Land at St. George's Hospital, Morpeth, Northumberland

Archaeological Evaluation Report

Client: Cushman & Wakefield

AB Heritage Project No:60630

Date:24/05/2019

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Client	**Cushman & Wakefield**
Project Number	**60630**
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Illustrated By	**Solstice Heritage & AB Heritage Limited**
Approved By	**Daniel Dodds (AB Heritage Limited)**

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EXECUTIVE SUMMARY

AB Heritage was commissioned to undertake a programme of Archaeological Evaluation Trenching on land to the north of St. George's Hospital, Morpeth in Northumberland as a pre-application requirement. The trenching was undertaken to characterise the potential effects of a proposed development on the potential archaeological resource within the site.

Twenty trenches, measuring 30 x 2m, were intended to be excavated within the proposed development area. However, four trenches were not excavated due to site conditions and seven trenches were shortened in length due to local obstructions. All trenches were excavated by machine under archaeological supervision, and any features were further investigated and excavated with hand tools.

The evaluation has characterised the underlying substrate as being made up of variable glaciofluvial deposits of intermixed coarse orange sand and gravel and buff or red clay till. This is in line with the glacially-derived clay, sand and gravel deposits typical of the area. The evaluation has also uncovered the course of a probable short-lived palaeochannel running roughly east-west across the northern part of the site. Having excavated across the width of this former watercourse and not encountered any preserved organic deposits, it is not considered likely that this geological feature has significant potential for further paleoenvironmental or archaeological research. It does, however, illustrate that this northern section of the site is unlikely to have been suitable for past settlement.

The evaluation works have provided a detailed understanding of the nature and extent of the construction works undertaken on the site in the recent past. Across the majority of the eastern part of the site, a large mound of material deriving from the construction of the modern St. George's psychiatric hospital, extending to a maximum depth of c. 4 m, has been created and landscaped. From excavation into this mound it is clear that the pre-existing ground surface was stripped of soils and extensively disturbed before the arisings were stored and landscaped. In evidence of this, no buried soils are left in place beneath the mound and no intact or undisturbed upper surface of the natural glaciofluvial substrate was encountered. A significant area of the site to the south and west of the mound was also shown to have been similarly disturbed by this phase of construction works. The area of the palaeochannel at the northern part of the site was seemingly undisturbed by these works, presumably due to its uneven topography. Perhaps unsurprisingly, given the extensive nature of these past works, no earlier archaeological features or deposits were detected anywhere on the site.

While the ultimate decision for further work lies with the Local Planning Authority, AB Heritage propose that further archaeological work at this site are not required based on the results of the Archaeological Evaluation.

1. INTRODUCTION

1.1 Project Background

1.1.1 In December 2018 AB Heritage Limited (hereafter AB Heritage) were commissioned to undertake a programme of archaeological works, comprising Geophysical Survey and Archaeological Trial Trench Evaluation, on land to the north of St. George's Hospital, in Morpeth, Northumberland. This work followed from an earlier Archaeological Desk Based Assessment and Heritage Statement (AB Heritage, 2018), which had identified some potential for archaeological remains, based on past excavations to the north and south of the site.

1.1.2 A geophysical (gradiometer) survey of the site was inconclusive, due to magnetic disturbance (AB Heritage, 2019b).

1.1.3 As a result of previous works and archaeological findings in the surrounding area the archaeological evaluation was requested by Karen Derham (Assistant County Archaeologist for Northumberland County Council) to provide pre-determination advice on the current application. This archaeological investigation was designed and managed by AB Heritage, with on-site works undertaken using their elected specialist contractor, Solstice Heritage LLP.

1.1.4 The scheme of work was detailed in a Written Scheme of Investigation (WSI) produced by AB Heritage, a copy of which is supplied at the back of this report (AB Heritage, 2019a).

1.2 Site Location & Description

1.2.1 The proposed development site is located on land to the north of St George's Hospital, Morpeth, Northumberland, centred on National Grid Reference NZ 20220 87381 (Figure 1).

