



East Riding Archaeology

**ARCHAEOLOGICAL MONITORING IN
ADVANCE OF THE ERECTION OF A RESIDENTIAL
DEVELOPMENT FOR UP TO 70 DWELLINGS, GARAGES
AND ASSOCIATED ACCESS AT LAND SOUTH OF
THE REDWOODS, HIGH STILE, LEVEN,
EAST RIDING OF YORKSHIRE.**

Prepared for:
Southwell Country Homes Ltd

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Summary

Following a geophysical survey in December 2017, an archaeological evaluation by Trial Trenching was undertaken between 5th and 9th February 2018, followed by a Watching Brief between 4th February and 24th May 2021, at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire, in advance of the construction of a residential development (up to 70 houses, garages and associated access). The staged schemes of monitoring were requested as the application site lies on the edge of the historic core of the village of Brandesburton with known medieval and post-medieval deposits within the locale.

Five of the seven Trial Trenches were located to investigate eleven of the seventeen anomalies detected on the geophysical survey, Anomalies 2, 3, 6, 8, 11-17. Only three were identified: Anomaly 3 was a naturally formed hollow within Trench 4; Anomaly 17 comprised a tree bole and a pit within Trench 6 and Anomaly 16, also within Trench 6, was found to be a land drain. No evidence of the remaining anomalies was encountered. An additional naturally formed hollow recorded in Trench 6 was not detected on the geophysical survey but may also represent, in part, Anomaly 17.

During the Watching Brief, the only archaeological feature encountered was the continuation of the hollow within Trench 6.

A small assemblage of post-medieval and late 19th/early 20th century pottery, a late 19th century clay tobacco pipe and a fragment of medieval roof tile was recovered during the schemes of monitoring. The environmental samples taken were of low bioarchaeological potential.

1. Introduction

This report presents the results of a staged scheme of archaeological monitoring by evaluation (Trial Trenching) and subsequent a Watching Brief undertaken between 5th and 9th February 2018 and 4th February & 24th May 2021, respectively, by East Riding Archaeology at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire. The archaeological monitoring was carried out in advance of the construction of a residential development (up to 70 houses, garages and associated access) for Southwell Country Homes Ltd, in response to recommendations by the Humber Historic Environment Record Office (22nd July 2016) and a subsequent planning condition issued by the East Riding of Yorkshire Council in January 2017.

In December 2017 the initial stage of archaeological work, a geophysical survey, detected 17 anomalies (Geophiz.biz 2017; Appendix C). Based on the results of the survey, an evaluation was undertaken in order to identify the anomalies and record the presence/absence of any archaeological features. Although the Trial Trenching produced limited results, archaeological features were identified within eastern extent of the development area, therefore monitoring of the ground-works within this area was undertaken during the Watching Brief.

All works were undertaken in accordance with the Written Scheme of Investigations produced and submitted to HHER by East Riding Archaeology (Lyll & Tibbles 2017; Fraser & Tibbles 2018a, *ibid* 2018b; Appendix D).

2. Site Location and Geology

The proposed development area is currently Redwoods Livery/equestrian centre with associated paddocks and stable yard (*Figure 1*) (*Plates 1-4*). The area is bounded by fields to the east and south and existing dwellings to the north and west. The underlying solid geology of the area is Flamborough Chalk Formation – Chalk with superficial deposits of Glaciofluvial Deposits, Devensian – Sand and Gravel (British Geological Survey 2021).

3. Planning Background

The application for this development, reference: DC/16/02035/STOUT/STRAT, and, most recently DC/17/02687/STREAM, was submitted to East Riding of Yorkshire Council in June 2016 and August 2017, respectively. Permission for the outline application, DC/16/02035/STOUT/STRAT, was subsequently granted (30th January 2017) subject to various conditions including Condition 15 pertaining to archaeology:

“No development shall take place until the applicant, or their agent or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. Development shall be carried out in accordance with the approved details.

- i) The proper identification and evaluation of the extent, character and significance of archaeological remains within the application area
- ii) An assessment of the impact of the proposed development on the archaeological remains
- iii) Proposals for the preservation in situ, or for the investigation, recording and recovery of archaeological remains and the publishing of the findings, it being understood that there shall be a presumption in favour of their preservation in situ wherever possible
- iv) Sufficient notification and allowance of time to archaeological contracts nominated by the developer to ensure that archaeological fieldwork as proposed in pursuance of (i) and (iii) above is completed prior to the commencement of permitted development in the area of archaeological interest; and
- v) Notification in writing to the Curatorial Officer of the Humber Archaeology Partnership of the commencement of archaeological works and the opportunity to monitor such works

This condition is imposed because the archaeological site lies within the medieval settlement of Leven, which itself sits within an archaeological landscape that has produced evidence of prehistoric and Romano-British occupation. This condition is in line with paragraphs 128, 129, 130, 131, 135, 136, 139 and 141 within section 12 '*Conserving and enhancing the historical environment*' in the National Planning Policy Framework 2012."

The Humber Historic Environment Record Office (HHER) also commented (22nd July 2016)

"A suitable staged scheme to preserve or record the archaeological deposits should include the following provisions:

Evaluation

1. A non-destructive geophysical survey of the proposed development area to test for the presence of buried archaeological deposits on the site.
2. Should the above survey indicate the presence of likely archaeological features, limited Trial Trenching would be recommended to determine the nature, extent and importance of any remains. The results of these preliminary stages should enable the impact of the proposed development on any archaeological deposits to be fully assessed. An informed and reasonable decision can then be taken regarding the future treatment of the remains.

Further work

3. Should the evaluation show that the site contains significant archaeological remains, mitigation measures should be explored to achieve physical or *in situ* preservation of those remains. If destruction is unavoidable, detailed excavation of selected areas, followed by post-excavation analysis and publication of results, should take place in order to achieve preservation by record.

All archaeological site work, including geophysical survey, must be undertaken by an archaeological contractor, who is acceptable to the Local Planning Authority, after consultation with their archaeological advisor."

4. Archaeological/Historical Background

The following has been provided by the HHER, 22nd July 2016: SMR/PA/CONS/20328.

"The site of the proposed development lies within the medieval settlement of Leven, a village which is recorded in the Domesday Book of 1086 as '*Leuene*', when it was owned by the Archbishop of York. The settlement is sited on an outcrop of well-drained gravels and sands, in the middle of an area of natural marsh and wetland belonging to the Holderness plain; as such, it has attracted early settlement since the Neolithic period. An Anglo-Saxon cross fragment from the site of St Faith's Church (one mile to the west of the modern village) suggests that a settlement had evolved here by at least the late Saxon period, indeed the name Leven has Anglian origins, meaning the '*the slow-moving one*'. The village had a medieval grant of a market and fair, although the market had lapsed by c.1750.

To the south-east of the proposal site lies a major crop-mark complex representing a hill-top settlement of probable Iron Age date. Previous archaeological work took place on this complex in 1992 and 1994-5 during the construction of the Leven bypass. A large enclosing ditch containing late Iron Age pottery was identified, whilst a ditch within the enclosure was radiocarbon-dated to 371-100 cal B.C. Succeeding this activity were two successive Romano-British ladder settlements, which lay about 100m apart – the earlier dating to the 2nd century A.D., the later to the mid 4th to early 5th centuries. Further excavation on elements of this crop-mark complex in the mid to later 1990s recorded a major complex of hill-top enclosures dating from the later Bronze Age or the early Iron Age, but with prehistoric mortuary enclosures and ring-ditches lower down the slopes – possibly dating to the later Neolithic or early Bronze Age – and Iron Age roundhouses, Romano-British and medieval features at the base of the slope. It is likely therefore that any ground-works in this area would encounter previously unknown heritage assets dating to the prehistoric and later periods."

Additional evidence for Iron Age/Romano-British settlement within the vicinity was recorded just to the south of the Leven bypass during excavations between 2013 and 2017 (ERA 2013; *ibid forthcoming*). A programme of Trial Trenching and subsequent monitored strip, map and recording, identified numerous features including a ring ditch, the possible remains of two ovens and a stone-lined hearth, field boundaries, ditches and pits. These features produced an assemblage of late Iron Age to early Romano-British pottery and prehistoric finds including part of an Early Bronze Age stone battle-axe and a Late Neolithic flint core of "chopper" shape.

5. Methodology

All work carried out by East Riding Archaeology was undertaken by qualified archaeologists in accordance with the appropriate standards and guidelines (ClfA 2020a; *ibid* b; Evans 1999; HE 2015; EH 2008) and the Written Schemes of Investigation (Appendix D). ERA staff took the appropriate Covid-19 precautionary measures on social distancing and hygiene as per ERA's site risk assessment and Government guidelines (i.e. remaining 2m apart, using sanitiser at regular intervals, wearing a mask, gloves and not sharing equipment) during the monitoring whilst under the 2021 lockdown.

The evaluation strategy comprised the excavation of seven Trial Trenches, numbered T1 – T7, which were positioned to investigate selective anomalies detected on the geophysical survey and 'blank areas' (*Figure 2*). The trenches were stripped of the overlying turf/topsoil and excavated down to the first significant archaeological horizon or natural deposits by a mechanical excavator with a wide toothless bucket under direct archaeological supervision. A sufficient sample of the features/deposits encountered were excavated in an archaeological and stratigraphic manner down to naturally occurring deposits in order to establish the aim of the evaluation and to determine the stratigraphic sequence in each trench. The excavated material (spoil) was visually examined for archaeological artefacts.

The trenches and exposed sections were hand-cleaned and recorded on *pro-forma* sheets using the East Riding Archaeology context recording system. A written record including description and dimensions was made of each deposit; plans and sections were produced at scales of 1:50 and 1:20, respectively. A digital photographic record was made of all areas monitored and the level of features or deposits relative to Ordnance Datum was determined. All artefacts recovered were bagged according to their context and environmental samples were taken of selective features/deposits.

During the Watching Brief, the following areas were monitored: the foundations for house plots 58-63; the central and northern extent of the main drainage within the access road leading to the site entrance; the drainage for the northern private drive and the central private drive (*Figure 8*). The same recording methodologies were applied during the Watching Brief with the exception that the developer's plan was annotated: plans at a scale of 1:50 and sections at scale of 1:20.

6. Results

EVALUATION

TRENCH 1 – WESTERN EXTENT OF DEVELOPMENT AREA

(*Figures 2, 3 & 5: Section 1*) (*Plate 5*)

Trench 1 was aligned E/W, measured roughly 24.2m long by 1.6m wide and was sited in the northern extent to investigate Anomaly 6.

The natural (102), a red-brown sand and gravel, was encountered 0.38m BGL (4.40m O.D) at the western end of the trench, falling to 0.27m BGL (4.19m O.D) at the eastern end.

The natural was overlaid by a 0.27-0.38m thick layer of turf and topsoil (101), which formed the current ground encountered at 4.78m O.D at the western end of the trench, falling to 4.46m O.D at the eastern end.

No archaeological features or evidence of Anomaly 6 was encountered and no artefacts were recovered from the topsoil.

TRENCH 2 – WESTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 3 & 5: Section 2) (Plates 6 & 7)

Trench 2 was aligned N/S, measured 24.5m long by 1.6m wide and was sited in the southern extent to investigate E/W aligned Anomalies 11-15.

The natural (202), which varied from a red-brown sand and gravel at the northern end of the trench to a yellow-brown sand at the southern end, was encountered between 0.30-0.36m BGL, 3.65m O.D at the northern end of the trench, falling to 3.28m O.D at the southern end.

A 0.30-0.36m thick layer of turf and topsoil (201) sealed the natural and formed the current ground, which undulated across the southern extent of the trench, encountered at 3.95m O.D at the northern end of the trench, falling to 3.58m O.D at the southern end.

No evidence of Anomalies 11-15 or archaeological features were encountered and no artefacts were recovered from the topsoil.

TRENCH 3 – WESTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 3 & 5: Section 3) (Plate 8)

Trench 3 was aligned NE/SW, measured 19.4m long by 1.6m wide and was sited in the eastern extent to investigate the 'blank area' to the east of Anomaly 6.

The natural (302), a red-brown sand and gravel, was encountered between 0.26-0.36m BGL (3.83-3.90m O.D).

The natural was overlaid by a 0.26-0.36m thick layer of turf and topsoil (301), which formed the current ground and was encountered between 4.11-4.26m O.D. No archaeological features were encountered and no artefacts were recovered from the topsoil.

TRENCH 4 – EASTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 3 & 6: Section 4) (Plates 9-12)

Trench 4 was aligned N/S, measured 22.65m long by 1.7m wide and was sited in the south-eastern extent to investigate Anomalies 3 and 8.

The natural, a yellow-brown, silt sand (406) was only exposed across the southern and central extents of the trench. 406 was encountered 0.4m BGL (3.16m O.D) at the southern end of the trench, falling to 0.5m BGL (2.83m O.D) in the central extent.

The northern extent of 406 was cut by natural hollow [407] (Anomaly 3) over 7m long N/S and over 0.88m deep, which extended beyond the width and northern edge of the trench. The earliest fill exposed within an exploratory sondage was a deposit of firm, blue gleyed, silt clay (408) over 0.1m thick, encountered 1.34m BGL (1.98m O.D). 408 was overlaid by a secondary fill of grey-brown clay (410) up to 0.2m thick, encountered 1.14m BGL (2.18m O.D), which was in turn overlaid by a tertiary fill of pale grey, silt sand (411) up to 0.5m thick, encountered 0.84m BGL (2.46m O.D). 408, 410 and 411 were all heavily stained with iron pan, devoid of artefacts and fluvio-glacial in origin. The environmental sample taken of 408 (Sample 2) was of no bioarchaeological potential.

Along the southern edge of the hollow, 411 was overlaid by a deposit of firm, grey, silt clay (412) up to 0.2m thick, which contained fragments of degraded yellow stone and formed the quaternary fill of the hollow. 412 and the northern extent of 411 were overlaid by a deposit of friable, grey-brown mottled, sand silt (405) up to 0.33m thick, representing the fifth fill of a hollow. 405 was in turn overlaid by a sixth fill, a soft, dark brown silt (409) up to 0.2m thick, encountered 0.56m BGL (2.72m O.D). Both 405 and 409 were devoid of artefacts and environmental samples taken of both deposits (Samples 1 & 3, respectively) were of no bioarchaeological potential.

The latest fill of the hollow and the natural (406) across the central and southern extent of the trench was overlaid by a layer of topsoil (404) up to 0.57m thick. 404 was encountered 0.12m BGL (3.44m O.D) at the southern end of the trench, falling to 0.43m BGL (2.84m O.D) at the northern end. A sherd of post-medieval pottery was recovered from 404.

404 was in turn overlaid by a layer of turf (403) up to 0.12m thick, which formed the current ground across the southern and central extents of the trench, encountered between 3.34-3.56m O.D.

Over the hollow across the northern extent of the trench, 403 was overlaid by a deposit of firm, yellow-brown clay (402) up to 0.2m thick to level/consolidate the undulating ground. 402 was overlaid by turf (401), up to 0.11m thick, which formed the current ground encountered at 3.28m O.D.

Although no evidence of Anomaly 8 was encountered within the trench, a linear depression on the same orientation was visible at current ground level to the immediate west of the trench.

TRENCH 5 – EASTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 4 & 6: Section 5) (Plate 13)

Trench 5 was aligned E/W, measured 19.2m long by 1.6m wide and was sited in the central eastern extent to investigate the 'blank area' to the north of Anomaly 3.

The natural orange-brown sand and gravel (502) was encountered between 0.15m BGL (3.60m O.D) at the western of the trench, falling to 0.2m BGL (3.18m O.D) at the eastern end.

The natural was overlaid by a 0.15-0.20m thick layer of turf and topsoil (501), which formed the current ground and was encountered at 3.75m O.D at the western end of the trench, falling to 3.38m O.D at the eastern end. No archaeological features were encountered and no artefacts were recovered from the topsoil.

TRENCH 6 – EASTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 4 & 7: Section 6) (Plates 14-17)

Trench 6 was aligned NE/SW, measured 20.5m long by 1.6m wide and was sited to the north of Trench 5 to investigate Anomalies 16 and 17.

The natural soft, yellow-grey sand (604) was encountered 0.62m BGL (2.87m O.D) at the north-eastern extent of the trench, falling to 0.70m BGL (2.79m O.D) in the centre before rising to 0.52m BGL (2.96m O.D) at the south-western end.

The trench was dominated by a natural hollow [616] over 20m long NE/SW by 0.27m deep. The primary fill of the hollow comprised a deposit of friable, grey, sand silt (615) up to 0.1m thick. 615 was in turn overlaid by a soft, red mottled, grey-brown clay silt, secondary fill (603) up to 0.2m thick, encountered 0.34m BGL (3.13m O.D). Both 603 and 615 were devoid of artefacts and the environmental sample taken of 615 (Sample 5) was of no bioarchaeological potential.

In the southern central extent the trench, the secondary fill of the hollow had been truncated by a 2.24m wide, 0.90m deep pit [608], which was possibly used to extract water. 608 contained a 0.18m thick, firm, blue-grey, silt clay, primary fill (612), a 0.46m thick brown, clay silt, secondary fill (611), a 0.18m thick loose grey-brown, clay silt tertiary fill (610) and a 0.25m thick light brown, sand silt quaternary fill (609). No artefacts were recovered from any of the pit fills. Although some potential ?preserved waterlogged plant remains were present, the environmental sample (Sample 4) taken from the primary fill (612) was of low bioarchaeological potential.

To the north-east of 608, the secondary fill of the hollow had also been truncated by a 2.90m wide, 0.64m deep tree bole [613], which contained a firm, grey-brown, silt clay fill (614) from which two sherds of post-medieval pottery were recovered. Anomaly 17 appeared to have been represented by the pit, tree bole and possibly, in part, by the hollow.

The earlier features and deposits were overlaid by a layer of topsoil (602) up to 0.5m thick, encountered at 0.1m BGL (3.65m O.D) at the north-eastern end of the trench, falling to 3.38m O.D at the south-western end. Two sherds of 19th century pottery and a fragment of medieval roof tile were recovered from (602).

The topsoil had been truncated by 1.35m wide, E/W aligned trench [605] up to 0.75m deep for a modern ceramic land drain (607), which represented Anomaly 16 on the geophysical survey. The trench had been back-filled with the excavated material (606).

The back-fill of the drain and topsoil had been overlaid by a layer of turf (601) up to 0.1m thick which formed the current ground. The turf was encountered at 3.75m O.D at the north-eastern end of the trench, falling to 3.48m O.D at the south-western end.

TRENCH 7 – EASTERN EXTENT OF DEVELOPMENT AREA

(Figures 2, 4 & 7: Section 7) (Plate 18)

Trench 7 was aligned NE/SW, measured 19.5m long by 1.6m wide and was sited in the northern extent to investigate Anomaly 2.

The natural orange-brown sand and gravel (702), was encountered between 0.24m BGL (4.32m O.D) at the north-eastern end of the trench, falling to 0.17m BGL (3.85m O.D) at the south-western end.

702 was sealed by a 0.17-0.24m thick layer of turf and topsoil (701), which formed the current ground and was encountered at 4.56m O.D at the north-eastern end of the trench, falling to 4.02m O.D at the south-western end.

No archaeological features or evidence of Anomaly 2 were encountered and no artefacts were recovered from the topsoil.

WATCHING BRIEF – EASTERN EXTENT OF DEVELOPMENT AREA

HOUSE PLOTS 58-63

(Figures 8-11: Sections 8 & 9) (Plates 19-32)

Six house plots (Plots 58-63) situated along the southern side of the northern private access road and east side of the central extent of the main access road were monitored. A series of 0.6m wide foundation trenches between 0.5-1.6m deep were excavated across the roughly rectangular plots, which measured up to 9.6m long E/W by up to 9.5m wide N/S.

In Plot 58, situated on the north side of the junction of the main access road and central private access road, deposits associated with the hollow [616] encountered in Trench 6 were exposed (*Plates 19 & 20*). The natural, which varied from orange-brown sand and gravel to brown clay (802), was encountered between 0.67-0.7m BGL. 802 was overlaid by a deposit of friable, grey, sand silt (803) up to 0.5m thick. 803 was in turn overlaid by a soft, red mottled, grey-brown clay silt (804) up to 0.3m thick, encountered 0.2m BGL. 803 and 804 represented the north-western continuation of the primary and secondary fills (615 and 603, respectively) of the hollow [616]; no artefacts were recovered.

The secondary fill (804) was sealed by a layer of turf and topsoil (801) up to 0.2m thick, from which a clay tobacco pipe stem was recovered. 801 formed the current ground.

In Plots 59-63 only the natural orange-brown sand and gravel (802) and overlying turf and topsoil (801) were exposed. No artefacts were recovered from the topsoil, which ranged from 0.15-0.25m thick and formed the current ground.

ACCESS ROAD AND MAIN DRAINAGE (Figures 8 & 9) (Plates 33-50)

The 6m wide access road had been stripped and consolidated with hardcore prior to monitoring (Plates 33 & 36). The stratigraphic deposits exposed in section comprised the natural orange-brown sand and gravel (802) and overlying turf and topsoil (801).

In mitigation, the excavation of the main drainage trenches and associated man-holes (MH2-4) across the northern and central extents of the main access road was monitored. The drainage trenches were between 0.6-1.5m wide and between 0.9-1.5m deep. The only deposits exposed were the natural orange-brown sand and gravel (802) and overlying hardcore for the access road; no archaeological features or deposits were encountered and no artefacts were recovered.

NORTHERN PRIVATE ACCESS ROAD (Figures 8 & 9) (Plates 51-56)

The 7.5m wide northern private access road had also been stripped and partially consolidated with hardcore prior to monitoring. Only the natural orange-brown sand and gravel (802) and overlying turf and topsoil (801) were exposed along the southern edge of the access road.

In mitigation, the excavation of the drainage trench and associated man-hole (MH1) was monitored. The drainage trench was between 0.6m wide and between 1.0-1.4m deep. The only deposits exposed were the natural orange-brown sand and gravel (802) and overlying hardcore for the access road; no archaeological features or deposits were encountered.

