planes, runways and taxiways that extended as far north as the southern edge of the application boundary, to the south of which there were a number of stores, surrounded by blast walls and therefore presumed to be for ordnance (**Figure 8**). A circular area of concrete hard standing survives within this area (Crestwood Environmental 2018,10). In 1949 the airfield became part of the RAF Technical College, and from 1952 until 1972 it served as the the Bomber Command Bombing School. In 1980 the airfield re-opened as a relief landing ground for RAF Finningley but was bought by the Home Office in 1985 and now operates as a Category 'C' prison. During this post-war period a Tactical Control Centre (**SYSMR 4582**) was constructed to the west of the airfield in 1960. This remained operational until 1996 and the complex of buildings, including the Type 82 Radar Unit, survive largely intact.
- 5.27 Towards the north-eastern extremity of the airfield, and some 450m to the south of the application boundary, an underground Royal Observer Corps monitoring post (**SYSMR 4645**) was opened in 1961 and functioned until 1991. The surface features of the monitoring post remain largely intact within an existing compound.

- 5.28 Extraction has also resulted in changes to the historic environment character within the immediate vicinity of the application boundary, and specifically the mineral extraction for sand and gravel to both the west and south where existing ponds or lakes (**NRHE 1439922**) define the extent of quarrying that has been undertaken (that at Dale Pitt since about 1990). Further to the east other linear lakes and ponds (**NRHE 1439939**) are evidence of probable former extraction. The sewage works to the north of the site were constructed some time between 1970 and 1982, while Moor Farm (S2) had been demolished prior to 2002.
- 5.29 The area of the application boundary itself, and most of the surrounding fields, is characterised as ‘drained wetland’ (**Figure 9**). This is reflected in the number of land drains that were noted during archaeological monitoring of topsoil stripping in advance of extraction in the field immediately to the west (A. Lines, written communication).

### **Designated heritage assets**

- 5.30 A number of designated heritage assets are located within the study area around the proposed application boundary (**Figure 4**). These consist of nine Listed Buildings (all Grade II) and a single Scheduled Monument (see **Appendix**). Site inspections have established that the proposed development would not be visible from any of these assets except one as a result of screening from intervening woodland, vegetation or buildings.
- 5.31 The only Listed Building from which intervisibility with the proposed development is predicted, and upon which there could therefore be a potential effect upon its setting and significance, is the outbuildings located to the south-west of the house at Hepworth’s Yard (**NHLE 1151620**). These consist of a two-storey brick farmbuilding of late-18th-century date with a pantile roof, comprising a single-cell stable with dovecote on the left of a lower four-bay range. It has been converted to residential use (possibly in 1993) and an additional bay (garages) added to the left. The building is located within a yard adjacent to other buildings and the A414 Bawtry Road within the village of Hatfield Woodhouse, which forms its immediate setting, with fields to both the east and west forming its wider landscape context.

## **6.0 ASSESSMENT OF DEVELOPMENT EFFECTS**

### **Direct (physical) effects**

- 6.1 Direct physical effects upon recorded and previously unrecorded heritage assets of archaeological interest within the planning application boundary would be predicted at the stage when the existing hedge boundary defining the western side of the area was removed, and when the topsoil and subsoil (some 1m in depth in total) was stripped in advance of the extraction of the sand and gravel deposits beneath.
- 6.2 The existing hedgerow defining the western side of the planning application boundary post-dates 1845 and does not therefore qualify as ‘important’ with respect to archaeology and history under the terms of the Hedgerow Regulations 1997.

- 6.3 A former field boundary, aligned north-north-west to south-south-east, is recorded within the western part of the application boundary and probably dates to the initial enclosure of the area in 1825 (**Figures 5 and 6**). From the Google Earth image of the area (**Plate 1**) the ditch associated with this boundary appears to survive as a subsurface feature. While the removal of this ditch during initial groundworks would be a substantial and permanent adverse impact, it would be upon a feature of low sensitivity and therefore a moderate effect (and of less than substantial harm) which could be mitigated by archaeological investigation and recording.
- 6.4 The sites of the two former infilled ponds (S4 and S5) along the northern edge of the field are located just outwith the application boundary (within the 20m stand-off from the Woodhouse Sewer) and no impacts upon either of these features are therefore predicted.
- 6.5 The Google Earth image of the area (**Plate 1; Figure 5**) does indicate three amorphous subcircular or subrectangular features visible as darker features of variable size located within the central southern part of the application boundary (the slightly raised part of the site) with a further three or four similar features along the eastern edge of the site close to Moor Dike Road. While it is possible that these could be either ring gullies or even barrows (as some of the features appear to contain a central darker area) of archaeological interest a natural origin might be more probable. In this respect it should be noted that no such features have been plotted within the area as part of the National Mapping Programme, while archaeological monitoring of the area of the existing planning permission to the west undertaken during topsoil stripping in advance of extraction identified no archaeological features of any significance. The archaeological potential of the area of the planning application would therefore need to be determined by further evaluation.
- 6.6 The change from a cultivated agricultural field that is characterised as ‘drained wetland’ to an area of mineral extraction and subsequently to a waterbody that forms the larger part of an area of nature conservation is predicted to be both a substantial and permanent adverse change to the existing historic environment within the planning application boundary. While this would result in a significant effect upon the character of the area, this is mitigated by the proposed waterbody forming an extension to, and part of, the waterbody within the consented area of extraction to the west (with further fishing lakes and ponds to both the west and south respectively within areas characterised as ‘quarry’). In addition, the area previously formed part of a wet carrland environment prior to drainage and the establishment of the existing field in the 19th century, and wet carr woodland is proposed along the northern edge of the area (and further west) as part of the restoration proposals, while none of the existing drains around the site would be affected and the existing field boundaries (other than that to the west) would be retained or enhanced. As a consequence the residual impact upon the character of the historic environment within the application boundary and its immediate vicinity is considered to constitute less than substantial harm.