1.2.2 The current use of the site is rough grassland. The main hospital building and related structures of St George's Hospital lie directly to the south of the site

1.2.3 Current use of the site is rough pasture, which occupies an undulating landscape, ranging from c. 57m to 69m above Ordnance Datum (aOD).

1.3 Geology & Topography

1.3.1 The underlying bedrock on the site consists of the Pennine Lower Coal Measures Formation – Sandstone, a sedimentary formation formed approximately 318 to 319 million years ago in the Carboniferous Period, representing a local environment previously dominated by swamps, estuaries and deltas.

1.3.2 The superficial geology at the site is Till, Devensian – Diamicton, comprising superficial Deposits formed up to 2 million years ago in the Quaternary Period, a local environment previously dominated by ice age conditions (BGS Geological Viewer, 2019).

1.3.3 The Cranfield University (CU) soil guide describes the local soils as: *Soilscape 18: Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils* (CU 2019).

1.4 Archaeological Background

1.4.1 An Historic Environment Desk-Based Assessment (DBA) was carried out for the site by AB Heritage (AB Heritage). The DBA noted the potential for the survival of archaeological remains from the Mesolithic through to the Romano-British period.

1.4.2 In recent years, development-led investigations have shown the area to the north and east of Morpeth to be a region that was actively settled and utilised during the prehistoric period. These works have included the important excavations at Pegswood Moor Farm located c.670m north of the proposed development site (Proctor, 2009). This work uncovered evidence for activity in this area from the Mesolithic/Early Neolithic period through to the Bronze Age. The main body of evidence at this site, however, derived from settlement from the Late Iron Age into the Romano-British period.

1.4.3 Another important development-led excavation was undertaken at land c. 450 to the south of the new St George's Hospital. This work, carried out in 2015, identified substantial remains from the Early Neolithic period through to the Romano-British period (Archaeological Research Services Ltd, 2016).

1.4.4 Recent work in conjunction with the Morpeth Northern Bypass c. 900 m north west of the development site included a geophysical survey that identified archaeological features consistent with those found at Pegswood Moor Farm and at the site south of the new St George's Hospital (Archaeological Services Durham University, 2010).

1.4.5 The proposed development site was used during the construction of the new St George's Hospital for the stockpiling of arisings from the ground work at the hospital site. The exact volume of material imported to the proposal site is unknown but was sufficient to require a Planning Application (Reference unknown at time of writing).

1.4.6 Any potential evidence relating to the Early Neolithic period through to the Romano-British period were considered to be of potential regional significance (AB Heritage, 2018).

2. AIMS & METHODOLOGY

2.1 Aims of Works

2.1.1 The aims of the evaluation are outlined in the WSI for the work (AB Heritage, 2019a).

2.1.2 Archaeological field evaluation is defined as:

> '*A limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site on land, inter-tidal zone or underwater. If such archaeological remains are present field evaluation defines their character, extent, quality and preservation, and enables an assessment of their worth in a local, regional, national or international context as appropriate'* (Chartered Institute for Archaeologists (CIfA) 2014b).

2.1.3 The overarching aims of the trial trench evaluation were to:

- Assess the character, date, location and preservation of any archaeological remains on the site. The results will include a comment on the quality and significance of the remains;
- Assess the nature and extent of any previous damage to archaeological remains on the site, that may have occurred during the construction of the new St Georges Hospital; and
- Collect enough information for a suitable mitigation strategy to be devised, with this information being presented in an updated WSI if required.

2.1.4 All work was undertaken in compliance with the CIfA Code of Conduct (2014a) and the CIfA Standard and Guidance for archaeological field evaluation (2014b).

2.2 Methodology of Work

Fieldwork

2.2.1 It was initially proposed to enact a staged approach to the trial trenching evaluation, due to the potential for archaeological remains having been damaged or destroyed during the work associated with the New St George's Hospital in recent years (AB Heritage, 2019a).

2.2.2 Only the first stage of the evaluation was carried out, with no further works initiated due to the results provided.