CENTRAL PRIVATE ACCESS ROAD (Figures 8, 9 & 11: Section 10) (Plates 57-60)

The central private access road was 4.5m wide, broadening to 6.5m wide at the hammerhead, and extended across a large depression in the ground to the north and west of Trench 6.

The natural orange-brown sand and gravel (802) was only exposed at the western end of the access road and southern end of the southern hammerhead, roughly 0.5m BGL.

The natural at the western end of the access road was overlaid by a deposit of friable, grey, sand silt (803) over 0.19m thick. 803 was in turn overlaid by a soft, red mottled, grey-brown clay silt (804) over 0.4m thick, which was encountered 0.2m BGL at the west end of the access road. 804 continued across the northern hammerhead and the eastern extent of the access road, where it was encountered between 0.2-0.5m BGL. As in Plot 58, 803 and 804 represented the continuation of the primary and secondary fills (615 and 603, respectively) of the hollow [616].

The earlier deposits were sealed by a layer of turf and topsoil (801) between 0.2-0.5m thick, which formed the current ground.

No artefacts were recovered from 801, 803 or 804.

7. Specialist Reports

7.1 The Finds

INTRODUCTION AND METHODOLOGY

The finds assemblage comprised pottery, clay tobacco pipe and roof tile from five contexts including unstratified, recovered during the Trial Trenching and Watching Brief (Table 1). All material categories were subject to basic quantification (count and weight) and catalogued, with notes incorporated within the Context Catalogue (Access database) as part of the digital archive. The artefacts were assessed as per the appropriate guidelines (ClfA 2020c).

CATALOGUE

Pottery

The six sherds had a combined weight of 27 grams (average sherd weight (ASW) 4.5 grams), all recovered during the Trial Trenching.

Trench 4

Topsoil (404) produced a body sherd of post-medieval Glazed Red Earthenware with internal and external glaze.

Trench 6

The remainder of the pottery was recovered from this trench. The earliest material is of post-medieval date, two body sherds of Brown Glazed Earthenware from the fill (614) of tree bole [613].

Topsoil (602) produced a flatware base sherd of Pearlware and a body sherd of Creamware, both c. 19th century in date.

The unstratified sherd (600) was of late 19th/early 20th century date; a body/rim of a Transfer-printed Whiteware cup with external floral/foilage decoration.

Clay Pipe

A late 19th century clay tobacco pipe stem was recovered during the Watching Brief from topsoil (801) in Plot 58. The stem had a weight of 2.7 grams.

Roof Tile

The fragment of flat-tile from Trench 6 topsoil (602) was in good condition, of a weak red (10R/5/4) homogenous fabric, and weighed 49.5 grams. The tile had a complete thickness of 16mm; no means of suspension e.g. nail/peg hole or nib, were present. A medieval date, c. 13th-15th century, is given.

DISCUSSION AND RECOMMENDATIONS

Overall, the artefacts have limited archaeological potential and reflect casual deposition of general refuse during, for the most part, the early modern period. The small size of the assemblage supports the paucity of archaeological features and activity encountered during the monitoring. No further work is recommended. Unless the client requests the return of the artefacts, the assemblage is not recommended for retention.

Fabric terminology is based upon that employed in the published Hull and Beverley fabric series (Watkins 1987; Didsbury & Watkins 1992). Other names are generic, self-explanatory or in common regional or national use.

<i>Code</i>	<i>Common name/Remarks</i>
CTP	Clay Tobacco Pipe
CREAM	Creamware
GREB	Glazed Red Earthenware with brown glaze
PEARL	Pearlware
TPWW	Transfer-Printed Whitewares

Table 1: The pottery & clay pipe

Context	Quantity	Fabric code	Comments	Wt (g)	Date
404: T4 - Topsoil	1	GREB	Body. Internal & external brown glaze.	9.4	Post-medieval
600: T6 - Unstratified	1	TPWW	Body/rim. Cup. External brown floral/foilage decoration	2.2	Late 19 th /early 20 th century
602: T6 - Topsoil	1	PEARL	Base. Flatware.	2.3	19 th century
	1	CREAM	Body.	2.4	19 th century
614: T6 – fill of tree bole [613]	2	GREB	Bodies. Possibly the same vessel? Internal & external glaze.	10.7	Post-medieval
Total	6			27	
801: WB –Topsoil Plot 58	1	CTP	Stem.	2.7	Late 19 th century
Total	1			2.7	

7.2 Statement on the Environmental Samples

John Carrott (Palaeoecology Research Services Ltd). Report No. **PRS 2021/04**.

SUMMARY

Five sediment samples recovered from features encountered during an archaeological evaluation by trial trenching at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire, were submitted for an assessment of their bioarchaeological potential. Seven evaluation trenches were excavated, with five revealing no archaeological features or dating evidence; Trenches 1-3, 5 and 7. Features and deposits in Trenches 4 and 6 were mostly natural (e.g. hollows, tree bole) but there was a ground-raining/consolidation deposit of clay in Trench 4 and, in Trench 6, a possible water extraction pit and a trench for a modern ceramic land drain; dating evidence was restricted to three sherds of post-medieval pottery, one from the topsoil in Trench 4, two from the fill of the tree bole in Trench 6, two sherds of 19th century pottery and a fragment of medieval roof tile from topsoil in Trench 6.

Four of the samples, from the primary, fifth and sixth fills of the hollow in Trench 4 and the primary fill of the hollow in Trench 6, exhibited no environmental potential to visual inspection. No microfossils were present in a 'squash' subsample from the primary fill of the Trench 4 hollow and, consequently, no information regarding the depositional environment could be obtained but it appeared to be a natural fluvioglacial clay (there was certainly no evidence to suggest otherwise). Although the fifth sample, from the primary fill of the possible water extraction pit in Trench 6, was perhaps marginally more promising, this feature was of post-medieval or later date and, therefore, of negligible interpretative value. No further study of the samples from these deposits is warranted.

INTRODUCTION

An archaeological evaluation by trial trenching was undertaken by East Riding Archaeology (ERA) at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire (centred around NGR TA 11131 44984), in 2017. The works were undertaken to meet the archaeological planning condition imposed on a proposed residential development of up to 70 dwellings, with garages and associated access and services.

Seven evaluation trenches were excavated five of which, Trenches 1, 2, 4, 6 and 7, were located to investigate anomalies identified by an earlier geophysical survey; Trenches 3 and 5 were located within two areas which appeared 'blank' on the survey. No archaeological features were encountered in Trenches 1-3, 5 and 7 and no dating evidence was recovered.

A hollow [407] and a ground-raising/consolidation deposit of clay (402) were encountered in Trench 4; the only dating evidence was a single sherd of post-medieval pottery from the topsoil (404). Features in Trench 6 comprised another hollow [616], a possible water extraction pit [608], a tree bole [613], and a service trench [605] for a modern ceramic land drain (607); dating evidence comprised just two sherds of post-medieval pottery from the tree bole, a sherd of post-medieval pottery from topsoil in Trench 4 (404), two sherds of 19th century pottery and a fragment of medieval roof tile from topsoil (602) in Trench 6.

Five sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), recovered from four fills of the two hollows and the primary fill of the possible water extraction pit, were submitted to Palaeoecology Research Services Limited, Kingston upon Hull (PRS), for an assessment of their bioarchaeological potential.

METHODS

The sediment samples were inspected, their lithologies recorded using a standard *pro forma* and a determination of their potential for the recovery of interpretatively valuable biological remains made.

A microfossil subsample from the clay (408) forming the primary fill of hollow [407] was examined using the 'squash' technique of Dainton (1992), originally designed specifically to assess the content of eggs of intestinal parasitic nematodes; however, this method routinely reveals the presence of other microfossils, such as pollen and diatoms, which were the focus of the investigation here. The slide was scanned at x150 magnification and at x600 where necessary.

RESULTS

None of the samples exhibited significant potential for the recovery of interpretatively valuable assemblages of macroscopic biological remains and, following discussions between ERA and PRS, no processing for their recovery was undertaken.

The 'squash' subsample from clay (408), primary fill of hollow [407], was almost entirely inorganic, with just a trace (<1%) of organic detritus (probably derived from the root/rootlet material seen during visual inspection). No microfossil remains were present.

Details recorded during the visual inspection of the five samples are presented in Table 2, together with archaeological information provided by ERA.

DISCUSSION AND STATEMENT OF POTENTIAL

Four of the samples, from Contexts (408), (405) and (409) (the primary, fifth and sixth fills of hollow [407], respectively), and (615) (primary fill of hollow [616]), exhibited no environmental potential to visual inspection.

No microfossils were present in a 'squash' subsample from the clay (408) and, consequently, no information regarding the depositional environment could be obtained. This deposit appears to be a natural fluvioglacial clay – there was certainly no evidence to suggest otherwise.

Although the fifth sample, from Context (612) (primary fill of possible water extraction pit [608] which truncated the secondary fill (603) of hollow [616]), was *perhaps marginally* more promising, this feature was of post-medieval or later date and, therefore, of negligible interpretative value.

RECOMMENDATIONS

No further study of the sediment samples from these deposits is warranted.

RETENTION AND DISPOSAL

Unless required for purposes other than the study of biological remains the sediment samples may be discarded.

ARCHIVE

All of the extant material is currently stored by Palaeoecology Research Services (Unit 4, National Industrial Estate, Bontoft Avenue, Kingston upon Hull), pending return to the archaeological contractor (or permission to discard), along with paper and electronic records pertaining to the work described here.

Table 2. Land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire: Notes from visual inspection of sediment samples.

Sample	Context	Sample Size (approx)	Context type; Provisional date	Potential	Sediment description and notes
1	405	7 litres	Fifth fill of hollow [407]; undated	Low	Just moist, mostly light grey/grey-brown with mid orange 'streaks' throughout (?from decayed root/rootlet), crumbly (occasionally brittle) to very slightly sticky (working soft), sandy silt (?slight clay content in places). Stones (2 to 20 mm) present.
2	408	2.5 litres	Primary fill of hollow [407]; undated	Low	Just moist, light/mid grey to mid grey (occasionally mid orange from decayed root trace with very occasional very decayed residual root fragments; also rootlets and fine root trace present), stiff to slightly sticky (working more or less plastic), slightly sandy clay. Stones (2 to 20 mm) present.
3	409	4.5 litres	Sixth fill of hollow [407]; undated	Low	Moist, mid brown to mid/dark grey-brown and occasionally mid grey (mottled at a cm-scale), crumbly to unconsolidated (working slightly soft), sandy silt (to silty sand). Stones (2 to 20 mm) and modern rootlets present.
4	612	4 litres	Primary fill of ?water extraction pit [608] – truncating secondary fill (603) of hollow [616]; post-medieval or later	?Medium	Moist, jumbled shades of brown, grey-brown and grey from light/mid to dark, firm to crumbly and slightly sticky (working soft), slightly ?humic, slightly sandy silt (some ?clay content in places). Stones (2 to 60 mm), rootlets and some other ?preserved waterlogged plant content present.
5	615	4.5 litres	Primary fill of hollow [616]; undated	Low	Just moist, light brown to light/mid grey-brown and occasionally mid grey (mottled at a mm-scale), crumbly to unconsolidated (working soft and somewhat plastic), slightly sandy clay silt. Stones (2 to 6 mm) and modern rootlets present.

8. Discussion

Trenches 1-3 in the western extent of the development area were devoid of archaeological features. Anomaly 6 was not apparent within Trench 1. It is likely to be a result of disturbance from multiple recent events as suggested by the geophysical survey, e.g. this area was lined with greenhouses when used as part of a commercial nursery during the 1970s–1980s (Client *pers comm.*) – an area of hardstanding is visible in the SW extent on Google Earth (*Plates 61-63*) – and, more recently, as a horse arena and paddocks. There was also no evidence of Anomalies 11-15 within Trench 2, although they were visible as E/W aligned shallow ridges in the paddock (*Plate 2*). These anomalies may also have been associated with the former commercial nursery.

In the eastern extent of the development area, Anomaly 3 was identified as a natural hollow within Trench 4. The primary, secondary and tertiary fills were fluvioglacial in origin, the quaternary, 5th and 6th/upper fills had accumulated naturally within the depression. In addition, mature vegetation/hedges are visible within this area on Google Earth in 2003 (*Plate 61*), removed by 2005 (*Plate 62*); this may also partially account for Anomaly 3.

No evidence of Anomaly 8 was encountered within Trench 4 however a linear depression on the same orientation was visible at ground level to the immediate west of the trench. A track? which can be seen on Google Earth in 2005 & 2007 (*Plates 62 & 63*) but no longer in use by 2012 (*Plate 64*), correlates with, and is considered to be, Anomaly 8. The only artefact recovered from Trench 4 was a sherd of post-medieval pottery from the topsoil.

A further, shallower hollow was encountered within Trench 6. The hollow was visible extending to the north and west as a depression in the field, the continuation recorded within the central private access road and foundation trenches for Plot 58. The pit, which cut the hollow, was possibly used for water extraction. Also truncating the hollow was a tree bole from which two sherds of post-medieval pottery were recovered; although undated, the pit is considered to be broadly contemporary. Anomaly 17 appeared to have been represented by the pit, tree bole and possibly in part, by the silted up hollow, although the hollow did not appear as a large feature on the geophysical survey. Anomaly 16 was a relatively modern ceramic land drain.

Two sherds of 19th century pottery, a fragment of medieval roof tile and a late 19th century clay tobacco pipe stem from topsoil, and an unstratified sherd of late 19th/early 20th century pottery were the only other artefacts recovered from Trench 6 and the Watching Brief.

Trenches 5 and 7 also within the eastern extent of the development area were devoid of archaeological features. No evidence of Anomaly 2 was encountered within Trench 7.

Despite known prehistoric, Romano-British and medieval activity within the locale (Evans & Steedman 1997, 121; *ibid*, 125), no features or deposits could be conclusively ascribed to these periods. The post-medieval ?water extraction pit was the only archaeological feature recorded during the entirety of the monitoring and although the hollows in Trenches 4 and 6 also had the potential to have been exploited during earlier periods, no evidence was encountered to support this hypothesis.

The area, known as Linley Carrs, is low lying and probably prone to seasonal flooding given the proximity of large drains to the south (Bowlams Dike) and east (Catchwater Drain), which were established at least by the mid 19th century (Old Maps 2021a). This, alongside the paucity of evidence for archaeological activity, would strongly suggest that the area was used for cultivation/grazing/pasture (as also evident during excavations c.400m to the north-east (Samuel 2019)).

The layout of the current field system within which the development sits remained largely unchanged since the 19th century (Old Maps 2021a-c); the site only appears to have been developed in the late 20th century with the establishment of a commercial nursery and latterly, The Redwoods Livery/equestrian centre.

Finds & Environmental Samples

The artefacts are of no significant interpretative value and no further work is required. No further work is deemed necessary on the environmental samples.

9. Recommendations

The views and recommendations expressed in this section are those of East Riding Archaeology, and will not necessarily be those of the Humber Historic Environment Records Office (HHER).

No further work is recommended for this development. There still remains the potential for heritage assets dating from the prehistoric period onwards within the locale, therefore should any future developments take place within the area a scheme of archaeological monitoring may be required, the level of which would be determined by the HHER.

10. Archive

Following the completion of the archaeological monitoring, an ordered and indexed archive has been compiled in accordance with the appropriate guidelines (ADS/DA 2011; English Heritage 2008; ClfA 2020d; Brown 2011) and as per the requirements of the East Riding of Yorkshire Museum Service (ERYMS 2019). The archive has been digitised and consists of: context sheets & index (PDF); context catalogue – including finds catalogue – (Access database); site plans & sections (TIFs); plan & section indices (PDFs); site levels (Access database); photographic archive including catalogue (JPEGs & Access database); sample catalogue (Access database) and a copy of the final report (PDF). The artefacts will be discarded unless the client requests their return.

11. Acknowledgements

East Riding Archaeology would like to thank Mr D. Southwell & Ms M. Skoof of Southwell Country Homes Ltd and all the ground team for their invaluable assistance and co-operation throughout the project. The evaluation was carried out by Richard Coates, Lisa Johnson and Graham Myers under the supervision of James Fraser & John Tibbles. The Watching Brief monitoring was undertaken by Jim Fraser who also produced the figures within the report. Finds processing was undertaken by Lisa Johnson. The report was edited by Sophie Tibbles, who also produced the finds assessment and contributed to the discussion. Any questions regarding content should be referred to Jim Fraser or Sophie Tibbles.

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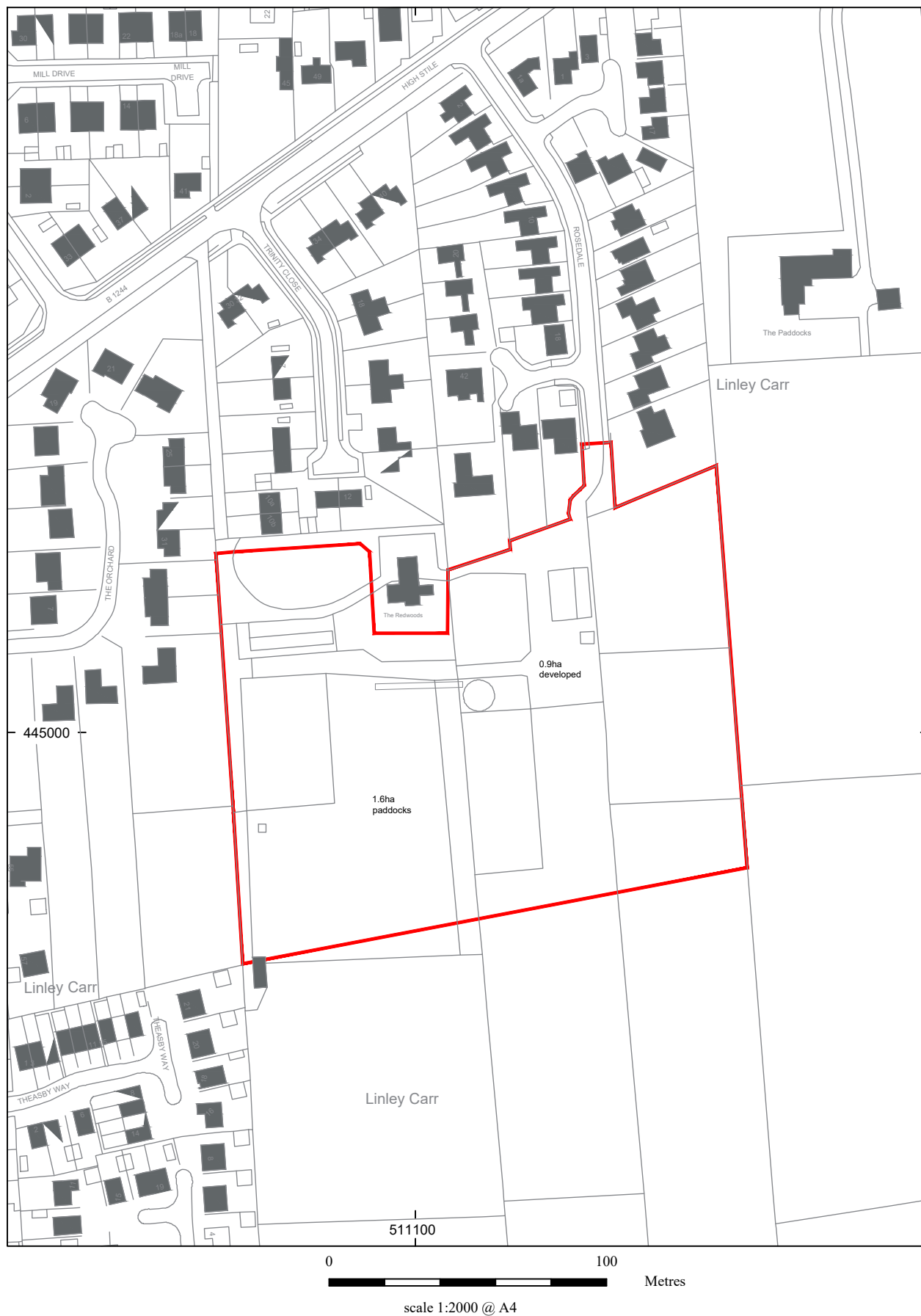


