



LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK

ARCHAEOLOGICAL EVALUATION





**LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE,
SUFFOLK**


ARCHAEOLOGICAL EVALUATION

Prepared on behalf of:
Mr Tom Stebbing
John Stebbing Architects Ltd,
Unit 2B Barton Road Retail Park,
Bury St Edmunds, Suffolk
IP32 7BE

By:
Louisa Cunningham MSc, MA (Hons)

Britannia Archaeology Ltd
Unit 2, The Old Wool Warehouse,
Bury St Edmunds, Suffolk,
IP33 3PH
T: 01449 763034
info@brit-arch.com
www.britannia-archaeology.com
Registered in England and Wales: 7874460

January 2018

Site Code	RDE 019	NGR	TL 804 559
Planning Ref.	Pre-planning	OASIS	britanni1-300424
HER Inv. No.	9206000		
Approved By:			Date January 2018

DISCLAIMER

The material contained within this report was prepared for an individual client and solely for the benefit of that client and the contents should not be relied upon by any third party. The results and interpretation of the report cannot be considered an absolute representation of the archaeological or any other remains. Britannia Archaeology Ltd will not be held liable for any error of fact resulting in loss or damage, direct, indirect or consequential, through misuse of, or actions based on the material contained within by any third party.



CONTENTS

	Abstract
1.0	Introduction
2.0	Site Description
3.0	Planning Policies
4.0	Archaeological Background
5.0	Project Aims
6.0	Project Objectives
7.0	Fieldwork Methodology
8.0	Description of Results
9.0	Deposit Model
10.0	Discussion & Conclusion
11.0	Acknowledgments

Bibliography

Appendix 1	Deposit Tables
Appendix 2	OASIS Sheet
Appendix 3	Approved Written Scheme of Investigation

Figure 1	General Location Plan	1:2500
Figure 2	SHER Data	1:10000
Figure 3	Proposed Trench Plan over Development Plan	1:100
Figure 4	Trench & Feature Plan	1:50
Figure 5	Sections & Photographs	
Figure 6	Photographs	



Abstract

On the 14th December 2017, Britannia Archaeology Ltd (BA) undertook an archaeological evaluation by means of trial trenching at Land adjacent to Rede House, Blacksmith Road, Rede, Suffolk as part of a pre-planning investigation ahead of construction of a dwelling and cart lodge (NGR TL 580480 255900). The requirement for the evaluation consisted of linear trial trenching to sample the foot print of the proposed development. This took the form of an L-shaped trench, measuring 13.00m x 1.80m north-south and 5.00m x 1.80m east-west.

The archaeological background for the site suggested that there would be a moderate to high potential for encountering features and finds relating to the medieval and post-medieval period.

Despite the moderate to high potential for medieval activity on the site, no features from this period were encountered. The evaluation was successful in identifying a phase of activity dating to the late 19th century-early 20th century in the form of some small pits and ditches, the brick foundation of a small outbuilding (visible on OS maps from 1885-1904), and a large rubbish pit. The large rubbish pit represented the latest activity within this phase possibly associated with the demolition of the structure.



1.0 INTRODUCTION

On the 14th December 2017, Britannia Archaeology Ltd (BA) undertook an archaeological evaluation by means of trial trenching at Land adjacent to Rede House, Blacksmith Road, Rede, Suffolk as part of a pre-planning investigation ahead of construction of a dwelling and cart lodge (NGR TL 580480 255900). The requirement for the evaluation consisted of linear trial trenching to sample the foot print of the proposed development. This took the form of an L-shaped trench, measuring 13.00m x 1.80m north-south and 5.00m x 1.80m east-west.

2.0 SITE DESCRIPTION

The site is located in the village of Rede adjacent to the Medieval All Saints Church.

The bedrock geology is described as Crag Group – Sand. A sedimentary bedrock formed approximately 0 to 5 million years ago in the Quaternary and Neogene Periods, when the local environment was dominated by shallow seas (BGS, 2017).

Superficial deposits at the site are described as Lowestoft Formation – Diamicton. A superficial deposit formed up to 2 million years ago in the Quaternary Period, when the local environment was previously dominated by ice age conditions (U) (BSG, 2017).

3.0 PLANNING POLICIES

The archaeological investigation is to be carried out on the recommendation of the local planning authority, following guidance laid down by the National Planning and Policy Framework (NPPF, DCLD 2012) which replaces Planning Policy Statement 5: Planning for the Historic Environment (PPS5, DCLG 2010). The relevant local planning policy is the Joint Development Management Policies Document, adopted by both St Edmundsbury and Forest Heath Borough Councils in 2015.

4.0 ARCHAEOLOGICAL BACKGROUND (Fig. 2 & 3)

The following archaeological background draws on the Suffolk Historic Environment Record (HER) (500m search centred on the site), English Heritage PastScape (www.pastscape.org.uk), and the Archaeological Data Service (www.ads.ahds.ac.uk) (ADS) (Fig. 2 & 3).

The site is adjacent to the Church of All Saints (RDE 003, DSF7992) a medieval church and churchyard dating from c.12th century or possibly earlier. Archaeological evaluation and monitoring North of the church revealed ditches suggesting medieval boundaries and large pits of possible post-modern date (ESF22004, ESF22245).



Also adjacent to the site on the west side is Rede House a 2 storey Grade II listed building of early 19th date (DSF9233). Monitoring for a cartlodge at the house revealed no archaeological features (ESF22160).

The Roman period is only represented by one record of some sherds of Roman greyware pottery found c.600m east of the site (BKY 034).

The Medieval period is better represented by HER search results. Adjacent to the site is the medieval Church of all saints and nearby medieval boundary ditches as detailed above. In addition the remains of a moat have been noted around Pykard's Hall a 15th century Grade II Listed building with later additions and renovations, located c.500m south of the site (DSF8006, RDE 006). Fragments of medieval pottery have been found c.600m east of the site forming part of a pottery scatter representing multiple periods (BKY 034), and 2 fragments of pottery (13th century and 14th century) were found on the surface of a field c.400m east of the site (BKY Misc).

The post-medieval period is represented by possible post-medieval features found adjacent to the site in the area of All Saints Church (ESF22004, ESF22245). An evaluation was carried out at Lodge Farm, at the northern extent of the search area, revealing a chalk surface which was likely the remains of a small covered post-medieval livestock pen, as well as structural features relating to buildings removed from the site in 1960 (ESF20870). On the west side of Rede Green (RDE 005) c.300m south west of the site, earthworks of a probable rectangular moat around a largish house were visible on tithe and later maps (but demolished by 1880s) (RDE 014). c.700m west of the site a substantial irregular field boundary with one straight side and one curved side has been identified with lesser field boundaries running off west and south which link to field boundaries visible on a 1958 map (RDE 011). Additionally fragments of post-medieval red-glazed pottery and tile fragments were found c.600m east of the site (BKY 034). The post-medieval period is further represented by 7 listed buildings (including the above mentioned Rede House) which date from the 16th century to the 19th century.

Given the above the site had a **moderate** to **high** potential for finds and features relating to the medieval and post-medieval periods.