#### **Indirect (visual) effects**

- 6.7 The potential indirect (visual) effects of the mineral extraction and the subsequent restoration of the quarry at Dale Pitt upon the setting and significance of the

designated heritage assets are largely addressed within the **Appendix** as for all but one of these heritage assets no intervisibility with the proposed development is predicted. This is assessed on the basis of the existing landscape screening, the depth of the mineral extraction which would substantially screen the operating plant, and the trees and wet carr woodland proposed along the northern edge of the application boundary, and also further to the west, as part of the restoration proposals which would screen the waterbody from much of Hatfield Woodhouse within which most of the Listed Buildings are located.

- 6.8 The only Listed Building from which the proposed development is predicted to be visible is the outbuildings to the south-west of the house at Hepworth's Yard (NHLE 1151620). The building faces to the north-east and any visibility towards Dale Pitt would therefore be restricted to a single window in the gable end of the former dovecote that faces south-east over the roof of a modern garage extension. During the operational phase of the the quarry, plant would largely be screened by working at depth and would be seen at a distance of 890m or more. Subsequent to restoration the proposed waterbody would be largely screened by the carr woodland planted to the north-west. More specifically, however, the immediate setting of the building that contributes to its significance is essentially that of the yard within which it is located and the wider context of the village. The importance of the building is as a farmbuilding (converted to residential use since it was listed) and no adverse effects upon either its architectural or historical significance are predicted.

## 7.0 EVALUATION AND MITIGATION

- 7.1 In order to clarify both the nature and extent of those features of potential archaeological origin noted on the Google Earth image (**Plate 1; Figure 5**) of the proposed development a geophysical (magnetometer) survey of the area of the application boundary is proposed. This would be undertaken in accordance with relevant best practice guidance (CIFA 2014a; Schmidt *et al* 2016) and to a brief agreed with the South Yorkshire Archaeology Service.
- 7.2 Should the geophysical survey identify any anomalies of potential archaeological significance then further evaluation of the site area (such as by trial trenching) might be appropriate.
- 7.3 If no anomalies of potential archaeological significance were identified then the proposed mitigation of any potential impacts upon unrecorded remains would be by means of archaeological monitoring during the initial topsoil stripping within the application boundary. Throughout this area the soils would be stripped to archaeological requirements using a backactor excavator with a wide-bladed toothless ditching bucket. All features of potential archaeological interest (including the recorded field boundary ditch) identified would be demarcated, cleaned, planned, investigated and sample recorded in advance of further site works, with adequate time and resources being made available within the programme to undertake the agreed level of fieldwork. During this period the area would remain un-trafficked by plant or other machinery until archaeological investigation and recording had been completed.

- 7.4 Sufficient hand excavation would be undertaken in order to record the form, dimensions and character of all archaeological features identified, and to ensure recovery of sufficient artefactual and environmental evidence (ecofacts) to enable a determination of their date and function. In particular excavation, including sample sections, would concentrate upon the intersections of any features in order that their stratigraphic relationships are established.
- 7.5 Should any unanticipated archaeological remains or deposits of a significant or complex nature be identified which necessitated a review of the agreed mitigation strategy then this would be undertaken in consultation with South Yorkshire Archaeology Service on behalf of the planning authority.
- 7.6 Subject to the comments of the South Yorkshire Archaeology Service (on behalf of the planning authority) to the outline mitigation proposals presented above, a Written Scheme of Investigation would be prepared and submitted to the planning authority for formal agreement. This document would be prepared in accordance with relevant professional standards (CIFA 2014b) and would set out in detail the scale and scope of the proposed archaeological investigations and as well as the associated report preparation, including the deposition of any associated archive.

## **8.0 SUMMARY AND CONCLUSIONS**

- 8.1 The proposed 6.4ha quarry extension at Dale Pitt is located within a study area with limited evidence for recorded earlier prehistoric sites or finds other than occasional flint artefacts of Mesolithic and Neolithic date, together with a Bronze Age spearhead, mostly from the area of Hatfield and which are not accurately provenanced. The scheduled Neolithic timber platform and associated trackway on Hatfield Moors is located some 1.9km to the south-east.
- 8.2 Field systems, trackways and possible enclosures of late Iron Age or Roman date are recorded within the vicinity from aerial photographic evidence, mostly located on higher ground to the north or south. Subcircular and subrectangular features have been noted from satellite imagery within the planning application boundary, but these are relatively amorphous and located at a height of some 2m OD, so below the height (4m OD) at which settlement sites of this period in the vicinity would be anticipated, and may therefore be natural though this would require further evaluation. No archaeological features were recorded within the area immediately to the west in advance of mineral extraction.
- 8.3 The area of proposed development appears to have remained as wet carr land throughout most of the medieval period, when it formed part of the royal forest of Hatfield Chase. While some drainage to the north is recorded by the late 18th century, the field itself was not enclosed and drained until 1825. The initial field boundary was subsequently moved further to the west in the latter half of the 19th century but the former drainage ditch survives as a visible cropmark. The sites of two infilled ponds on the north edge of the field are located outwith the planning application boundary.
- 8.4 The most substantive changes to the historic environment within the immediate vicinity included the establishment of RAF Lindholme in 1938, which extended as far north as the planning application boundary, while mineral extraction since the

late 1980s has been undertaken both to the west (Dale Pitt) and south-west, with most of these areas now being restored to ponds or fishing lakes.