Figure 1: Site location



Figure 2: Trial Trench location overlaid on geophysical survey

0 50 Metres
scale 1:1000 @ A3

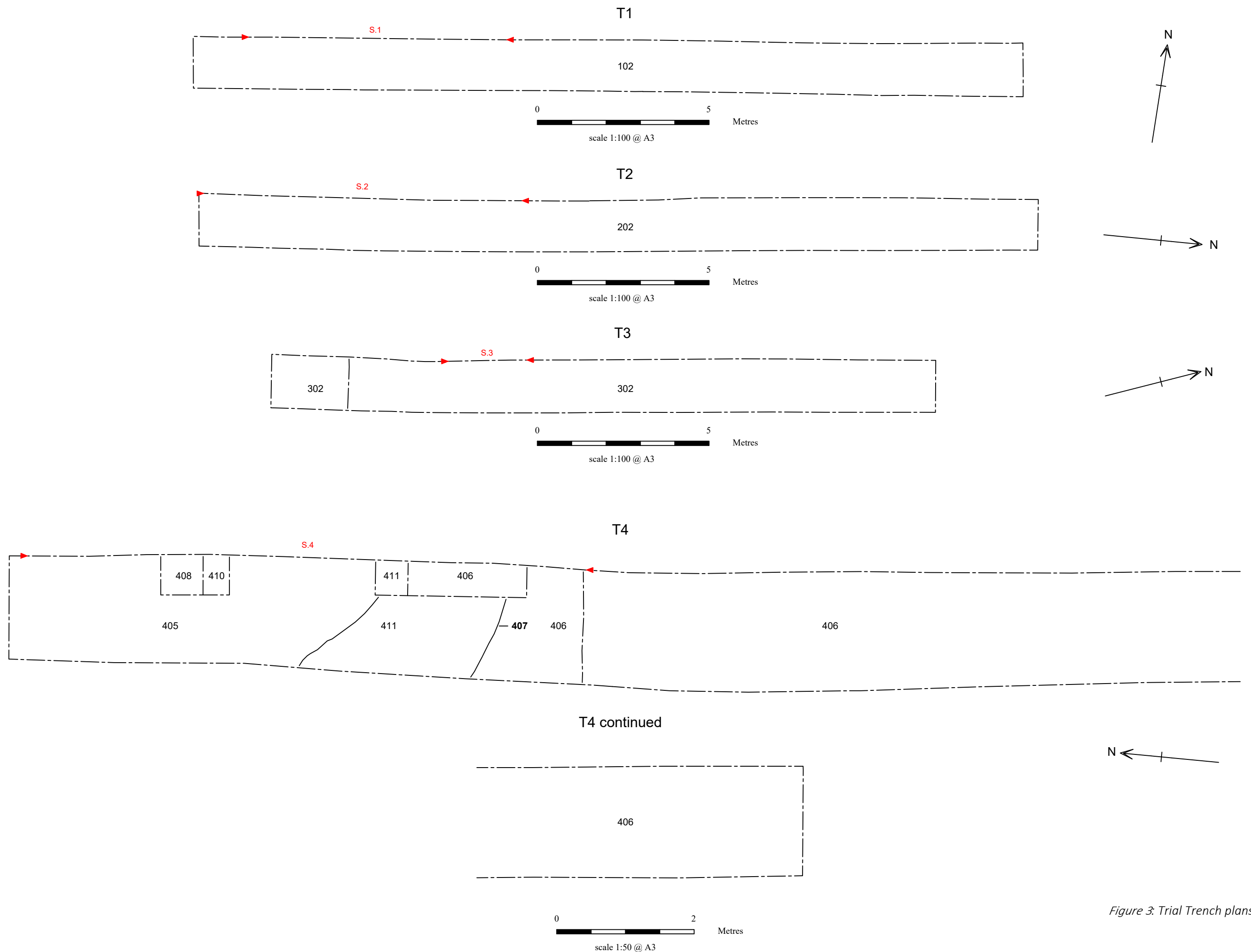


Figure 3: Trial Trench plans. T1-T4

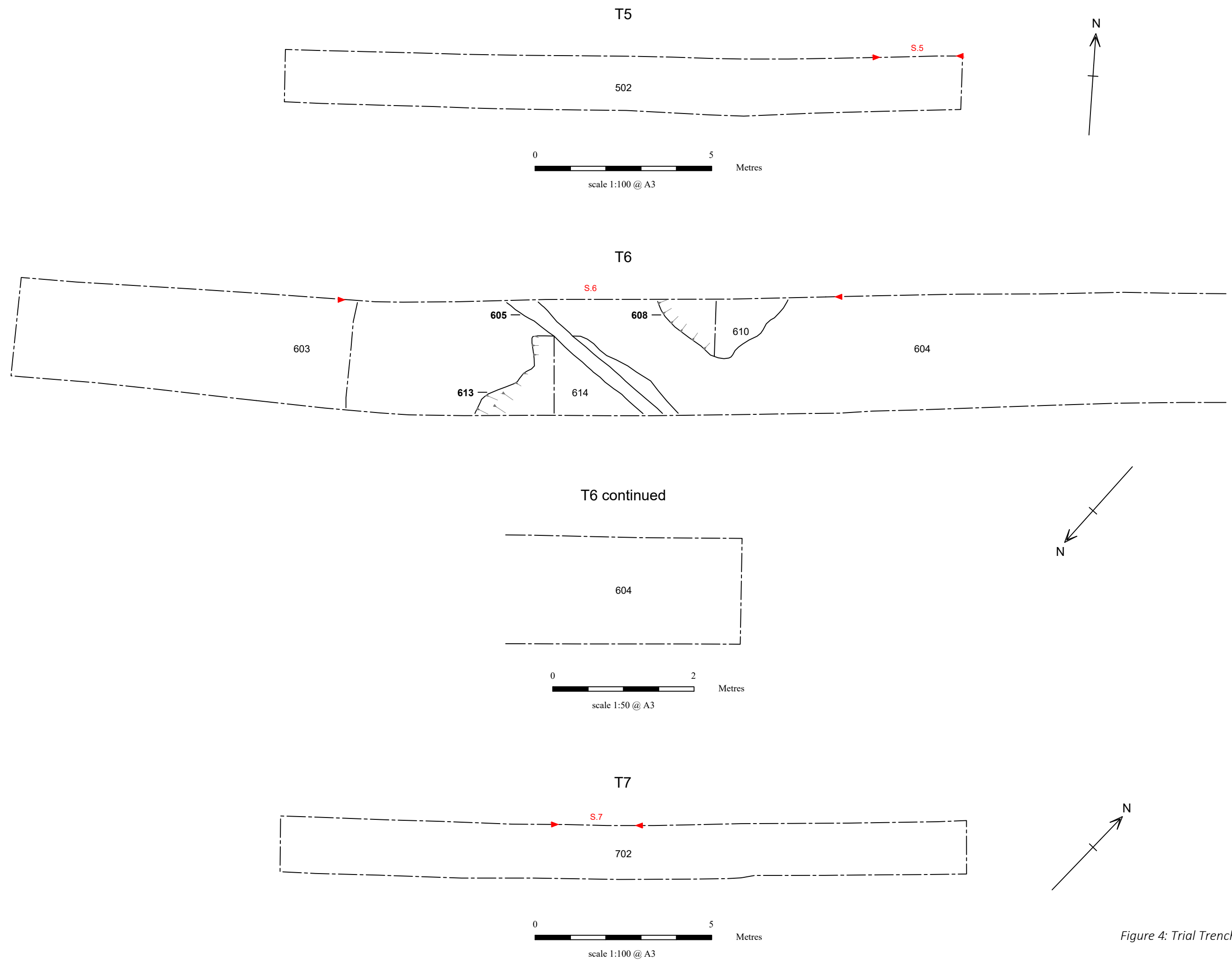


Figure 4: Trial Trench plans. T5-T7

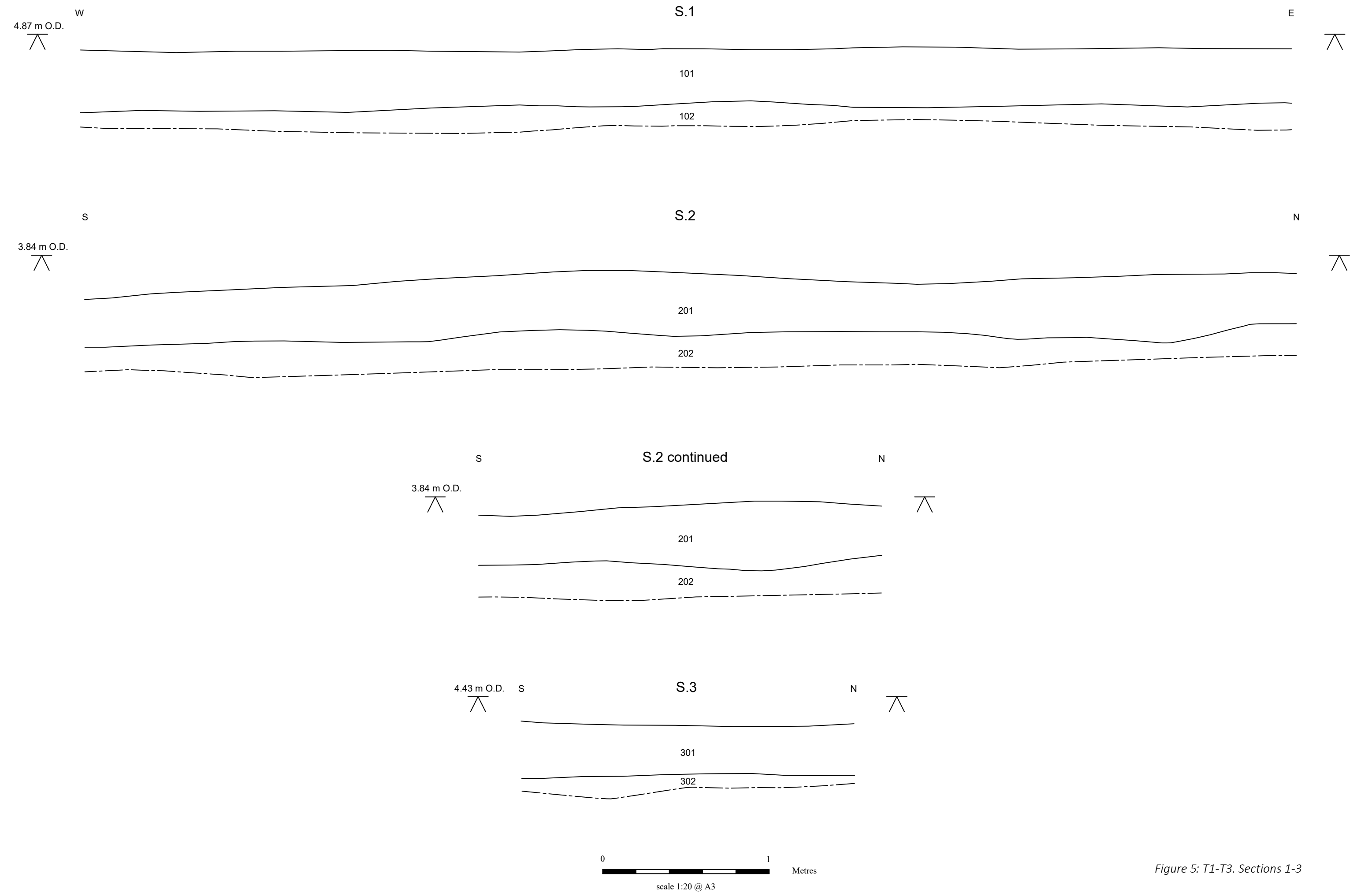


Figure 5: T1-T3. Sections 1-3

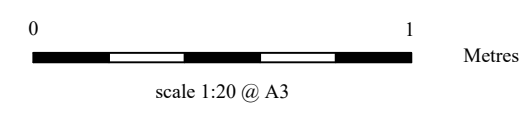
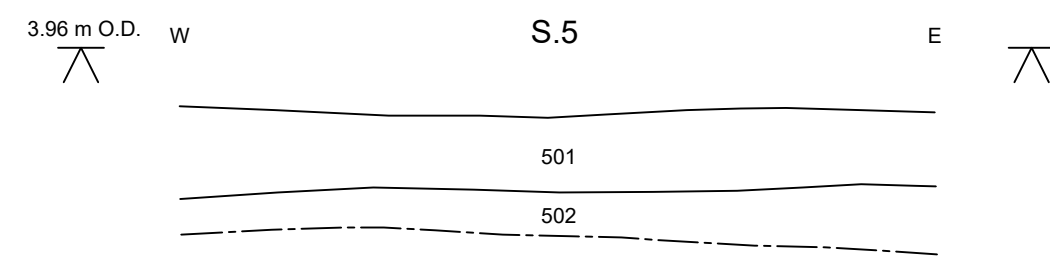
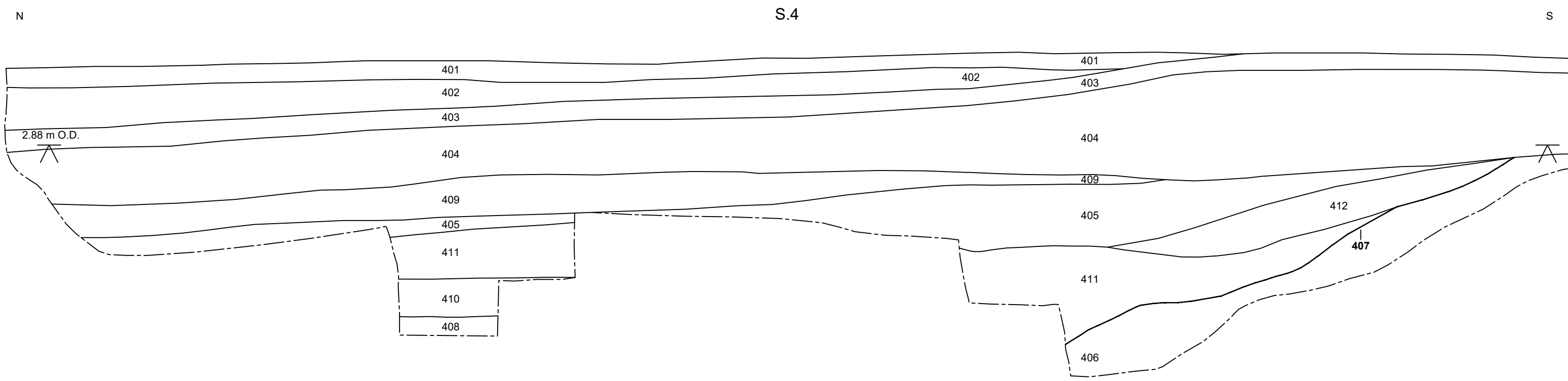


Figure 6: T4 & T5. Sections 4 & 5

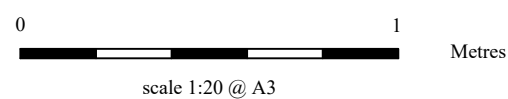
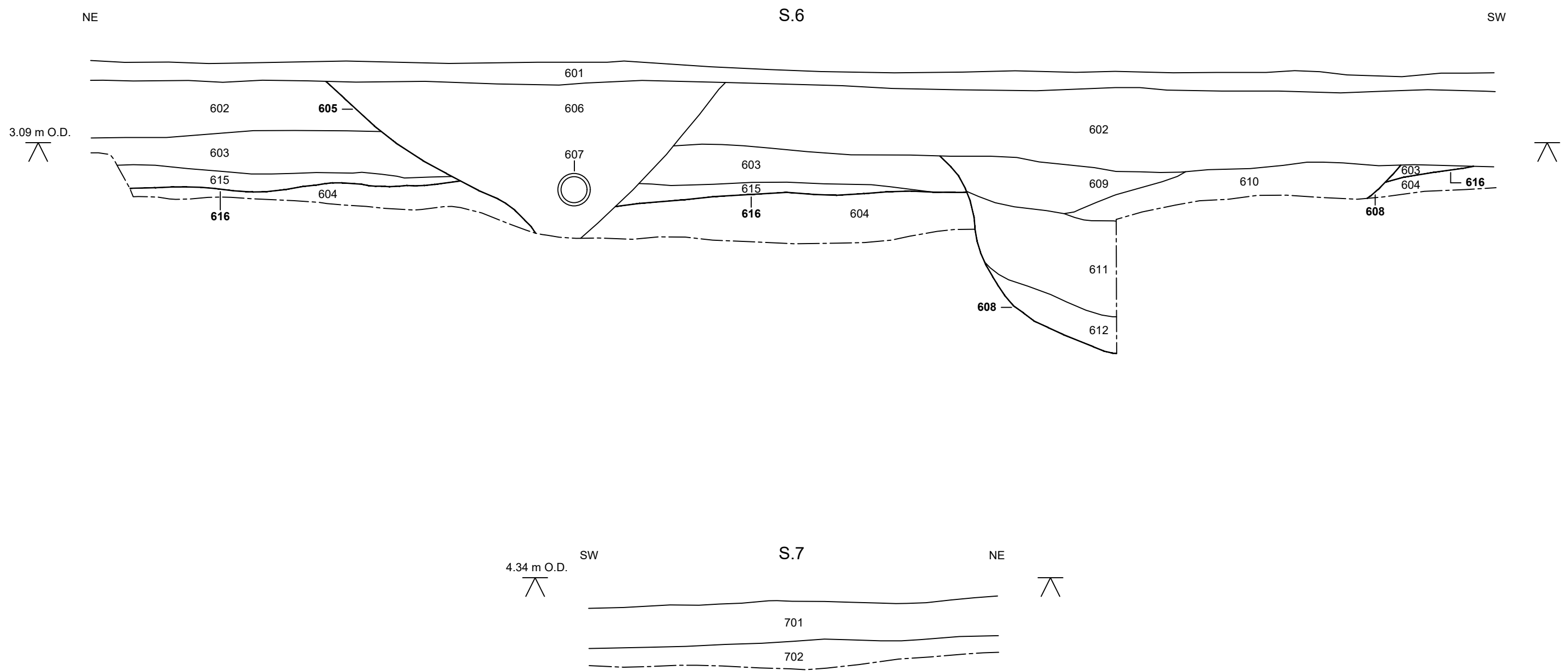
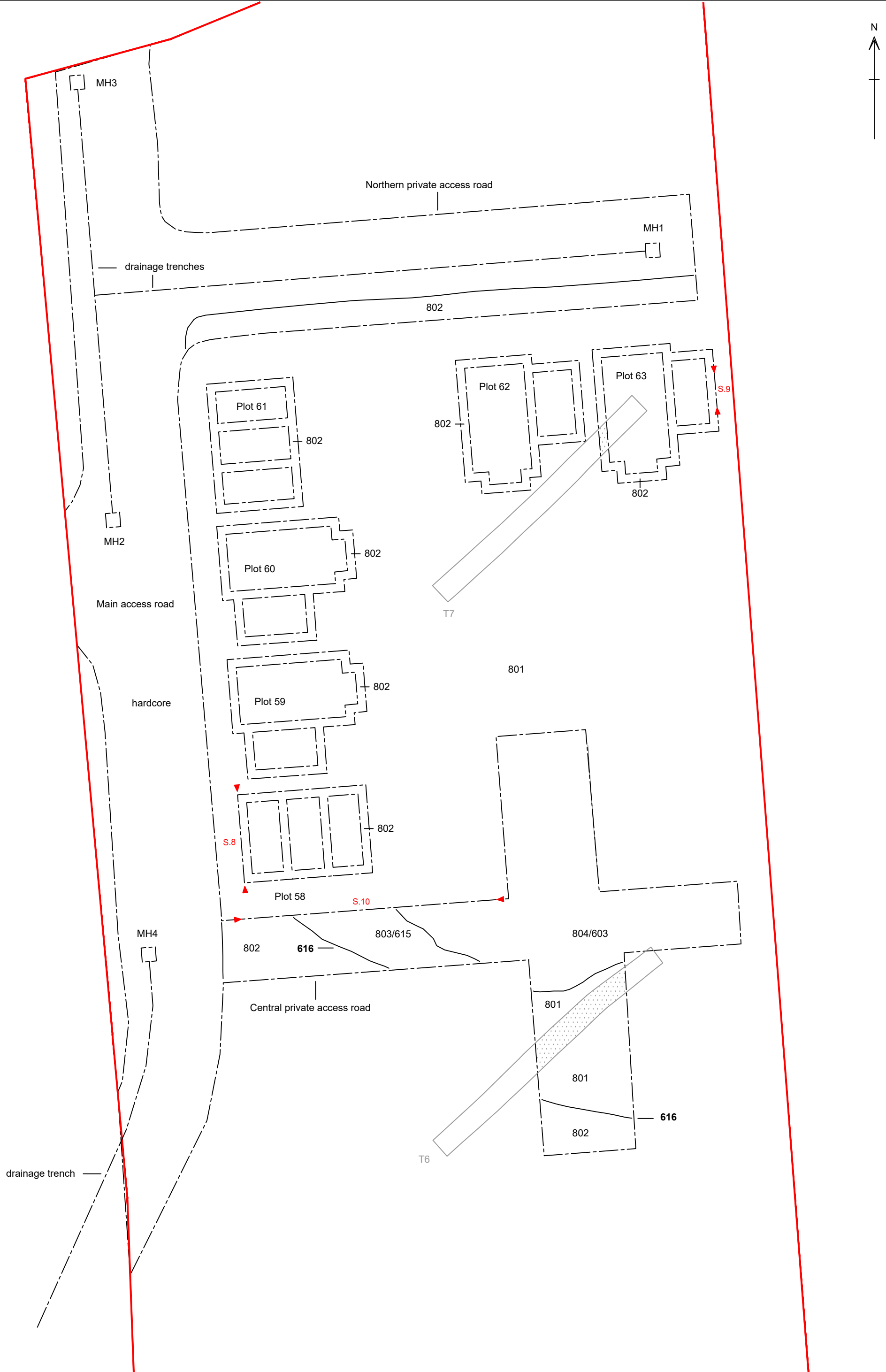



Figure 7: T6 & T7. Sections 6 & 7





KEY

 Back-fill of trench

0 10
Metres
scale 1:250 @ A3

Figure 9: Site layout (Watching Brief)



Plate 1: Western extent of development area. Trench 2 left, Trench 3 background, right, Trench 1 background, left. Facing north.



Plate 2: Western extent of development area. Trench 2 left. Facing south-west.



Plate 3: Eastern extent of development area. Trench 5 foreground, Trench 6 centre, Trench 7 background. Facing north-east.



Plate 4: Eastern extent of development area. Trench 7 foreground, Trench 6 background. Facing south-west.



Plate 5: Western extent of development area – Trench 1. Natural (102) overlaid by turf & topsoil (101). Facing west. 1m scales.



Plate 6: Western extent of development area – Trench 2. Natural (202) overlaid by turf & topsoil (201). Facing north. 1m scales.



Plate 7: Western extent of development area – Trench 2. Natural (202) overlaid by turf & topsoil (201). Facing south-west. 0.5m & 1m scales.



Plate 8: Western extent of development area – Trench 3. Natural (302) overlaid by turf & topsoil (301). Facing north-east. 1m scales.



Plate 9: Eastern extent of development area – Trench 4. Natural (406) foreground, hollow [407] background. Facing north. 1m scales.



Plate 10: Eastern extent of development area – Trench 4. Hollow [407] sealed by topsoil (404), overlaid by turf (403) and ground-raising/consolidation (402), background. Facing north-east. 1m scales.



Plate 11: Eastern extent of development area – Trench 4. Primary (408), secondary (410), tertiary (411), 5th (405) and 6th/upper (409) fills of hollow [407] sealed by topsoil (404). Facing east. 1m scale.



