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MAP Archaeological Practice

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Land at Louth Road  
New Waltham  
North-east Lincolnshire

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MAP 5.17.19  
Archaeological Evaluation by Trial Trenching

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New Waltham  
North-east Lincolnshire

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Archaeological Evaluation by Trial Trenching

Report Prepared By Charlotte Stodart	Report Authorised By Paula Ware
Date: 28/05/19	Date: 28/05/19

Land at Louth Road  
New Waltham  
North-east Lincolnshire

TA 27554 04315

MAP 5.17.2019

Planning No: DM/0118/15/OUT

Archaeological Evaluation by Trial Trenching

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Land at Louth Road  
New Waltham  
North-east Lincolnshire

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MAP 5.17.2019

Planning No: DM/0118/15/OUT

Archaeological Evaluation by Trial Trenching

*Summary*

*An Archaeological Evaluation by Trial Trenching was carried out by MAP Archaeological Practice Ltd. on land to the west of Louth Road, New Waltham, in advance of a residential development. The work was carried out in respect of Condition 2 attached to planning reference DM/0118/15/OUT which states that no development shall begin until full details of details of the results of archaeological investigation have been submitted to, and approved by, the Local Planning Authority.*

*Following a Geophysical Survey, twenty-three trenches were excavated across the site with the aim to examine both geophysical anomalies but also areas which were supposedly devoid of features.*

*Evaluation revealed extensive plough scarring, land drains and modern agricultural features across the site. No archaeological finds, features or deposits were identified.*

## 1. Introduction

1.1 This report sets out the results of an Archaeological Evaluation by Trial Trenching that was carried out by MAP Archaeological Practice Ltd. on land to west of Louth Road, New Waltham, North-east Lincolnshire, in advance of residential development.

1.2 Outline planning permission has been granted for the construction of up to 400 dwellings including the provision of a small corner shop, open space and associated infrastructure). Condition 2, attached to planning reference DM/0118/15/OUT states that;

*The permission hereby granted is in outline form only and no development shall begin until full details of the following reserved matters have been submitted to and approved by the Local Planning Authority and the development shall then be carried out only as approved: (a) the layout, scale and appearance of the development.*

*(b) design and construction details of the estate roads and*

*(c) a landscaping scheme for the site including details of existing trees, hedges and planting to be retained*

*(d) phasing details including the phasing of highway works and infrastructure.*

*(e) existing and proposed site levels and the levels of the proposed roads.*

*(f) a drainage strategy outlining the system of drainage for foul and surface water flows arising from the entire development.*

*(g) lighting details.*

*(h) the results of archaeological investigation the scope of which shall have first been agreed in writing by the Local Planning Authority.*

*(i) air quality assessment and details on how any impacts highlighted are to be mitigated.*

- 1.3 Archaeological, Historical and Architectural remains are protected by means of Statutory Instruments; including the Ancient Monuments and Archaeological Areas Act 1979 and Planning (Listed Buildings and Conservation Areas Act 1990); and by World Heritage Status, the National Planning Policy Framework, Chapter 16 (February 2019).
- 1.4 The work was carried out in accordance with the recommendations of the National Planning Policy Framework (February 2019) on 'Archaeology and Planning' and according to the Written Scheme of Investigation that was prepared by MAP Archaeological Practice (appendix 3).
- 1.5 MAP adhered to the general principles of both the ClfA (2014) 'Code of Conduct' and 'Standard and Guidance for Archaeological Field Evaluation' throughout the project.
- 1.6 The site code for the project was MAP 5.17.2019.
- 1.7 All work was funded by Barratt David Wilson Homes.
- 1.8 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright, Licence No. AL 50453A.



## 2. Site Description (TA 27554 04315)

- 2.1 The development area is located to the west of Louth Road and to the south of Station Road, New Waltham, North-east Lincolnshire, approximately 5km south-west of Grimsby (fig 1).
- 2.2 The site is bounded to the north by Station Road, to the east by Louth Road and to the south and west by arable agricultural land.
- 2.3 The site sits on deposits of the Burnham Chalk Formation (British Geological Survey, 2019).
- 2.4 The total area of the site measures approximately 12.6ha. and stands at a height of approximately 14m AOD.
- 2.5 At the time of the Evaluation, the majority of the site was under a hard rape seed crop which stood approximately 1.6m in height.

