



**CHELMER VALLEY NATURE RESERVE,
CHELMSFORD, ESSEX**
PHASE II
ARCHAEOLOGICAL MONITORING



Report Number: 1157

March 2017



CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX

ARCHAEOLOGICAL MONITORING

Prepared on behalf of:

Kieren Alexander
Essex Wildlife Trust
Abbotts Hall Farm
Maldon Road
Great Wigborough
Colchester
Essex
CO5 7RZ

By:

Adam Leigh BA (Hons) (Fieldwork & Report)
Dan McConnell BSc (Hons) (Graphics)

Britannia Archaeology Ltd


UNIT 2 The Old Wool Warehouse
St Andrews Street South
Bury St Edmunds
Suffolk
IP33 3PH

T: 01449 763034

info@brit-arch.com

www.britannia-archaeology.com

Registered in England and Wales: 7874460

Site Code	CVNR17	NGR	TL 7109 0875
Planning Ref.	15/01242/FUL	OASIS	britanni1-279071
Approved By:		Date	March 2017



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	Sample Section Table
Appendix 2	OASIS Sheet

Figure 1	General Location Plan	1:5000
Figure 2	Plan of Works	1:250
Figure 3	Sample Sections and Photographs	1:20
Figure 4	Sample Sections and Photographs	1:20
Figure 5	Site Photographs	
Figure 6	Site Photographs	

Abstract

Between the 8th and 10th March 2017, Britannia Archaeology Ltd (BA) undertook an archaeological investigation by means of monitoring and recording during works associated with a river restoration scheme at Chelmer Valley Local Nature Reserve. The monitoring work was conducted in accordance with a design Brief (Bennett, A., 2015) issued by the Historic Environment Advisor for Chelmsford City Council (CCC/HEA) and a Written Scheme of Investigation written by Adrian Gascoyne of Place Services at Essex County Council (dated September 2015) and approved by CCC.

The archaeological background search suggested that the site had a potential for features and finds relating to historical river management and activity on the meadows, in addition to the possible survival of waterlogged and paleoenvironmental remains.

No paleoenvironmental remains, finds or features were encountered. Beyond topsoil, subsoil and the natural geology, the monitoring revealed only a single layer of dredged soil adjacent to the riverbank which represents a 19th or 20th Century episode of river management.

1.0 INTRODUCTION

Between the 8th and 10th March 2017, Britannia Archaeology Ltd (BA) undertook an archaeological investigation by means of monitoring and recording during works associated with a river restoration scheme at Chelmer Valley Local Nature Reserve (TL 7109 0875). The monitoring work was conducted in accordance with a design Brief (Bennett, A., 2015) issued by the Historic Environment Advisor for Chelmsford City Council (CCC/HEA) and a Written Scheme of Investigation written by Adrian Gascoyne of Place Services at Essex County Council (dated September 2015) and approved by CCC.

2.0 SITE DESCRIPTION

The site lies on the northern fringes of Chelmsford to the north of the A1016 and the Valley Bridge. The land is currently river meadow.

The bedrock geology is described as London Clay Formation. This sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period, when the local environment had previously been dominated by deep seas. (BGS 2017).

The superficial deposits are described as clay, silt, sand and gravel alluvium which were formed up to 2 million years ago through deposition by flooding and river flow (BGS 2017).

3.0 PLANNING POLICIES

The archaeological investigation was 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 *Chelmsford Borough Local Development Framework 2001-2021* (adopted 2008).

4.0 ARCHAEOLOGICAL BACKGROUND

The following summary was present in the Brief and Written Scheme of Investigation and is based on information held in the Essex Historic Environment Record (EHER) at County Hall, Chelmsford.

"The proposed works lie in the river meadows either side of the River Chelmer. It is possible evidence of past archaeological activity associated with previous management of the river and meadows may survive. There is also the potential for survival of possible waterlogged and/or palaeoenvironmental remains within the floodplain area."

5.0 PROJECT AIMS

The brief stated that:

The archaeological work should aim to record the location, extent, date and character of any surviving archaeological remains within the area of the proposed development. A programme of archaeological monitoring will occur during the groundwork phase of the development.

6.0 PROJECT OBJECTIVES

The research objectives for the project were 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).

The key project objective was:

- To recover as much information as possible on the extent, date, phasing, character, function, status and significance of the site. Also that the state of preservation of archaeological features and deposits should be determined.