Plate 12: Eastern extent of development area – Trench 4. Hollow [407] cutting natural (406). Tertiary (411), quaternary (412), 5th (405) and 6th/upper (409) fills of hollow [407] sealed by topsoil (404). Facing east. 1m scales.



Plate 13: Eastern extent of development area – Trench 5. Natural (502) overlaid by turf & topsoil (501). Facing west. 1m scales.



Plate 14: Eastern extent of development area – Trench 6. Hollow [616] foreground/centre, cut by land drain [605] and tree bole [613] centre, and ?water extraction pit [608] centre, left. Facing south-west. 1m scales.



Plate 15: Eastern extent of development area – Trench 6. Hollow [616] cut by land drain [605] and ?water extraction pit [608]. Facing east. 1m scales.



Plate 16: Eastern extent of development area – Trench 6. ?Water extraction pit [608].
Facing south-east. 1m scales.



Plate 17: Eastern extent of development area – Trench 6. Tree bole [613].
Facing north-west. 1m scales.



Plate 18: Eastern extent of development area – Trench 7. Natural (702) overlaid by turf & topsoil (701). Facing north-east. 1m scales.



Plate 19: House Plot 58 – northern foundation trench. Natural (802) overlaid by secondary/upper fill (804/603) of hollow [616], sealed by topsoil (801). Facing north-west. 0.5m scales.



Plate 20: House Plot 58 – western foundation trench. Natural (802), overlaid by primary (803/615) and secondary/upper (804/603) fill(s) of hollow [616], sealed by topsoil (801). Facing north-west. 0.5m & 1m scales.



Plate 21: House Plot 58. Foundation trenches excavated. Facing west. 1m scale.



Plate 22: House Plot 59. Foundation trenches excavated. Facing west. 1m scale.



Plate 23: House Plot 60. Foundation trenches excavated. Facing west. 1m scale.



Plate 24: House Plot 61 – northern foundation trench. Natural (802) overlaid by topsoil (801). Facing north-west. 0.5m scales.



Plate 25: House Plot 61 – eastern foundation trench. Natural (802) overlaid by topsoil (801). Facing south-east. 0.5m scales.



Plate 26: House Plot 61. Foundation trenches excavated. Facing north. 1m scale.



Plate 27: House Plot 62 – northern foundation trench. Natural (802) overlaid by topsoil (801). Facing west. 0.5m scales.



Plate 28: House Plot 62 – western foundation trench. Natural (802) overlaid by topsoil (801). Facing north-east. 0.5m scales.



Plate 29: House Plot 62. Foundation trenches excavated. Facing north. 1m scale.



Plate 30: House Plot 63 – eastern foundation trench. Natural (802) overlaid by topsoil (801). Facing south-east. 1m scale.



Plate 31: House Plot 63 – western foundation trench. Natural (802) overlaid by topsoil (801). Facing south-west. 0.5m scales.



Plate 32: House Plot 63. Foundation trenches excavated. Facing north.



Plate 33: Access road. Northern/central extent stripped and stoned up. Facing south-east.
1m scales.



Plate 34: Access road – northern/central extent. Natural (802) overlaid by topsoil (801).
Facing east. 1m scales.



Plate 35: Access road – central extent. Natural (802) overlaid by topsoil (801). Facing east. 1m scales.



Plate 36: Access road. Southern extent stripped and stoned up. Facing north. 1m scale.



Plate 37: Access road – southern extent. Natural (802) overlaid by root disturbed topsoil (801), (area of former hedge). Facing south-east. 1m scales.



Plate 38: Access road – southern extent. Natural (802) overlaid by topsoil (801). Facing east. 1m scales.



Plate 39: Access road drainage – northern extent. Manhole 3 (MH3) foreground. Facing south. 1m scale.



Plate 40: Access road drainage – northern extent. Manhole 3 (MH3). Natural (802) overlaid by consolidation deposit for access road. Facing west. 1m scales.



Plate 41: Access road drainage – northern extent. Natural (802) overlaid by consolidation deposit for access road. Facing south-west. 1m scales.



Plate 42: Access road drainage – northern extent. Natural (802) overlaid by consolidation deposit for access road. Facing west. 1m scales.



Plate 43: Access road drainage – northern extent. Manhole 2 (MH2) foreground. Facing north. 1m scale.



Plate 44: Access road drainage – northern extent. Manhole 2 (MH2). Natural (802) overlaid by consolidation deposit for access road. Facing west. 1m scales.



Plate 45: Access road drainage – northern extent. Manhole 2 (MH2) bottom left. Natural (802) overlaid by consolidation deposit for access road Facing north-west. 1m scales.



Plate 46: Access road drainage – central extent. Manhole 4 (MH4). Natural (802) overlaid by consolidation deposit for access road. Facing north. 1m scale.



Plate 47: Access road drainage – central extent. Facing north. 1m scale.



Plate 48: Access road drainage – central extent. Natural (802) overlaid by consolidation deposit for access road. Facing west. 1m scale.



Plate 49: Access road drainage – central/southern extent. Natural (802) overlaid by consolidation deposit for access road. Facing north. 1m scale.



Plate 50: Access road drainage – southern extent. Natural (802) overlaid by consolidation deposit for access road. Facing north.



Plate 51: Northern private access road. Stripped and partially stoned up. Facing south-east.



Plate 52: Northern private access road. Natural (802) exposed along southern edge. Facing east. 1m scale.



Plate 53: Northern private access road – drainage. Manhole 1 (MH1) foreground. Facing west.



Plate 54: Northern private access road – drainage. Manhole 1 (MH1). Natural (802) overlaid by consolidation deposit for private access road. Facing north. 1m scale.



Plate 55: Northern private access road – drainage. Natural (802) overlaid by consolidation deposit for private access road. Facing north-east. 1m scales.



Plate 56: Northern private access road – drainage. Natural (802) overlaid by consolidation deposit for private access road. Facing north. 1m scale.



Plate 57: Central private access road – western extent joining main access road. Natural (802) background, overlaid by primary fill (803/615) of hollow [616]. Facing west. 1m scales.



Plate 58: Central private access road. Natural (802) overlaid by primary (803/615) and secondary (804/603) fills of hollow [616], sealed by topsoil (801). Facing north-east. 1m scales.



Plate 59: Central private access road – southern hammerhead. Natural (802) foreground, back-fill of Trench 6 and topsoil (801) centre, secondary fill (804/603) of hollow [616] centre/background. Facing north. 1m scales.



Plate 60: Central private access road. Hollow [616] visible as a depression at ground level. Facing south-east.



Plate 61: Google Earth extract of development area showing mature vegetation in the area of Anomaly 3 (centre, far right), hardstanding (centre, far left) and horse arena (top left) in the area of Anomaly 6. Image © Google Earth 12/2003.



Plate 62: Google Earth extract of development area showing mature vegetations in the area of Anomaly 3 removed (centre, far right), a track? correlating with Anomaly 8 (bottom right), hardstanding (centre, far left) and horse arena (top left) in the area of Anomaly 6. Image © Google Earth 12/2005.



Plate 63: Google Earth extract of development area showing a track? correlating with Anomaly 8 (bottom right), hardstanding (centre, far left) and horse arena (top left) in the area of Anomaly 6. Image © Google Earth 5/2007.



Plate 64: Google Earth extract of development area showing the track? correlating with Anomaly 8 no longer in use (bottom right). Image © Google Earth 9/2012.

Appendix A Context Catalogue

Context	Area	Description	Digital Report Plans	Digital Report Sections	Env. Samples	Finds
100	T1	Unstratified	-	-	-	-
101	T1	Turf & topsoil	-	Figure 5: Section 1	-	-
102	T1	Natural sand & gravel	Figure 3	Figure 5: Section 1	-	-
200	T2	Unstratified	-	-	-	-
201	T2	Turf & topsoil	-	Figure 5: Section 2	-	-
202	T2	Natural sand & gravel	Figure 3	Figure 5: Section 2	-	-
300	T3	Unstratified	-	-	-	-
301	T3	Turf & Topsoil	-	Figure 5: Section 3	-	-
302	T3	Natural sand & gravel	Figure 3	Figure 5: Section 3	-	-
400	T4	Unstratified	-	-	-	-
401	T4	Turf	-	Figure 6: Section 4	-	-
402	T4	Ground-raising /consolidation	-	Figure 6: Section 4	-	-
403	T4	Turf	-	Figure 6: Section 4	-	-
404	T4	Topsoil	-	Figure 6: Section 4	-	Pottery
405	T4	5 th fill of hollow [407]	Figure 3	Figure 6: Section 4	S.1	-
406	T4	Natural sand & gravel	Figure 3	Figure 6: Section 4	-	-
407	T4	Hollow	Figure 3	Figure 6: Section 4		-
408	T4	Primary fill of hollow [407]	Figure 3	Figure 6: Section 4	S.2	-
409	T4	6 th /upper fill of hollow [407]	-	Figure 6: Section 4	S.3	-
410	T4	Secondary fill of hollow [407]	Figure 3	Figure 6: Section 4	-	-
411	T4	Tertiary fill of hollow [407]	Figure 3	Figure 6: Section 4	-	-
412	T4	Quaternary fill of hollow [407]	-	Figure 6: Section 4		
500	T5	Unstratified	-	-	-	-
501	T5	Turf & topsoil	-	Figure 6: Section 5	-	-
502	T5	Natural sand & gravel	Figure 4	Figure 6: Section 5	-	-
600	T6	Unstratified	-	-	-	Pottery
601	T6	Turf	-	Figure 7: Section 6	-	-
602	T6	Topsoil	-	Figure 7: Section 6	-	Pottery; Roof Tile
603	T6	Secondary fill of hollow [616] = (804)	Figure 4; Figure 9	Figure 7: Section 6; Figure 10: Section 8; Figure 11: Section 10	-	-
604	T6	Natural sand & gravel	Figure 4	Figure 7: Section 6	-	-
605	T6	Trench for ceramic land drain (607)	Figure 4	Figure 7: Section 6	-	-
606	T6	Backfill of trench [605] for ceramic land drain (607)	-	Figure 7: Section 6	-	-
607	T6	Ceramic land drain	-	Figure 7: Section 6	-	-
608	T6	Pit for ?water extraction	Figure 4	Figure 7: Section 6	-	-
609	T6	Quaternary fill of ?water extraction pit [608]	-	Figure 7: Section 6	-	-
610	T6	Tertiary fill of ?water extraction pit [608]	Figure 4	Figure 7: Section 6	-	-
611	T6	Secondary fill of ?water extraction pit [608]	-	Figure 7: Section 6	-	-

Context	Area	Description	Digital Report Plans	Digital Report Sections	Env. Samples	Finds
612	T6	Primary fill of ?water extraction pit [608]	-	Figure 7: Section 6	S.4	-
613	T6	Tree bole	Figure 4	-	-	-
614	T6	Fill of tree bole [613]	Figure 4	-	-	Pottery
615	T6	Primary fill of hollow [616] = (803)	Figure 9	Figure 7: Section 6; Figure 10: Section 8; Figure 11: Section 10	S.5	-
616	T6	Hollow	Figure 9	Figure 7: Section 6; Figure 10: Section 8; Figure 11: Section 10	-	-
700	T7	Unstratified	-	-	-	-
701	T7	Turf & topsoil	-	Figure 7: Section 7	-	-
702	T7	Natural sand & gravel	Figure 4	Figure 7: Section 7	-	-
800	Access roads & Plots 58-63	Unstratified	-	-		
801	Access roads & Plots 58-63	Topsoil	Figure 9	Figure 10: Sections 8 & 9; Figure 11: Section 10	-	Clay Pipe
802	Access roads & Plots 58-63	Natural sand & gravel	Figure 9	Figure 10: Sections 8 & 9; Figure 11: Section 10	-	-
803	Access roads & Plots 58-63	Primary fill of hollow [616] in central private access road & Plot 58. = (615)	Figure 9	Figure 10: Section 8; Figure 11: Section 10	-	-
804	Access roads & Plots 58-63	Secondary fill of hollow [616] in central private access road & Plot 58. = (603)	Figure 9	Figure 10: Section 8; Figure 11: Section 10	-	-

Appendix B Archive Index

East Riding Archaeology. Contact: Jim Fraser /John Tibbles/Sophie Tibbles.

Email: jt@eastridingarchaeology.co.uk.

Office: The Old Chapel, 27 Wilson Street, Anlaby. HU10 7AN (01482) 651237. **Mobile:** 07941 827943/07505 207471/07757 857240

Site Address: Land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire.		ERA Site Code: 240.TRL.2017
Fieldwork Type: Geophysical Survey, Trial Trenching, Watching Brief		NGR: TA 11131 44984 (centred around)
Dates of Fieldwork: 2 nd & 9 th December 2017 (GS); 5 th & 9 th February 2018 (TT); 4 th February & 24 th May 2021 (WB)		HHER Ref: SMR/PA CONS/20328
Museum Accession No.: Pending		Planning Ref: DC/17/02687/STREAM; DC/16/02035/STOUT/STRAT
Recipient Museum: ERYMS – Deposition to be arranged. Digital & paper archive currently retained at ERA		
Total No. of Boxes of Finds For Archive: N/A		
Summary: Following a geophysical survey in December 2017, an archaeological evaluation by Trial Trenching was undertaken between 5 th and 9 th February 2018, followed by a Watching Brief between 4 th February and 24 th May 2021, at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire, in advance of the construction of a residential development (up to 70 houses, garages and associated access). The staged schemes of monitoring were requested as the application site lies on the edge of the historic core of the village of Brandesburton with known medieval and post-medieval deposits within the locale. Five of the seven Trial Trenches were located to investigate eleven of the seventeen anomalies detected on the geophysical survey, Anomalies 2, 3, 6, 8, 11-17. Only three were identified: Anomaly 3 was a naturally formed hollow within Trench 4; Anomaly 17 comprised a tree bole and a pit within Trench 6 and Anomaly 16, also within Trench 6, was found to be a land drain. No evidence of the remaining anomalies was encountered. An additional naturally formed hollow recorded in Trench 6 was not detected on the geophysical survey but may also represent, in part, Anomaly 17. During the Watching Brief, the only archaeological feature encountered was the continuation of the hollow within Trench 6. A small assemblage of post-medieval and late 19 th /early 20 th century pottery, a late 19 th century clay tobacco pipe and a fragment of medieval roof tile was recovered during the schemes of monitoring. The environmental samples taken were of low bioarchaeological potential.		
Section	Description	Packaging Type
1:	Archive	Archive Disc/USB
1.1	Archive Index	
2:	Preliminary Data	-
2.1	Written Scheme of Investigations– Incorporated within 7.1	
3:	Primary Site Data	Archive Disc/USB
3.1	Geophiz.biz Geophysical Survey Report No. GB056 – Incorporated within 7.1	
3.2	TT & WB: Context Catalogue (Access database)	
3.3	TT: Context Sheets & Indices (PDFs)	
3.4	TT: Site Plans, Sections (TIFs) & Indices (PDFs)	
3.5	TT: Site Levels (Access database)	
4:	Photographic Data	Archive Disc/USB
4.1	TT & WB: Photographic Catalogue (Access database)	
4.2	TT & WB: Photographic Archive (JPEGs)	
5:	Finds Data	Archive Disc/USB
5.1	TT & WB: Finds Catalogue – Incorporated within 3.2	
6:	Environmental Data	Archive Disc/USB
6.1	Environmental Sample Catalogue (Access database)	
6.2	PRS Report No 2021/04 – Incorporated within 7.1	
7:	Final Report	Archive Disc/USB
7.1	Final Report: ERA Report No 240/2021 (PDF)	
Total		X1 Archive Disc/USB

Appendix C
Geophysical Survey

Geophiz.biz

Report on a fluxgate gradiometer survey carried out over land to the south of The Redwoods, High Stile, Leven, East Riding of Yorkshire.



On behalf of East Riding Archaeology

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2 Report information

Client	Southwell Country Homes c/o East Riding Archaeology
Report type	Fluxgate gradiometer survey
Town	Leven
County	East Riding of Yorkshire
Central grid reference	TA 11092 44957
Report number	GB 056 (G.b)
Site code	240.TRL.2017 (ERA); Site 1597 (G.b)
HHER Reference	SMR/PA/CONS/20328
Planning Reference	DC/17/02687/STREAM; DC/16/02035/STOUT/STRAT
Date of fieldwork	02 & 09/12/2017
Date of report	21/12/2017
Fieldwork personnel	James Lyall MA (Hons), MSc
Report by	James Lyall MA (Hons), MSc
Produced by	Geophiz.biz

3 *Summary*

- 3.1.1 James Lyall (of Geophiz.biz) was engaged by John Tibbles (of East Riding Archaeology) to undertake a fluxgate gradiometer survey over land to the south of The Redwoods, High Stile, Leven, in the East Riding of Yorkshire.
- 3.1.2 The survey detected 17 anomalies, 8 of which are of a modern origin. Of the remaining 9 anomalies, 8 were linear features, the function of which is unclear, although 2 of them may be old field boundaries or drainage ditches. Also found in the eastern part of the survey were anomalies of a probable alluvial origin.

4 *Methodology*

4.1 *Technique*

- 4.1.1 The survey was conducted using a *Geoscan Research* FM36 fluxgate gradiometer. The zigzag traverse method of survey was used. The survey was carried out by taking readings every 25cm along the traverse (walking) axis and every metre along the grid axis (thus 3600 readings for each 30m by 30m grid). The sensitivity of the machine was set to detect magnetic variation in the order of 0.1 nanoTesla(nT).
- 4.1.2 Survey in the field, report production and archiving were conducted and prepared using the most up to date guidelines, as laid out in David *et al* (2008) and Schmidt (2013). The survey grid location was logged using a Leica 530 RTK GPS system.
- 4.1.3 The data from the magnetometer has been processed and presented using G-Sys (a proprietary Geographic Database Management program which can also display, process and present digitised plans and images). This report was produced using Microsoft Word 2010 and Adobe Photoshop 7 for further image manipulation. All maps have north pointing to the top of the page, and Google Earth images are used for some of the background map locations.



Figure 1: Showing the ground conditions at the time of the survey.

4.2 Area surveyed

- 4.2.1 The site requested for survey was composed two areas currently utilised as horse paddocks, located to the south of The Redwoods, High Stile, Leven, East Riding of Yorkshire (see *Figure 2*).



Figure 2: Area surveyed (shaded in red) on a Google Earth background, with Leven to the west.

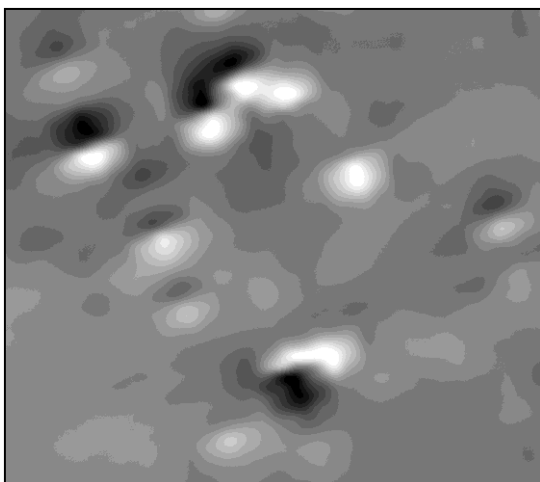
5 Geology

- 5.1.1 The underlying solid geology is part of the Flamborough Chalk Formation. This is a sedimentary bedrock formed approximately 72 to 86 million years ago in the Cretaceous Period. Superficial deposits are of Devensian sand and gravel. (source <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>).

6 Gradiometer results and interpretation

6.1 Magnetic anomalies

- 6.1.1 Features discovered by magnetic survey techniques are referred to as “anomalies”, defined as such because they are different from the background magnetic norm. All magnetic survey plots relating to the current survey are plotted with a scale of ± 5 nanoTesla (nT).



6.1.2 The large and small black and white areas in the greyscale images (see *Figure 3*) are dipoles (iron spikes), which indicate the presence of iron or steel objects. These are generally found in the topsoil, and although they could signify the presence of archaeological objects, it is much more likely that they relate to more modern detritus, such as broken ploughshares, iron horseshoes, shotgun cartridges etc.

Figure 3 Dipolar anomalies in magnetic data

6.2 Interpretation and discussion of anomalies

- 6.2.1 The survey data is plotted as a greyscale image on Figure 4 (with a larger scale version on Figure 8) and as a digitised interpretation of anomalies on Figure 7.