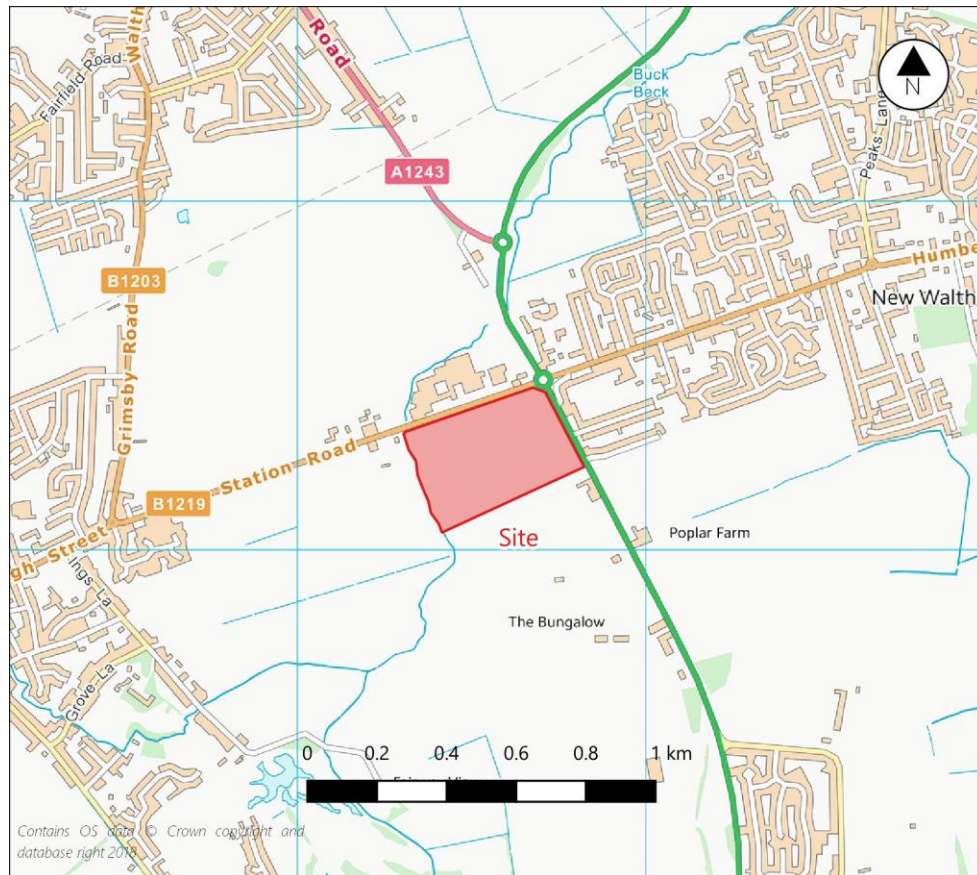


Figure 1. Site Location. 1:20,000

### 3. Historical and Archaeological Background

3.1 Cropmark data in the region has allowed areas of potential prehistoric or Romano-British enclosure systems to be identified in the vicinity of the site, including on land to the north of Station Road (NRHE ref. 1053336) whilst three potential Bronze-Age round barrows were identified on land south-west of the site, close to Waltham.

3.2 In 2008 an Archaeological Evaluation was carried out by Pre-Construct archaeology, on land on the north-west edge of New Waltham (Pre-Construct Archaeology. 2008). Three linear ditches and two small pits were identified, which contained Iron Age pottery. It was concluded that the

features were associated with a linear boundary system which had largely been masked by ridge and furrow which ran on a similar alignment.

- 3.3 In February 2019 a Geophysical Survey was carried out across the site (Phase. 2019). The majority of anomalies are likely to relate to modern material, buried services and agricultural activity. Linear and curvi-linear anomalies were also identified which although of uncertain origin, did not form any clear patterns which would indicate an archaeological origin. Phase (2019) point out that it is possible that the strength of responses from modern material may mask other sub-surface anomalies.

#### **4. Aims and Objectives**

- 4.1 The objectives of the archaeological evaluation were to:
- principally undertake a programme of archaeological evaluation by Trial Trenching in accordance with the Written Scheme of Investigation in line with the National Planning Policy Framework in order to evaluate the archaeological impact of the development,
  - to determine by means of Trial Trenching, the presence/absence, nature, date, quality of survival and importance of archaeological deposits to enable an assessment of the potential and significance of the archaeology to be made,
  - to assess the archaeological potential and significance of the site and to allow an appropriate mitigation strategy to be formulated prior to commencement of the development,

- to prepare a report summarising the results of the work and the archaeological implications affected by the proposed development, and;
- to prepare and submit a suitable archive to the appropriate museum or other repository.

## 5. Methodology

### 5.1 Excavation

5.1.1 Twenty-three Trial Trenches were excavated across the site in order to investigate anomalies highlighted in the results of the Geophysical Survey but also to assess areas supposedly devoid of features (fig. 2). All Trial Trenches measured 50m by 2m in length.

5.1.2 Topsoil and subsoil were removed by a rear-acting excavator fitted with a toothless bucket, operating under close archaeological supervision. Machining ceased at the top of either archaeological or naturally formed deposits, depending upon which was located soonest. The exposed surfaces were cleaned by shovel, hoe or trowel as appropriate [Pls. 2-21], and all subsequent excavation carried out by hand and in accordance with the Written Scheme of Investigation (Appendix 3).

5.1.3 All work was carried out in line with both the Chartered Institute of Field Archaeologists Code of Conduct and Standard and Guidance for Archaeological Field Evaluation (CIfA 2014).



Figure 2. Trench Location Plan.

## 5.2 On-site Recording

5.2.1 All twenty three trenches were recorded on MAP's *pro forma* trench sheets.

## 5.3 Photographic Record

5.3.1 The photographic record comprised forty-eight digital photographs, taken on site. The photographic record included a film register, shot number, location of shot, direction of shot and brief description (Appendix 2).

## 6. Results

6.1 Twenty-three Trial Trenches were excavated across the site. After consultation with the North-east Lincolnshire Historic Environment Officer, the decision was made to move trench 1 to north-east of trench 3 in order to examine an area of the site where the rape seed crop stood noticeably higher than in other areas.

Trench Number	Location & Orientation	Topsoil	Subsoil	Natural	Features Encountered.
1	NE-SW alignment, excavated by request of the North-East Lincolnshire Historic Environment Officer.	Dark greyish brown silty clay. Approx. 0.30m-0.38m deep.	N/A	Yellowish-brown clay.	plough scarring. Furrow
2	Aligned SW-NE in north-west corner of the site.	Greyish-brown sandy silt, average depth 0.3m	N/A	Mid-Yellowish-brown clay	Plough scarring
3	Aligned NW-SE close to the centre of the northern boundary.	Greyish-brown silty clay. Between 0.2m and 0.3m in depth.	N/A	Dark-yellowish brown clay	Plough scarring
4	Aligned NE-SW to target magnetic anomalies in the survey results.	Greyish brown sandy clay. Between 0.2m and 0.25m in depth	N/A	Dark-yellowish brown clay	Plough scarring
5	Aligned NE-SW	Greyish-brown silty clay.0.25m-0.37m in depth.	N/A	Dark yellowish-brown clay	Plough Scarring
6	Located in NE corner of the site on a NE-SE orientation.	Greyish brown silty clay. 0.25m-0.30m in depth	N/A	Dark yellowish-brown	Plough scarring
7	NE-SW aligned in order to assess magnetic variations.	Dark greyish brown sandy clay. Average depth of 0.30m.	Mid yellowish-brown sandy clay.0.10m	Reddish brown clay with sands.	N/A
8	NW-SE aligned	Dark greyish brown sandy clay.	N/A	Mid yellowish-	Plough scarring