5.0 PROJECT AIMS

The SCCAS/CT brief stated that the evaluation should aim to (Cutler, H. Brief, Section 4.2)

- Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation.
- Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.
- Establish the potential for the survival of environmental evidence.
- Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.



Both the WSI, fieldwork and resulting report/archiving will be undertaken in accordance with the Requirements for Trenched Archaeological Evaluation 2017 (SCCAS/CT).

6.0 PROJECT OBJECTIVES

Research objectives for the project are in line with those laid out in *Research and Archaeology Revisited: a revised framework for the East of England*, East Anglian Archaeology Occasional Paper 24 (Medlycott, 2011).

7.0 FIELDWORK METHODOLOGY

The SCCAS/CT brief required 20.00m of trenching in advance of the construction of dwelling and cart lodge. The trenching was to cover the footprint of the dwelling and cart lodge, which was to originally consist of two 10.00m x 1.80m trenches. However due to the presence of overhead cables the trenches were moved. The new trench layout consisted of an L-shaped trench measuring 13.00m x 1.80m north-south and 5.00m x 1.80m east-west.

A 360° mechanical excavator fitted with a toothless ditching bucket was used to machine down to the first archaeological horizon, thereafter all excavation work will be undertaken by hand (Fig. 4).

The archaeology was recorded using pro-forma record sheets, drawn plans and section drawings and appropriate photographs will also be taken.

8.0 DESCRIPTION OF RESULTS (Figs. 4 – 6)

Trench 1

Trench 1 was L-shaped and measured 13.00m x 1.80m, orientated north to south, and 5.00m x 1.80m east to west and was excavated to a maximum depth of 0.55m. It contained two small pits, two ditches, and the foundations of a modern brick structure. Two land drains were also present as was a large modern rubbish pit which was mostly excavated by the machine but remnants of the base were left unexcavated. All features were cut through subsoil **1001**.

Pit **1003** (0.54m x 0.35m x 0.06m) which was circular in plan with gently sloping sides and a flat base. It contained a single fill **1004**, consisting of a mid-brown grey, compact, silty clay, with frequent inclusions of small stones and chalk pieces. Fragments of modern brick dating from late 19thC-20thC were found and not retained. This pit was cut by pit 1005 and was located on the east edge of ditch 1007.



Pit **1005** (0.70m x 0.80m x 0.32m) which was circular in plan with steep sloping sides and a concave base. It contained a single fill **1006** which was a dark black grey, friable, sandy silt with clay patches and moderate inclusions of small stones and root intrusions. Fragments of late 19th-20th century pottery, including transfer ware, and CBM were found (not retained). This pit cuts pit 1003 and is cut by ditch 1007.

Ditch terminus **1007** (2.00m+ x 0.60m x 0.15m) was linear in plan on a NE-SW orientation, with moderately sloping sides and a concave base. It contained a single fill **1008** which was a dark black grey, friable, sandy silt with clay patches and frequent inclusions of small stones and chalk pieces, and root intrusions. Fragments of late 19thC-20thC pottery, including modern transfer ware, fragments of CBM, and fragments of modern metal objects including a can and pieces of farm machinery (no finds were retained).

Ditch terminus **1009** (1.8m+ x 0.55m x 0.07m+) was linear in plan on an east-west orientation, with gently sloping sides and a concave base. It contained a single fill **1010** which was a dark brown grey, very firm, silty clay with frequent small stone and chalk inclusions. Fragments of modern pottery (c. late 19thC-20thC) and CBM were found and not retained. The top of the ditch was truncated by large rubbish pit 1012 and so the feature was likely deeper.

Structure **1011** (0.50m+ x 2.80m x 0.30m+) is represented by the remains of a brick foundation for a small structure such as an outbuilding. 3 courses of brick, a mixture of English and Flemish bond, are what remains of the structure sitting on a base layer of flint and mortar. Due to the presence of frogging on the bricks the earliest possible date of the structure is 1890. Pottery fragments found between the bricks were dated to late 19thC-20thC (not retained). The total length of the structure is unknown but is likely to equal or exceed the width of 2.80m.

Rubbish pit **1012** (c.7.00m+ x 1.80m+ x 0.55m+) was present across the southern area of the trench. The feature was not visible in plan as it was cut through the subsoil and its fill was similar in appearance to the topsoil but it was likely sub-circular. It was roughly the same depth as the trench but due to its' uneven base it cuts into the natural in some areas (these patches were left unexcavated). A large amount of late 19thC-20thC material was found including pottery, complete glass bottles and jars, Fe pieces (likely from machinery), fragments of leather from a shoe. The finds indicate its use as a deposit of general waste.

9.0 DEPOSIT MODEL (Fig. 5)

The deposit model was consistent across the site.

At the top of the stratigraphic sequence across the trench was topsoil **1000**, a dark black brown, loose, sandy silty with moderate inclusions of small stones. It was present to a maximum depth of 0.38m in sample section 1.



Beneath topsoil **1000** was subsoil **1001**, which consisted of a mid-grey brown, compact sandy silty clay with frequent small-medium stone and chalk inclusions. This layer was present to a maximum depth of 0.55m in sample section 1.

The base of the stratigraphic sequence across the trench was natural geology **1002** which was a mid-yellow brown sandy clay with chalk inclusions.

10.0 DISCUSSION AND CONCLUSION

The archaeological background for the site suggested that there would be a moderate to high potential for encountering features and finds relating to the medieval and post-medieval period.

The archaeological evaluation encountered features and finds from one phase relating to the post-medieval/modern periods. All features were dated to late 19th century - early 20th century but large rubbish pit **1012** seems to have been the latest feature as it truncated ditch **1009** and also seems to post-date structure **1011** as it is visible on the surface over the area of the structure and perhaps relates to the demolition of the structure. It was noted that other more recent patches of waste were visible on the surface of the site indicating it was recently still being used as a deposition site for rubbish. Structure **1011** was likely a small outbuilding, and on OS maps from 1885-1904 small structures are visible in the same area at the back of buildings along the road (demolished by 1979). Pits **1003** and **1005** and ditches **1007** and **1009** are likely of a similar date to structure 1011 or possibly just pre-date it but the finds were all of a similar date.

Despite the moderate to high potential for medieval activity on the site, no features from this period were encountered. The evaluation was successful in identifying a phase of activity dating to the late 19th century-early 20th century in the form of some small pits and ditches, the brick foundation of a small outbuilding, and a large rubbish pit. The large rubbish pit represented the latest activity within this phase possibly associated with the demolition of the structure.

11.0 ACKNOWLEDGEMENTS

Britannia Archaeology Ltd would like to thank Mr Tom Stebbing of John Stebbing Architects Ltd for commissioning and funding the works.

We would also like to thank Dr Hannah Cutler of SCCAS/CT for her help and advice throughout.

The site was excavated by Matt Baker and Louisa Cunningham of Britannia Archaeology Ltd.



BIBLIOGRAPHY

Brown, D.H. 2007. *Archaeological Archives. A guide to best practice in creation, compilation, transfer and curation*; Archaeological Archives Forum.

Brown, N. And Glazebrook, J. 2000. *Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy*; East Anglian Archaeol. Occ. Paper 8.

Chartered Institute for Archaeologists. 2014. *Code of Conduct*.