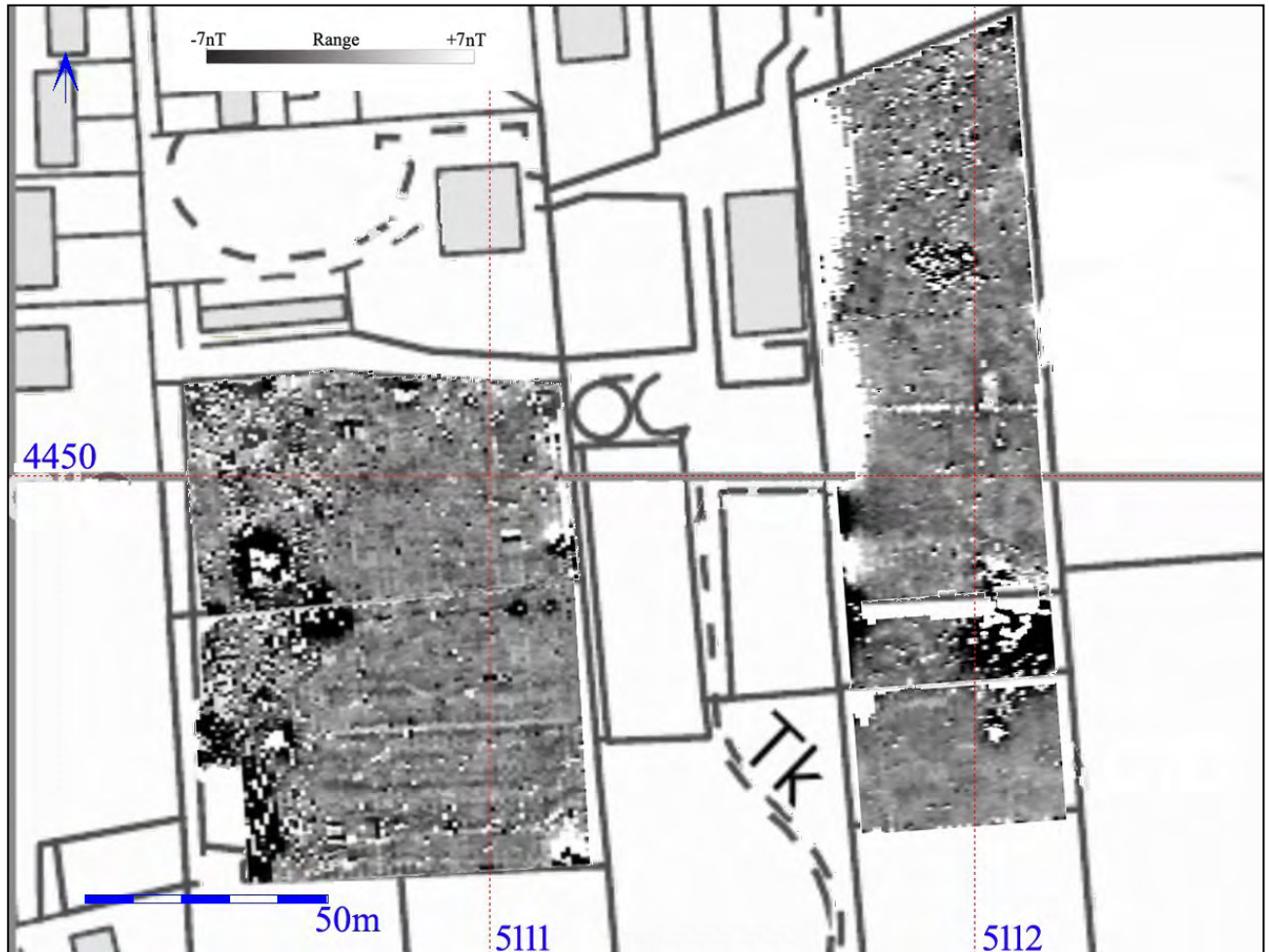


Figure 4: Greyscale image of the magnetometer data superimposed on Ordnance Survey grid.

6.3 Geological anomalies

- 6.3.1 The eastern of the two surveyed areas is markedly different in terms of its magnetic response, and is characterised by a series of unusually shaped slightly positive anomalies (see Figure 5, where they are coloured light orange). The likely origin for these is geological, most probably alluvial. This interpretation is given some support when looking at an aerial image of the fields immediately to the south, an area known as Linley Carr (see Figure 6), where a number of similar looking features can be identified.



Figure 5: Showing the main anomalies of probable geological origin.



Figure 6: Showing probable features of alluvial action in fields to the south of the site.

6.4 Modern anomalies

- 6.4.1 The most obvious anomalies caused by modern activity are the very high readings along the western edges of the surveyed areas (modern anomalies are coloured purple on Figure 7). Anomaly 1 (see Figure 7) is caused by the presence of a number of sheds in the paddock to the west.
- 6.4.2 Anomaly 2 is a localised group of dipolar signals, which implies there may have been a pit or depression here which was filled with material which is generating these responses. The same may be true for anomaly 3, although here the strength of the signals are much greater. On the ground, there is evidence of some disturbance here, as there are small mounds now covered in grass.



Figure 7: Interpreted anomalies.

- 6.4.3 Anomalies 4 and 5 are caused by the presence of electric fences, dividing up the paddock.
- 6.4.4 Anomaly 6 is classified as a single feature, although it may be made up of multiple events. It is different from the others in that it is more of a spread of material generating dipolar signals, and is confined to the western third of the paddock.
- 6.4.5 Linear anomaly 7 is also unlike the others, in that it is magnetically negative. It seems most likely that it is a modern feature, possibly a water pipe leading to a small tank located next to the wooden fence dividing the western paddock.
- 6.4.6 Anomaly 8 is probably an old field boundary, and is still visible as a slightly raised feature on the ground.

6.5 *Anomalies of a possible archaeological origin*

- 6.5.1 The remainder of the anomalies detected by the survey were all linear, apart from one. A sequence of 6 roughly parallel features (coloured red and numbered 9-14 on *Figure 7*) are present in the southern paddock of the western surveyed area. Some of these are visible as features on the ground (see *Figure 1*, where two of these can just be made out in the foreground).
- 6.5.2 Although the anomalies numbered 9-14 are roughly on the same alignment, they are not all the same magnetically, with some being quite weak and wider, with others being more coherent and narrower.
- 6.5.3 It is possible that one of them may be an old field boundary, but it is difficult to interpret the others. They do not seem to make sense as possible ridge and furrow ploughmarks, as they are they are magnetically different from each other. Also, it would be expected that ridge and furrow would be aligned north-south in this location, and as well as this, they are not present in the eastern surveyed area.
- 6.5.4 Anomaly 15 (coloured blue on *Figure 7*) is located just to the north of the linear anomalies discussed above, and is differentiated from them in that it appears to take a slight kink to the north, and does not extend across the surveyed area. Whether these anomalies are relatively recent or not cannot be ascertained from the magnetic survey data alone.
- 6.5.5 Anomaly 16 is a linear anomaly which extends across the central part of the eastern surveyed area. It is possible that it relates to an old field boundary, although none are indicated at this location on the early Ordnance Survey maps of the area. It may be no coincidence that it runs across the lowest part of the site, where there is a marked depression on the ground, thus could be some form of drainage. Anomaly 17 appears to be linked with this linear feature, extending 6m to the north from the anomaly 16. Again, interpretation of the function of this feature is difficult.

7 *Conclusions*

- 7.1.1 In conclusion, it can be stated that the geophysical survey was successful in identifying 17 anomalies, 8 of which are of a clearly modern or recent origin. Of the remaining 9 anomalies, 7 are linear features within the southern half of the western surveyed area. The interpretation for these linears is unclear. A single linear in the eastern surveyed area may be either a field boundary ditch or for drainage.
- 7.1.2 The eastern surveyed area also had a number of anomalies of a probable alluvial origin.

8 *Bibliography*

David, A. *et al.*, 2008

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Schmidt, A., 2013

Geophysical Data in Archaeology: A Guide to Good Practice (2nd edition)

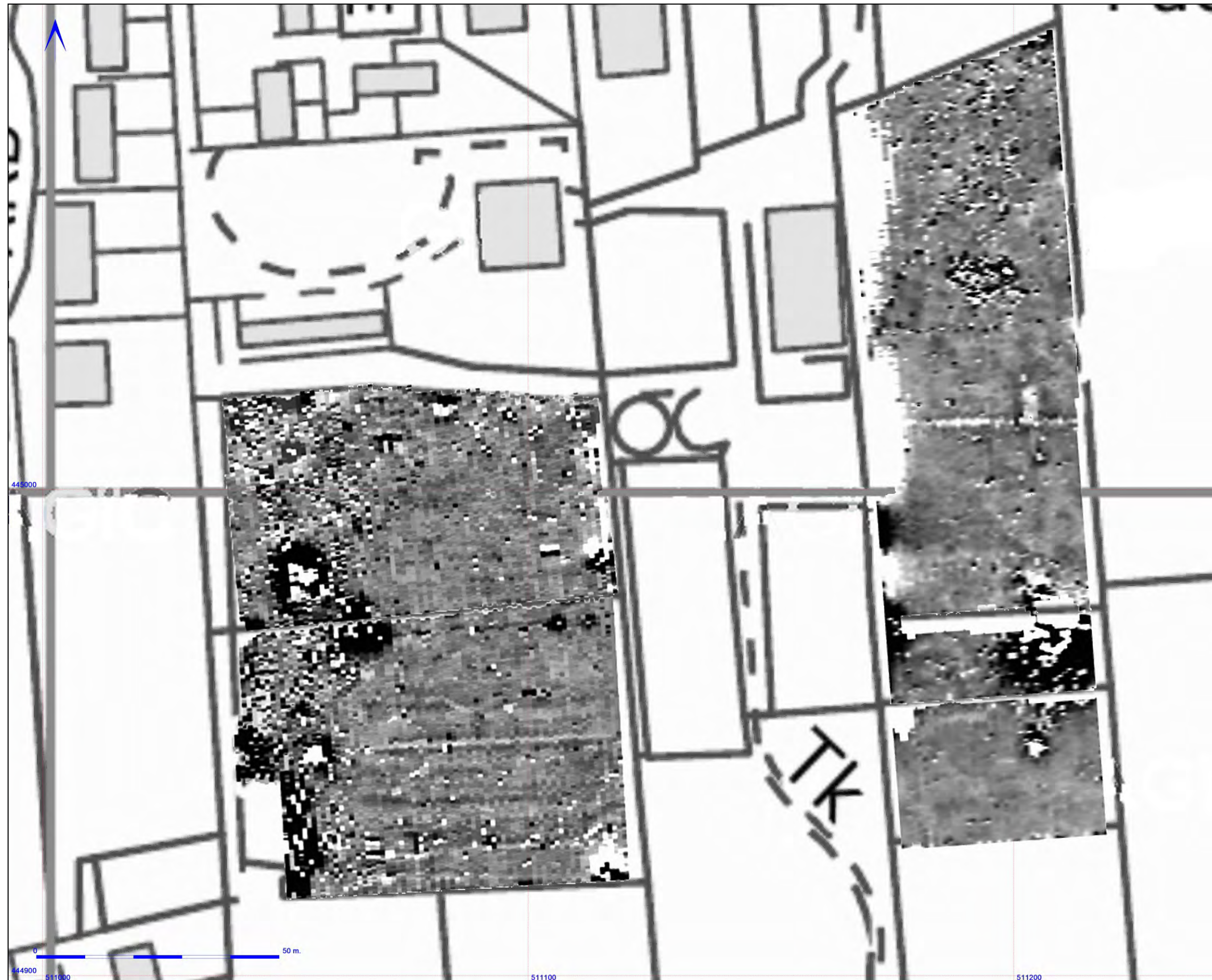


Figure 8: Geophysical survey plotted as a greyscale image.

Appendix D
Written Schemes of Investigations



**ERECTION OF A RESIDENTIAL DEVELOPMENT FOR UP TO 70 DWELLINGS
(ACCESS AND SCALE TO BE CONSIDERED) AT
LAND SOUTH OF THE REDWOODS, HIGH STILE, LEVEN,
EAST RIDING OF YORKSHIRE:**

Written scheme of investigation for a geophysical survey.

EAST RIDING ARCHAEOLOGY
The Old Chapel
27 Wilson Street
Anlaby
HU10 7AN

Prepared for:
Southwell Country Homes

Planning Ref: DC/17/02687/STREAM; DC/16/02035/STOUT/STRAT
HHER Reference No: SMR/PA/CONS/20328
National Grid Ref: TA 11131 44984 (centred around)

ERA site code: 240.TRL.2017

J. Lyall & S. Tibbles
November 2017

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Figure 1: Location plan and area of proposed development in red (courtesy of Nineteen 47 Limited)

Figure 2: Proposed area of geophysical survey.

Plate 1: Proposed development site (western extent). Facing west.

Plate 2: Proposed development site (eastern extent). Facing east.

Plate 3: Proposed development site (eastern extent). Facing south.

Plate 4: Proposed development site (southern extent). Facing south-east.

1. SUMMERY

The purpose of this written scheme of investigation is to present an archaeological strategy for a geophysical survey in support of proposals for the erection of up to 70 no. dwellings, garages and associated works at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire (NGR TA 11131 44984 (centred around)). Based on the results of the survey, a scheme of further archaeological work may be required; the level of which to be determined by the Humber Historic Environment Record (HHER), archaeological advisors to the Local Planning Authority (LPA). Should this be the case, a further written scheme of investigation (WSI) will be produced outlining the methodologies of the scheme including the on- and off-site works.

2. INTRODUCTION

2.1. Planning Background

The application for this development, reference: DC/16/02035/STOUT/STRAT, and, most recently DC/17/02687/STREAM, was submitted to East Riding of Yorkshire Council in June 2016 and August 2017, respectively. Permission for the outline application (DC/16/02035/STOUT/STRAT was subsequently granted (30th January 2017) subject to various conditions including Condition 15 pertaining to archaeology:

“No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. Development shall be carried out in accordance with the approved details (Circular 11/95, Model Clause 55).

Reason: The recommendation for a preliminary geophysical survey has been made because the application site lies within the medieval settlement of Leven, which itself sits within an archaeological landscape that has produced evidence of prehistoric and Romano-British occupation. The request for this condition is in line with Policies 128, 129, 130, 131, 135, 136, 139 and 141 within Section 12 ‘Conserving and enhancing the historic environment’, in the *National Planning Policy Framework 2012*.”

2.2 Archaeological/Historical background

The following has been provided by the HHER Office (formally HSMR) 22nd July 2016: SMR/PA/CONS/20328.

“The site of the proposed development lies within the medieval settlement of Leven, a village which is recorded in the Domesday Book of 1086 as ‘*Leuene*’, when it was owned by the Archbishop of York. The settlement is sited on an outcrop of well-drained gravels and sands, in the middle of an area of natural marsh and wetland belonging to the Holderness plain; as such, it has attracted early settlement since the Neolithic period. An Anglo-Saxon cross fragment from the site of St Faith’s Church (one mile to the west of the modern village) suggests that a settlement had evolved here by at least the late Saxon period, indeed the name Leven has Anglian origins, meaning the ‘*the slow-moving one*’. The village had a medieval grant of a market and fair, although the market had lapsed by c.1750.

To the south-east of the proposal site lies a major crop-mark complex representing a hill-top settlement of probable Iron Age date. Previous archaeological work took place on this complex in 1992 and 1994-5 during the construction of the Leven bypass. A large enclosing ditch containing late Iron Age pottery was identified, whilst a ditch within the enclosure was radiocarbon-dated to 371-100 cal B.C. Succeeding this activity were two successive Romano-British ladder settlements, which lay about 100m apart – the earlier dating to the 2nd century A.D., the later to the mid 4th to early 5th centuries. Further excavation on elements of this crop-mark complex in the mid to later 1990s recorded a major complex of hill-top enclosures dating from the later Bronze Age or the early Iron Age, but with prehistoric mortuary enclosures and ring-ditches lower down the slopes – possibly dating to the later Neolithic or early Bronze Age – and Iron Age roundhouses, Romano-British and medieval features at the base of the slope. It is likely therefore that any ground-works in this area would encounter previously unknown heritage assets dating to the prehistoric and later periods.”

Additional evidence for Iron Age/Romano-British settlement within the vicinity was recorded just to the south of the Leven bypass during excavations between 2013 and 2017 (ERA 2013; *forthcoming*). A programme of trial trenching and subsequent monitored strip, map and recording, identified numerous features including a ring ditch, the possible remains of two ovens and a stone-lined hearth, field boundaries, ditches and pits. These features produced an assemblage of late Iron Age to early Romano-British pottery and prehistoric finds including part of an Early Bronze Age stone battle-axe and a Late Neolithic flint core of “chopper” shape.

2.3. Site topography and geology

The proposed development area is currently Redwoods Livery/equestrian centre with associated paddocks and stable yard (*Plates 1-4*). The area is bounded by fields to the east and south and existing dwellings to the north and west. The underlying solid geology of the area is Flamborough Chalk Formation – Chalk with superficial deposits of Glaciofluvial Deposits, Devensian – Sand and Gravel (British Geological Survey 2017).

3. SCOPE OF WORKS

The principal objectives will be to identify, interpret and report on any underlying archaeological features located within the target area. The results of the survey will then be assessed to decide mitigation measures for programme(s) for further archaeological works, if required.

4. METHOD STATEMENTS

4.1. Geophysical Survey

The central area of the proposed development is a stable yard therefore the survey will be carried out over c. 1.6 hectares (*Figure 2*). All access to the site is to be agreed in advance of the survey. The survey will be completed using the following equipment:

Geophysical technique	Instrument make	Traverse interval	Reading interval	Points per metre
Magnetic fluxgate gradiometer array (4 probe system)	Foerster Ferex 4.032 DLG	0.5m	0.1m	20

The Foerster instrument is capable of high resolution data collection and takes readings every 10cm along the traverse axis and every 50cm along the grid axis (thus achieving 18000 readings per 30m square). The machine collects samples at a 0.2 nanoTesla (nT) sensitivity range. Because the cart uses a real time kinematic GPS to locate itself, each data point of the survey has an inbuilt sub 2cm accuracy. Each data point collected is associated with a GPS derived XYZ coordinate based on the OSTN02 datum. Where possible, it is preferable to use the Foerster machine to conduct the surveys, as the higher resolution data collection allows for the easier identification of individual features.

In order to obtain good quality data, the surveyor must be able to walk at an even pace while holding the machine as near to perpendicular as is possible. To this end, the survey area should be free from obstacles and long vegetation as these will impede the progress of the survey. It has also been demonstrated that surveying recently ploughed fields adversely affects magnetometer results. Generally, the field is fine to survey if it has been drilled and rolled or harrowed, but not if it has just been ploughed or dragged. Note also that fields planted with carrots or potatoes are not suitable for survey, because of the ridges used in cultivation. Stubble and pasture fields also generally provide good results, as the ground is firm underfoot, providing the remaining stubble is 30cm or less in height (note that miscanthus and sweetcorn stubble are very difficult to survey). The equipment will not function during rain and this should be borne in mind when stipulating specific dates for surveys.

Geo-referencing and location information

All surveys will be located using maps provided by the client and will be based on the Ordnance Survey (OS) grid system. When using the Foerster, the data is collected directly in OS grid coordinates, so geo-referencing of the data is inherent. Data will also be provided as KMZ files, which can be viewed in Google Earth.

4.2. Reporting and Archive

The survey methodology, report and any recommendations will comply with guidelines outlined by the CIfA (2014), English Heritage Research and Professional Services Guidelines compiled by A. David *et al.* (2008) and with Geophysical Data in Archaeology: A Guide to Good Practice (2nd edition) by Schmidt (2013). The data will be interpreted and presented at suitable scales, located on *Ordnance Survey* base maps as appropriate:

- Site location plan (minimum scale 1:2500)
- Location plan showing the limits of the survey area (preferred minimum scale 1:1000)
- A plot of raw data, grey-scale format and/or X-Y trace format, as appropriate (preferred minimum scale 1:1000)
- One or more interpretive plots with bar scale and orientated north sign (preferred minimum scale 1:1000)

The report will follow a standard format with a non-technical summary followed by an introduction, the aims and objective of the survey, the survey methodology, archaeological background including any known archaeology in the immediate area, followed by the interpretation of the results and the conclusion. The site code, planning reference number and HHER casework number, dates of fieldwork visits and grid references will also be included. All plans and maps will use the Ordnance Survey grid, with a bar scale and north arrow.

Bound copies of the report will be provided as well as a digital copy in PDF format. Digital copies of the report (in PDF format) will be supplied to the client, the HHER and to the local planning authority. A hard copy will also be submitted to the HHER and, if requested, to the client. The archive will be compiled according to English Heritage (David *et al* 2008) and Archaeological Data Service (Schmidt 2013) guidelines.

4.3. Health and Safety

Health and Safety will take priority over archaeological matters. ERA abides by the 1974 Health and Safety Act and its subsequent amendments and our overall policy is in line with recommendations set out in the Federation of Archaeological Managers & Employers' Manual of Health and Safety in Field Archaeology 2012. East Riding Archaeology is fully covered by an Employers and Public Liability Insurance Policy.

The potential risks associated with undertaking the geophysical survey at the site has been assessed and a site specific Risk Assessment has been produced. It identifies potential hazards and the control measures required to minimize the potential for harm to our personnel. The Risk Assessment will be issued to the survey team and they will be briefed on its contents prior to the start of works. A first aid kit will be carried in the vehicle and made available at all times whilst out on survey in the event of a minor injury. It should be noted that we cannot wear or carry any metal objects whatsoever as these affect the instruments used on survey. Transport will be by car. Vehicle shall be parked in such a way so as to ensure that it does not obstruct any existing accesses, pathways, highway or site works. High Visibility vests & clothing/footwear appropriate for the specialist nature of a magnetometer survey will be worn at all times.

5. TIMETABLE AND STAFFING

5.1. Timetable of work

A date has yet been confirmed but it is expected that the geophysical survey will commence in late November/early December 2017. Normal working hours will be between 9.00am and 6.00pm (if light permits). James Lyall will liaise with Mr John Tibbles or Ms Sophie Tibbles (East Riding Archaeology: 01482 651237) as to the progress of the survey.

5.2. Staffing

James Lyall MA (Hons), MSc, is an archaeologist and geophysical surveyor, and has been working in the field since 1989. He is a member of the International Society for Archaeological Prospection (ISAP) and has an MSc in Remote Sensing (which specifically compared the archaeological returns from using different remote sensing and geophysical techniques). He has carried out over 1700 Ha of magnetometer survey over 21 years, including the largest detailed magnetic survey in the world to date (over 1100 Ha of contiguous survey). He lectures regularly, ranging from local societies to international conferences and is currently a consultant for a number of community archaeology projects. Contact mobile: 07443 644359.

6. ENVIRONMENTAL

Geophysical survey has little potential to effect the environment; however the following precautions will be taken: site gates/fences to be secured and left in the same condition as found; any litter to be removed from site and any noise to be kept to a minimum.

7. INSURANCE

East Riding Archaeology is fully covered by a Public Liability Insurance Policy. No claims have been made or are pending.

8. REFERENCES

British Geological Survey 2017

Geology of Britain Viewer, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> [Accessed 27/11/2017]

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David, A. Linford, N. and Linford, P., 2008

Geophysical Survey in Archaeological Field Evaluation, Research and Professional Services Guidelines (2nd edition), Swindon.