		Average depth 0.30m		brown silty clay.	
9	NE-SW aligned, in the centre of the site.	Dark greyish brown sandy clay. 0.45m in depth	Mid yellowish- brown sandy clay. 0.10m	Mid yellowish brown clay	Plough scarring
10	NW-SE aligned, in the centre of the site.	Dark greyish brown sandy clay. 0.35m in depth	Mid yellowish- brown sandy clay. 0.10m	Mid yellowish brown clay	Plough scarring
11	NW-SE aligned targeting magnetic anomaly.	Mid greyish brown silty clay. 0.15-0.20m in depth.	Mid yellowish slightly silty clay. 0.08m in depth	Mid reddish- brown clay.	N/A
12	Aligned NW-SE in order to assess two linear geophysical anomalies.	Mid greyish brown silty clay. Average depth of 0.32m.	Mid yellowish- brown silty clay. 0.15m in depth.	Reddish brown clay.	Plough scarring & land drains
13	NE-SW aligned	Mid greyish brown silty clay. Average depth 0.30m.	N/A	Dark yellowish- brown clay	Plough scarring, land drain, modern agricultural feature.
14	NE-SW aligned in order to assess linear geophysical anomaly and magnetic variations.	Dark greyish brown sandy clay. Average depth of 0.30m.	Mid yellowish- brown sandy clay.0.10m	Reddish brown clay with sands.	N/A
15	NW-SE aligned to assess a linear geophysical anomaly.	Dark greyish brown sandy clay average depth of 0.33m	Mid yellowish- brown sandy clay. 0.1m	Reddish clay with sands	Modern agricultural features.
16	NE-SW aligned in south-western corner of the site.	Dark greyish brown sandy clay. Average depth 0.33.	Yellowish brown sand. 0.15m in depth.	Reddish brown clay with sands.	N/A
17	NE-SW aligned in order to assess geophysical magnetic variations.	Dark greyish brown sandy clay. Average depth 0.3m.	Yellowish brown sandy clay. 0.1m depth	Reddish brown clay.	N/A
18	NE-SW aligned.	Mid grey brown silty clay. Average depth 0.30m.	Mid yellowish- brown silty clay. 0.10m	Reddish brown clay and sandy clay.	N/A
19	NW-SE orientation to examine a linear geophysical anomaly.	Mid greyish brown silty clay, average depth 0.25m.	Mid yellowish- brown silty clay. 0.08m in depth.	Mid reddish- brown clay	N/A

20	N-S aligned, close to the eastern site boundary.	Mid grey-brown silty clay. 0.30m depth.	Dark yellowish-brown clay. 0.07m depth.	Mid reddish-brown clay	Plough scars, modern agricultural features.
21	NE-SW aligned close to southern site boundary.	Dark greyish brown sandy clay. 0.35m in depth.	Mid yellowish-brown sandy clay. 0.12m in depth.	Mid reddish-brown clay with occasional sand.	Land drain & furrow.
22	SE-NW aligned	Mid grey-brown sandy clay. Average depth of 0.30m.	Reddish-brown sandy clay subsoil, 0.15m depth.	Dark reddish-brown clay with occasional sands.	N/A
23	NE-SW aligned in the south-eastern corner of the site.	Mid grey-brown silty clay. 0.25m in depth.	Mid reddish-brown sandy clay. 0.08m	Reddish brown clay.	Plough scarring

## 7. Conclusion

7.1 The results of the Evaluation by Trial Trenching confirm those of the Geophysical Survey which states that the majority of anomalies likely to relate to modern material, buried services and agricultural activity. Plough scarring was identified in 13 Trial Trenches suggesting that the site had been subject to a regime of deep ploughing over a long period of time. Shallow furrows were also identified on the site, specifically in the south-east corner, again suggesting a long agricultural use of the site. The higher crop, in the vicinity of trench 1, excavated at the request of the North-east Lincolnshire Historic Environment Officer, is also likely due to the presence of a furrow in the trench.

7.2 Variations in natural deposits, including bands of clay and sand, were identified in all Trial Trenches, partially in the south-west corner of the site and it is therefore likely that these variations are responsible for a number of geophysical anomalies on the site.



7.3 No archaeological finds, features or deposits were identified during the Evaluation by Trial Trenching.

## 8. Bibliography

CIfA. 2014 'Code of Conduct.'

CIfA. 2014 'Standards and Guidance for Archaeological Field Evaluation.'

Mackney, D *et al.* 1983. Soil Survey of England and Wales, Sheet 1: Northern England.

Phase Site Investigations. 2019. Land at Toll Bar, New Waltham North East Lincolnshire Archaeological Geophysical Survey.

Pre-Construct Archaeology. 2019. Land at New Waltham. North, East Lincolnshire.

## 9. List of Contributors

**Excavation Team:** Charlotte Stodart and Damien Carr.

**Report Text:** Charlotte Stodart

**Appendices:** Charlotte Stodart

**Illustrations:** Max Stubbings

**Editor:** Paula Ware.

**Administration:** Sophie Coy



Plate 1. General View of Site. Facing South.



Plate 2. Trench 1. Facing East



Plate 1. Trench 2. Facing East.



Plate 2. Trench 3. Facing North-West



Plate 3. Trench 4. Facing South-West.



Plate 4. Trench 5. Facing South-West.



Plate 5. Trench 6. Facing South-West. .



Plate 6. Trench 7. Facing South-West.



Plate 7. Trench 8. Facing South-East. .



Plate 8. Trench 9. Facing South-West.



Plate 9. Trench 10. Facing South-East. .



Plate 10. Trench 11. Facing North-East.





Plate 11. Trench 12. Facing South-East. .



Plate 12 Trench 13. Facing South-West.



Plate 13. Trench 14. Facing South-West. .



Plate 14 Trench 15. Facing North-West.



Plate 15. Trench 16. Facing North-East.



Plate 16. Trench 17. Facing West.



Plate 17. Trench 18. Facing North-East.



Plate 18. Trench 19. Facing North West.



Plate 19. Trench 20. Facing North.



Plate 20. Trench 21. Facing North East.



Plate 21. Trench 22. Facing South East.



Plate 22. Trench 23. Facing South-West.