7.0 FIELDWORK METHODOLOGY

The CCC brief required archaeological monitoring and recording of all groundworks conducted during the scheme of river restoration which involved the excavation of a new ditch and four large 'scrapes'.

The excavation of the foundation trenches and associated intrusive ground works was undertaken by a 360° mechanical excavator with a qualified plant operator.

8.0 DESCRIPTION OF RESULTS (Figs. 2 - 6)

Three monitoring visits were made to site on the 8th-10th March. All intrusive groundworks were excavated under archaeological monitoring.

8.1 8th March 2017

On the first monitoring visit, a fish refuge was excavated in the side of the riverbank on the western edge of the site in order to create an area of calmer water. This consisted of a small amount of silt being taken from the river and a subsequent grading of the bank. No vertical section was recorded, as all excavation of was graded to an angle of approximately 45°.

An artificial bank was created on the south bank of the river near the eastern corner of the site. This was created using soil stripped from the top layer of the stratigraphic sequence. It was noted that the land at the river's edge was distinctly higher than the rest of the river meadow, and that this raised layer probably represents a previous episode of

dredging. This layer was characterized as Dredging Layer **1003**. The horizon of this layer was not reached, and no clear section was available to be recorded.

No archaeological finds or features were encountered during the day's monitoring.

8.2 9th March 2017

Works on Thursday 9th March consisted of the excavation of a curvilinear, s-shaped channel from the riverbank to the existing ditch (which runs at this point parallel to the river on a WNW-ESE alignment). Two sample sections were taken during the excavation of the channel; one was taken in order to record the stratigraphic sequence present over the vast majority of the site, while the second was taken within the area of the dredging layer to show this overlaying a layer of buried topsoil.

Topsoil **1000** was present to a depth of 0.21m in Sample Section 1, overlaying Subsoil **1001**, which was present to a depth of 0.39m, with a maximum thickness of 0.19m. This layer overlay the natural geology, **1002**.

In Sample Section 2, a remaining part of Dredging Layer **1003** was present to a depth of 0.13m. This layer would have had a greater thickness before it was stripped by machine in order to create the artificial bank. This overlay Buried Topsoil **1004**, which was present to a depth of 0.20m at a maximum thickness of 0.10m. In this sample section, the next layer in sequence was subsoil **1001**, which was present to a depth of 0.56m, at a maximum thickness of 0.38m.

Subsequent to the completion of this, a 'scrape' (the first of four) was excavated to the west of the channel. The scrape measured approximately 10.00mx10.00m, and was sub-circular in plan with a shallow concave profile. The purpose of these scrapes was to create areas of wetter habitat in amongst drier meadow and trees and to this end, they were excavated to be the same depth as the new channel and the pre-existing ditch.

No archaeological features or finds were encountered during the day's monitoring.

8.3 10th March 2017

The remaining three scrapes were excavated on the 10th March. Scrape 2 was sub-circular in plan and measured approximately 13.00mx14.00m. Scrapes 3 and 4 were irregular in plan, with maximum measurements of 18.00mx13.00m and 16.00mx14.00m respectively. A sample section, Sample Section 3, was recorded in the ditch excavated to link scrape 3 to the pre-existing ditch in order to show the consistency of the deposit model, which had remained the same in all areas of the site other than the areas immediately adjacent to the riverbank.

In Sample Section 3, Topsoil **1000** was present to a depth of 0.30m. This overlay Subsoil **1001**, which was present to a depth of 0.46m to a maximum thickness of 0.16m. Subsoil 1001 overlay the natural geology.

No archaeological finds or features were encountered in either the scrapes or adjoining ditches.

9.0 DEPOSIT MODEL (Figs. 3 - 4)

The deposit model was consistent across the majority of the site.

Topsoil **1000** consisted of a loose, dark grey-brown silty sand. The layer was at the top of the stratigraphic sequence in Sample Sections 1 and 3. It was present to a maximum depth of 0.30m in Sample Section 3.

The next layer in the sequence was Subsoil layer **1001**, which was present across the whole site. This layer comprised mid orange-brown, compact silty clay that may represent a former plough soil – the alluvial soils on the river meadow would have made for fertile farmland. It was present to a maximum depth of 0.56m and a maximum thickness of 0.38m in Sample Section 1.

The final layer in the stratigraphic sequence across the site was Natural Geology **1002**. This layer comprised mid orange-brown, extremely compact silty clay. It was present from a minimum depth of 0.39m in Sample Section 1 and from a depth of 0.56m in Sample Section 2.