- 8.5 The only certain direct physical impacts of the groundworks in advance of mineral extraction include those upon the remains of the ditch associated with the former enclosure field boundary dated to 1825. This is considered of low sensitivity and the magnitude of the effect would constitute less than substantial harm, and could be mitigated by investigation and recording. The potential archaeological features identified within the application boundary would be further evaluated, initially by geophysical survey, in order to establish their nature and significance, and any predicted effects upon them.
- 8.6 While both the mineral extraction and the subsequent restoration of the site as a waterbody and area of nature conservation would alter the existing historic environment of the field, this is considered to be mitigated as the proposals would physically form part of a more extensive area of existing lakes and ponds to the west and south. In addition, the current field boundaries would be enhanced and the associated drains would remain unaffected. The residual effect upon the character of the historic environment is accordingly considered to constitute less than substantial harm
- 8.7 All of the ten designated heritage assets within the vicinity are located 800m or more from the proposed development, mostly within Hatfield Woodhouse. The proposed development is predicted to be visible from a single Listed Building, and in this case would have no adverse effects upon its setting or architectural and historical significance.
- 8.8 On the basis of the evidence currently available the proposed development is considered likely to have only a minor effect upon recorded heritage assets of archaeological interest within the planning application boundary. However, it is proposed that this potential is further evaluated, initially by means of geophysical survey, in order to establish the nature and significance of possible features identified from satellite imagery. This would be undertaken in accordance with a brief to be agreed with the South Yorkshire Archaeology Service on behalf of the planning authority.

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- 1854 Ordnance Survey 6-inch to 1 mile, Yorkshire sheet 278
- 1892 Ordnance Survey 25-inch to 1 mile, Yorkshire sheets CCLXXVIII.1, .2, .5, and .6
- 1906 Ordnance Survey 25-inch to 1 mile, Yorkshire sheets CCLXXVIII.1, .2, .5, and .6
- 1950 Ordnance Survey 6-inch to 1 mile, Yorkshire sheet CCLXXVIII.NW
- 1963 Ordnance Survey 1:10,000 scale map



## APPENDIX

### DESIGNATED HERITAGE ASSETS WITHIN VICINITY OF DALE PITT

The following table summarises the intervisibility between the application boundary at Dale Pitt and designated heritage assets (identified by their National Heritage List for England number) within 2km (as indicated on **Figure 4**) and any predicted adverse effects upon the significance of the heritage asset. Any heritage asset with which intervisibility with the proposed development is predicted is discussed further within the main text as stated. All of the heritage assets listed are within the civil parish of Hatfield.

NHLE	Grid reference	Classification	Grade	Distance	Comment
1151590	SE 6708 0877	Tower mill at Mill House	II	1.5km	Early 19th century tower mill of five storeys. Truncated cone of brick on stone base with no superstructure. Screened from proposed development by intervening trees. No adverse effects predicted on the architectural or historical significance of the heritage asset.
1151618	SE 6773 9848	Elmtree House	II	815m	Early 19th century house of two storeys with 18th century wing to rear and later altered. Three-bay front faces to west. Located within enclosed garden and surrounded by trees in village setting. Screened from proposed development. No adverse effects predicted on the architectural significance of the heritage asset.
1151619	SE 6758 0828	Glen Cottage	II	880m	Early 18th century house altered in the 19th century. Located in enclosed garden in village setting. Screened by boundary hedge. Buildings and vegetation to the south-east. No adverse effects predicted on the architectural significance of the heritage asset.
1151620	SE 6758 0831	Outbuildings to south-west of Hepworth's Yard	II	890m	See paragraphs 5.31 and 6.8.
1192295	SE 6840 0900	Cartshed with dovecote approximately 40m east of Stonehill Farmhouse	II	845m	Two storey brick cartshed and dovecote (roofless) dating to about 1800. Screened from proposed development by intervening trees in the area of Hollin Bridge. No adverse effects predicted on the historical or architectural significance of the heritage asset.

NHLE	Grid reference	Classification	Grade	Distance	Comment
1286647	SE 6764 0839	Bawtry Road Farmhouse	II	850m	Two storey early 19th century brick farmhouse. Front faces to north and buildings located to south-east. Proposed development not visible from the building. No adverse effects predicted on the architectural significance of the heritage asset.
1286682	SE 6774 0848	Barn approximately 10m to rear of Elmtree House	II	800m	Single storey three-bay brick barn of 17th century origin and rebuilt in the 18th century. Currently being converted into offices and a beauticians. Largely or totally screened from proposed development. No adverse effects predicted upon either the architectural or historical significance of the heritage asset.
1314804	SE 6834 0899	Stonehill Farmhouse	II	850m	Two storey brick farmhouse dating to about 1800. Front faces to north-west and buildings to rear. Screened from proposed development by intervening trees in the area of Hollin Bridge. No adverse effects predicted on the architectural significance of the heritage asset.
1314805	SE 6724 0902	Mortuary chapel at Hatfield Cemetery	II	1.5km	Single-storey, single-cell stone mortuary chapel with spirelet built in the Gothic Revival style and dating to 1884. Screened from proposed development by intervening houses and trees. No adverse effects predicted on the architectural significance of the heritage asset.
1443481	SE 7060 0723	Lindholme Neolithic timber trackway and platform	II	1.9km	Buried remains of a Neolithic platform and trackway on Hatfield Moors. Screened from proposed development by intervening woodland along the western edge of the nature reserve. No adverse effects predicted on the archaeological significance of the heritage asset.