East Riding Archaeology, 2013

Interim Report on the Trial Excavations at Land North of Yarrows Aggregates Ltd, Leven Bypass, Leven, East Riding of Yorkshire. ERA Report No. 028a/2013 (unpublished client report)

East Riding Archaeology, *forthcoming*

Archaeological Monitoring at Land North of Yarrows Aggregates Ltd, Leven Bypass, Leven, East Riding of Yorkshire.)

Schmidt, A. 2013

Geophysical Data in Archaeology: A Guide to Good Practice (2nd edition), Archaeological Data Service



Figure 1: Location plan and area of proposed development in red
(courtesy of Nineteen 47 Limited)

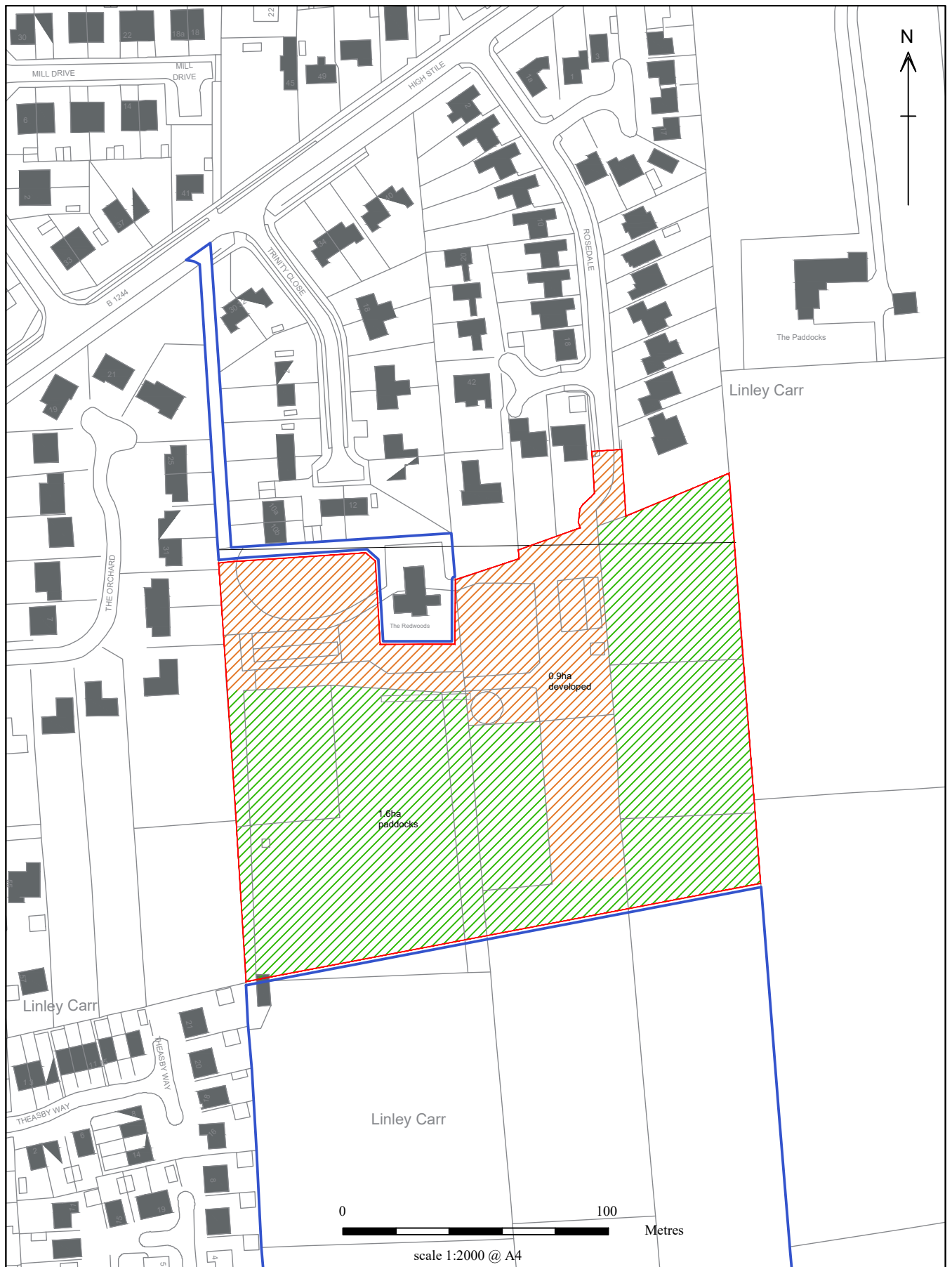


Figure 2: Proposed area of geophysical survey



Plate 1: Proposed development site (western extent). Facing west.



Plate 2: Proposed development site (eastern extent). Facing east.



Plate 3: Proposed development site (eastern extent). Facing south.



Plate 4: Proposed development site (southern extent). Facing south-east.



**ERECTION OF A RESIDENTIAL DEVELOPMENT FOR UP TO 70 DWELLINGS
(ACCESS AND SCALE TO BE CONSIDERED) AT
LAND SOUTH OF THE REDWOODS, HIGH STILE, LEVEN,
EAST RIDING OF YORKSHIRE:**

Written scheme of investigation for an evaluation by trial trenching.

EAST RIDING ARCHAEOLOGY
The Old Chapel
27 Wilson Street
Anlaby
HU10 7AN

Prepared for:
Southwell Country Homes Ltd

Planning Ref: DC/17/02687/STREAM; DC/16/02035/STOUT/STRAT
HHER Reference No: SMR/PA/CONS/20328
National Grid Ref: TA 11131 44984 (centred around)

ERA Site Code: 240.TRL.2017

J. Fraser & S. Tibbles
January 2018

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Figure 1: Location plan and area of proposed development in red (courtesy of Nineteen 47 Limited).

Figure 2: Proposed trench locations overlaid on geophysical survey results.

1. SUMMARY

The purpose of this written scheme of investigation is to present an archaeological strategy for trial trenching in support of proposals for the erection of up to 70 no. dwellings, garages and associated works at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire (NGR TA 11131 44984 (centred around)). A staged scheme for the preservation of the archaeological remains was recommended for the below ground-works in association with the development. The initial stage of work, a geophysical survey, was undertaken in December 2017 (Geophiz.biz, 2017) the results of which identified seventeen anomalies (*Figure 2*).

In the eastern extent of the proposed development area, three modern anomalies were identified caused by the presence of sheds and two electric fences, Anomalies 1, 4 and 5, respectively. Linear Anomaly 7 within the western extent of the development area is also likely to be modern, possibly a water pipe leading to a small extant tank within the paddock. Anomalies 2 and 3 within the eastern extent could indicate the presence of pits or depressions and two E/W aligned linear anomalies, 8 and 16, also in the eastern extent, may possibly represent field boundaries. A small N/S aligned linear, Anomaly 17, extending at a 90° angle from the eastern end of Anomaly 16, appears to be linked but interpretation is difficult.

Anomaly 6 is a large, N/S aligned, irregular feature that dominates the western limits of the western extent of the development area - although Anomaly 6 is classified as a single feature, it may be made up of multiple events. Also within the western extent at the southern end, is a sequence of six roughly parallel, E/W aligned linears, Anomalies 9-14, of which one may possibly be a field boundary; interpretation of the other linears is difficult as they vary in width and are not all the same magnetically, some weak, some coherent. Extending from the north side of Anomaly 14 is Anomaly 15, a small linear roughly E/W aligned which, as with Anomaly 17, is difficult to interpret.

Based upon the results of the survey an archaeological evaluation by trial trenching (*Figure 2*) is proposed for the next stage of the scheme of works, with further excavation if significant archaeological remains are encountered. This written scheme of investigation has been produced by East Riding Archaeology on behalf of Southwell Country Homes Ltd. The works are expected to be undertaken over a period of days in February/March 2018 although a start date is yet to be confirmed.

2. INTRODUCTION

2.1 Planning Background

The application for this development, reference: DC/16/02035/STOUT/STRAT, and, most recently DC/17/02687/STREAM, was submitted to East Riding of Yorkshire Council in June 2016 and August 2017, respectively. Permission for the outline application (DC/16/02035/STOUT/STRAT was subsequently granted (30th January 2017) subject to various conditions including Condition 15 pertaining to archaeology:

"No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. Development shall be carried out in accordance with the approved details (Circular 11/95, Model Clause 55).

Reason: The recommendation for a preliminary geophysical survey has been made because the application site lies within the medieval settlement of Leven, which itself sits within an archaeological landscape that has produced evidence of prehistoric and Romano-British occupation. The request for this condition is in line with Policies 128, 129, 130, 131, 135, 136, 139 and 141 within Section 12 'Conserving and enhancing the historic environment', in the *National Planning Policy Framework 2012*.

A suitable staged scheme to preserve or record the archaeological deposits should include the following provisions:

Evaluation

1. A non-destructive geophysical survey of the proposed development area to test for the presence of buried archaeological deposits on the site.
2. Should the above survey indicate the presence of likely archaeological features, limited trial trenching would be recommended to determine the nature, extent and importance of any remains. The results of these preliminary stages should enable the impact of the proposed development on any archaeological deposits to be fully assessed. An informed and reasonable decision can then be taken regarding the future treatment of the remains.

Further work

3. Should the evaluation show that the site contains significant archaeological remains, mitigation measures should be explored to achieve physical or *in situ* preservation of those remains. If destruction is unavoidable, detailed excavation of selected areas, followed by post-excavation analysis and publication of results, should take place in order to achieve preservation by record.

All archaeological site work, including geophysical survey, must be undertaken by an archaeological contractor, who is acceptable to the Local Planning Authority, after consultation with their archaeological advisor.”

2.2. Archaeological/Historical Background

The following has been provided by the Humber Historic Environment Record Office (HHER), 22nd July 2016: SMR/PA/CONS/20328.

“The site of the proposed development lies within the medieval settlement of Leven, a village which is recorded in the Domesday Book of 1086 as ‘*Leuene*’, when it was owned by the Archbishop of York. The settlement is sited on an outcrop of well-drained gravels and sands, in the middle of an area of natural marsh and wetland belonging to the Holderness plain; as such, it has attracted early settlement since the Neolithic period. An Anglo-Saxon cross fragment from the site of St Faith’s Church (one mile to the west of the modern village) suggests that a settlement had evolved here by at least the late Saxon period, indeed the name Leven has Anglian origins, meaning the ‘*the slow-moving one*’. The village had a medieval grant of a market and fair, although the market had lapsed by c.1750.

To the south-east of the proposal site lies a major crop-mark complex representing a hill-top settlement of probable Iron Age date. Previous archaeological work took place on this complex in 1992 and 1994-5 during the construction of the Leven bypass. A large enclosing ditch containing late Iron Age pottery was identified, whilst a ditch within the enclosure was radiocarbon-dated to 371-100 cal B.C. Succeeding this activity were two successive Romano-British ladder settlements, which lay about 100m apart – the earlier dating to the 2nd century A.D., the later to the mid 4th to early 5th centuries. Further excavation on elements of this crop-mark complex in the mid to later 1990s recorded a major complex of hill-top enclosures dating from the later Bronze Age or the early Iron Age, but with prehistoric mortuary enclosures and ring-ditches lower down the slopes – possibly dating to the later Neolithic or early Bronze Age – and Iron Age roundhouses, Romano-British and medieval features at the base of the slope. It is likely therefore that any ground-works in this area would encounter previously unknown heritage assets dating to the prehistoric and later periods.”

Additional evidence for Iron Age/Romano-British settlement within the vicinity was recorded just to the south of the Leven bypass during excavations between 2013 and 2017 (ERA 2013; *forthcoming*). A programme of trial trenching and subsequent monitored strip, map and recording, identified numerous features including a ring ditch, the possible remains of two ovens and a stone-lined hearth, field boundaries, ditches and pits. These features produced an assemblage of late Iron Age to early Romano-British pottery and prehistoric finds including part of an Early Bronze Age stone battle-axe and a Late Neolithic flint core of “chopper” shape.

2.3. Site Location and Geology

The proposed development area is currently Redwoods Livery/equestrian centre with associated paddocks and stable yard. The area is bounded by fields to the east and south and existing dwellings to the north and west. The underlying solid geology of the area is Flamborough Chalk Formation – Chalk with superficial deposits of Glaciofluvial Deposits, Devensian – Sand and Gravel (British Geological Survey 2017).

3. AIM AND OBJECTIVES

The aim of the archaeological evaluation is to gather sufficient information to establish the presence/absence, nature, date, depth, quality of survival and importance of any archaeological deposits, to enable an assessment of the potential and significance of the archaeology of the site to be made and the impact which development will have upon them. An informed decision can then be taken regarding the future treatment of the remains and any mitigation measures appropriate either in advance of and/or during development. The objective of the archaeological evaluation will therefore be to:

- Determine the presence/absence and extent of any features of archaeological interest;
- Identify and record all archaeological features and artefacts exposed during the below-ground works;
- Establish the sequence of archaeological deposits;
- Determine the form and function of any archaeological features identified;
- Retrieve dating and palaeoecological evidence from archaeological features;
- Identify any spatial distribution of activity.
- To confirm and enhance the results of the earlier geophysical survey

The results will be presented in appropriate detail in a post-excavation report, which will also aim to provide recommendations as to the need, or otherwise, for further excavation, further research on any of the excavated material and determine the appropriate methods for dissemination of the results should they be of any archaeological significance. All archaeological work will be carried out to a sufficient standard to satisfy the aims of the project and the requirements of HHER, as outlined in their "Notes for archaeological contractors proposing to work in the area covered by the Humber SMR" (Evans 1999). The work will also conform to the standards espoused in the Chartered Institute for Archaeologists' Standard and Guidance (CIfA 2014a) and Historic England (hereafter HE) guidelines (HE 2015; English Heritage 2008).

4. METHOD STATEMENTS

4.1 Excavation

All work carried out by East Riding Archaeology will be undertaken in accordance with this document and shall be carried out by a qualified archaeologist(s). The evaluation strategy will comprise the excavation of seven trial trenches, numbered T1 to T7, which will be positioned to obtain the maximum information regarding potential archaeology. The proposed location of the trial trenches are shown on the accompanying plan (*Figure 2*):

Western extent of development area:

Trench 1: measuring 25m x 2m, aligned E/W, sited roughly in the northern extent to investigate Anomaly 6.

Trench 2: measuring 25m x 2m, aligned N/S, sited in the southern extent to investigate E/W aligned Anomalies 11-15.

Trench 3: measuring 20m x 2m, aligned roughly NE/SW, sited in the eastern extent to investigate the 'blank area' to the east of Anomaly 6.

Eastern extent of development area:

Trench 4: measuring 25m x 2m, aligned N/S, sited in the southern extent to investigate Anomalies 3 and 8.

Trench 5: measuring 20m x 2m, sited in the central area to investigate the 'blank area' to the north of Anomaly 3.

Trench 6: measuring 20m x 2m, aligned roughly NE/SW, sited to the north of Trench 5 to investigate Anomalies 16 and 17.

Trench 7: measuring 20m x 2m, aligned roughly NE/SW, sited in the northern extent to investigate Anomaly 2.

Any overburden will be removed by mechanical excavation equipment with a wide toothless bucket under direct archaeological supervision, down to the first significant archaeological horizon or natural subsoil. In certain cases, the use of mechanical excavation equipment may also be appropriate for removing deep intrusions (e.g. modern brick and/or concrete floors or footings), or for putting sections through major features after partial excavation (e.g. ditches, cellars, etc.), or through deposits to check that they are of natural origin.

All trenches will be recorded by measured plans and sections and written descriptions of deposits compiled. Where features of archaeological interest are present, recording procedures will be those generally used on archaeological excavations. Plans and sections will be completed at a scale of 1:50 or 1:20 and 1:10 or 1:20, respectively (as appropriate). Photographs will be taken using 35mm SLR cameras, for both black and white print and colour transparency films, where appropriate; this will be supplemented by a digital photographic record, using a (minimum) Panasonic DMC G2 SLR of 12.1 megapixel resolution. The level of features or deposits relative to Ordnance Datum will be determined where possible.

A sufficient sample of any archaeological features and deposits revealed will be excavated in an archaeologically controlled and stratigraphic manner, in order to establish the aims of the evaluation (section 3.). A sufficient sample of features should be excavated and investigated to understand the full stratigraphic sequence in each trench, down to naturally occurring deposits. The following categories of features will be examined as follows, as advised by the HHER:

- a) A 100% sample should be taken of all stake-holes.
- b) An initial 50% sample should be taken of all post-holes; but, where these form part of a building, these should then be 100% excavated.
- c) A 50% sample of pits with a diameter of up to 1.5m [Where justified, these should then be 100% excavated].
- d) A minimum 25% sample should be taken of pits with a diameter of over 1.5m; but this should include a complete section across the pit to recover its full profile. [Where justified, these should be 100% excavated].
- e) A minimum 20% sample should be taken of all enclosure ditches, but, where justified, these should be 100% excavated.

- f) A minimum 20% sample should be taken of all field boundary ditches up to 5m in length; for features greater than this, a 10% sample would suffice.
- g) 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.
- h) All funerary contexts, all buildings, and all industrial features, will be subject to 100% excavation. As noted above, post-holes and the enclosing ditches around barrows and round-houses would first be subject to sample excavation, sectioning and recording, but should then be fully emptied.

All artefacts will be bagged according to their context; the recovery and processing of the finds will be undertaken in accordance with ClfA and UKIC standards and guidelines (ClfA 2014b; Watkinson & Neal 1998). Environmental (soil) samples will be taken from features or deposits deemed likely to have palaeo-environmental potential (section 4.4.). The environmental sampling and subsequent assessment and/or analysis, if required, will be in line with the recommendations of HE policy guidance (English Heritage 2011 2nd edition). If archaeological features and/or finds of significance are encountered, negotiations between the client, ERA and HHER should take place to determine appropriate procedures.

4.2 Finds Strategy

Finds will be recorded to professional standards in line with ClfA and MoRPHE guidelines (ClfA 2014b; English Heritage 2008), using recognised procedures and numbering systems compatible with the accessioning system employed by the recipient museum. Recording, marking and storage materials will be of archive quality. Artefacts of particular interest – i.e. those other than bulk finds such as animal bone, pottery or ceramic building materials – will be allocated a Recorded Find number and recorded on an appropriate *pro forma* sheet.

The analysis/conservation of any artefacts from the site will be dealt with as follows: after quantification of any such material, the clients will be provided with cost estimates for any necessary work so that funding can be agreed; contingency sums only will be included in any cost estimates. Artefacts such as gold or silver, as defined under the categories of 'treasure' in accordance with Section C of The Treasure Act 1996 Code of Practice (Revised), will be reported to the Coroner.

4.3 Human Remains

In the event that burials and/or disarticulated/disturbed remains are encountered, they will be recorded *in situ* and removed in accordance with the conditions set out in the License for the Removal of Human Remains, issued by the Ministry of Justice; ERA will contact the Ministry on the client's behalf. Human remains will be treated with due respect and adequately recorded using existing recording forms designed specifically for such use, in line with procedures as outlined by ClfA and Historic England (Brickley & McKinley 2004; APABE/Historic England 2017; Historic England 2004a). Any human remains will be lifted (unless circumstances dictate otherwise) and arrangements made for storage unless the licence specifies reburial or cremation. The extra costs which would be involved in the proper excavation and analysis of burials and human remains will usually be stated in the contingency sums included in the cost estimates for the work. Assessment will be carried out by York Osteoarchaeology Ltd or the Finds Officer (section 5.2).

4.4 Strategy for the Recovery and Sampling of Biological Remains

Sediment samples

Environmental samples will be taken from any identifiable archaeological features; the sampling and subsequent assessment and/or analysis (if required) will be in line with the recommendations of HE policy guidance (English Heritage 2011 2nd edition). The aim of sediment sampling will be to gather sufficient material for analysis of biological remains within archaeological features and to assess their bio-archaeological potential. To this end a number of samples will be taken from excavated features/deposits for assessment. The samples will consist of at least one 10 litre general biological analysis (GBA) sample stored in ten-litre plastic tubs.

It is not intended to institute an extensive blanket sampling policy involving the routine sampling of features; rather, a range of dated and undated contexts will be targeted, combining judgment with systematic sampling where appropriate, in consultation with the environmental specialist (section 5.2). Features sampled may include deposits that are burnt or may contain material of domestic or industrial origin e.g. fills of rubbish pits, occupation deposits/floors, natural deposits such as organic horizons and channel fills. Some particularly rich deposits may have bulk-sediment (BS) samples taken (comprising 4 to 6, ten litre plastic tubs of material; 40-60 litres).

A selection will also be made of deposits with no visible potential. The exceptions will be deposits which are unsealed (liable to contamination), ground make-ups or other deposits which are likely to have been imported and contain residual or intrusive material, except where specific questions are posed. This is in line with the recommendations of HE policy guidance (*ibid*).

All samples will initially be examined at ERA premises and/or on-site by the environmental specialist. In light of this examination and the results of the fieldwork, suitable material will be sent to Palaeoecology Research Services Ltd (PRS) based in Hull for assessment. When the material has been quantified, estimates for the assessment (and where necessary, subsequent analysis) will be passed to the client to arrange funding; only indicative allowances for this work will be included in any initial cost estimates.

Spot/ID samples

A small number of spot samples, such as concentrations of small bones, seeds etc. might be taken, as may samples of wood for identification; all of which will be subject to assessment by PRS.

Animal bones

Animal bones will be hand-collected from all excavated features and will be bagged and labelled according to their excavated context. Collection of unstratified bone will not be attempted, unless of archaeological interest. Where deposits are noted to contain dense concentrations of bones, these will be sampled as bulk sediment (BS) samples as described in the HE policy guidance (English Heritage 2011 2nd edition; *ibid* 2014). Bones recovered by hand-collection and from processed sediment samples will be assessed by PRS and/or the Finds Officer (section 5.2).