## Site Code: 5.20.17

### Appendix 1- Context Index

#### Context

No.	Type	Description
1001	Deposit	Trench 1 Topsoil
2001	Deposit	Trench 2 Topsoil
3001	Deposit	Trench 3 Topsoil
4001	Deposit	Trench 4 Topsoil
5001	Deposit	Trench 5 Topsoil
6001	Deposit	Trench 6 Topsoil
7001	Deposit	Trench 7 Topsoil
7002	Deposit	Trench 7 Subsoil
8001	Deposit	Trench 8 Topsoil
9001	Deposit	Trench 9 Topsoil
9002	Deposit	Trench 9 Subsoil
10001	Deposit	Trench 10 Topsoil
10002	Deposit	Trench 10 Subsoil
11001	Deposit	Trench 11 Topsoil
11002	Deposit	Trench 11 Subsoil
12001	Deposit	Trench 12 Topsoil
12002	Deposit	Trench 12 Subsoil
13001	Deposit	Trench 13 Topsoil
14001	Deposit	Trench 14 Topsoil
14002	Deposit	Trench 14 Subsoil
15001	Deposit	Trench 15 Topsoil
15002	Deposit	Trench 15 Subsoil
16001	Deposit	Trench 16 Topsoil
16002	Deposit	Trench 16 Subsoil
17001	Deposit	Trench 17 Topsoil
17002	Deposit	Trench 17 Subsoil
18001	Deposit	Trench 18 Topsoil
18002	Deposit	Trench 18 Subsoil
19001	Deposit	Trench 19 Topsoil
19002	Deposit	Trench 19 Subsoil
20001	Deposit	Trench 20 Topsoil
20002	Deposit	Trench 20 Subsoil
21001	Deposit	Trench 21 Topsoil
21002	Deposit	Trench 21 Subsoil

22001	Deposit	Trench 22 Topsoil
22002	Deposit	Trench 22 Subsoil
23001	Deposit	Trench 23 Topsoil
23002	Deposit	Trench 23 Subsoil

## Appendix 2- Photographic Index

### Frame

No.	Context No.	Scales	Description
1	N/A	1m	Trial Trench 2. Facing East
2	N/A	1m	Trial Trench 2. Facing South-West
3	N/A	1m	Trial Trench 3. Facing South-East
4	N/A	1m	Trench 3. Facing North-West
5	N/A	1m	Trench 4. Facing South-West
6	N/A	1m	Trench 4. Facing North-East
7	N/A	1m	Trench 5. Facing North-East
8	N/A	1m	Trench 5. Facing South-West
9	N/A	1m	Trench 6. Facing North-West
10	N/A	1m	Trench 6. Facing South-East
11	N/A	1m	Trench 13. Facing North-East
12	N/A	1m	Trench 13. Facing South-West
13	N/A	1m	Trench 20. Facing North
14	N/A	1m	Trench 20. Facing South
15	N/A	1m	Trench 12. Facing South-East
16	N/A	1m	Trench 12. Facing North-West
17	N/A	1m	Trench 11. Facing South-West
18	N/A	1m	Trench 11. Facing North-East
19	N/A	1m	Trench 19. Facing South-East
20	N/A	1m	Trench 19. Facing North-West
21	N/A	1m	Trench 18. Facing North-East
22	N/A	1m	Trench 18. Facing South-West
23	N/A	1m	Trench 22. Facing North-East
24	N/A	1m	Trench 22. Facing South-West
25	N/A	1m	Trench 23. Facing South-West
26	N/A	1m	Trench 23. Facing North-East
27	N/A	1m	Trench 25. Facing East
28	N/A	1m	Trench 25. Facing West
29	N/A	1m	Trench 21. Facing North-East
30	N/A	1m	Trench 21. Facing South-West
31	N/A	1m	Trench 17. Facing East



32	N/A	1m	Trench 17. Facing West
33	N/A	1m	Trench 16. Facing North-East
34	N/A	1m	Trench 16. Facing South-West
35	N/A	1m	Trench 14, Facing North-East
36	N/A	1m	Trench 14. Facing North-East
37	N/A	1m	Trench 15. Facing North-West
38	N/A	1m	Trench 15. Facing South-East
39	N/A	1m	Trench 9. Facing North-East
40	N/A	1m	Trench 9. Facing South-West
41	N/A	1m	Trench 8. Facing North-West
42	N/A	1m	Trench 8, Facing South-East
43	N/A	1m	Trench 7. Facing North-East
44	N/A	1m	Trench 7. Facing South-West
45	N/A	1m	Trench 8. Facing North-West
46	N/A	1m	Trench 8. Facing South-East
47	N/A	1m	Trench 10. Facing North-West
48	N/A	1m	Trench 10. Facing South-East

## Appendix 1-3



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Land at Louth Road  
New Waltham  
North East Lincolnshire

DM/0118/15/OUT

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Written Scheme of Investigation  
Archaeological Trial Trenching

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Land at Louth Road  
New Waltham  
North East Lincolnshire

WRITTEN SCHEME OF INVESTIGATION:  
Archaeological Trial Trenching

DM/0118/15/OUT

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Land at Louth Road  
New Waltham  
North East Lincolnshire

Written Scheme of Investigation  
Archaeological Trial Trenching

**1 Summary**

1.1 This document sets out the details for the archaeological work required at Land at Louth Road, New Waltham, North East Lincolnshire in order to inform the Archaeological Officer at North East Lincolnshire County Council of the archaeological potential of the site, prior to the commencement of a large residential development with associated infrastructure. The Written Scheme of Works has been commissioned by Barratt David Wilson Homes.

1.2 In accordance with the recommendations of the National Planning Policy Framework (February 2019) on 'Archaeology and Planning' a staged scheme of archaeological work is proposed. The results of the Trial Trenching, which follows a Geophysical Survey, will be summarised in a report and an appropriate mitigation strategy will be formulated if necessary.

**2 Site Description and Planning Background**

2.1 Outline planning permission has been granted for the construction of up to 400 dwellings including the provision of a small corner shop, open space and associated infrastructure (planning reference DM/0118/15/OUT). Condition 2 of the outline planning permission states;

*The permission hereby granted is in outline form only and no development shall begin until full details of the following reserved matters have been submitted to and approved by the Local Planning Authority and the development shall then be carried out only as approved:*

- (a) the layout, scale and appearance of the development.*
- (b) design and construction details of the estate roads and*
- (c) a landscaping scheme for the site including details of existing trees, hedges and planting to be retained*
- (d) phasing details including the phasing of highway works and infrastructure. (e) existing and proposed site levels and the levels of the proposed roads.*
- (f) a drainage strategy outlining the system of drainage for foul and surface water flows arising from the entire development.*
- (g) lighting details.*
- (h) the results of archaeological investigation the scope of which shall have first been agreed in writing by the Local Planning Authority.***
- (i) air quality assessment and details on how any impacts highlighted are to be mitigated.*

2.2 The Proposed Development Area measures approximately 12.6Ha and lays to the west of New Waltham and approximately 5km south west of Grimsby (fig 1).