Chartered Institute for Archaeologists. 2014. *Standard and Guidance for Archaeological Field Evaluation*.

Cutler, H. 2017. *Brief for a Trenched Archaeological Evaluation at Land Adjacent to Rede House, Blacksmith Road, Suffolk*. SCCAS/CT Brief

West Norfolk and King's Lynn Borough Council. 2011. *Kings Lynn and West Norfolk Borough Council Complete Core Strategy 2011*

Gurney, D. 2003. *Standards for Field Archaeology in the East of England*; East Anglian Archaeology Occasional Paper 14.

Historic England. 2015. *Management of Research Projects in the Historic Environment (MoRPHE)*.

Medlycott. 2011. *Research and Archaeology Revisited: a revised framework for the East of England*; East Anglian Archaeology Occasional Paper 24.

Mills. A. D, 2003. Oxford Dictionary of British Place Names. Oxford University Press.

United Kingdom Institute for Conservation, 1983. *Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites*; Conservation Guidelines No. 2.

Websites:

The British Geological Survey (Natural Environment Research Council) – Geology of Britain Viewer - www.bgs.ac.uk/opengeoscience/home.html?Accordion2=1#maps

English Heritage PastScape www.pastscape.org.uk

Archaeological Data Service (ADS) www.ads.ahds.ac.uk

English Heritage National List for England
www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england



APPENDIX 1 – DEPOSIT TABLES

Sample Section 1

Trench No	Orientation	Height aOD	Shot No
1	N-S		DP 9
Sample Section No	Location	Facing	
1	N End	W Facing	
Context No	Depth	Deposit Description	
1000	0.00-0.38m	Topsoil – dark brown black, loose, sandy silt with moderate small stone inclusions.	
1001	0.38-0.55m	Subsoil – mid grey brown, firm, sandy silty clay with frequent small-medium stone inclusions.	
1002	0.55m+	Natural – mid yellow brown, firm, sandy clay with moderate chalk inclusions and frequent small stone inclusions.	

Context Descriptions

Feature Context	Feature Type & Description (m)	Layer/Fill Context	Layer/Fill Description	Spot Date	Finds /g (sherds or number)
1003	Ditch (0.54m+ x 0.35m+ x 0.06m) Circular in plan, with gently sloping sides and a flat base. Cut by pit 1005, located next to ditch 1007.	1004	Mid brown grey, compact, silty clay with frequent small stone and chalk inclusions.	Late 19 th - 20 th century	Brick
1005	Pit (0.70m x 0.80m x 0.32m) Circular in plan, with steep sloping sides and a concave base. Cuts pit 1003 and is cut by ditch 1007.	1006	Dark black grey, friable, silt with clay patches with moderate small stone inclusions.	Late 19 th - 20 th century	Pot (modern transfer ware), CBM
1007	Ditch (2.00m+ x 0.60m x 0.15m) Linear in plan, with moderately sloping sides and a concave base. On a NE-SW orientation. Cuts pit 1005 and is located next to pit 1003.	1008	Dark black grey, friable, silt with clay patches with frequent small stone and chalk inclusions.	Late 19 th - 20 th century	Pot (modern transfer ware), CBM, modern Fe objects.
1009	Ditch (1.80m x 0.55m x 0.07m) Linear in plan, with gently sloping sides and a concave base. On E-W orientation.	1010	Dark brown grey, very firm, silty clay with frequent small stone and chalk inclusions.	Late 19 th - 20 th century	Pot, CBM
1011	Structure Foundation (0.50m+ x 2.80m x 0.30m+) Brick foundation (3 courses still intact) in a mix of English and flemish bond, on a base layer of flint and mortar. Likely a modern outbuilding.			Late 19 th - 20 th century	Pot, CBM



1012	Rubbish Pit (c.7.00m+ x 1.80m+ x 0.55m+) Sub-circular in plan, with unknown sides and an uneven base. Truncates ditch 1009.	1013	Dark black brown, friable, silt with clay patches, with frequent stone/rubble inclusions.	Late 19 th - 20 th century	Pot, CBM, Fe, glass, leather fragments (shoe).
------	---	------	---	---	--

APPENDIX 2 – OASIS FORM

OASIS FORM - Print view

<http://oasis.ac.uk/form/print.cfm>

OASIS DATA COLLECTION FORM: England

[List of Projects](#) | [Manage Projects](#) | [Search Projects](#) | [New project](#) | [Change your details](#) | [HER coverage](#) | [Change country](#) | [Log out](#)

[Printable version](#)

OASIS ID: britanni1-300424

Project details

Project name	Land adjacent to Rede House, Blacksmith Road, Rede, Suffolk TT
Short description of the project	On the 14th December 2017, Britannia Archaeology Ltd (BA) undertook an archaeological evaluation by means of trial trenching at Land adjacent to Rede House, Blacksmith Road, Rede, Suffolk as part of a pre-planning investigation ahead of construction of a dwelling and cart lodge (NGR TL 580480 255900). The requirement for the evaluation consisted of linear trial trenching to sample the foot print of the proposed development. This took the form of an L-shaped trench, measuring 13.00m x 1.80m north-south and 5.00m x 1.80m east-west. The archaeological background for the site suggested that there would be a moderate to high potential for encountering features and finds relating to the medieval and post-medieval period. Despite the moderate to high potential for medieval activity on the site, no features from this period were encountered. The evaluation was successful in identifying a phase of activity dating to the late 19th century-early 20th century in the form of some small pits and ditches, the brick foundation of a small outbuilding (visible on OS maps from 1885-1904), and a large rubbish pit. The large rubbish pit represented the latest activity within this phase possibly associated with the demolition of the structure.
Project dates	Start: 14-12-2017 End: 14-12-2017
Previous/future work	No / Not known
Any associated project reference codes	P1212 - Contracting Unit No.
Any associated project reference codes	RDE 019 - HER event no.
Type of project	Field evaluation
Current Land use	Other 5 - Garden
Monument type	OUTBUILDING Post Medieval
Monument type	PIT Post Medieval
Monument type	PIT Post Medieval
Monument type	DITCH Post Medieval
Monument type	DITCH Modern
Monument type	PIT Modern
Significant Finds	NONE None



OASIS FORM - Print view

<http://oasis.ac.uk/form/print.cfm>

Methods & techniques "Sample Trenches"
Development type Small-scale (e.g. single house, etc.)
Prompt National Planning Policy Framework - NPPF
Position in the planning process Pre-application

Project location

Country England
Site location SUFFOLK ST EDMUNDSBURY CHEDBURGH Land Adjacent to Rede House, Rede, Suffolk
Postcode IP29 4BE
Study area 0 Square metres
Site coordinates TL 804 559 52.171362534557 0.638374630519 52 10 16 N 000 38 18 E Point

Project creators

Name of Organisation Britannia Archaeology Ltd
Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator Matthew Baker
Project director/manager Matthew Baker
Project supervisor Matthew Baker
Type of sponsor/funding body developer
Name of sponsor/funding body John Stebbing Architects Ltd

Project archives

Physical Archive Exists? No
Digital Archive recipient Suffolk HER
Digital Archive ID RDE 019
Digital Contents "Survey"; "Stratigraphic"
Digital Media available "Images raster / digital photography"; "Survey"; "Text"
Paper Archive recipient Suffolk HER
Paper Archive ID RDE 019
Paper Contents "Stratigraphic"; "Survey"