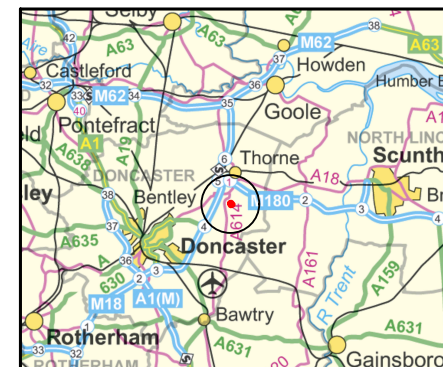
# Dale Pitt Hatfield Woodhouse

**Figure 1**  
Location of proposed development

0 2km  
scale 1:40 000 @ A4

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**Key**  
 planning application boundary



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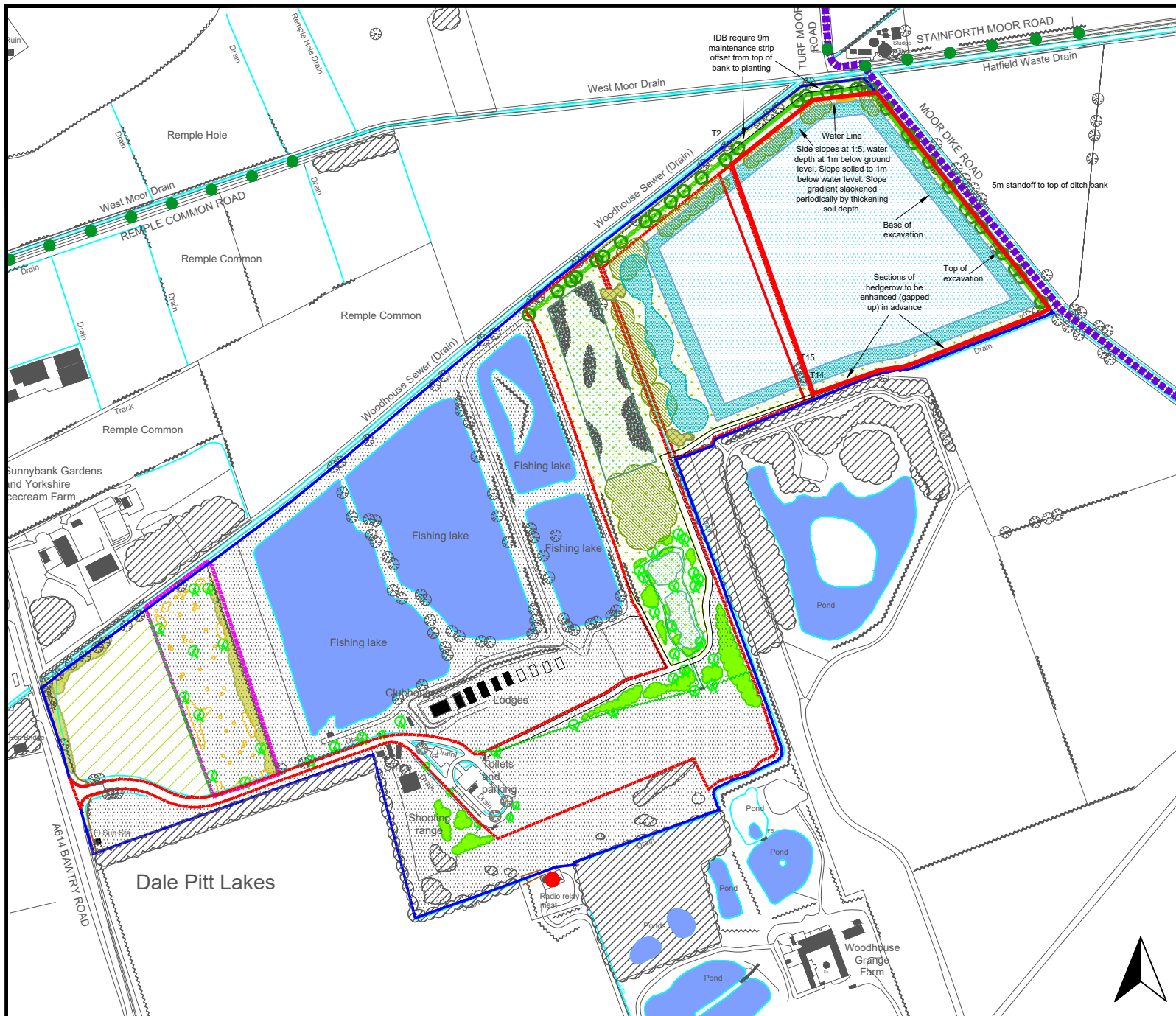


# Dale Pitt Hatfield Woodhouse

**Figure 3**  
Restoration proposals

0 300m  
scale 1:6000 @ A4

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## Key

### EXISTING

- Waterbody / drain
- Woodland / garden vegetation
- Trees - indicative
- Hedgerow / linear vegetation - indicative
- Arable farmland
- The Peatlands Way
- Other route with public access
- Private dwelling / lodge
- Telecommunications mast

### PLANNING PERMISSION 15/01261/MIN and 18/01656/MIN RESTORATION SCHEME

- Planning permission boundary (15/01261/MIN & 18/01656/MIN)
- New landform
- New native trees
- New woodland
- New native shrub / scrub planting
- New gorse scrub planting
- New species rich hedgerow
- New species rich grassland
- New wildlife pond
- New wetland / marshland / wet modified bog
- New nightjar compensation area
- New lodge

### PROPOSED

- Land in applicant's ownership
- Planning application site
- Waterbody
- D1 Wet (carr) woodland
- D2 Native scrub
- D3 Advance planting - Native hedgerow with intermittent trees
- D4 Marginal and aquatic vegetation
- D5 Wet grassland
- D6 Ponds and scrapes
- T14 Existing tree to be used as dead wood
- Sand martin bank