Scientific sampling

Specialist dating by scientific sampling may be considered in certain circumstances, normally where contexts or features cannot be dated by 'conventional' means (e.g. pottery, artefacts, documentary). There are three main types, broadly: dendrochronological sampling of preserved timbers; archaeo-magnetic assay of slow-accumulated waterlain silts and hearth/kiln structures; radiocarbon/accelerator mass spectroscopy (AMS) dating of organic material recovered either from GBA/BS samples or taken as Spot/ID samples (e.g. bone, organic sediments). Scientific sampling will be carried out in accordance with the appropriate guidelines (English Heritage 2004b; 2006a). Costs for such analyses will be approved with the client before expenditure.

4.5 Off-Site Works

Upon completion of the on-site works, the site records (written, drawn and photographic) will be indexed and assessed leading to the production of a detailed report; this will include the discussion of each excavated area with a unified phasing structure based on the stratigraphic sequence and the integration of the results of any specialist(s) reports.

Any artefacts and environmental samples will be retained for assessment, which will comply with ClfA and MoRPHE guidelines (ClfA 2014b; Historic England 2015). Artefacts will be cleaned, examined, catalogued and prepared for the archive by a Finds Assistant and/or the Finds Officer (section 5.2). ERA retain the right at this stage to discard unstratified material and/or material from modern topsoil and overburden unless of clear intrinsic interest. Provision will be made for the production of a conservation report, including x-radiography, initial conservation/stabilisation and assessment of the conservation needs for stratified metal and waterlogged finds by the York Archaeological Trust (YAT) conservation laboratory (section 5.2) in accordance with HE guidelines (English Heritage 2006b; 2010; 2012).

The pottery will be spot dated/assessed by a sub-contracted pottery specialist(s) and/or the Finds Officer; human remains will be assessed by York Osteoarchaeology Ltd and/or the Finds Officer. Sediment samples will be sent to PRS Ltd following an initial selection process for more detailed examination, including paraffin flotation for the recovery of insect remains, if necessary; arrangements will also be made to assess specialist samples where these have been taken. The animal bones will be assessed by PRS Ltd and/or the Finds Officer; the assessment of the recorded and bulk finds will be carried out by the Finds Officer and/or the appropriate specialist(s).

Archive preparation and deposition (including finds retention/disposal)

The site archive will be prepared (including retention/disposal of finds and environmental material) in accordance with ERA's usual procedures, in line with those recommended by HE (English Heritage 2008), ClfA (2014c) and IfA/AAF (Brown 2011).

The site archive, including finds and environmental material – subject to the permission of the relevant landowner(s) – will be labelled, conserved, packaged and stored according to the UKIC Guidelines for the preparation of excavation archives for long term storage (Walker 1990) and the Museums and Galleries Commission (MGC 1992). It is intended that the site archive will be deposited with a suitable repository which meets the criteria for the storage of archaeological material, in this case the East Riding of Yorkshire Museums Service (as per their Guidelines 2015). A site-specific accession number will be agreed with the recipient museum upon deposition. Finds remain the property of the landowner until such time as they may grant title to a museum; the client is normally encouraged to donate the finds to a museum.

Upon completion of post-excavation work ownership of the finds can be transferred to the recipient museum with the written and/or digital archive also being transferred by the archaeological contractor, (as per the recipient museums guidelines). All recorded finds would be deposited as a matter of course but discussions would need to take place upon completion of post-excavation work to determine which bulk finds were of sufficient importance to be deposited (as per the recipient museums guidelines). An allowance will be made as a contribution to the recipient museum towards the long-term curation and storage of materials.

Report production

Upon completion of the on-site and post-excavation works, a report of the results of the fieldwork will be produced for submission to the client, the Local Planning Authority and the HHER. The report will include the following (as appropriate):

- a) A summary (non-technical) of the results of the monitoring.
- b) A description of the background to the project, including site code/project number, planning reference number(s), HHER casework number(s), national grid reference, dates of fieldwork and the historical and archaeological background of the site.
- c) A description and analysis of the methods and results of the archaeological fieldwork, in the context of the known archaeology of the area e.g. if any archaeological features encountered pertain/enhance the results of the earlier geophysical survey. Phasing and interpretation of the site sequence supported by scaled figures: a location plan; an overall plan of the site accurately identifying the areas monitored and the location of the trenches; a plan of each trench as excavated indicating the location of archaeological features and their sequence, with section and plan drawings (where archaeological deposits are exposed), detailing the stratigraphic sequence of deposits within each trench, with ground level, Ordnance Datum and scales. The report will also contain a number of photographs where significant archaeological deposits or artefacts are encountered, also general photographs to show the prevailing condition of the site at the time of the fieldwork.
- d) Specialist reports on all material categories of artefact (including any artefacts recovered from the environmental samples), human remains and the environmental samples will be included, as necessary. If required, a conservation report will also be produced taking into account the long-term conservation and storage requirements. The potential for any subsequent study of the artefacts and environmental remains will also be included.
- e) Recommendations for the future treatment of archaeological remains on the site, the potential impact of the proposed development, and the need for further post-excavation and publication work.
- f) Details of archive location and destination (Archive Index).
- g) Appendices, as appropriate, including copies of the written scheme of investigations and the geophysical report.
- h) References of all sources used.

Digital copies of the report (in PDF format) will be supplied to the client, the HHER and to the Local Planning Authority. A hard copy will also be submitted to the HHER and, if requested, to the client.

4.6 Copyright, Confidentiality and Publicity

Unless the client wishes to state otherwise, the copyright of any written, graphic or photographic records and reports rests with the contractor (ERA). The results of the work will remain confidential, initially being distributed only to the clients, their agents and HHER, and will remain so until such time as it is submitted in support of a planning application and is then deemed to have entered the public domain. The contractor will normally make information from this fieldwork available to interested parties when it is no longer considered confidential. This takes into account both the duty of confidence to the client commissioning the work and the professional obligation to make the results of archaeological work available to the wider archaeological community within a reasonable time.

A brief note on the findings (pending significance) will be submitted for publication in a local or regional archaeological journal, such as the East Riding Archaeologist. However, the findings may be of sufficient importance to merit a more detailed publication. Recommendations as to the need, or otherwise, for additional post-excavation works to produce a published report, will be identified in the main report. All aspects of publicity will be agreed at the outset of the project between the client and the contractor.

4.7 Health and Safety, Insurance

Health and Safety will take priority over archaeological matters. ERA abides by the 1974 Health and Safety Act and its subsequent amendments. A Risk Assessment is prepared for any excavations undertaken. Overall policy is in line with recommendations set out in the Federation of Archaeological Managers & Employers' Manual of Health and Safety in Field Archaeology 2012. Members of staff are given a Health and Safety induction at commencement of all projects. East Riding Archaeology is fully covered by an Employers and Public Liability Insurance Policy.

4.8 Monitoring

The work will be monitored by the Principal Archaeologist/Development Management Archaeologist of the Humber Historic Environment Record (HHER) to ensure that it is carried out to the required standard; this project design has been submitted to them for approval. The opportunity will be afforded for them to visit the site, to inspect and comment upon the excavation and recording procedures.

5. TIMETABLE AND STAFFING

5.1 Timetable for the Work

The works are expected to be undertaken over a period of days in February/March 2018, a start date is yet to be confirmed. The on-site work will be followed by a post-excavation period, during which the post-excavation assessment report will be produced, including (as appropriate) any specialist assessments.

5.2 Project Team, Staff Experience and Technical Expertise

The on-site monitoring will be carried out by a Project Officer; subsequent hand-cleaning and investigation, recording or surveying will require the presence of Site Assistants. The off-site team will comprise the Project Officer and an Illustrator, with contributions from specialists and/or the Finds Officer as required. The above will be under the overall direction of a Project Manager. The project team includes the following, with expertise drawn as necessary from the external specialists listed.

Project Manager

J. Tibbles, BA (Hons) – Has extensive professional experience in both archaeological fieldwork and the production of ceramic building material publications since 1986. Has over 25 years experience in directing small and large-scale prehistoric, Roman, medieval and post-medieval excavations, both rural and urban. Has produced numerous excavation reports ('grey literature').

Project Officer/Illustrator

J. Fraser, BSc – Has worked in professional archaeology since 1991. Has over 17 years experience directing both rural and urban excavations, ranging from prehistoric through to post-medieval, including medieval waterfronts. Experienced in watching briefs, post-excavation analysis, producing excavation reports ('grey literature'), AutoCAD illustration, n4ce survey software, GPS and EDM surveys.

Project Officer(s)

The following staff are experienced in all aspects of on-site techniques, having worked on numerous multi-period, large and small-scale urban and rural excavations, (open area and trial trenching), including the excavation of inhumations and cremations. All have supervised/trained volunteers.

R. J. Coates, BA (Hons) MA, – Has over 10 years archaeological experience. Has worked in professional archaeology since 2013 as supervisor and site assistant. Experienced in undertaking watching briefs and building surveys, post-excavation analysis, finds processing, producing excavation reports ('grey literature') and collation of archives. Has worked on community outreach projects for ERA.

A. Fawcett, BA (Hons) – Has over 8 years experience. Has worked in professional archaeology since 2012 as a site assistant and supervisor. Experienced in undertaking watching briefs and building surveys, post-excavation analysis, producing excavation reports ('grey literature'), collating archives and finds processing.

L. M. Johnson, BA (Hons) – Has over 8 years archaeological experience. Has worked in professional archaeology since 2012 as a site assistant and supervisor. Experienced in undertaking watching briefs and post-excavation analysis, producing excavation reports ('grey literature'), collation of archives and finds processing/recording. Has worked on community outreach projects for ERA.

J. Phillips, MA (Hons), MA (Hons) – Has worked in professional archaeology since 2007 as a site assistant and supervisor. Experienced in undertaking watching briefs, building surveys, post-excavation analysis, producing excavation reports ('grey literature'), AutoCAD illustration, collation of archives and finds processing/recording. Has worked on community outreach projects for ERA.

E. Samuel, (BA Hons) – Has worked in professional archaeology since 2015 as a site assistant and supervisor. Experienced in undertaking watching briefs, post-excavation analysis, producing excavation reports ('grey literature'), finds processing and collation of archives.

Project Officer/Finds Officer

S. Tibbles, Cert. Arch (Hull), Dip. Arch (Hull) – has worked in professional archaeology since 1991 as a site assistant, supervisor and finds supervisor. Has experience in post-excavation analysis, finds processing/recording, producing, compiling and editing excavation reports ('grey literature'), assessment reports and publications on Romano-British ceramic building material and finds assemblages to MoRPHE and MAP2 standards and collating archives.

Site/Finds Assistants

K. Adams, – Has worked in professional archaeology since 1986 as a supervisor, site assistant and finds assistant. Experienced in undertaking watching briefs, post-excavation analysis, finds processing/recording, AutoCAD illustration, producing excavation reports ('grey literature') and collation of archives.

G. Myers, BA (Hons) – Has worked in professional archaeology for over 40 years. Experienced in post-excavation analysis, finds processing/recording and collation of archives.

Other site assistants are experienced staff who have worked within the region on a variety of urban and rural archaeological projects, with experience of on-site fieldwork and post-excavation analysis.

Specialists

Archaeomagnetism – Archaeomagnetism - Division of Archaeological, Geographical & Environmental Sciences, University of Bradford.

Archaeometallurgy – Roderick Mackenzie - Archaeometallurgist/J. Cowgill - Environmental Archaeology Consultancy

Ceramic Building Materials – J. Tibbles, BA (Hons), Cert. Arch. (Hull), Dip.H.E, AIFA - has extensive experience in producing assessment reports ('grey literature') and publication reports for all periods. Has also developed the regional typology for CBM over recent years.

S. Tibbles, Cert. Arch. (Hull), Dip. Arch. (Hull) - specialises in Romano-British CBM. Experienced in producing assessment reports ('grey literature'), publications and has developed the regional Romano-British *tegulae* typology.

Conservation – York Archaeological Trust Conservation Laboratory (conservation, specialist reports on wood and leather).

Dendrochronology – I. Tyers - Dendrochronological Consultancy Ltd.

Environmental Specialist – Palaeoecology Research Services Ltd. (biological remains).

Human Remains – M. Holst - York Osteoarchaeology Ltd.

Lithics – P. Makey, Lithics/Spencer Carter BA (Hons).

Pottery Specialists – P. Didsbury, MPhil, FSA. - has extensive experience of pottery research on assemblages dating from the prehistoric through to the post-medieval period from East Yorkshire and other regions. Is published widely both regionally and nationally.

T.Manby - has extensive experience of prehistoric pottery from the region and publications on regional assemblages.

Radiocarbon/AMS – Beta Analytic.

Soil Specialist – Wetlands Archaeology and Environments Research Centre, University of Hull.

Structural Stonework – S. Harrison – Ryedale Archaeological Services.

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Figure 1: Location plan and area of proposed development in red
(courtesy of Nineteen 47 Limited)

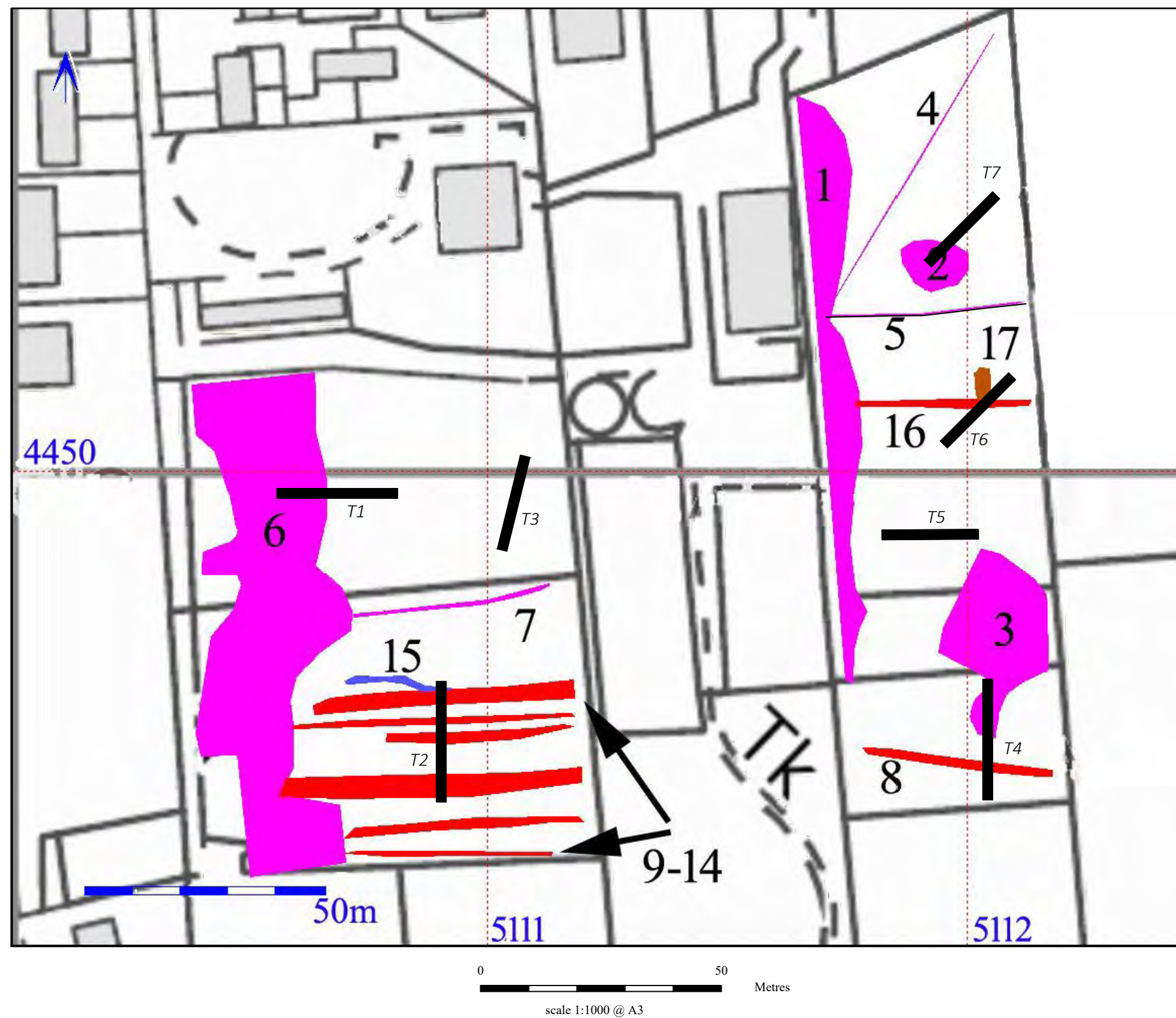


Figure 2: Proposed trench location overlaid on geophysical survey results



**ERECTION OF A RESIDENTIAL DEVELOPMENT FOR UP TO 70 DWELLINGS
(ACCESS AND SCALE TO BE CONSIDERED) AT
LAND SOUTH OF THE REDWOODS, HIGH STILE, LEVEN,
EAST RIDING OF YORKSHIRE:**

**Written scheme of investigation for an evaluation by
observation, investigation and recording (watching brief).**

EAST RIDING ARCHAEOLOGY
The Old Chapel
27 Wilson Street
Anlaby
HU10 7AN

Prepared for:
Southwell Country Homes Ltd

Planning Ref: DC/17/02687/STREAM; DC/16/02035/STOUT/STRAT
HHER Reference No: SMR/PA/CONS/20328
National Grid Ref: TA 11131 44984 (centred around)

ERA Site Code: 240.TRL.2017

J. Fraser & S. Tibbles
February 2018

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Figure 1: Location plan and area of proposed development in red (courtesy of Nineteen 47 Limited).

Figure 2: Trench location overlaid on geophysical survey results.

Figure 3: Proposed extent of development area for monitoring (courtesy of Nineteen 47 Limited).

1. SUMMARY

The purpose of this written scheme of investigation is to present an archaeological strategy (watching brief) in support of proposals for the erection of up to 70 no. dwellings, garages and associated works at land south of The Redwoods, High Stile, Leven, East Riding of Yorkshire (NGR TA 11131 44984 (centred around)). A staged scheme for the preservation of the archaeological remains was recommended for the below ground-works in association with the development.

The initial stage of work was a geophysical survey undertaken in December 2017 (Geophiz.biz, 2017), the results of which identified seventeen anomalies (*Figure 2*). Based upon the results of the survey, an archaeological evaluation by trial trenching was undertaken in February 2018 (*Figure 2*); the only features encountered were two hollows, a pit possibly for water extraction, a tree bole, a hedgeline and a probable former field boundary (see section 2.2). Based on the known archaeology within the area, particularly to the south-east of the development, and after consultation with the HHER, monitoring of the ground-works within the eastern extent of the development area is proposed (*Figure 3*). This written scheme of investigation has been produced by East Riding Archaeology on behalf of Southwell Country Homes Ltd. The works are expected to be undertaken over a period of days in 2018, a start date is yet to be confirmed.

2. INTRODUCTION

2.1 Planning Background

The application for this development, reference: DC/16/02035/STOUT/STRAT, and, most recently DC/17/02687/STREAM, was submitted to East Riding of Yorkshire Council in June 2016 and August 2017, respectively. Permission for the outline application (DC/16/02035/STOUT/STRAT was subsequently granted (30th January 2017) subject to various conditions including Condition 15 pertaining to archaeology:

“No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Planning Authority. Development shall be carried out in accordance with the approved details (Circular 11/95, Model Clause 55).

Reason: The recommendation for a preliminary geophysical survey has been made because the application site lies within the medieval settlement of Leven, which itself sits within an archaeological landscape that has produced evidence of prehistoric and Romano-British occupation. The request for this condition is in line with Policies 128, 129, 130, 131, 135, 136, 139 and 141 within Section 12 ‘*Conserving and enhancing the historic environment*’, in the *National Planning Policy Framework 2012*.

A suitable staged scheme to preserve or record the archaeological deposits should include the following provisions:

Evaluation

1. A non-destructive geophysical survey of the proposed development area to test for the presence of buried archaeological deposits on the site.
2. Should the above survey indicate the presence of likely archaeological features, limited trial trenching would be recommended to determine the nature, extent and importance of any remains. The results of these preliminary stages should enable the impact of the proposed development on any archaeological deposits to be fully assessed. An informed and reasonable decision can then be taken regarding the future treatment of the remains.

Further work

3. Should the evaluation show that the site contains significant archaeological remains, mitigation measures should be explored to achieve physical or *in situ* preservation of those remains. If destruction is unavoidable, detailed excavation of selected areas, followed by post-excavation analysis and publication of results, should take place in order to achieve preservation by record.

All archaeological site work, including geophysical survey, must be undertaken by an archaeological contractor, who is acceptable to the Local Planning Authority, after consultation with their archaeological advisor.”

2.2. Archaeological/Historical Background

The following has been provided by the Humber Historic Environment Record Office (HHER), 22nd July 2016: SMR/PA/CONS/20328.

“The site of the proposed development lies within the medieval settlement of Leven, a village which is recorded in the Domesday Book of 1086 as ‘*Leuene*’, when it was owned by the Archbishop of York. The settlement is sited on an outcrop of well-drained gravels and sands, in the middle of an area of natural marsh and wetland belonging to the Holderness plain; as such, it has attracted early settlement since the Neolithic period. An Anglo-Saxon cross fragment from the site of St Faith’s Church (one mile to the west of the modern village) suggests that a settlement had evolved here by at least the late Saxon period, indeed the name Leven has Anglian origins, meaning the ‘*the slow-moving one*’.