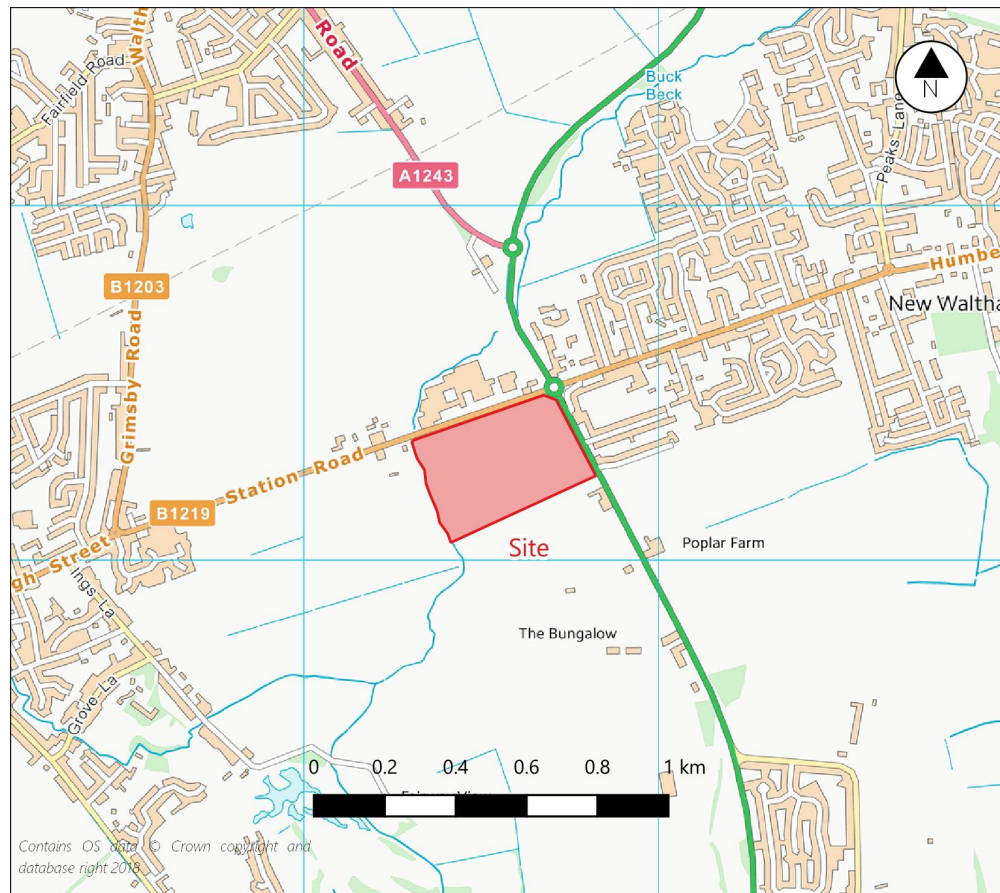


Figure 1. Site Location. 1:20,000

- 2.3 The site is bounded to the north by Station Road, to the east by Louth Road and to the south and west by arable agricultural land.
- 2.4 The site sits on deposits of the Burnham Chalk Formation (British Geological Survey, 2019).

### **3. Archaeological and Historical Background**

3.1 Cropmark data in the region has allowed areas of potential prehistoric or Romano-British enclosure systems to be identified in the vicinity of the site, including on land to the north of Station Road (NRHE ref. 1053336) whilst three potential Bronze-Age round barrows were identified on land south-west of the site, close to Waltham.

3.3 In February 2019 a Geophysical Survey was carried out across the site (Phase. 2019). The majority of anomalies are likely to relate to modern material, buried services and agricultural activity. Linear and curvi-linear anomalies were also identified which although of uncertain origin, did not form any clear patterns which would indicate an archaeological origin. Phase (2019) point out that it is possible that the strength of responses from modern material may mask other sub-surface anomalies.

### **4. Aims and Objectives**

4.1 The aim of the Archaeological Trial Trenching is to determine the presence/absence, nature, date, quality of survival and importance of archaeological deposits to enable an assessment of the potential and significance of the archaeology to be made.

### **5 Compliance**

5.1 MAP will adhere to the general principles of the CIfA Code of Conduct (CIfA 2014) throughout the project and to the CIfA 'Standards and Guidance for Archaeological Field Evaluations' (CIFA 2014b).



- 5.2 All work will be carried out in accordance with chapter 16 of the National Planning Policy Framework (February 2019) on 'Archaeology and Planning'.
- 5.3 The work will be monitored under the auspices of the Archaeological Officer at North East Lincolnshire County Council who should be consulted before the commencement of site works.
- 5.4 All maps within this report have been produced from the Ordnance Survey with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright. License No. AL 50453A and also data derived from Open Street Map (<https://www.openstreetmap.org/copyright>).
- 5.5 If human remains are encountered during the course of this evaluation it is considered best practice to not remove the remains at this stage, however, this should be considered at a site-specific level. If it is deemed necessary to remove human remains, this will be carried out under the conditions of licences for the removal of human remains (issued by the Ministry of Justice) and in accordance with the Burial Act (1857) and 'Guidelines to the Standards for Recording Human Remains' (Brickley & McKinley. 2004) to ensure that they are treated with due dignity.
- 5.6 MAP Archaeological Practice is an ISO 9001 accredited organisation (certificate number GB2005425). The award of the ISO 9001 certificate, independently audited by the British Standards Institution (BSI), demonstrates MAP's commitment to providing a quality service to our clients. ISO (the International Organisation for Standardisation) is the most recognised standards body in the world, helping to drive excellence and continuous improvement within businesses.

## 6 Fieldwork Methodology

### 6.1 Excavation and Recording

6.1.1 Twenty-three Trial Trenches are proposed, positioned across the site to investigate geophysical anomalies but also areas which appear void of archaeology in the results of the survey. All proposed trenches measure 50m by 2m (Fig 2).