In Sample Section 2 (Fig. 3), the stratigraphy was slightly different due to the presence of Dredging Layer **1003** at the top of the stratigraphic sequence, which consisted of loose, dark grey-brown and mid orange-brown silty sand, with moderately frequent man-made debris such as CBM and metal present to a depth of 0.13m. This layer overlay Buried Topsoil **1004**, a layer of loose, dark grey-brown silty sand, which can be equated with Topsoil 1000. 1004 was present to a depth of 0.20m at a maximum thickness of 0.10m. This layer overlay the subsoil.

10 DISCUSSION AND CONCLUSION

The archaeological background search suggested that the site had a potential for features and finds relating to historical river management and activity on the meadows, in addition to the possible survival of waterlogged and paleoenvironmental remains.

No paleoenvironmental remains, finds or features were encountered. Beyond topsoil, subsoil and the natural geology, the monitoring revealed only a single layer of dredged soil adjacent to the riverbank which represents a 19th or 20th Century episode of river management.

The land use is likely to have had an agricultural function due to its fertile soils, although it was probably subject to numerous flooding events. The pre-existing ditch arcing through the site roughly parallel to the curve of the river is highly likely to be a post-medieval boundary left over from the site's agricultural function.

11.0 ACKNOWLEDGEMENTS

Britannia Archaeology would like to thank Mr Kieren Alexander for commissioning the project.

Britannia Archaeology would also like to thank Alison Bennett at Place Services at ECC for her advice and assistance throughout the project.

The site was monitored by Adam Leigh of Britannia Archaeology Ltd.

BIBLIOGRAPHY

- Bennett, A. 2015, *Brief for Archaeological Monitoring at Chelmer Valley Nature Reserve, Chelmsford*; Place Services at Essex County Council.
- 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*.
- Chelmsford City Council. (Adopted) 2008. *Chelmsford Borough Local Development Framework 2001-2021*.
- Gascoyne, A. 2015. *Written Scheme of Investigation for Detailed Archaeological Monitoring and Recording along the River Chelmer, at the Chelmer Valley Nature Reserve, Chelmsford, Essex*. Place Services at Essex County Council.
- 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

HER Data

Provided and licenced by Essex County Council Historic Environment Record.

APPENDIX 1 – DEPOSIT TABLES

Sample Section 1

Trench No n/a	Orientation NW-SE	Height aOD 29.04m	Shot No DP 3
Sample Section No 1	Location n/a	Facing SW Facing	
Context No	Depth	Deposit Description	
1000	0.00-0.20m	Topsoil – dark grey-brown, loose silty sand	
1001	0.20-0.39m	Subsoil – mid orange-brown, compact silty clay	
1002	0.39m+	Natural – mid orange-brown, extremely compact silty clay	

Sample Section 2

Trench No n/a	Orientation NW-SE	Height aOD 28.56m	Shot No DP 4
Sample Section No 2	Location n/a	Facing SW Facing	
Context No	Depth	Deposit Description	
1003	0.00-0.13m	Dredging Layer – dark grey-brown/mid orange-brown, loose silty sand with moderately frequent modern debris	
1004	0.13-0.20m	Buried Topsoil – dark grey-brown, loose silty sand	
1001	0.20-0.56m	Subsoil – mid orange-brown, compact silty clay	
1002	0.56m+	Natural – mid orange-brown, extremely compact silty clay	

Sample Section 3

Trench No n/a	Orientation E-W	Height aOD 28.09m	Shot No DP 6
Sample Section No 3	Location n/a	Facing S Facing	
Context No	Depth	Deposit Description	
1003	0.00-0.30m	Topsoil – dark grey-brown, loose silty sand	
1004	0.30-0.46m	Subsoil – mid orange-brown, compact silty clay	
1005	0.46+	Natural – mid orange-brown, extremely compact silty clay	

APPENDIX 2 – OASIS SHEET

OASIS FORM - Print view

<https://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: [britann1-279071](#)