**Note:**  
Based upon Landscape  
and Visual Impact  
Assessment Appendix A  
Figure A2D prepared by  
Mowbray Associates









# Dale Pitt Hatfield Woodhouse

**Figure 4**  
Recorded heritage assets within 2km  
of planning application boundary

0 1km  
scale 1:20 000 @ A3

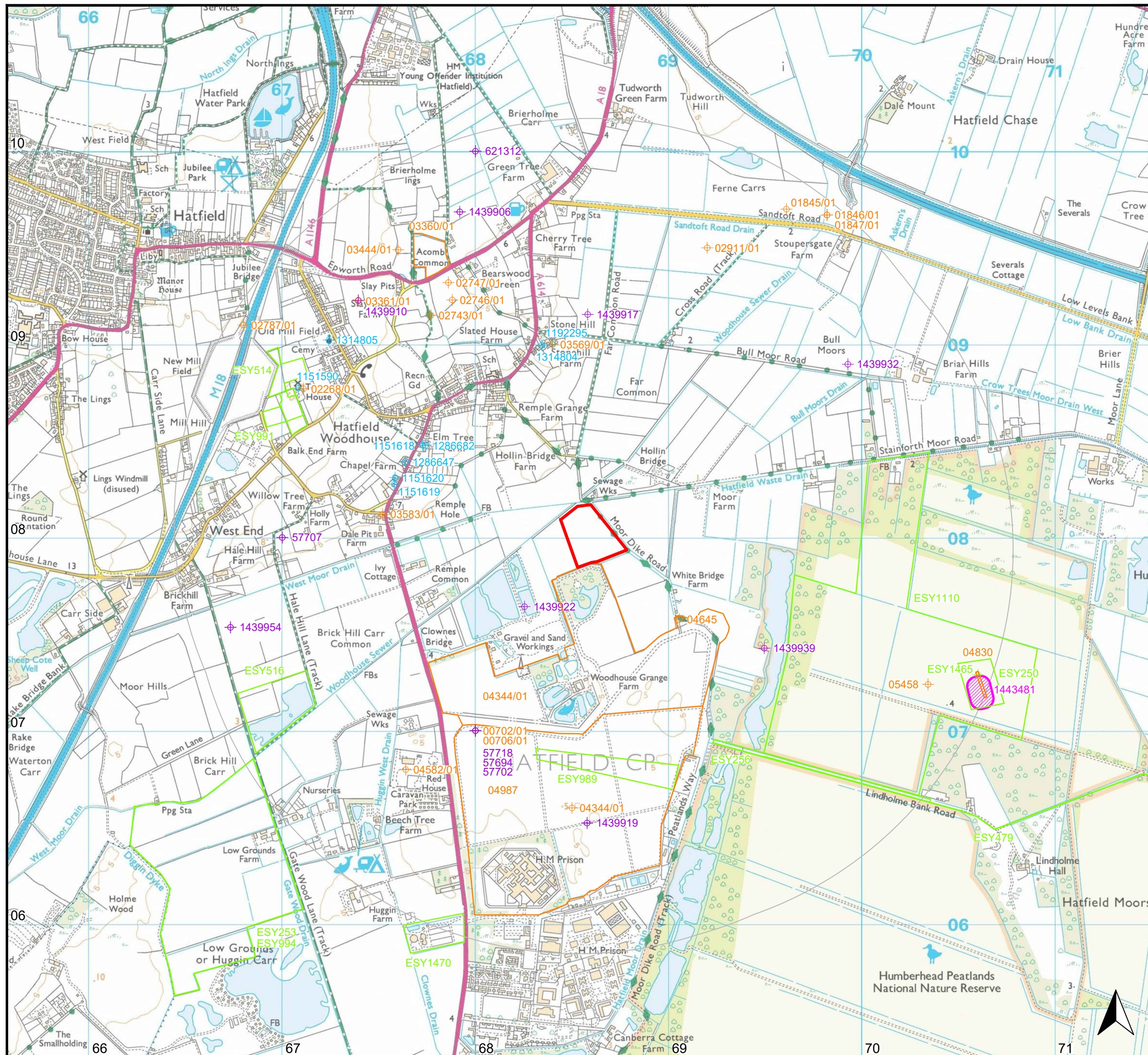
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## Key

-  planning application boundary
-  Scheduled Monument
-  Listed Building
-  SYSMR site
-  SYSMR event
-  NRHE site

Note:  
Data provided by the South Yorkshire Sites and  
Monuments Record (SYSMR) or obtained from the  
National Record of the Historic Environment (NRHE)