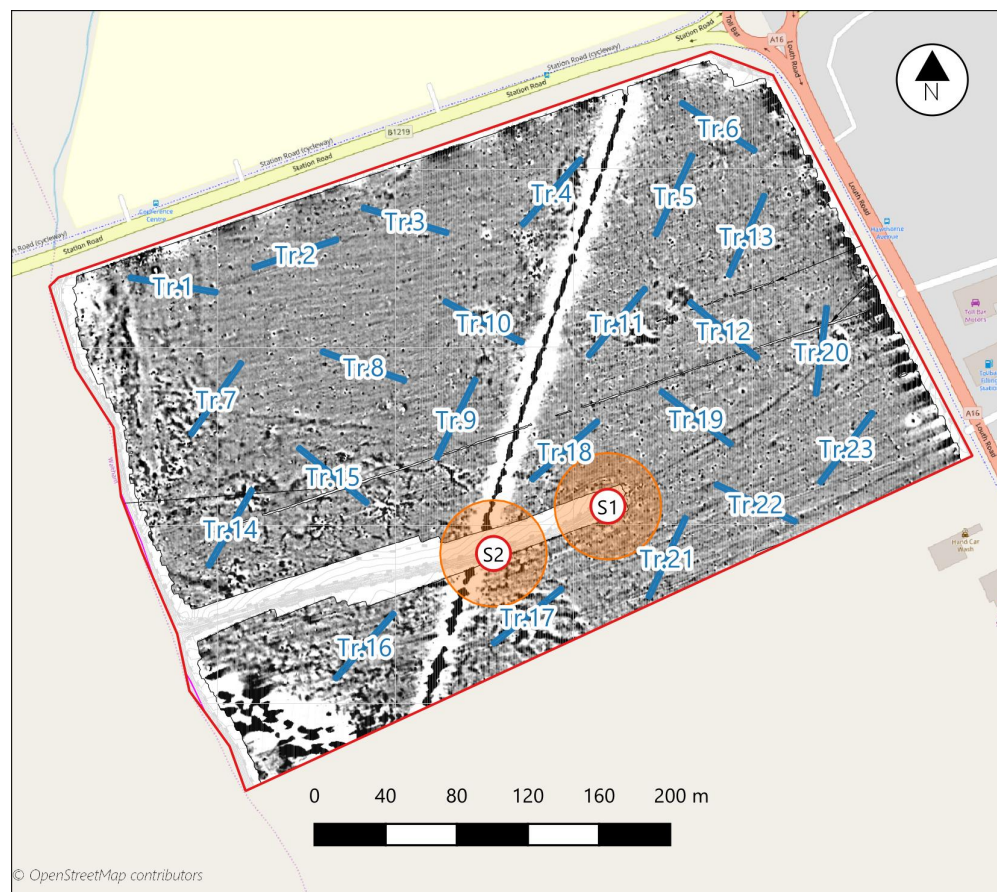


Figure 2. Proposed Trench Location. 1:4000

6.1.2 All overburden will be carefully removed by mechanical excavator using a wide toothless blade, under archaeological supervision, to the top of archaeological features or layers. Excavated topsoil will be redeposited in

bunds around the edge of the site, or at an alternative location, to be determined in agreement with the client. Top soil and subsoils will be stored separately, and all spoil will be stored and managed in line with the standards of the Construction Code of Practice for Sustainable Use of Soils on Construction Sites (DEFRA 2009).

- 6.1.3 All excavation of archaeological features and deposits carried out will be by hand. Areas of intensive modern disturbance will be given a low priority in excavation. Where practicable, the fills of these features will be removed by mechanical excavator.
- 6.1.4 Context recording methodologies and systems will be used. All archaeological deposits will be recorded according to principles of stratigraphic excavation on MAP's *pro forma* sheets, which are compatible with the MoLAS recording system. The MoLAS recording manual will be used on site where necessary. The stratigraphy of trenches will be recorded even if no archaeology is found.
- 6.1.5 The excavation sampling policy is :
- a. A 100% sample of stakeholes
  - b. An initial 50% sample should be taken of all postholes, but where they are part of a building these should be 100% excavated
  - c. A 50% sample of pits with a diameter up to 1.5m (where justified, these should be 100% excavated,
  - d. A minimum 25% sample of all pits over 1.5m in diameter, but this should include a complete section across the pit to record a full profile (where justified, these should be 100% excavated)

- e. All junctions/intersections and corners of linear features will be investigated and their stratigraphic relationships determined – if necessary, using box sections and all ditch terminals will be examined,
  - f. All funerary contexts, all buildings and all industrial features will be subject to 100% excavation. As noted above, postholes and the enclosing ditches around barrows and roundhouses would be first subject to sample excavation, sectioning and recording, but then should be fully excavated
- 6.1.6 In certain cases, the use of mechanical excavation equipment may also be appropriate for removing deep intrusions (e.g modern brick and concrete floors or footings), or for putting sections through major features after partial excavation (e.g ditches), or through deposits to check that they are of natural origin
- 6.1.7 A full written, drawn and photographic record will be made of all material revealed during the course of the Trial Trenching. Plans should be completed at a scale of 1:50 or 1:20 (as appropriate), whilst section drawings should be at a scale of 1:10. High resolution digital photographs should form the basis of the photographic archive.
- 6.1.8 A sampling strategy for the recovery for environmental remains has been formulated in accordance with an Environmental Strategy written by an Environmental Consultant (Diane Aldritt, appendix 1) and also follows the guidance of the Association for Environmental Archaeology (1995) and Historic England (2011).
- 6.1.9 Samples will be collected from primary and secondary contexts, where applicable, from a range of representative features, including pit and ditch

fills, postholes, floor deposits, ring gullies and other negative features. Where features allow between 40 and 60 litres will be taken although entire contexts will be sampled if the volume is low, and specialist samples, such as for General Biological Analysis (GBA) or column samples, will be of the order of 20 litres. Positive features will also be sampled; retention of structural material such as bricks will be implemented where necessary. Sampling will also be considered for those features where dating by other methods (for example pottery and artefacts) is uncertain. Animal bones will be hand collected, and bulk samples collected from contexts containing a high density of bones. Spot finds of other material will be recovered where applicable. Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed at the time of the fieldwork wherever possible, partly to permit variation of sampling strategies if necessary, but also because processing at a later stage could cause delays.