Project details

Project name	Chelmer Valley Nature Reserve, Chelmsford
Short description of the project	Between the 8th and 10th March 2017, Britannia Archaeology Ltd (BA) undertook an archaeological investigation by means of monitoring and recording during works associated with a river restoration scheme at Chelmer Valley Local Nature Reserve. The monitoring work was conducted in accordance with a design Brief (Bennett, A., 2015) issued by the Historic Environment Advisor for Chelmsford City Council (CCC/HEA) and a Written Scheme of Investigation written by Adrian Gascoyne of Place Services at Essex County Council (dated September 2015) and approved by CCC. The archaeological background search suggested that the site had a potential for features and finds relating to historical river management and activity on the meadows, in addition to the possible survival of waterlogged and paleoenvironmental remains. No paleoenvironmental remains, finds or features were encountered. Beyond topsoil, subsoil and the natural geology, the monitoring revealed only a single layer of dredged soil adjacent to the riverbank which represents a 19th or 20th Century episode of river management.
Project dates	Start: 08-03-2017 End: 10-03-2017
Previous/future work	Yes / Not known
Any associated project reference codes	CVNR17 - Sitecode
Type of project	Recording project
Site status	National Nature Reserve
Current Land use	Vacant Land 2 - Vacant land not previously developed
Monument type	N/A None
Significant Finds	N/A None
Investigation type	"Watching Brief"
Prompt	National Planning Policy Framework - NPPF

Project location

Country	England
Site location	ESSEX CHELMSFORD SPRINGFIELD Chelmer Valley Nature Reserve, Chelmsford, Essex
Postcode	CM1 7TL
Study area	0 Kilometres

Site coordinates TL 7109 0875 51.750778688367 0.478869207901 51 45 02 N 000 28 43 E Point
 Height OD / Depth Min: 0.39m Max: 0.56m

Project creators

Name of Organisation Britannia Archaeology Ltd
 Project brief originator Local Authority Archaeologist and/or Planning Authority/advisory body
 Project design originator Adrian Gascoyne
 Project director/manager Matthew Adams
 Project supervisor Adam Leigh
 Type of sponsor/funding body Other Charitable Trust
 Name of sponsor/funding body Essex Wildlife Trust

Project archives

Physical Archive Exists? No
 Digital Archive recipient Essex HER
 Digital Archive ID CVNR17
 Digital Contents "none"
 Digital Media available "Images raster / digital photography","Text"
 Paper Archive recipient Essex HER
 Paper Archive ID CVNR17
 Paper Contents "none"
 Paper Media available "Context sheet","Drawing","Map","Photograph","Plan","Report","Section"