The village had a medieval grant of a market and fair, although the market had lapsed by c.1750. To the south-east of the proposal site lies a major crop-mark complex representing a hill-top settlement of probable Iron Age date. Previous archaeological work took place on this complex in 1992 and 1994-5 during the construction of the Leven bypass. A large enclosing ditch containing late Iron Age pottery was identified, whilst a ditch within the enclosure was radiocarbon-dated to 371-100 cal B.C. Succeeding this activity were two successive Romano-British ladder settlements, which lay about 100m apart – the earlier dating to the 2nd century A.D., the later to the mid 4th to early 5th centuries. Further excavation on elements of this crop-mark complex in the mid to later 1990s recorded a major complex of hill-top enclosures dating from the later Bronze Age or the early Iron Age, but with prehistoric mortuary enclosures and ring-ditches lower down the slopes – possibly dating to the later Neolithic or early Bronze Age – and Iron Age roundhouses, Romano-British and medieval features at the base of the slope. It is likely therefore that any ground-works in this area would encounter previously unknown heritage assets dating to the prehistoric and later periods.”

Additional evidence for Iron Age/Romano-British settlement within the vicinity was recorded just to the south of the Leven bypass during excavations between 2013 and 2017 (ERA 2013; *forthcoming*). A programme of trial trenching and subsequent monitored strip, map and recording, identified numerous features including a ring ditch, the possible remains of two ovens and a stone-lined hearth, field boundaries, ditches and pits. These features produced an assemblage of late Iron Age to early Romano-British pottery and prehistoric finds including part of an Early Bronze Age stone battle-axe and a Late Neolithic flint core of “chopper” shape.

Geophysical Survey: In the eastern extent of the proposed development area, three modern anomalies were identified caused by the presence of sheds and two electric fences, Anomalies 1, 4 and 5, respectively. Linear Anomaly 7 within the western extent is also likely to be modern, possibly a water pipe leading to a small extant tank within the paddock. Anomalies 2 and 3 within the eastern extent could indicate the presence of pits or depressions and two E/W aligned linear anomalies, 8 and 16, also in the eastern extent, may possibly represent field boundaries. A small N/S aligned linear, Anomaly 17, extending at a 90° angle from the eastern end of Anomaly 16, appears to be linked but interpretation is difficult. Anomaly 6 is a large, N/S aligned, irregular feature that dominates the western limits of the western extent of the development area - although Anomaly 6 is classified as a single feature, it may be made up of multiple events. Also within the western extent at the southern end, is a sequence of six roughly parallel, E/W aligned linears, Anomalies 9-14, of which one may possibly be a field boundary; interpretation of the other linears is difficult as they vary in width and are not all the same magnetically, some weak, some coherent. Extending from the north side of Anomaly 14 is Anomaly 15, a small linear roughly E/W aligned which, as with Anomaly 17, is difficult to interpret.

Trial Trenching: Trenches 1-3 in the western extent of the development area were devoid of archaeological features. The geophysical anomalies (6 and 11-15) appeared to have been associated with a former commercial nursery garden. Trenches 5 and 7 were also devoid of archaeological features; no evidence of Anomaly 2 was encountered. Trench 4 recovered evidence that Anomaly 3 represented a hollow which contained waterlain deposits and Anomaly 8 was probably a former field boundary visible on Google Earth. Trench 6 recovered evidence of a shallower hollow which also contained waterlain deposits. The hollow was visible extending north-west from the trench as a depression in the field but did not appear on the geophysical survey. The geophysical survey most likely picked up the hollow in Trench 4 because of the ground-raising/consolidation deposit clay and brick dumped over it. Anomaly 17 was associated with a tree bole and possible water extraction pit cut into the top of the silted up hollow in Trench 6. Post medieval pottery was recovered from the fill of the tree bole. It is considered that the tree bole and pit were broadly contemporary. Anomaly 16 was a relatively modern ceramic land drain.

2.3. Site Location and Geology

The proposed development area is currently Redwoods Livery/equestrian centre with associated paddocks and stable yard. The area is bounded by fields to the east and south and existing dwellings to the north and west. The underlying solid geology of the area is Flamborough Chalk Formation – Chalk with superficial deposits of Glaciofluvial Deposits, Devensian – Sand and Gravel (British Geological Survey 2017).

3. AIM AND OBJECTIVES

As the proposed development lies within an area where potential archaeological deposits may exist and be severely damaged or destroyed by any below-ground disturbance, either during and/or the following day of completion of any below-ground works, an archaeologist will attend the site and record any archaeological features, deposits or finds exposed prior to the in-filling. Any artefacts collected will be assigned to features where possible. Environmental samples may be taken where appropriate for assessment of organic remains and/or specialist dating. Upon completion of the required monitoring, the results will be presented in appropriate detail in a post-excavation report. Assessment of the results of the fieldwork will also aim to provide recommendations as to the need, or otherwise, for further research on any of the excavated material and will determine the appropriate methods for dissemination of the results should they be of any archaeological significance.

All archaeological work will be carried out to a sufficient standard to satisfy the aims of the project and the requirements of HHER, as outlined in their “Notes for archaeological contractors proposing to work in the area covered by the Humber SMR” (Evans 1999). The work will also conform to the standards espoused in the Chartered Institute for Archaeologists’ Standard and Guidance (CIfA 2014a).

4. METHOD STATEMENTS

4.1 Excavation

All work carried out by East Riding Archaeology will be undertaken by a qualified archaeologist(s) in accordance with this document. The ground-works will be recorded either during excavation or the following day of completion; monitoring visits will continue as necessary until all ground-works are complete. Where features of archaeological interest are present, time must be allowed for proper recording, measured plans and sections to be drawn, written descriptions of deposits compiled and photographs taken. Recording procedures will be those generally used on archaeological excavations; plans will be completed at a scale of 1:50 or 1:20 (as appropriate), section drawings will be at a scale of 1:10 or 1:20 and written context descriptions will be compiled.

A photographic record will be made using 35mm SLR cameras for both black & white and colour transparencies, where appropriate; this will be supplemented by a digital photographic record, using a (minimum) Panasonic DMC G2 SLR 12.1 megapixel resolution. The level of features or deposits relative to Ordnance Datum will be determined where possible, otherwise with reference to depth below ground level. Any artefacts recovered will be bagged according to their context (section 4.2); environmental (soil) samples will be taken from features or deposits deemed likely to have palaeo-environmental potential (section 4.4.). If archaeological features and/or finds of significance are encountered, negotiations between the client, ERA and HHER should take place to determine appropriate procedures.

4.2 Finds Strategy

Finds will be recorded to professional standards (CIfA 2014b; English Heritage 2008; Watkinson & Neal 1998), using recognised procedures and numbering systems compatible with the accessioning system employed by the recipient museum; recording, marking and storage materials will be of archive quality. Artefacts of particular interest – i.e. those other than bulk finds such as animal bone, pottery or ceramic building materials – will be allocated a Recorded Find number and recorded on an appropriate *pro forma* sheet. The analysis/conservation of any artefacts from the site will be dealt with as follows: after quantification of any such material, the clients will be provided with cost estimates for any necessary work so that funding can be agreed; contingency sums only will be included in any cost estimates. Artefacts such as gold or silver, as defined under the categories of ‘treasure’ in accordance with Section C of The Treasure Act 1996 Code of Practice (Revised), will be reported to the Coroner.

4.3 Human Remains

In the event that burials and/or disarticulated/disturbed remains are encountered, they will be recorded *in situ* and removed in accordance with the conditions set out in the License for the Removal of Human Remains, issued by the Ministry of Justice; ERA will contact the Ministry on the client’s behalf. Human remains will be treated with due respect and adequately recorded using existing recording forms designed specifically for such use, in line with procedures outlined in IfA Guidelines to the Standards for Recording Human Remains (Brickley & McKinley 2004) and HE guidelines (APABE/Historic England 2017; Historic England 2004a). Any human remains will be lifted (unless circumstances dictate otherwise) and arrangements made for storage unless the licence specifies reburial or cremation. The extra costs which would be involved in the proper excavation and analysis of burials and human remains will usually be stated in the contingency sums included in the cost estimates for the work. Assessment will be carried out by York Osteoarchaeology Ltd. or the Finds Officer.

4.4 Strategy for the Recovery and Sampling of Biological Remains

Sediment samples

No sampling strategy is planned unless circumstances dictate this is necessary or desirable. Should environmental sampling and subsequent assessment and/or analysis be required, this will be in line with the recommendations of HE policy guidance (English Heritage 2011 2nd edition). Sediment samples taken will consist of at least one 10 litre general biological analysis (GBA) sample taken from targeted deposits and stored in ten-litre plastic tubs. All samples will initially be examined at ERA premises and/or on-site by the environmental specialist (section 5.2).

In light of this examination and the results of the fieldwork, suitable material will be sent to Palaeoecology Research Services Ltd (PRS Ltd) for assessment. When the material has been quantified, estimates for the assessment (and where necessary, subsequent analysis) will be passed to the client to arrange funding; only indicative allowances for this work will be included in any initial cost estimates.

Spot/ID samples

A small number of spot samples, such as concentrations of small bones, seeds etc. might be taken, as may samples of wood for identification; all of which will be subject to assessment by PRS Ltd.

Animal bones

Animal bones will be hand-collected from all excavated features and will be bagged and labelled according to their context; collection from unstratified contexts will not be attempted unless of archaeological interest. Where deposits are noted to contain dense concentrations of bones, these will be sampled as bulk sediment (BS) samples as described in the HE policy guidance (English Heritage 2011 2nd edition). Bones recovered by hand-collection and from processed sediment samples will be assessed by PRS Ltd and/or the Finds Officer in line with HE recommendations (English Heritage 2014).

Scientific dating

Specialist dating by scientific sampling may be considered in certain circumstances, normally where contexts or features cannot be dated by 'conventional' means (e.g. pottery, artefacts, documentary). The three main types are: dendrochronological sampling of preserved timbers; archaeo-magnetic assay of slow-accumulated waterlain silts and hearth/kiln structures; radiocarbon/accelerator mass spectroscopy (AMS) dating of organic material recovered either from GBA/BS samples or taken as Spot/ID samples (e.g. bone, organic sediments). Scientific sampling will be carried out in accordance with the appropriate guidelines (English Heritage 2004b; 2006a). Costs for such analyses will be approved with the client before expenditure.

4.5 Off-Site Works

Upon completion of the on-site monitoring, the written, drawn and photographic records will be compiled into a site archive to provide the basis for the production of the final report, including the integration of the results of any specialist(s) reports. Any artefacts and environmental samples will be retained for assessment which will comply with ClfA and MoRPHE guidelines (ClfA 2014b; English Heritage 2008). Artefacts will be cleaned, examined, catalogued and prepared for the archive by a Finds Assistant and/or the Finds Officer (section 5.2).

ERA retain the right at this stage to discard unstratified material, particularly that from modern topsoil and overburden, unless of clear intrinsic interest. Provision will be made for the production of a conservation report, including x-radiography, initial conservation/stabilisation and assessment of the conservation needs for stratified metal and waterlogged finds by the York Archaeological Trust (YAT) conservation laboratory (section 5.2) in accordance with HE guidelines (English Heritage 2006b; 2010; 2012).

The pottery will be spot dated/assessed by a sub-contracted pottery specialist(s) and/or the Finds Officer (section 5.2); any human remains will be assessed by York Osteoarchaeology Ltd and/or the Finds Officer (section 5.2). Sediment samples will be sent to PRS Ltd (section 5.2) following an initial selection process for more detailed examination, including paraffin flotation for the recovery of insect remains, if necessary; arrangements will also be made to assess specialist samples where these have been taken. The animal bones will be assessed by suitably qualified specialists and/or the Finds Officer (section 5.2). The assessment of the recorded and bulk finds will be carried out by the Finds Officer and/or the appropriate specialist(s).

Archive preparation and deposition (including finds retention/disposal)

The site archive will be prepared (including retention/disposal of finds and environmental material) in accordance with ERA's usual procedures which are in line with those recommended by HE (English Heritage 2008), ClfA (2014c) and IfA/AAF (Brown 2011). The site archive, including artefacts and environmental material – subject to the permission of the relevant landowners – will be labelled, conserved, packaged and stored according to the appropriate guidelines for long term storage (Walker 1990; MGC 1992). It is intended that the site archive will be deposited with a suitable repository which meets the criteria for the storage of archaeological material, in this case the East Riding of Yorkshire Museums Service (as per their Guidelines on Archaeological Archives 2015). A site-specific accession number will be agreed with the recipient museum upon deposition.

Finds remain the property of the landowner until such time as they may grant title to a museum; the client is normally encouraged to donate the finds to a museum. Upon completion of post-excavation work ownership of the finds can be transferred to the recipient museum with the written and/or digital archive also being transferred by the archaeological contractor, (as per the recipient museums guidelines). All recorded finds would be deposited as a matter of course but discussions would need to take place upon completion of post-excavation work to determine which bulk finds were of sufficient importance to be deposited (as per the recipient museums guidelines). An allowance will be made as a contribution to the recipient museum towards the long-term curation and storage of materials.

Report production

Upon completion of the on-site and post-excavation works, a report of the results of the fieldwork will be produced for submission to the client, the Local Planning Authority and the HHER. The report will include the following (as appropriate):

- a) A summary (non-technical) of the results of the monitoring.
- b) A description of the background to the project, including site code/project number, planning reference number(s), HHER casework number(s), national grid reference, dates of fieldwork and the historical and archaeological background of the site.
- c) A description and analysis of the methods and results of the archaeological fieldwork (trial trenching and watching brief), in the context of the known archaeology of the area e.g. if any archaeological features encountered pertain/enhance the results of the earlier geophysical survey. Phasing and interpretation of the site sequence supported by scaled figures: a location plan; an overall plan of the site accurately identifying the areas monitored and the location of the trenches; a plan of each trench as excavated indicating the location of archaeological features and their sequence, with section and plan drawings (where archaeological deposits are exposed), detailing the stratigraphic sequence of deposits within each trench, with ground level, Ordnance Datum and scales. The report will also contain a number of photographs where significant archaeological deposits or artefacts are encountered, also general photographs to show the prevailing condition of the site at the time of the fieldwork.
- d) Specialist reports on all material categories of artefact (including any artefacts recovered from the environmental samples), human remains and the environmental samples will be included, as necessary. If required, a conservation report will also be produced taking into account the long-term conservation and storage requirements. The potential for any subsequent study of the artefacts and environmental remains will also be included.
- e) Recommendations for the future treatment of archaeological remains on the site, the potential impact of the proposed development, and the need for further post-excavation and publication work.
- f) Details of archive location and destination (Archive Index).
- g) Appendices, as appropriate, including copies of the written scheme of investigations and the geophysical report.
- h) References of all sources used.

Digital copies of the report (in PDF format) will be supplied to the client, the HHER and to the Local Planning Authority. A hard copy will also be submitted to the HHER and, if requested, to the client.

4.6 Copyright, Confidentiality and Publicity

Unless the client wishes to state otherwise, the copyright of any written, graphic or photographic records and reports rests with the contractor (ERA). The results of the work will remain confidential, initially being distributed only to the clients, their agents and HHER, and will remain so until such time as it is submitted in support of a planning application and is then deemed to have entered the public domain. The contractor will normally make information from this fieldwork available to interested parties when it is no longer considered confidential. This takes into account both the duty of confidence to the client commissioning the work and the professional obligation to make the results of archaeological work available to the wider archaeological community within a reasonable time.

A brief note on the findings (pending significance) will be submitted for publication in a local or regional archaeological journal, such as the East Riding Archaeologist. However, the findings may be of sufficient importance to merit a more detailed publication. Recommendations as to the need, or otherwise, for additional post-excavation works to produce a published report, will be identified in the main report. All aspects of publicity will be agreed at the outset of the project between the client and the contractor.

4.7 Health and Safety, Insurance

Health and Safety will take priority over archaeological matters. ERA abides by the 1974 Health and Safety Act and its subsequent amendments. A Risk Assessment is prepared for any excavations undertaken. Overall policy is in line with recommendations set out in the Federation of Archaeological Managers & Employers' Manual of Health and Safety in Field Archaeology 2012. Members of staff are given a Health and Safety induction at commencement of all projects. East Riding Archaeology is fully covered by an Employers and Public Liability Insurance Policy.

4.8 Monitoring

The work will be monitored by the Principal Archaeologist/Development Management Archaeologist of the Humber Historic Environment Record (HHER) to ensure that it is carried out to the required standard; this project design has been submitted to them for approval. The opportunity will be afforded for them to visit the site, to inspect and comment upon the excavation and recording procedures.

5. TIMETABLE AND STAFFING

5.1 Timetable for the Work

The works are expected to be undertaken over a period of days in 2018, a start date is yet to be confirmed. The on-site work will be followed by a post-excavation period, during which the post-excavation assessment report(s) will be produced, including (as appropriate) any specialist assessments.

5.2 Project Team, Staff Experience and Technical Expertise

The on-site monitoring will be carried out by a Project Officer; subsequent hand-cleaning and investigation, recording or surveying will require the presence of Site Assistants. The off-site team will comprise the Project Officer and an Illustrator, with contributions from specialists and/or the Finds Officer as required. The above will be under the overall direction of a Project Manager. The project team includes the following, with expertise drawn as necessary from the external specialists listed.

Project Manager

J. Tibbles, BA (Hons) – Has extensive professional experience in both archaeological fieldwork and the production of ceramic building material publications since 1986. Has over 25 years experience in directing small and large-scale prehistoric, Roman, medieval and post-medieval excavations, both rural and urban. Has produced numerous excavation reports ('grey literature').

Project Officer/Illustrator

J. Fraser, BSc – Has worked in professional archaeology since 1991. Has over 17 years experience directing both rural and urban excavations, ranging from prehistoric through to post-medieval, including medieval waterfronts. Experienced in watching briefs, post-excavation analysis, producing excavation reports ('grey literature'), AutoCAD illustration, n4ce survey software, GPS and EDM surveys.

Project Officer(s)

The following staff are experienced in all aspects of on-site techniques, having worked on numerous multi-period, large and small-scale urban and rural excavations, (open area and trial trenching), including the excavation of inhumations and cremations. All have supervised/trained volunteers.

R. J. Coates, BA (Hons) MA, – Has over 10 years archaeological experience. Has worked in professional archaeology since 2013 as supervisor and site assistant. Experienced in undertaking watching briefs and building surveys, post-excavation analysis, finds processing, producing excavation reports ('grey literature') and collation of archives. Has worked on community outreach projects for ERA.

A. Fawcett, BA (Hons) – Has over 8 years experience. Has worked in professional archaeology since 2012 as a site assistant and supervisor. Experienced in undertaking watching briefs and building surveys, post-excavation analysis, producing excavation reports ('grey literature'), collating archives and finds processing.

L. M. Johnson, BA (Hons) – Has over 8 years archaeological experience. Has worked in professional archaeology since 2012 as a site assistant and supervisor. Experienced in undertaking watching briefs and post-excavation analysis, producing excavation reports ('grey literature'), collation of archives and finds processing/recording. Has worked on community outreach projects for ERA.

J. Phillips, MA (Hons), MA (Hons) – Has worked in professional archaeology since 2007 as a site assistant and supervisor. Experienced in undertaking watching briefs, building surveys, post-excavation analysis, producing excavation reports ('grey literature'), AutoCAD illustration, collation of archives and finds processing/recording. Has worked on community outreach projects for ERA.

E. Samuel, (BA Hons) – Has worked in professional archaeology since 2015 as a site assistant and supervisor. Experienced in undertaking watching briefs, post-excavation analysis, producing excavation reports ('grey literature'), finds processing and collation of archives.

Project Officer/Finds Officer

S. Tibbles, Cert. Arch (Hull), Dip. Arch (Hull) – has worked in professional archaeology since 1991 as a site assistant, supervisor and finds supervisor. Has experience in post-excavation analysis, finds processing/recording, producing, compiling and editing excavation reports ('grey literature'), assessment reports and publications on Romano-British ceramic building material and finds assemblages to MoRPHE and MAP2 standards and collating archives.

Site/Finds Assistants

K. Adams, – Has worked in professional archaeology since 1986 as a supervisor, site assistant and finds assistant. Experienced in undertaking watching briefs, post-excavation analysis, finds processing/recording, AutoCAD illustration, producing excavation reports ('grey literature') and collation of archives.

G. Myers, BA (Hons) – Has worked in professional archaeology for over 40 years. Experienced in post-excavation analysis, finds processing/recording and collation of archives.

Other site assistants are experienced staff who have worked within the region on a variety of urban and rural archaeological projects, with experience of on-site fieldwork and post-excavation analysis.

Specialists

Archaeomagnetism – Archaeomagnetism - Division of Archaeological, Geographical & Environmental Sciences, University of Bradford.

Archaeometallurgy – Roderick Mackenzie - Archaeometallurgist/J. Cowgill - Environmental Archaeology Consultancy

Ceramic Building Materials – J. Tibbles, BA (Hons), Cert. Arch. (Hull), Dip.H.E, AIFA - has extensive experience in producing assessment reports ('grey literature') and publication reports for all periods. Has also developed the regional typology for CBM over recent years.

S. Tibbles, Cert. Arch. (Hull), Dip. Arch. (Hull) - specialises in Romano-British CBM. Experienced in producing assessment reports ('grey literature'), publications and has developed the regional Romano-British *tegulae* typology.

Conservation – York Archaeological Trust Conservation Laboratory (conservation, specialist reports on wood and leather).

Dendrochronology – I. Tyers - Dendrochronological Consultancy Ltd.

Environmental Specialist – Palaeoecology Research Services Ltd. (biological remains).

Human Remains – M. Holst - York Osteoarchaeology Ltd.

Lithics – P. Makey, Lithics/Spencer Carter BA (Hons).

Pottery Specialists – P. Didsbury, MPhil, FSA. - has extensive experience of pottery research on assemblages dating from the prehistoric through to the post-medieval period from East Yorkshire and other regions. Is published widely both regionally and nationally.

T.Manby - has extensive experience of prehistoric pottery from the region and publications on regional assemblages.

Radiocarbon/AMS – Beta Analytic.

Soil Specialist – Wetlands Archaeology and Environments Research Centre, University of Hull.

Structural Stonework – S. Harrison – Ryedale Archaeological Services.

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Figure 1: Location plan and area of proposed development in red
(courtesy of Nineteen 47 Limited)



Figure 2: Trench location overlaid on geophysical survey results

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