OASIS FORM - Print view

<http://oasis.ac.uk/form/print.cfm>

Paper Media available "Context sheet", "Correspondence", "Drawing", "Map", "Matrices", "Photograph", "Plan", "Report", "Section", "Survey"

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
Title LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK ARCHAEOLOGICAL EVALUATION
Author(s)/Editor(s) Louisa Cunningham
Other bibliographic details R1183
Date 2018
Issuer or publisher Britannia Archaeology Ltd
Place of issue or publication Bury St Edmunds
Description A4 bound report with pull-out A5 figures
URL <http://www.britannia-archaeology.com/>
Entered by Louisa Cunningham (louisa@brit-arch.com)
Entered on 3 January 2018

OASIS:

Please e-mail Historic England for OASIS help and advice
© ADS 1996-2012 Created by Jo Gilham and Jen Mitcham, email Last modified Wednesday 9 May 2012
Cite only: <http://www.oasis.ac.uk/form/print.cfm> for this page



Appendix 3 - Approved Written Scheme of Investigation

1.0 INTRODUCTION

This Written Scheme of Investigation (WSI) has been prepared by Britannia Archaeology Ltd (BA) on behalf of Mr Tom Stebbing of John Stebbing Architects) as part of a pre-planning investigation ahead of construction of a dwelling and cart lodge at Land adjacent to Rede House, Blacksmith Road, Rede, Suffolk.

This WSI presents a programme of archaeological investigation by means of archaeological trial trench evaluation to assess the nature and potential of the site, and to determine the need for any future site investigations at Land Adjacent to Rede House, Blacksmith Road, Rede, Suffolk (NGR TL 580480 255900). A design brief issued by Suffolk County Council Archaeological Service (SCCAS/CT) (Cutler, H. dated 21st September 2017) requires a programme of trial trenching to investigate the threatened area. Two trial trenches measuring 10.00m x 1.80m will be excavated covering the foot print of the dwelling and the cart lodge, using a 360° mechanical excavator fitted with a toothless ditching bucket.

2.0 SITE DESCRIPTION (Fig. 1)

The site is located in the village of Rede adjacent to the Medieval All Saints Church.

The bedrock geology is described as Crag Group – Sand. A sedimentary bedrock formed approximately 0 to 5 million years ago in the Quaternary and Neogene Periods, when the local environment was dominated by shallow seas (BGS, 2017).

Superficial deposits at the site are described as Lowestoft Formation – Diamicton. A superficial deposit formed up to 2 million years ago in the Quaternary Period, when the local environment was previously dominated by ice age conditions (U) (BSG, 2017).

3.0 PLANNING POLICIES

The archaeological investigation is to be carried out on the recommendation of the local planning authority, following guidance laid down by the National Planning and Policy Framework (NPPF, DCLD 2012) which replaces Planning Policy Statement 5: Planning for the Historic Environment (PPS5, DCLG 2010). The relevant local planning policy is the Joint Development Management Policies Document, adopted by both St Edmundsbury and Forest Heath Borough Councils in 2015.

3.1 National Planning Policy Framework (NPPF, DCLG March 2012)

The NPPF recognises that 'heritage assets' are an irreplaceable resource and planning authorities should conserve them in a manner appropriate to their significance when considering development. It requires 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. The key areas for consideration are:

- The significance of the heritage asset and its setting in relation to the proposed development;
- 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;
- Significance (of the heritage asset) can be harmed or lost through alteration or destruction, or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification;
- Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred;
- Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

3.2 St Edmundsbury and Forest Heath Joint Development Management Policies Document (2015)

The policies in the *Joint Development Management Policies Document* that relate to archaeology and heritage are DM20 and DM21.

Policy DM20 states that:

"Development will not be acceptable if it would have a material adverse effect on Scheduled Ancient Monuments or other sites of archaeological importance, or their settings. On sites of archaeological interest, or of potential archaeological importance, provided there is no overriding case against development, planning permission will be granted subject to satisfactory prior arrangements being agreed.

This will include one or a combination of the following:

- a. an appropriate desk based assessment and/or field evaluation of the archaeological interest or significance prior to determination.
- b. the preservation of archaeological remains in situ;

The adequate recording of the heritage asset by archaeological investigation before development commences (preservation by record)."

4.0 ARCHAEOLOGICAL BACKGROUND (Fig. 2 & 3)

The following archaeological background draws on the Suffolk Historic Environment Record (HER) (500m search centred on the site), English Heritage PastScape



(www.pastscape.org.uk), and the Archaeological Data Service (www.ads.ahds.ac.uk) (ADS) (Fig. 2 & 3).

The site is adjacent to the Church of All Saints (RDE 003, DSF7992) a medieval church and churchyard dating from c.12th century or possibly earlier. Archaeological evaluation and monitoring North of the church revealed ditches suggesting medieval boundaries and large pits of possible post-modern date (ESF22004, ESF22245).

Also adjacent to the site on the west side is Rede House a 2 storey Grade II listed building of early 19th date (DSF9233). Monitoring for a cartlodge at the house revealed no archaeological features (ESF22160).

The Roman period is only represented by one record of some sherds of Roman greyware pottery found c.600m east of the site (BKY 034).

The Medieval period is better represented by HER search results. Adjacent to the site is the medieval Church of all saints and nearby medieval boundary ditches as detailed above. In addition the remains of a moat have been noted around Pykard's Hall a 15th century Grade II Listed building with later additions and renovations, located c.500m south of the site (DSF8006, RDE 006). Fragments of medieval pottery have been found c.600m east of the site forming part of a pottery scatter representing multiple periods (BKY 034), and 2 fragments of pottery (13th century and 14th century) were found on the surface of a field c.400m east of the site (BKY Misc).

The post-medieval period is represented by possible post-medieval features found adjacent to the site in the area of All Saints Church (ESF22004, ESF22245). An evaluation was carried out at Lodge Farm, at the northern extent of the search area, revealing a chalk surface which was likely the remains of a small covered post-medieval livestock pen, as well as structural features relating to buildings removed from the site in 1960 (ESF20870). On the west side of Rede Green (RDE 005) c.300m south west of the site, earthworks of a probable rectangular moat around a largish house were visible on tithe and later maps (but demolished by 1880s) (RDE 014). c.700m west of the site a substantial irregular field boundary with one straight side and one curved side has been identified with lesser field boundaries running off west and south which link to field boundaries visible on a 1958 map (RDE 011). Additionally fragments of post-medieval red-glazed pottery and tile fragments were found c.600m east of the site (BKY 034). The post-medieval period is further represented by 7 listed buildings (including the above mentioned Rede House) which date from the 16th century to the 19th century.

Given the above the site has a **moderate** to **high** potential for finds and features relating to the medieval and post-medieval periods.

5.0 PROJECT AIMS

The SCCAS/CT brief states that the evaluation should aim to (Cutler, H. Brief, Section 4.2)



- Identify the date, approximate form and purpose of any archaeological deposit, together with its likely extent, localised depth and quality of preservation.
- Evaluate the likely impact of past land uses, and the possible presence of masking colluvial/alluvial deposits.
- Establish the potential for the survival of environmental evidence.
- Provide sufficient information to construct an archaeological conservation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables and orders of cost.