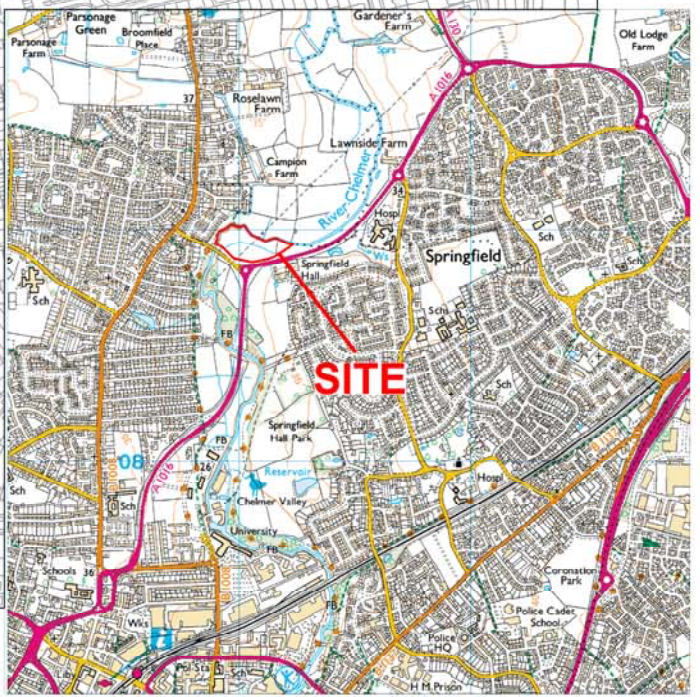
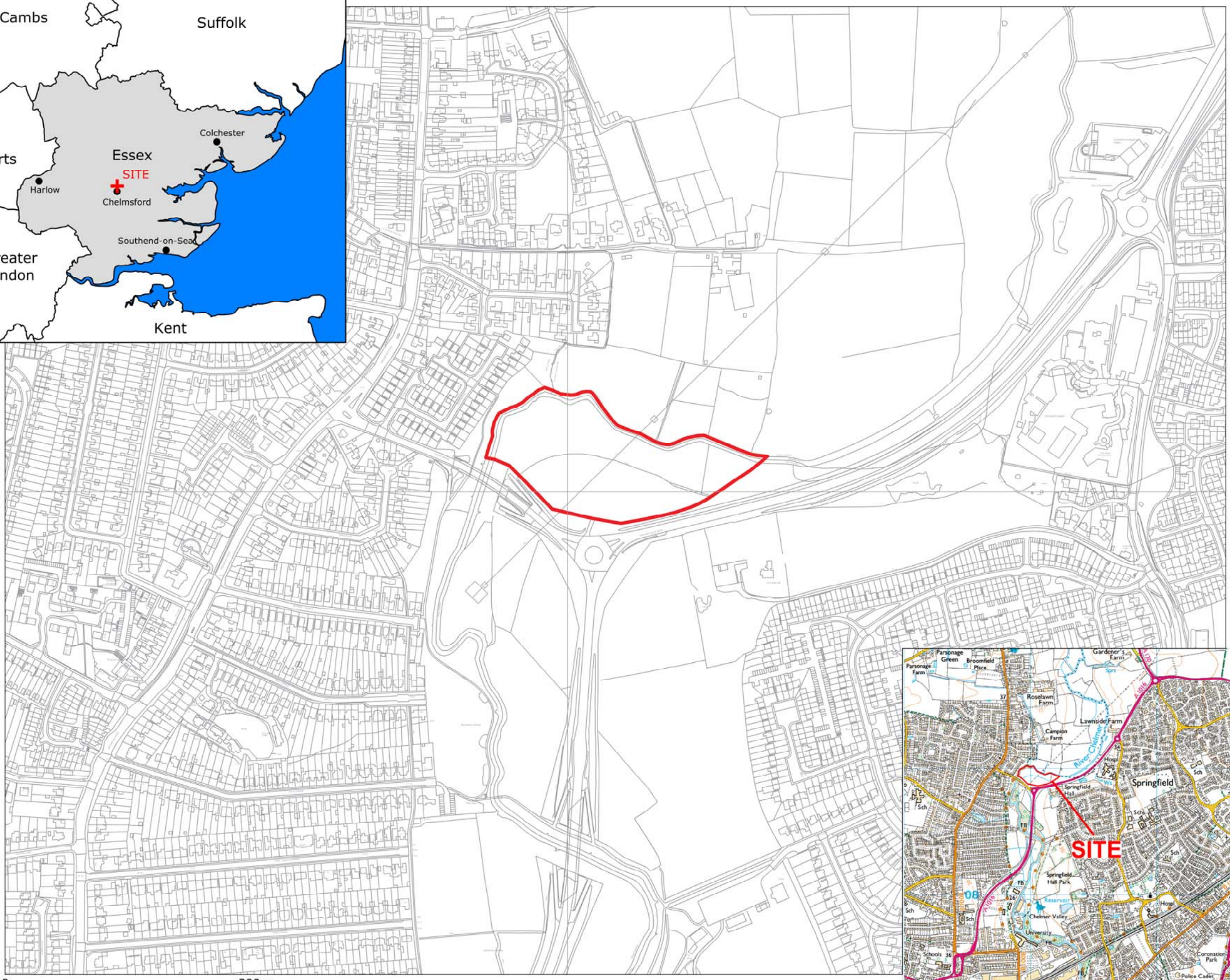
Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)
 Title CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX: ARCHAEOLOGICAL MONITORING
 Author(s)/Editor(s) Leigh, A.
 Other bibliographic details McConnell, D.
 Date 2017
 Issuer or publisher Britannia Archaeology

Place of issue or publication	Bury St Edmunds
Description	A4 bound report with A3 pull out figures
URL	http://www.britannia-archaeology.com/
Entered by	Adam Leigh (a.leigh@brit-arch.com)
Entered on	16 May 2017

OASIS:

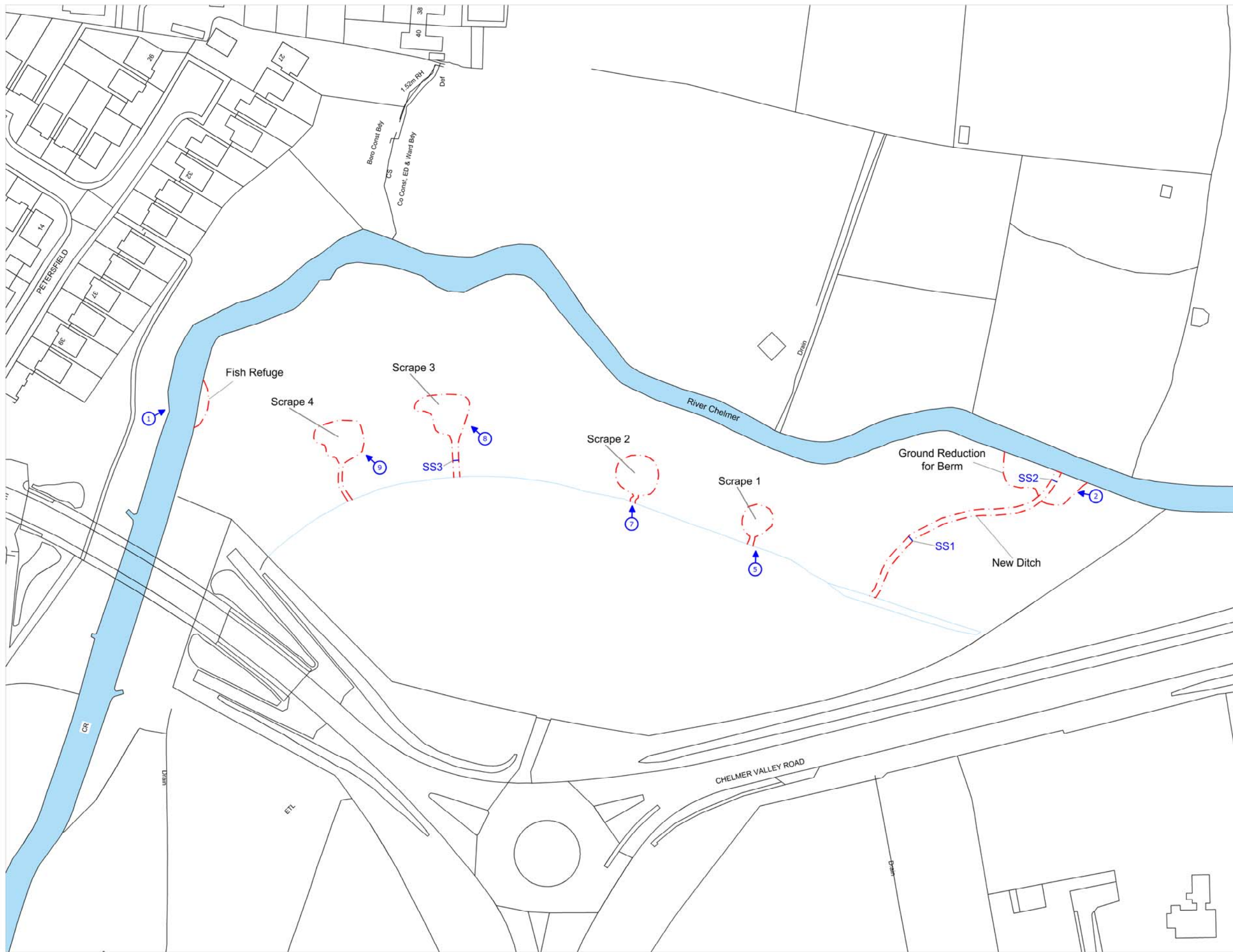
Please e-mail Historic England for OASIS help and advice
© ADS 1996-2012 Created by Jo Gilham and Jen Mitcham, email Last modified Wednesday 9 May 2012
Cite only: <http://www.oasis.ac.uk/form/print.cfm> for this page



Site Boundary

NGR:	571050 208940	REF:	P1184
PROJECT:	CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX		
DESCRIPTION:	GENERAL LOCATION PLAN		
CLIENT:	ESSEX WILDLIFE TRUST		
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 2017			
DATE:	MARCH 2017	PLOT:	A3
AUTHOR:	MCA	VERSION:	1
APPROVED:	DPM	FIGURE:	1

Reproduced on plans supplied by Ordnance Survey map with the permission of the controller of Her Majesty's Stationery Office. Licence number: 100052663. © CROWN COPYRIGHT 2017.