6.1.10 If human remains are encountered during the course of this evaluation and it is deemed necessary to remove the remains, this will take place under the conditions of licences for the removal of human remains (issued by the Ministry of Justice, to ensure that they are treated with due dignity). The preferred option would be for them to be adequately recorded before lifting, and then carefully removed for scientific study, and long-term storage with an appropriate museum; however, the burial licence may specify reburial or cremation as a requirement.

6.1.11 A finds recovery and conservation strategy will be discussed with the Archaeology Manager and recipient museum in advance of the project commencing, and a policy for finds recording should be agreed and submitted to the Archaeology Manager, before commencement of site

works. Any recording, marking and storage, materials will be of archive quality, and recording forms and manuals will be submitted to the Archaeology Manager, prior to the commencement of on-site works, if these have not been supplied previously. Allowance will be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs. We have made an allowance for a minimum four boxes in calculating estimates for museums storage grant.

6.1.12 All finds (artefacts and ecofacts) visible during excavation will be collected and processed, unless variations in this principle are agreed with the Local Authority. Finds will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds*. In accordance with the procedures outlined in *MoRPHE*, all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment.

6.1.13 We will make provision within our excavation strategies, where necessary, for use of shoring, pumps or artificial lighting. Such strategies will also follow for sampling for radiocarbon, archaeomagnetic and/or dendrochronological determinations, as appropriate: where in situ timbers are found to survive in good condition, samples should be taken for dendrochronological assay.

6.1.14 Arrangements for site access and reinstatement are to be agreed with the commissioning body.

- 6.1.15 Health and safety will take priority over archaeological matters. All archaeologists undertaking fieldwork must comply with all Health and Safety Legislation, this includes the preparation of a Risk Assessment.
- 6.1.16 Necessary precautions should be taken over underground services and overhead lines.
- 6.1.17 All on site staff hold valid CSCS cards. All Project Officers and Project Managers hold a valid First Aid at Work Certificate and Site Supervisor Safety Training qualifications.
- 6.1.18 MAP will provide evidence of all necessary insurances, including Employer's Liability, Professional Liability and Public Liability Cover.

## **7. Post Excavation Analysis and reporting**

- 7.1 Upon completion of the evaluation, the artefacts, soil samples and stratigraphic information will be assessed as to their potential and significance for further analysis.
- 7.2 A report will be prepared to include the following:
- a) A non-technical summary of the results of the work, Introduction and aims and objectives.
  - b) An introduction which should include
    - the site code/project number
    - planning reference number and SMR Casework number
    - dates when fieldwork took place
    - grid reference

- c) An account of the methods and results of the evaluation, describing structural data and associated finds and/or environmental data recovered.
- d) Interpretation, including phasing of the site sequence and spot-dating of ceramics (Descriptive material should be clearly separated from interpretive statements). This shall be supported by the use of photographs and drawings, to include an overall plan of the site accurately identifying the location of trenches; individual trench plans as excavated indicating the location of archaeological features, with at least one section detailing the stratigraphic sequence of deposits within each trench.
- e) A specialist assessment of the artefacts recovered with a view to their potential for further study. Allowance should be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs.

Assessment of artefacts must include inspection of X-radiographs of all iron objects, a selection of non-ferrous artefacts (including coins), and a sample of any industrial debris relating to metallurgy. A rapid scan of all excavated material should be undertaken by conservators and finds researchers in collaboration. Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration will be given to possible investigative procedures (e.g glass composition studies, residues in or on pottery, and mineral preserved organic material). Once assessed, all material will be packed and stored in optimum conditions, as described in *First Aid For Finds*. Waterlogged organic materials should be dealt with, following Historic England documents, *Guidelines for the care of waterlogged archaeological leather*, and guidelines on the recording, sampling, conservation and curation of waterlogged wood.



- f) A specialist assessment of environmental samples taken, with a view to their potential for subsequent study.

Processing of all samples collected for biological assessment, or sub-samples of them, will be completed. Bulk and site-riddled samples from dry deposits should have been processed during excavation, where possible. The preservation state, density and significance of material retrieved must be assessed, following methods presented in Environmental Archaeology and archaeological evaluations, or existing local guidelines, until national guidelines are available. Unprocessed sub-samples must be stored in conditions specified by the appropriate specialists.

Assessments for any technological residues will be undertaken. Samples for dating must be submitted to laboratories promptly, so as to ensure that results are available to aid development of specifications for subsequent mitigation strategies.

- g) The results from investigations in archaeological sciences will be included in the Site Archive and presented in the Evaluation Report. Reports must include sufficient detail to permit assessment of potential analysis. They will include tabulation of data in relation to site phasing and contexts, and must include non-technical summaries. The objective presentation of data must be clearly separated from interpretation. Recommendation for further investigation (both on samples already collected, and at future excavations) must be clearly separated from the results and interpretation.
- h) An assessment of the archaeological significance of the deposits identified, in relation to other sites in the region.
- i) A conclusion with recommendations for further post-excavation work, if required.
- j) Detailed archive location and destination.

- k) Appendices and figures, as appropriate, including a copy of the specification and/or project design.
  - l) References and bibliography of all sources used
- 7.3 Copies of the report will be submitted to the commissioning body, the Local Planning Authority and the North East Lincolnshire Historic Environment Record within an agreed timetable and subject to any contractual requirements on confidentiality (see 8.1 below).
- 7.4 We will provide a digital copy of the report in PDF format to the North East Lincolnshire Historic Environment Record Office.
- 7.5 A Brief, interim report may be required shortly after the completion of fieldwork.
- 7.6 The following Specialists have been contacted as are available to work on the project:
- Pottery - T G Manby (Prehistoric),  
M R Stephens (medieval and Post-medieval)  
P A Ware (Roman)
  - Flint - P Makey
  - Animal Bone – Jane Richardson
  - Environmental Sampling – Diane Alldritt
  - Conservation – York Archaeological Trust
  - Human Remains – York Osteology
  - Ceramic Building Material – Dr Phil Mills
  - Clay Tobacco Pipe - M R Stephens

## 8. Copyright, Confidentiality and Publicity

- 8.1 Unless the individual/organisation commissioning the project wishes to state otherwise, the copyright of any written, graphic or photographic records and reports rests with MAP.