Both the WSI, fieldwork and resulting report/archiving will be undertaken in accordance with the Requirements for Trenched Archaeological Evaluation 2017 (SCCAS/CT).

6.0 PROJECT OBJECTIVES

Research objectives for the project are in line with those laid out in *Research and Archaeology Revisited: a revised framework for the East of England*, East Anglian Archaeology Occasional Paper 24 (Medlycott, 2011).

7.0 FIELDWORK METHODOLOGY

The SCCAS/CT brief requires 20.00m of trenching in advance of the construction of dwelling and cart lodge. The trenching is to cover the footprint of the dwelling and cart lodge, which will consist of two 10.00m x 1.80m trenches.

A 360° mechanical excavator fitted with a toothless ditching bucket will be used to machine down to the first archaeological horizon, thereafter all excavation work will be undertaken by hand (Fig. 4).

The archaeology will be recorded using pro-forma record sheets, drawn plans and section drawings and appropriate photographs will also be taken.

In the event that important archaeological remains are identified, a site meeting will be held with the client and the SCCAS/CT planning archaeologist to discuss the significance of the remains and decide on the scope of further excavation and recording. **The client is aware of the need for contingency funding to cover additional works if necessary.**

7.1 Site Plans

A site location plan based on the current Ordnance Survey 1:25000 map and indicating site north will be prepared. This will be supplemented by a site plan showing the area of investigation in relation to the proposed development.

A pre-excavation base plan accurately plotting all features will be produced using a Total Station (TS) or Real Time Kinetic Global Positioning System (RTK). The final post-



excavation plan will be based on this. All drawings will be tied into the Ordnance Survey National Grid.

7.2 Mechanical Excavation

The location of electricity, gas, water, sewage and telephone services will be identified from information supplied by the client or relevant authorities prior to machining. Care will be taken when operating machinery in the vicinity of overhead services. All staff are trained in the use of CAT scanners that will be employed before the bucket breaks the ground.

Topsoil and any sterile subsoil layers shall be removed by mechanical excavator using a toothless ditching bucket under the supervision of a professional archaeologist. The exposed archaeological horizon will be cleaned by hand and any archaeological deposits or negative features planned.

No excavators or dumpers will be driven over the excavated surface. Topsoil and subsoil will be stored separately to aid the reinstatement of agricultural land.

The machine operator will have the relevant experience and appropriate documentation; will maintain the appropriate inspection register, Form F91 Part 1, Section C, either on the machine or at the depot. The operator must produce a clean, flat surface at precisely the correct level.

7.3 Hand Excavation

All archaeological features will be excavated by hand, in the appropriate way detailed below, where it is safe to do so.

7.4 Metal Detector

A professional metal detector will be used to scan spoil heaps, exposed surfaces and any features. The finds will be recovered and recorded in the proper way. The machined spoil heaps will also be scanned, however demonstrably modern finds will not be retained. The metal detector will not be set to discriminate against iron.

7.5 Excavation of Stratified Sequences

All archaeological remains will be excavated by phase, from the most recent to the earliest, excluding those of obvious later 20th century origin. The phasing of the features will be distinguished by their stratigraphic relationships, fills and finds.

7.6 Excavation of Buildings

Following assessment of any structural remains encountered, a strategy for recording these will be implemented, and it may be that further mitigation will be required to allow the full recording of these remains. It may also be the case that any remains may best be



left *in situ*. Any excavated building structures and associated features (e.g. stakeholes, postholes, sill-beams, gullies, masonry walls and possible floors) will be excavated in stratigraphic sequence.

7.7 *Ditches*

Ditch segments will be positioned to provide a total coverage of 25% and to ascertain relationship information and will be a minimum of 1.00m in length (dependant on the total length of ditch visible).

7.8 *Discrete Features*

All discrete features will be half-sectioned or excavated in quadrants providing for a minimum 50% sample.

7.9 *Full Excavation*

Industrial remains and intrinsically interesting features e.g. hearths, kilns etc. may merit full excavation in agreement with the SCCAS/CT planning archaeologist.

7.10 *Burials*

Any articulated human remains shall receive minimal excavation to define the extent and quality of their preservation. A decision will then be made on their future treatment in consultation with the client and the SCCAS/CT planning archaeologist. The coroner and the Ministry of Justice will be informed. Any removal of human remains will be carried out under a licence issued by the Ministry of Justice under section 25 of the Burials Act 1857 and in accordance with *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England*' (English Heritage & the Church of England 2005).

7.11 *Written Record*

All archaeological deposits and artefacts encountered will be fully recorded on *pro forma* context, finds and sample forms, using a single context recording system.

7.12 *Photographic Record*

All features will be photographed as appropriate. This record will comprise high quality digital photographs (jpg). Where appropriate black and white prints (35mm) and colour slides (35mm) will be utilised. All photographs will be listed, indexed and archived.

7.13 *Drawn Record*



All drawings will be tied into the Ordnance Survey National Grid, plans will be initially hand drawn at a scale of 1:20 and the sections at 1:10 on drafting film (permatrace). The height AOD of all features and principal strata will be written on the appropriate plans and sections.

7.14 Finds and Environmental Remains

All finds recovered from sealed contexts will be retained. A sample of those found in the topsoil and subsoil will be taken to characterise the assemblage. Finds will be identified, by a unique site code and context number.

All finds will be processed according to BA standards and to the *CifA Standard and Guidance for the collection, documentation, conservation and research of archaeological materials, 2014*. Important, rare or unusual finds will also be assigned a small finds number and sent away for specialist analysis.

Bulk samples will also be taken for retrieving artefacts and biological remains (for palaeoenvironmental and palaeoeconomic investigations) to be processed and analysed by the University of Leicester Archaeology Service, (ULAS). These samples will be taken from well-stratified datable deposits and specifically targeted areas of interest (e.g. undated sealed primary ditch fills) and will be a minimum of 40 litres where appropriate. The suitability of deposits for analysis will be discussed with CBC, Dr Boreham and Dr Mark Ruddy where appropriate.

Preserved wood will be sampled for potential dating via dendrochronology and Carbon 14 methods and will be assessed by Dr Roderick Bale (University of Wales Trinity St David). Prior to recovering timbers, suitability for dating will be assessed in conjunction with Dr Bale, CBC, Dr Mike Bamforth and Dr Mark Ruddy where appropriate.

Each deposit retained will be identified by context and a unique sample or timber number. For a full list of specialists see Appendix 2.

7.15 Artefact Recovery

A programme of bucket sampling will be conducted, whereby 90 litres of spoil will hand sorted for each soil horizon encountered. Bucket sampling points will occur at each end of trench. Unstratified artefacts will be sought and recovered from trench spoil heaps.