- Digital Photo Shot Number and Direction of Photograph
- Excavation Areas

NGR: 571050 208940 REF: P1184

PROJECT: CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX

DESCRIPTION: PLAN OF WORKS

CLIENT: ESSEX WILDLIFE TRUST

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

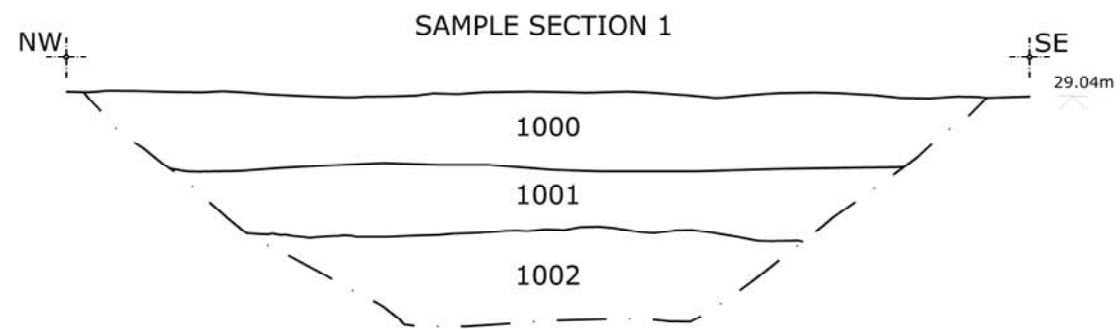
© Copyright Britannia Archaeology Ltd 2017

DATE: MARCH 2017 PLOT: A3 VERSION: 1

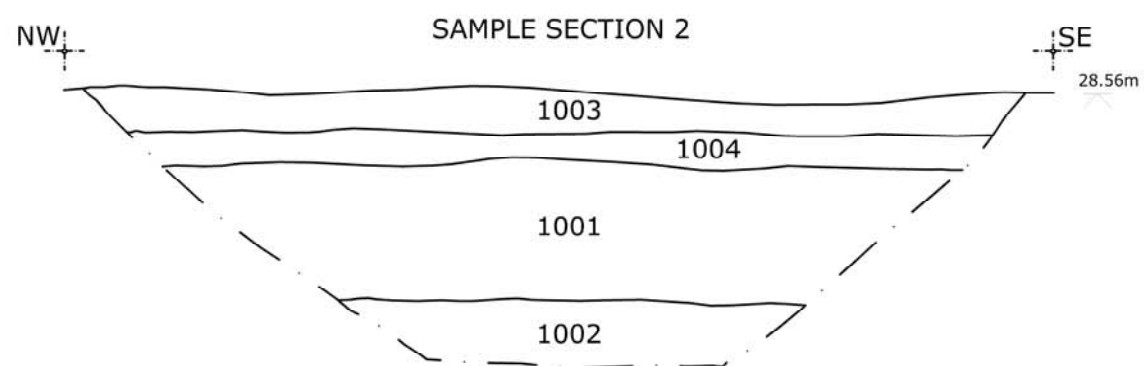
AUTHOR: MCA FIGURE: 2

APPROVED: DPM

Reproduced on plans supplied by Ordnance Survey map with the permission of the controller of Her Majesty's Stationery Office. Licence number: 100052663. © CROWN COPYRIGHT 2017.



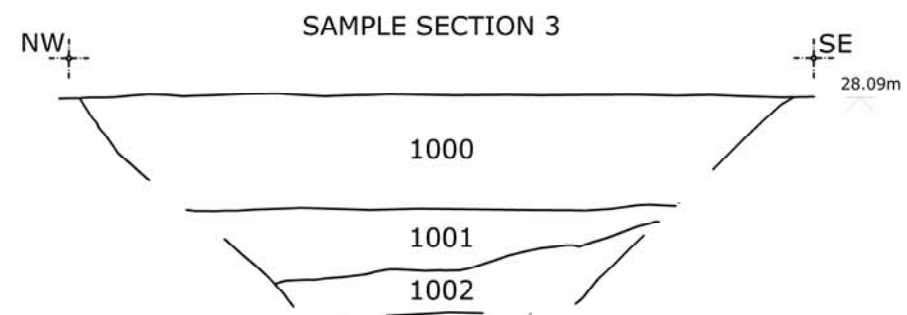
DP 3 - Sample Section 1 - View NE



DP 4 - Sample Section 2 - View NE

NGR:	571050 208940	REF:	P1184
PROJECT:	CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX		
DESCRIPTION:	SAMPLE SECTIONS & PHOTOGRAPHS		
CLIENT:	ESSEX WILDLIFE TRUST		
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 <small>© Copyright Britannia Archaeology Ltd 2017</small>			

DATE:	MARCH 2017	FLOT:	A3	VERSION:	1
AUTHOR:	DPM	FIGURE:	3		
APPROVED:	MB				



DP 6 - Sample Section 3 - View N



NGR:	571050 208940	REF:	P1184
PROJECT:	CHELMER VALLEY NATURE RESERVE, CHELMSFORD, ESSEX		
DESCRIPTION:	SAMPLE SECTIONS & PHOTOGRAPHS		
CLIENT:	ESSEX WILDLIFE TRUST		
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 <small>© Copyright Britannia Archaeology Ltd 2017</small>			
DATE:	MARCH 2017	FLOT:	A3
VERSION:	1		
AUTHOR:	DPM	FIGURE:	4
APPROVED:	MB		