2.2.3 The twenty trenches were laid out in the locations agreed in the WSI (AB Heritage 2019a).

2.2.4 Excavations were started and completed between the 4th and the 7th February 2019, with the work undertaken by Chris Scott, Ben Moore and Amy Talbot of Solstice Heritage LLP, under the direct supervision of Daniel Dodds (Principal Heritage Consultant, AB Heritage Limited).

2.2.5 Twenty trenches of 30 x 2m were intended to be excavated within the proposed development area, however, four trenches were not started due to site conditions and seven trenches were shortened in length due to local obstructions.

2.2.6 All trenches were machine-excavated under archaeological supervision, and any features were further investigated and excavated with hand tools. All mechanical excavation was undertaken with a toothless grading bucket under constant supervision of a suitably qualified archaeologist.

Post-Fieldwork

2.2.7 The primary site archive comprises site records and digital photography on CD. This has been used to compile this report, all of which will be deposited with a local repository museum in digital and paper format as the principal record of the evaluation work. The physical archive comprises primary field records and advice will be sought on the detailed requirements for retention and deposition.

2.2.8 An OASIS record has been completed for this work, including a digital version of this report, the reference for which is **abherita1-360533_60630**. Deposition of the physical archive has been delayed until a determination is made on the need for, and scope of, any further work. In this instance then a single archive will be compiled and deposited, in accordance with CIfA guidance (CIfA, 2014c).

Chronology

2.2.9 Where chronological and archaeological periods are referred to in the text, the relevant date ranges are broadly defined in calendar years as follows:

- Palaeolithic (Old Stone Age): 1 million – 12,000 BP (Before present)
- Mesolithic (Middle Stone Age): 10000 – 4000 BC
- Neolithic (New Stone Age): 4000 – 2400 BC
- Chalcolithic/Beaker Period: 2400 – 2000 BC
- Bronze Age: 2000 – 700 BC
- Iron Age: 700 BC – AD 70
- Roman/Romano-British: AD 70 – 410
- Anglo-Saxon/Anglo-Scandinavian: AD 410 – 1066
- Medieval: AD 1066 – 1530
- Post-medieval: AD 1530 – 1750
- Industrial: AD 1750 – 1900
- Modern: AD 1900 – Present

3. RESULTS

3.1 Introduction

3.1.1 Results of the evaluation are presented here by trench, with an initial note on general site-wide stratigraphy.

3.2 General Stratigraphy

3.2.1 Two distinct stratigraphic sequences were observed within the trenches excavated, with both sequences often occurring within the same trench. The natural substrate across the proposed development area varied from orange and yellow soft sand to boulder clay and gravels. Above this, in areas not affected by the extensive modern dumping activity, the substrate was overlain by mid brown silty clay subsoil and a rich, loamy topsoil.

3.2.2 In trenches where modern dumping has occurred, both the topsoil and subsoil were removed before a mix of clay, turf, building debris and rubbish was dumped directly on the natural substrate, forming a mound up to 3.6m high where excavated. The mound was subsequently levelled, and topsoil reinstated. There is no discernible difference between the imported topsoil and topsoil present in the undisturbed areas of the site.

3.3 Trench Results

Trench 1

3.3.1 Trench 1 was located in the south-west corner of the proposed development area, running alongside a farm track. It was 30m long, 1.8m wide and aligned north-west to south-east (Photo 1). The trench was excavated through 0.26m of soft dark brown loamy topsoil (100) which overlay 0.18m of friable, mid brown sandy silt subsoil (101). This in turn overlay the natural substrate comprising orange-brown clay and gravels (102) (Photo 2).

3.3.2 No archaeological features or deposits were encountered.

Photo 1: Trench 1, looking south-east (1m & 2m scales)

Photo 2: South-west facing section of Trench 1 (1m scale)

Trench 2

3.3.3 Trench 2 was 30m long, 1.8m wide and situated in the north-west corner of the site (Photo 3). It was aligned north-south and was excavated through 0.15m of dark brown loamy topsoil (200) underlain by 0.18m of friable mid-brown sandy-silt subsoil (201). This in turn overlay the natural substrate comprising orange boulder clay with evidence of gleying (202) (Photo 2). This, along with the presence of two east-west aligned ceramic land-drains suggest that the trench was located in an area subject to occasional standing water.