7.16 Finds classed as Treasure

It is the responsibility of the project manager for the site, after consultation with the relevant finds specialist, to submit any items falling under the provisions of the Act to the local coroner via the treasure co-ordinator (currently the Portable Antiquities Officer at the British Museum). See below for details of the act:

The Treasure Act



The Treasure Act of 1996 defines objects that qualify as Treasure and includes any metallic object other than coin that is made up of more than 10% gold or silver and is over 300 years old, any group of two or more metallic objects of prehistoric date that come from the same find, coin hoards that have been deliberately hidden, smaller groups of coins, votive or ritual deposits, any object from the same place as Treasure. Objects that are less than 300 years old made mainly of gold or silver, which have been deliberately hidden with the intention of recovery, and whose owners or heirs are unknown would also be classed as Treasure.

8.0 PRESENTATION OF RESULTS

A report will be prepared on the conclusion of the evaluation and will be completed 4 weeks after the field work ends (no further work required) or a maximum of 6 months from the end of fieldwork (further fieldwork is required). Resourcing of the post-excavation phase is dependent on findings. Where further publication is required a detailed publication programme will be provided within 4 weeks of completion of fieldwork, and a publication report will be programmed for completion within 6 months. The prepared client/archive report will be commensurate with the results of the fieldwork, and will be consistent with the principles of *Management of Research Projects in the Historic Environment (MoRPHE) (Historic England 2015)* and contain the following:

- *Summary.* A concise summary of the work undertaken and the results;
- *Introduction.* Introduction to the project including the reasons for work, funding, planning background;
- *Background.* The history, layout and development of the site;
- *Aims and Objectives;*
- *Methodology.* Strategy and technique for site excavation;
- *Results.* Detailed description of findings outlining the nature, location, extent, date of any archaeological material;
- *Deposit Model.* Description of events behind the archaeological stratigraphy and geological deposition;
- *Specialist Reports.* Description of the artefactual and ecofactual remains recovered;
- *Discussion and Conclusions.* A synopsis interpreting the archaeological deposits and artefacts, including details of preservation, impact assessment, wider survival, condition and relative importance of the site and its component parts in local, regional and national context;



- *Bibliography;*
- *Appendices.* Context Descriptions, Finds Concordance, Project Archive Contents and Archive Deposition, HER/OASIS Summary Sheet;
- Illustrative material including maps, plans, drawings and photographs.

Digital and paper report copies will be supplied to the client and SCCAS/CT (one copy and a .pdf copy on CD). An OASIS entry will be completed and a summary included with the report. A .pdf file of the report will be uploaded to the ADS. A digital vector plan will be included with the report, which will be compatible with MapInfo GIS software which will also be made available on request subsequent to the report being issued.

It is understood that, if substantial archaeological remains are recorded during the project, it will be necessary to undertake a full programme of analysis and publication in accordance with the guidelines of *MoRPHE*. The project report will contain recommendations as to whether this will be appropriate. Provision has been made for a summary publication within the annual Proceedings of the Suffolk Archaeology and History should the evaluation prove positive.

9.0 PROJECT ARCHIVE AND DEPOSITION

A full archive will be prepared for all work undertaken in accordance with guidance from the *Selection, Retention and Dispersion of Archaeological Collections*, Archaeological Society for Museum Archaeologists, 1993. Deposition will be with Suffolk County Council Archaeological Archives in accordance with the *Archives in Suffolk: Guidelines for Preparation and Deposition* (2015).

Any items requiring treatment will be conserved. Arrangements will be made for the archive to be deposited with the relevant museum, subject to agreement with the legal landowner where finds are concerned.

The archive will be quantified, ordered, indexed, cross-referenced and checked for internal consistency. The material will be catalogued, labelled and packaged for transfer and storage in accordance with the guidelines set out in the United Kingdom Institute for Conservation's *Conservation Guidelines No.2* and the Archaeological Archives Forum's *Archaeological Archives, A guide to best practice, compilation, transfer and curation* (Brown, 2007).

10.0 HEALTH AND SAFETY

BA operates a comprehensive Health and Safety Policy in accordance with the Health and Safety Executive. BA bases their H&S procedures on the Federation of Archaeological



Managers and Employers (FAME) Health and Safety Field Manual, which is regularly updated by supplements.

BA holds employer's liability; public liability and professional indemnity insurance arranged through Towergate Insurance (see Appendix 3).

10.1 Code of Practice, Risk Assessment and Site Induction

BA's Code of Practice covers all aspects of excavation work and ensures all risks are adequately controlled. A site visit has been undertaken and an assessment of the potential risks has been highlighted. A full site risk assessment will be produced using this information. The assessment of risk is an on-going process and this document can be updated if any change in risk occurs on site. A copy of the Risk Assessment is kept on site, read and countersigned by all staff and visitors during the BA site induction.

11.0 RESOURCES

The archaeological works are undertaken by a team of professional archaeologists, qualified to undertake this type of work (Appendix 1). Full CV's are available on request.

All site work will be undertaken by a Projects Officer (with a field team if required) in close communication with a Project Manager. This project officer will also be responsible for post-excavation and publication in liaison with the relevant specialists (Appendix 2).

Other specialists may be consulted and will be made known to the SCCAS/CT planning archaeologist for approval prior to their engagement. Any changes to the specialists documented in Appendix 2 will be made known to the SCCAS/CT immediately.

12.0 TIMETABLE AND PROGRAMME OF WORK

The evaluation fieldwork is potentially likely to begin in November pending approval of this written scheme of investigation by SCCAS/CT. Two members of staff will be on site to undertake the evaluation. Provision has been made for additional contingency days should any unexpected remains be encountered.

The client is aware of the working methods and provision has been made to allow access to undertake trenching as required by the design brief.

The production of the report will take either a maximum of 4 weeks from the end of fieldwork (no further fieldwork required) or a maximum of 6 months from the end of fieldwork (further fieldwork is required). Resourcing of the post-excavation phase is dependent on findings. Where further publication is required a detailed publication programme will be provided within 4 weeks of completion of fieldwork, and a publication report will be programmed for completion within 6 months.



13.0 MONITORING

SCCAS/CT will be responsible for monitoring progress and standards throughout the project. Any variations to the specification will be agreed with the SCCAS/CT monitoring officer prior to work being carried out. The monitoring officer will be kept informed of progress throughout the project.



BIBLIOGRAPHY

Brown, D.H. 2007. *Archaeological Archives. A guide to best practice in creation, compilation, transfer and curation*; Archaeological Archives Forum.

Brown, N. And Glazebrook, J. 2000. *Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy*; East Anglian Archaeol. Occ. Paper 8.

Chartered Institute for Archaeologists. 2014. *Code of Conduct*.

Chartered Institute for Archaeologists. 2014. *Standard and Guidance for Archaeological Excavation*.

Cutler, H. 2017. *Brief for a Trenched Archaeological Evaluation at Land Adjacent to Rede House, Blacksmith Road, Rede*.

English Heritage & the Church of England. 2005. *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England'*

Historic England, 2015. *Management of Research Projects in the Historic Environment (MoRPHE)*

Gurney, D. 2003. *Standards for Field Archaeology in the East of England*; East Anglian Archaeology Occasional Paper 14.

McKinley & Roberts ' *Technical Paper 13: Excavation and post-excavation treatment of Cremated and Inhumed Human Remains*; Chartered Institute for Archaeologists

Medlycott. 2011. *Research and Archaeology Revisited: a revised framework for the East of England*; East Anglian Archaeology Occasional Paper 24.