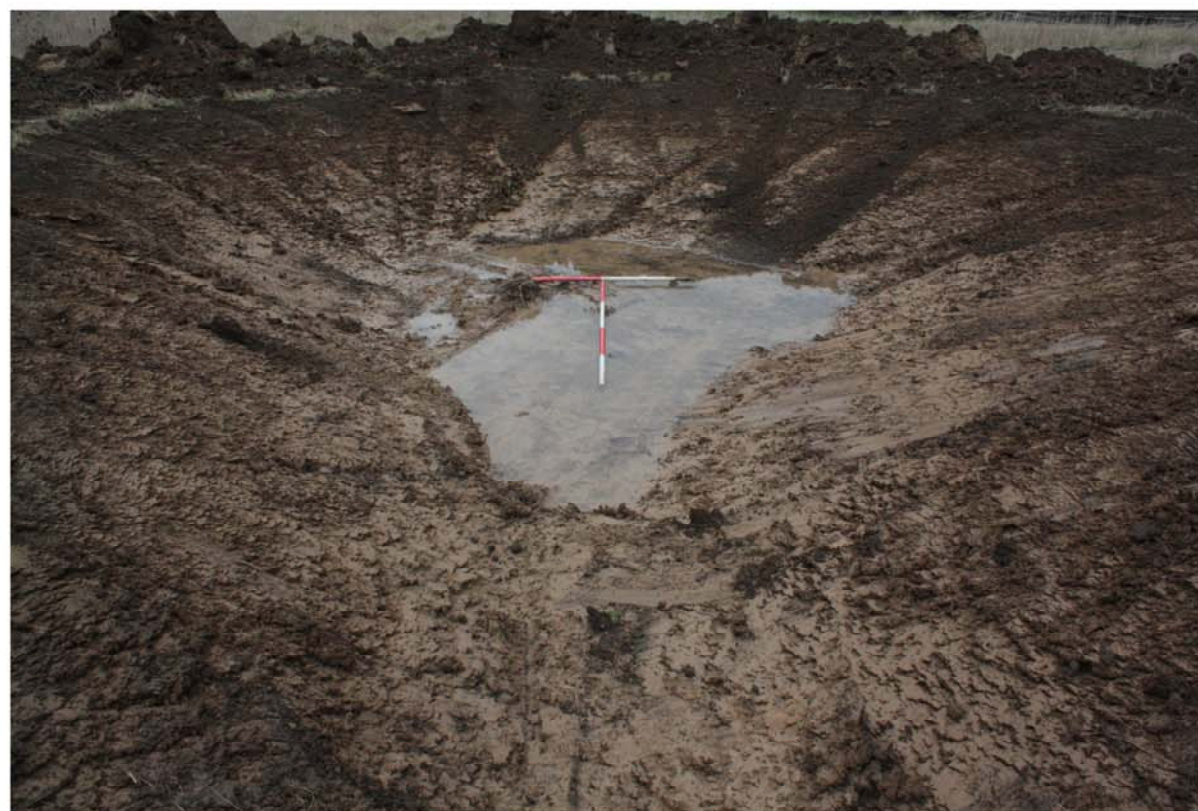
DP 1 - Fish Refuge - View NE



DP 2 - Ground Reduction for Berm - View W



DP 5 - Scrape 1 - View N



DP 7 - Scrape 2 - View N

NGR: 571050 208940 REF: P1184

PROJECT: CHELMER VALLEY NATURE RESERVE,
CHELMSFORD, ESSEX

DESCRIPTION: SITE PHOTOGRAPHS

CLIENT: ESSEX WILDLIFE TRUST

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 2017

DATE: MARCH 2017 FLOT: A3 VERSION: 1

AUTHOR: DPM FIGURE: 5

APPROVED: MB



DP 8 - Scrape 3 - View NW



DP 9 - Scrape 4 - View NW

INGR: 571050 208940 REF: P1184

PROJECT: CHELMER VALLEY NATURE RESERVE,
CHELMSFORD, ESSEX

DESCRIPTION: SITE PHOTOGRAPHS

CLIENT: ESSEX WILDLIFE TRUST

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 2017

DATE: MARCH 2017 PLOT: A3 VERSION: 1

AUTHOR: DPM FIGURE: 6

APPROVED: MB