3.3.4 No other archaeological features were encountered.

Photo 3: Trench 2, looking south-east (1m & 2m scales)

Photo 4: South-east facing section of Trench 2 (1m scale)

Trench 3

3.3.5 Trench 3 was positioned across a relict water channel running north-south across the development area. The trench was 30m long, 1.8m wide and aligned east-west (Photo 5). The trench was excavated to the top of the natural substrate (302) which comprised orange clay with sandstone fragments at either end of the trench and fine grey sand towards the centre. The grey sand spanned the width of the water channel. The substrate was overlain by 0.26m of mid reddish-brown sandy silt subsoil (301) which in turn was overlain by 0.30m of soft dark brown loamy topsoil (300) (Photo 6).

3.3.6 No archaeological features or deposits were encountered.

Photo 5: Trench 3, looking north-east (1m & 2m scales)

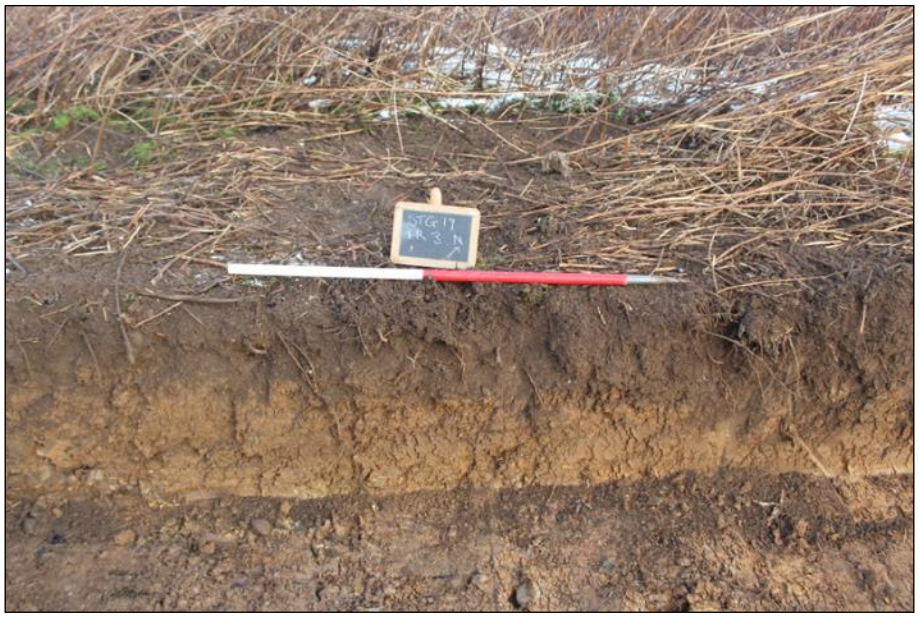

Photo 6: South-east facing section of Trench 3 (1m scale)

Trench 4

3.3.7 Trench 4 was located towards the south-west of the proposed development area and was 30m long and 1.8m wide, aligned north-west to south-east (Photo 7). The trench was excavated though 0.45m of dark brown loamy topsoil (400) which overlay 0.48m of mid-yellowish-brown friable silty-sand subsoil (401). This in turn overlay the natural substrate (402) which consisted of yellow, red and orange bands of sand containing angular gravels and sandstone fragments (Photo 8).

3.3.8 No archaeological features or deposits were encountered.

Photo 7: Trench 4, looking north-west (1m & 2m scales)