SCCAS Conservation Team, 2017. *Archaeological Archives in Suffolk: Guidelines for Preparation and Deposition*.

SCCAS, 2017. *Requirements for Trenched Archaeological Evaluation*

United Kingdom Institute for Conservation, 1983. *Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites*; Conservation Guidelines No. 2.

Websites:

The British Geological Survey (Natural Environment Research Council) – Geology of Britain Viewer - www.bgs.ac.uk/opengeoscience/home.html?Accordion2=1#maps

English Heritage PastScape www.pastscape.org.uk

Archaeological Data Service (ADS) www.ads.ahds.ac.uk



English Heritage National List for England

www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england

DEFRA Magic <http://magic.defra.gov.uk/website/magic>

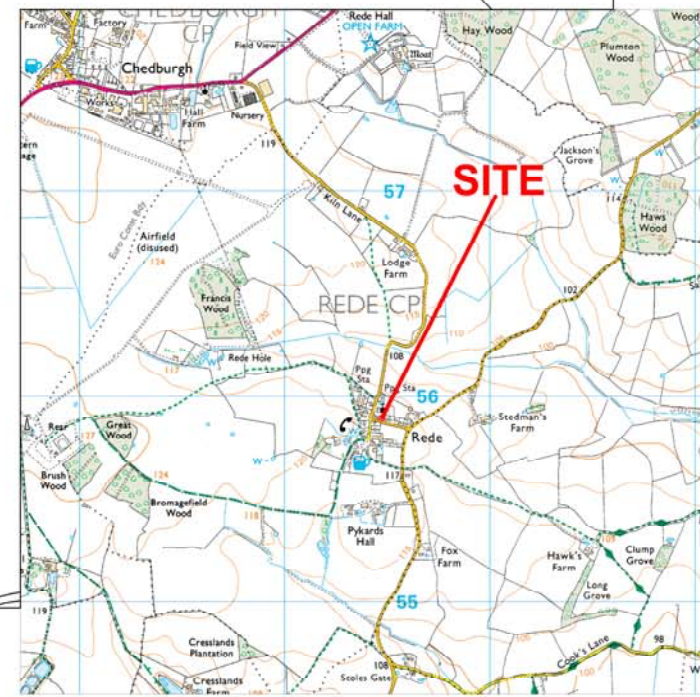
Historic England National List for England

<https://www.historicengland.org.uk/listing/the-list>

DEFRA Magic <http://magic.defra.gov.uk/website/magic>



 Site Boundary



1:2500  100m

Reproduced on plans supplied by Ordnance Survey with the permission of the controller of Her Majesty's Stationery Office. Licence number: 100052663.
© CROWN COPYRIGHT 2018.

NGR:	580480 255900	REF:	R1183
PROJECT:	LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK		
DESCRIPTION:	GENERAL LOCATION PLAN		
CLIENT:	JOHN STEBBING ARCHITECTS LTD		
BRITANNIA ARCHAEOLOGY LTD			
 UNIT 2 THE OLD WOOL WAREHOUSE ST ANDREWS STREET SOUTH BURY ST EDMUNDS SUFFOLK IP33 3PH T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com © Copyright Britannia Archaeology Ltd 2018			
DATE:	JAN 2018	PLOT:	A3
AUTHOR:	MJB	VERSION:	1
APPROVED:	DPM	FIGURE:	1



- Development Footprint
- Trench
- Site Boundary

NGR: 580480 255900 REF: R1183

PROJECT: LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK

DESCRIPTION: TRENCH LOCATION PLAN OVER DEVELOPMENT PLAN

CLIENT: JOHN STEBBING ARCHITECTS LTD

BRITANNIA ARCHAEOLOGY LTD



UNIT 2
THE OLD WOOL WAREHOUSE
ST ANDREWS STREET SOUTH
BURY ST EDMUNDS
SUFFOLK
IP33 3PH

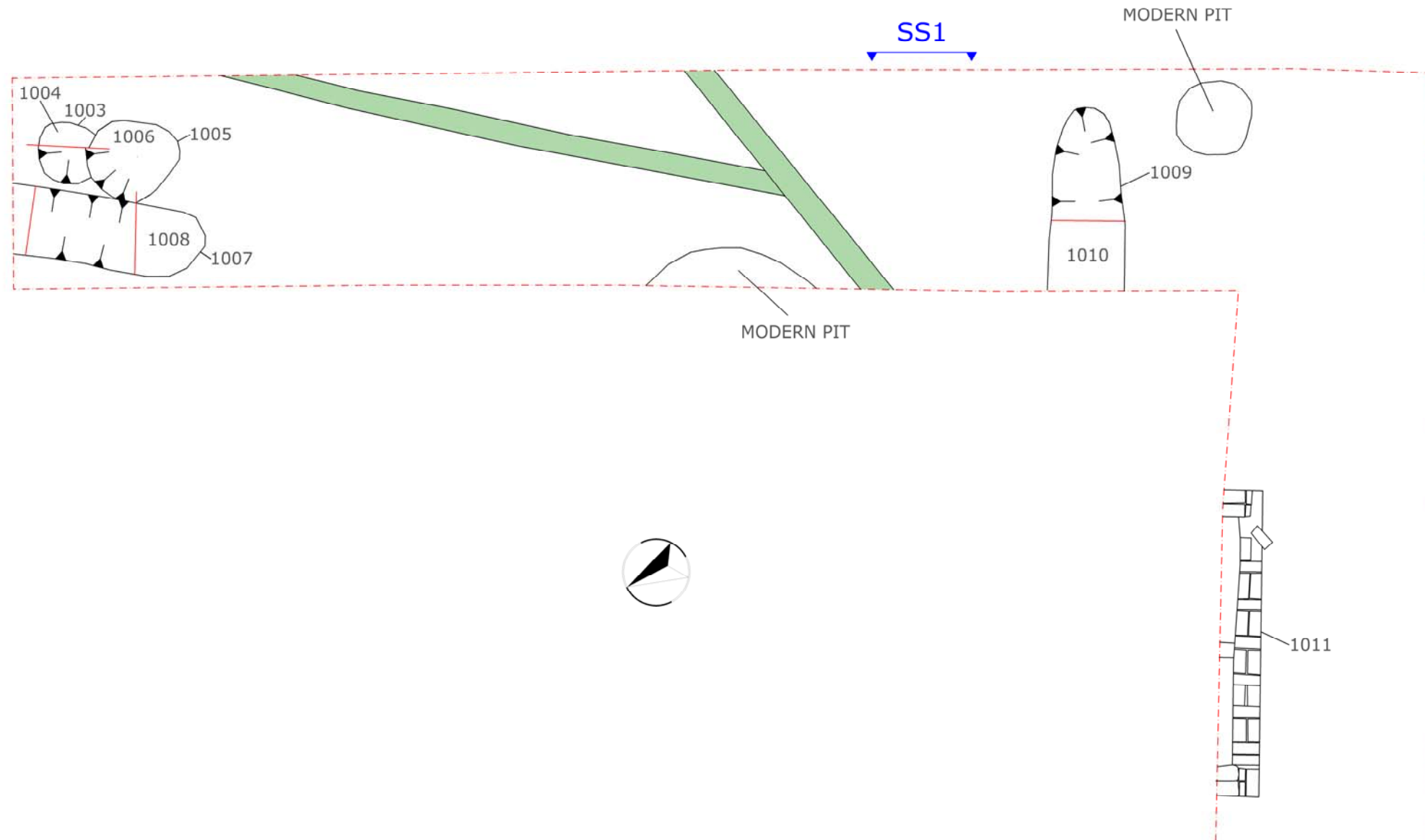
T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com