## 9. Archive Preparation and Dissemination

- 9.1 The requirements for archive preparation and deposition must be addressed and undertaken in a manner agreed with the recipient museum: in this instance, the North Lincolnshire is recommended. The recipient museum will be contacted at an early stage, before submission of the project design and before commencement of fieldwork.
- 9.2 A site archive should be prepared in accordance with the specification outlined in *Management of Archaeological Projects* (MoRPHE (Lee, E, 2006)). See also *Towards an Accessible Archaeological Archive, the Transfer of Archaeological Archives to Museums: Guidelines for use in England, Northern Ireland, Scotland and Wales* Society of Museum Archaeologists 1995.
- 9.3 The site archive, including finds and environmental material, subject to the permission of the relevant landowners, will be labelled, conserved and stored according to the United Kingdom Institute for Conservation (UKIC)'s. Provision will be made for the stable storage of paper records and their long term storage on a suitable medium, such as microfilm, a copy of which should be deposited with the NMR (Historic England). An index to the contents of the archive together with details of its date and place of deposition should be lodged with the SMR.

- 9.4 Archive deposition must be arranged in consultation with the recipient museum and the Archaeological Officer at North East Lincolnshire County Council and must take account of the requirements of the recipient museum and the relevant guidelines (see above) relating to the preparation and transfer of archives. The timetable for deposition shall be agreed on completion of the site archive and narrative.

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## APPENDIX 1

### Conservation Strategy By Ian Panter of York Archaeological Trust

Artefacts from all categories and all periods will be recovered as a matter of routine during the excavation. When retrieved from the ground finds will be kept in a finds tray or appropriate bags in accordance with **First Aid for Finds**. Where necessary, a conservator may be required to recover fragile finds from the ground depending upon circumstances.

If waterlogged conditions are encountered a wide range of organic materials may be recovered, including wood, leather and textiles. Advice will be sought from a conservator to discuss optimum storage requirements before any attempt is made to retrieve organic finds and structural timbers from the ground.

After the completion of the fieldwork stage, a conservation assessment will be undertaken which will include the X-radiography of all the ironwork (after initial screening to separate obviously modern debris), and a selection of the non-ferrous finds (including all coins). A sample of slag may also be X-rayed to assist with identification and interpretation. Wet-packed material, including glass, bone and leather will be stabilised and consolidated to ensure their long-term preservation. All finds will be stored in optimum conditions in accordance with **First Aid for Finds** and **Guidelines for the Preparation of Excavation Archives for Long-Term Storage** (Walker, 1990).

Waterlogged wood, including structural elements will be assessed following the English Heritage guidelines, **Waterlogged wood: sampling, conservation and**

curation of structural wood (Brunning 1996). The assessment will include species identification, technological examination and potential for dating.

The conservation assessment report will include statements on condition, stability and potential for further investigation (with conservation costs) for all material groups. The conservation report will be included in the updated project design prepared for the analysis stage of the project.

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## APPENDIX 2

### Environmental Strategy By Diane Alldrit

The on-site environmental sampling strategy will systematically seek to recover a representative sample of botanical, molluscan (both terrestrial and aquatic), avian and mammalian evidence from the full range of contexts encountered during the excavation. This will enable, at the assessment stage, the possibility for radiocarbon dating material to be obtained, and for an initial analysis of the economic and environmental potential of the site. In order to achieve this, a bulk sample (BS, Dobney *et al* 1992) comprising an optimum size of 40litre of sediment (where possible) should be taken from **every stratigraphically secure and archaeologically significant context**. In practice it may not always be possible to obtain 28l of sediment from certain features during the assessment stage, for instance from partially excavated pits or post-holes, in which case a single bucket sample, c.10 to 14litre should be taken at the site supervisors discretion. Deposits of mixed origin, for instance topsoil, wall fills and obvious areas of modern contamination, should be avoided where possible, as these will contain intrusive material and not provide secure radiocarbon dates.

All buckets and other sampling equipment must be clean and free of adherent soil in order to prevent cross-contamination between samples. If dry soil is to be stored for any length of time it should be kept in cool, dry conditions, and away from strong light sources. However, it is preferable to process samples as soon as possible after excavation.

Bulk soil samples shall be processed using an Ankara-type water flotation machine (French 1971) for the recovery of carbonised plant remains and charcoal. The

flotation tank should contain a >1mm mesh for collection of the retent or 'residue' portion of the sample (which may contain pottery, lithics and animal / bird bone, in addition to the heavier fragments of charcoal which do not float). The 'flot' portion of the sample, which may include carbonised seeds, cereal grain, charcoal and sometimes mollusc shell, should be captured using a nest of >1mm and >300micron Endicot sieves. Flotation equipment, including sieves, meshes, brushes and so forth must be meticulously cleaned between samples in order to prevent contamination of potential radiocarbon dating material. All material resulting from flotation will be dried prior to microscopic examination. Flotation is not suitable for the recovery of pollen or for processing waterlogged samples, which shall be discussed below.

Where there is potential for waterlogged preservation, shown for instance by the presence of wood and other organic or wet material, then a 5 to 10litre size sample should be taken (GBA sample, Dobney *et al* 1992). This material is to be retained for later processing using laboratory methods to enable the recovery of waterlogged plant material and insects. For assessment purposes a 1litre sub-sample of the organic sediment from each potential waterlogged sample shall be processed using laboratory wash-over methods, and once processed **kept wet**. All waterlogged samples awaiting processing should be kept damp, preferably stored in plastic sealable tubs, and in cool conditions. Where large waterlogged timbers are recovered these should be stored under refrigerated conditions and an appropriate conservator consulted.

There is the possibility that the waterlogged deposits may require parasite egg analysis. It is proposed that the 'squash' technique is adapted, this would require small lumps of raw sediment approximately 3mm in diameter taken from three separate points from within the sample and homogenised in a little water by

shaking. After allowing coarse particles to settle for a few moments, a drop of the supernatant was removed. This work would be undertaken by either John Carrott or Harry Kenwood if necessary.

If sediment suitable for pollen analysis is encountered, for instance rich organic peaty deposits, or deep ditch sections with organic preservation, the archaeobotanical specialist is to be consulted prior to any sampling taking place. These deposits would require sampling with large kubiena tins and require the specialist to be on-site. Pollen analysis, even at assessment level, would subsequently impose a considerable cost implication should it be carried out.

The specialist is available to provide consultation and advice on the environmental sampling strategy throughout the course of the excavation and during post-excavation processing if required.

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