date	version
15/02/2021	1














# Dale Pitt Hatfield Woodhouse

**Figure 5**  
Heritage assets within 1km of planning application boundary

0 500m  
scale 1:10 000 @ A3

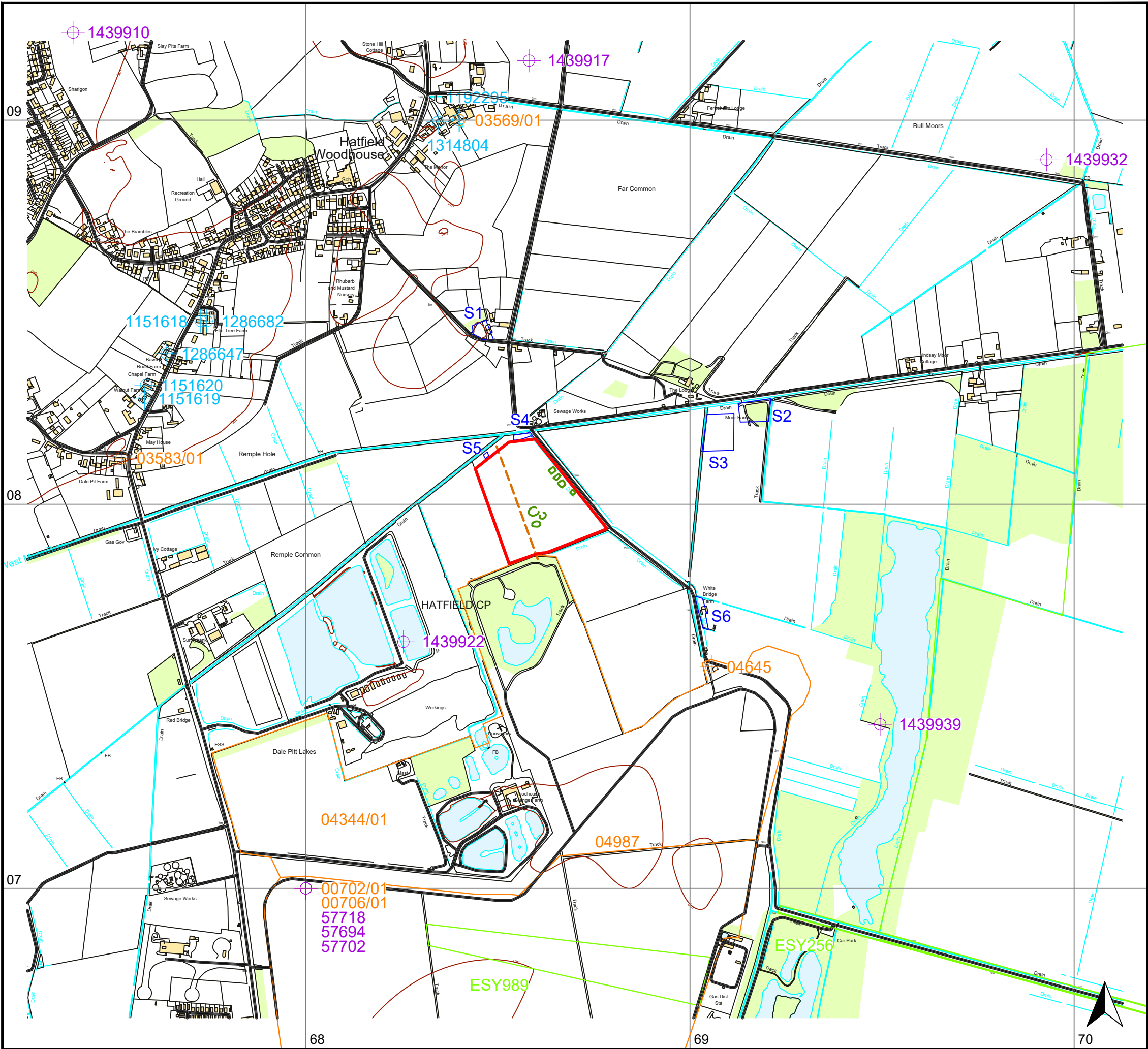
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### Key

-  planning application boundary
-  Scheduled Monument
-  Listed Building
-  SYSMR site
-  SYSMR event
-  NRHE site
-  other heritage assets
-  former field boundary
-  possible cropmark features (approximate)

Note:  
Data provided by the South Yorkshire Sites and Monuments Record (SYSMR) or obtained from the National Record of the Historic Environment (NRHE)

date	15/02/2021	version	1
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## Dale Pitt Hatfield Woodhouse


### Figure 6

Planning application boundary  
overlay on the 1853 1st edition  
6-inch to the mile Ordnance  
Survey map (Yorkshire Sheet 278)