© Copyright Britannia Archaeology Ltd 2018

DATE: JAN 2018 FLOT: A3 VERSION: 1

AUTHOR: MJB APPROVED: DPM 3





-  Modern Land Drain
-  Trench

NGR: 580480 255900 REF: R1183

PROJECT: LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK

DESCRIPTION: TRENCH & FEATURE PLAN

CLIENT: JOHN STEBBING ARCHITECTS LTD

BRITANNIA ARCHAEOLOGY LTD



UNIT 2
THE OLD WOOL WAREHOUSE
ST ANDREWS STREET SOUTH
BURY ST EDMUNDS
SUFFOLK
IP33 3PH

T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com

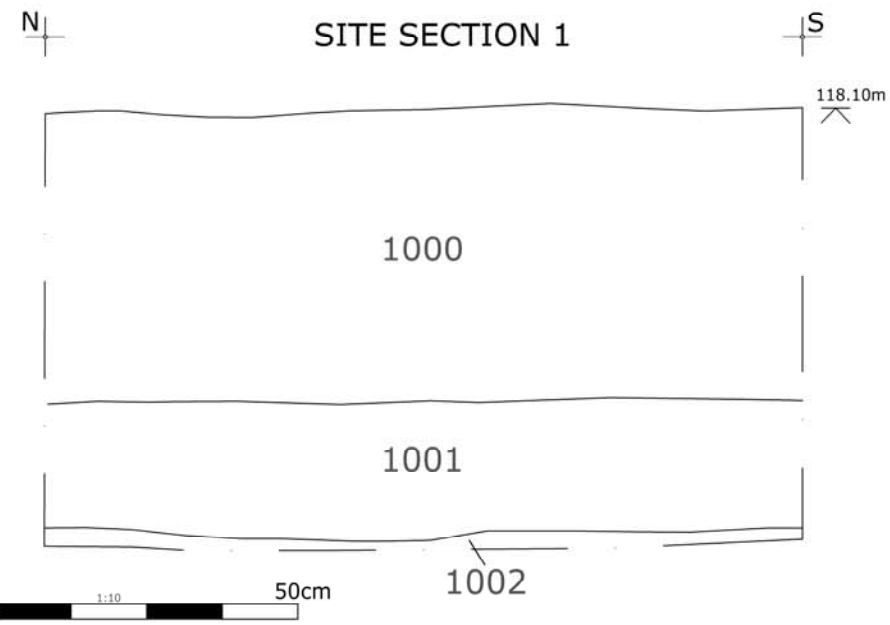
© Copyright Britannia Archaeology Ltd 2018

DATE: JAN 2018 FLOT: A3 VERSION: 1

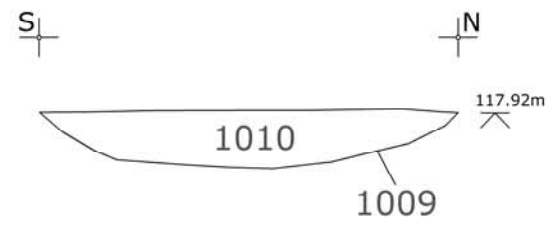
AUTHOR: DPM FIGURE: 4

APPROVED: MB

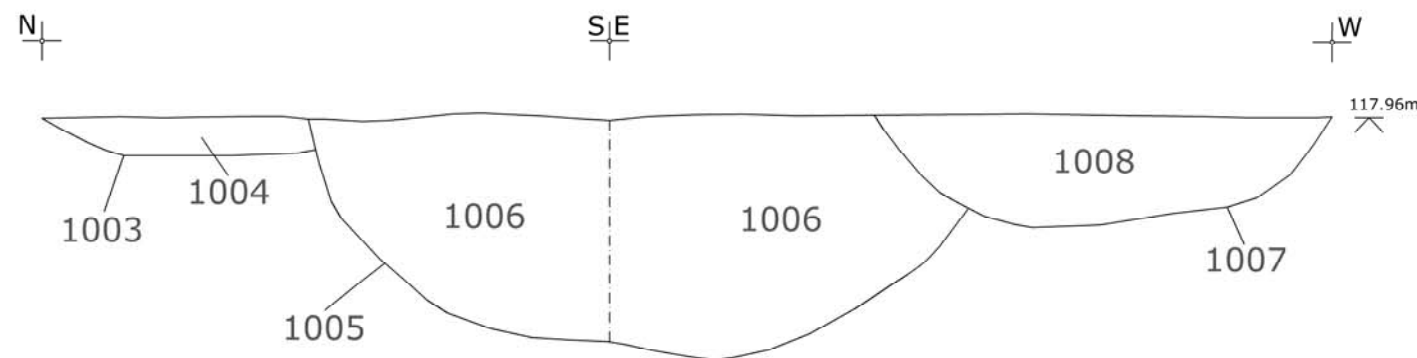
1:50 0 1:50 3m



DP9 - SS1 - VIEW E



DP3 - GULLY 1009 - VIEW W



NGR: 580480 255900 REF: R1183

PROJECT: LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK

DESCRIPTION: SECTIONS & PHOTOGRAPHS

CLIENT: JOHN STEBBING ARCHITECTS LTD

BRITANNIA ARCHAEOLOGY LTD

UNIT 2
THE OLD WOOL WAREHOUSE
ST ANDREWS STREET SOUTH
BURY ST EDMUNDS
SUFFOLK
IP33 3PH

T: 01449 763034
E: info@britannia-archaeology.com
W: www.britannia-archaeology.com
© Copyright Britannia Archaeology Ltd 2018

DATE: JAN 2018 PLOT: A3 VERSION: 1

AUTHOR: DPM
APPROVED: MB

FIGURE: 5



DP7 - TT1 - VIEW N



DP8 - TT1 - VIEW W



DP1 - PITS 1003 & 1005 - VIEW E



DP2 - PITS 1005 & 1007 - VIEW S

NGR:	580480 255900	REF:	R1183
PROJECT:	LAND ADJACENT TO REDE HOUSE, BLACKSMITH ROAD, REDE, SUFFOLK		
DESCRIPTION:	PHOTOGRAPHS		
CLIENT:	JOHN STEBBING ARCHITECTS LTD		
BRITANNIA ARCHAEOLOGY LTD			
 UNIT 2 THE OLD WOOL WAREHOUSE ST ANDREWS STREET SOUTH BURY ST EDMUNDS SUFFOLK IP33 3PH T: 01449 763034 E: info@britannia-archaeology.com W: www.britannia-archaeology.com © Copyright Britannia Archaeology Ltd 2018			
DATE:	JAN 2018	FLUT:	A3
		VERSION:	1
AUTHOR:	DPM	FIGURE:	6
APPROVED:	MB		