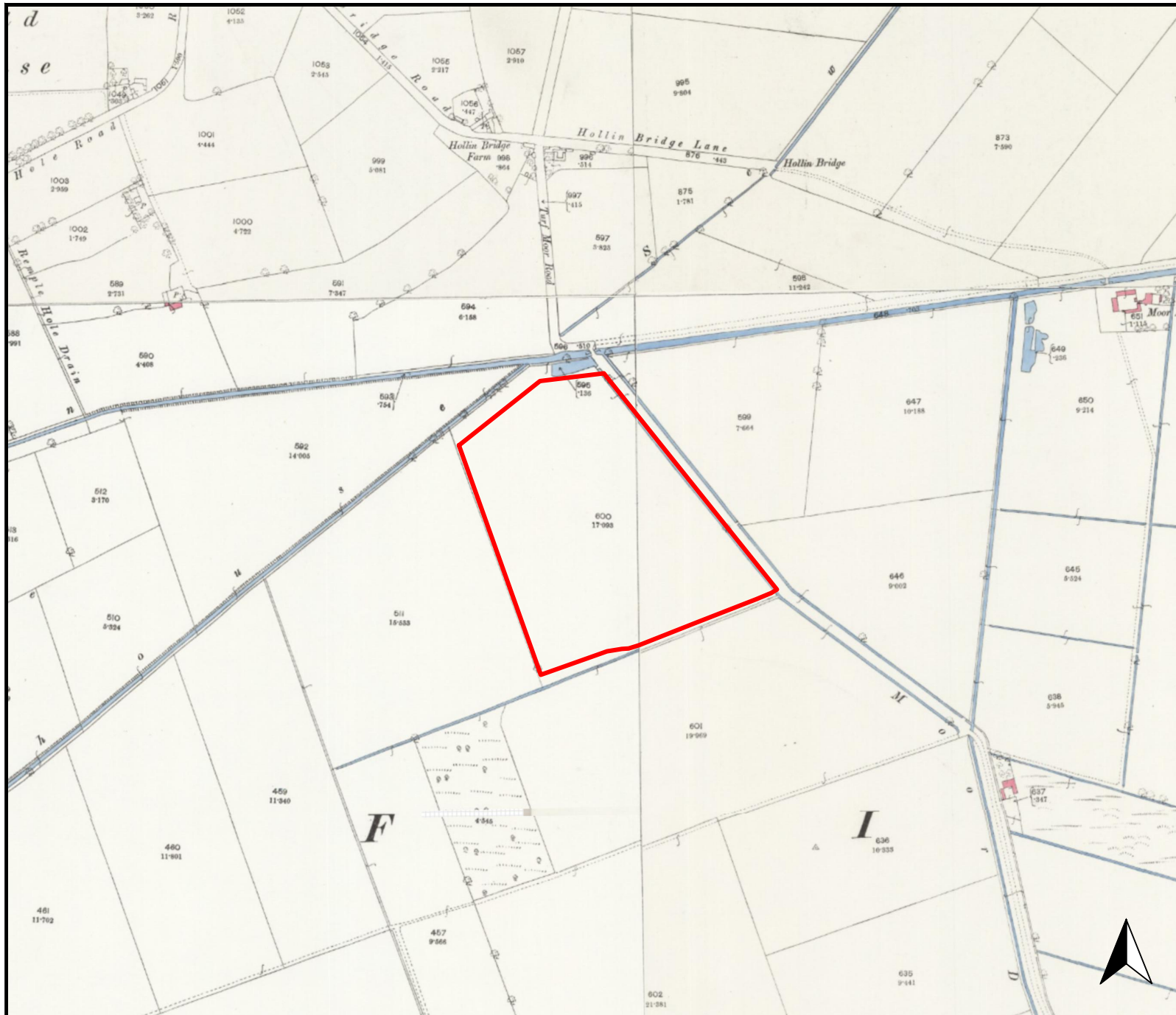
0 300m  
scale 1:6000 @ A4

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### Key

 planning application boundary





# Dale Pitt Hatfield Woodhouse


**Figure 7**

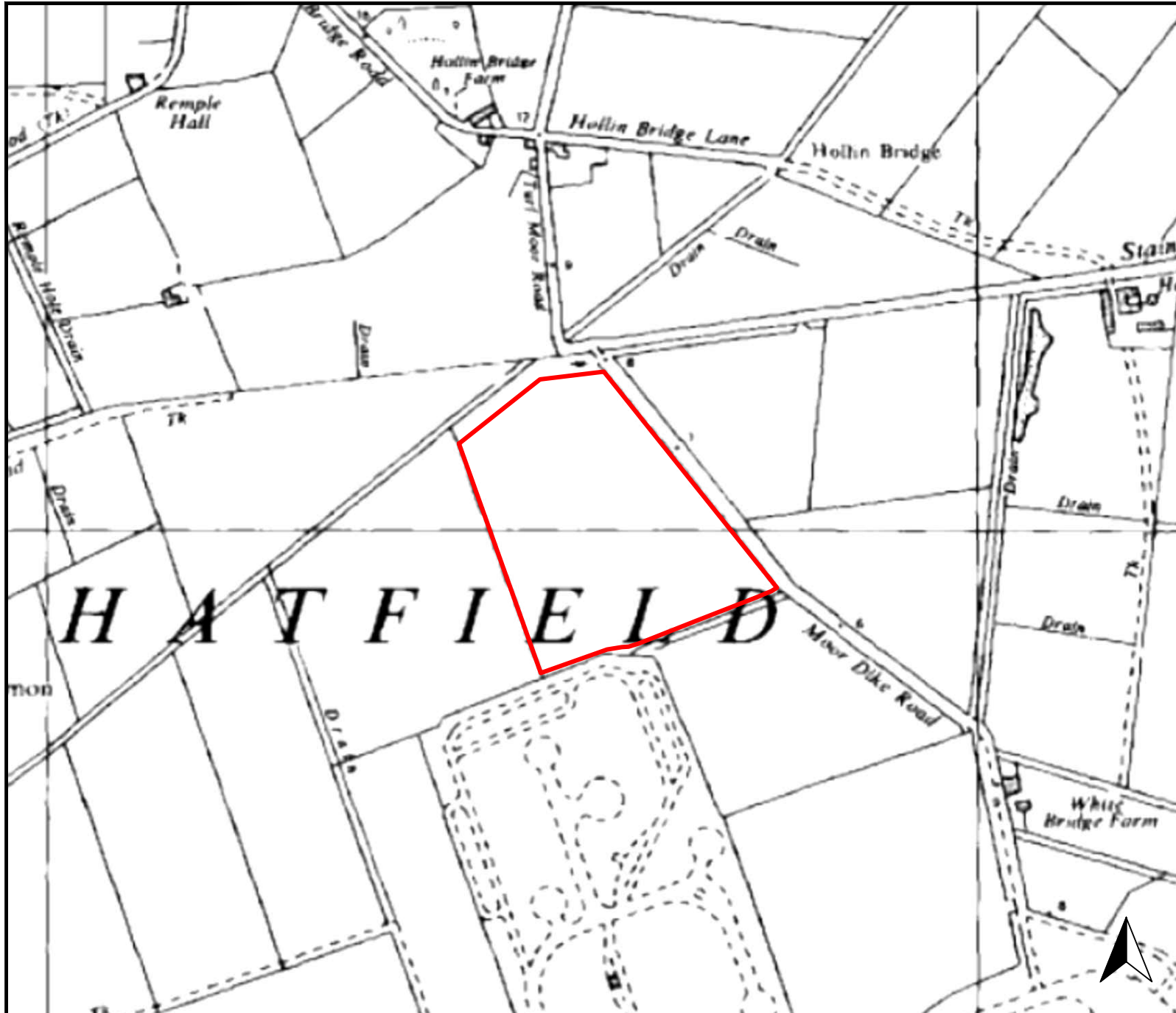
Planning application boundary  
overlain onto the 1892 1st edition  
25-inch to the mile Ordnance  
Survey map (Yorkshire Sheets  
CCLXXVIII.1, 2, 5 and 6)

0 300m  
scale 1:6000 @ A4

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## Key

 planning application boundary



## Dale Pitt Hatfield Woodhouse


**Figure 8**

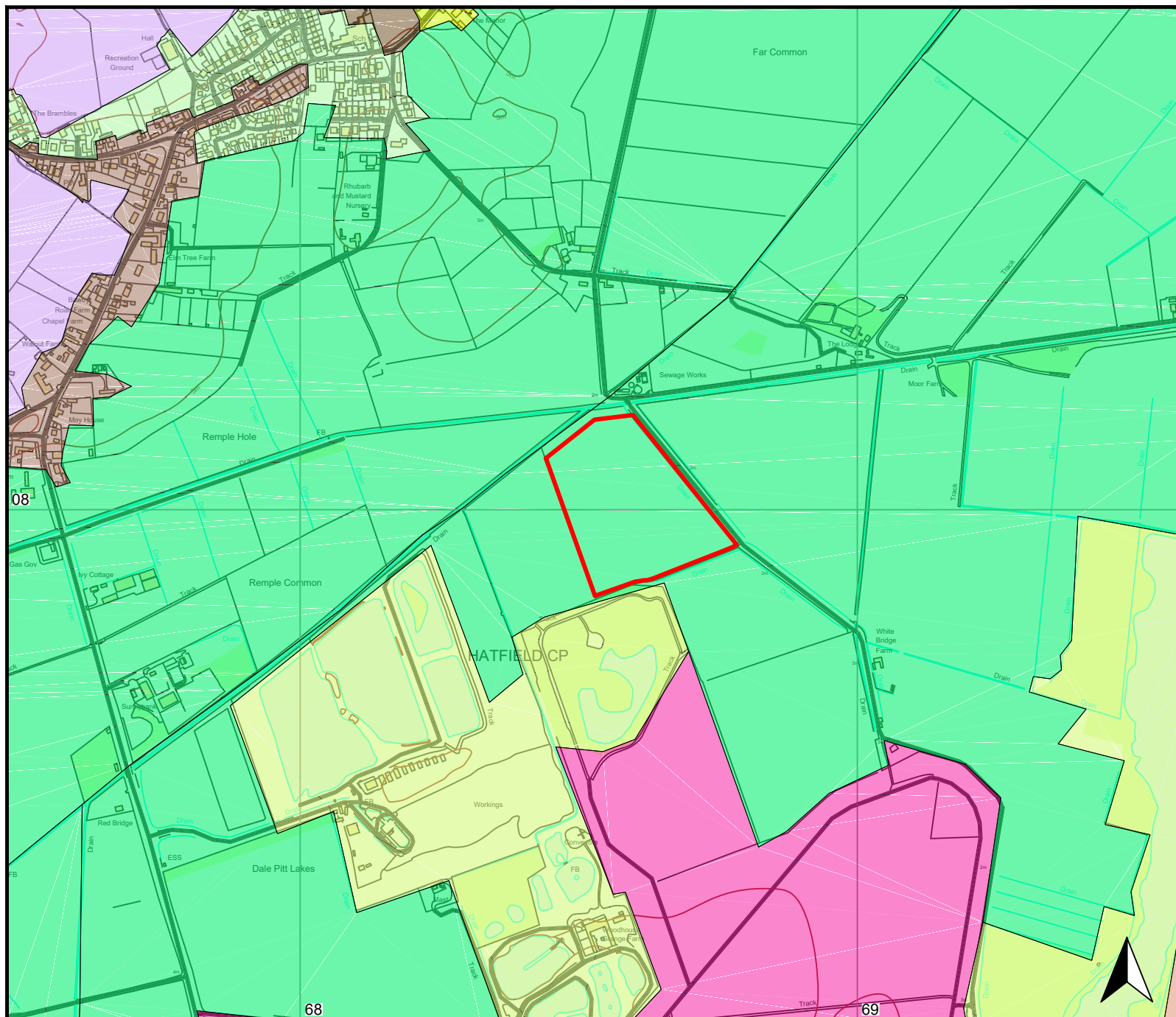
Planning application boundary  
overlay onto extract from 1963  
1:10,000 scale Ordnance Survey  
map

0 300m  
scale 1:6000 @ A4

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### Key

 planning application boundary











## Dale Pitt Hatfield Woodhouse

**Figure 9**  
Historic Environment  
Characterisation within vicinity of  
the proposed development

0 2km  
scale 1:40 000 @ A4

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### Key

-  planning application boundary
-  agglomerated fields
-  drained wetland
-  farm complex
-  piecemeal enclosure
-  private housing estate
-  quarry
-  surveyed enclosure (parliamentary/private)

Note:  
Data provided by the South Yorkshire Sites  
and Monuments Record (SYSMR)

date	15/02/2021	version	1
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Plate 1 - Google Earth image of area of application boundary for Dale Pitt Farm (15.07.15) Image © Google





Plate 2 - Dale Pitt: proposed development area from the south-east (28.10.20)



Plate 3 - Dale Pitt: proposed development area from the north-west (28.10.20)