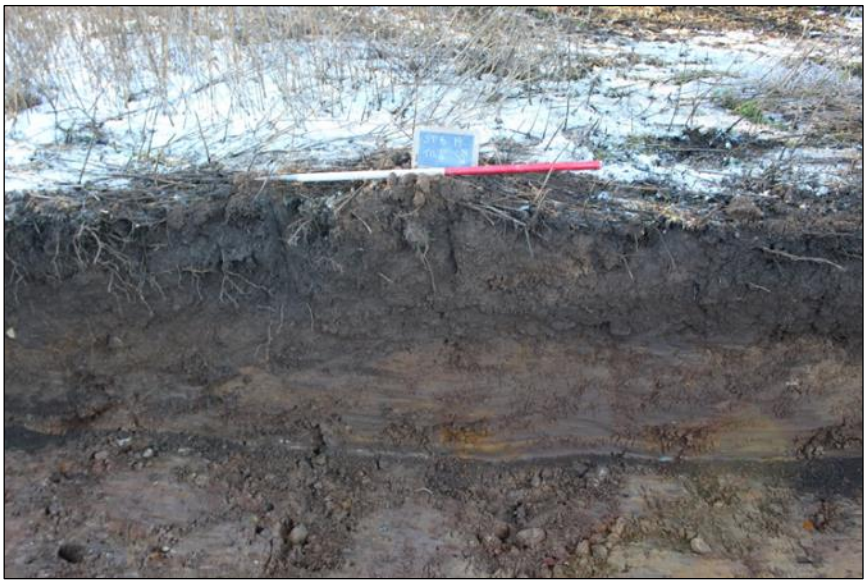

Photo 8: North-west facing section of Trench 4 (1m scale)

Trench 5

3.3.9 Trench 5 ran east-west for 23m along the southern site boundary and was 1.8m wide (Photo 9). The trench was shortened due to the presence of a monitoring well at its western end. The trench was excavated though 0.46m of soft dark brown loamy topsoil (500) which sat directly on the natural substrate, comprising yellow and grey boulder clay with sandstone fragments (501) (Photo 10).

3.3.10 Wheel ruts were observed running north-south across the trench. The lack of subsoil and the evidence of disturbance suggest that this area was stripped during the construction of the hospital then driven over by site vehicles, before topsoil was imported after the development ended.

3.3.11 No archaeological features or deposits were encountered.

Photo 9: Trench 5, looking west (1m & 2m scales)

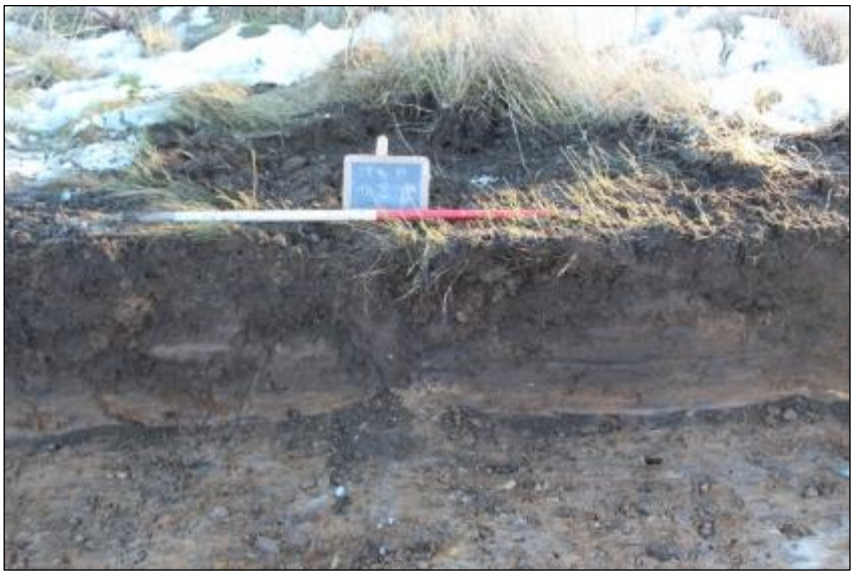

Photo 10: North facing section of Trench 5 (1m scale)

Trench 6

3.3.12 Trench 6 was located towards the southern site boundary and was aligned north to south. It was 30m long, 1.8m wide and ran across a relatively flat area covered in scrubby grass and gorse (Photo 11). The trench was excavated through 0.16m of dark brown loamy topsoil (600) which overlay 0.18m of light brown silty-clay subsoil (601). Below this, the natural substrate comprised grey and yellow clay till (602) (Photo 12).

3.3.13 No archaeological features or deposits were encountered.

Photo 11: Trench 6, looking north (1m & 2m scales)

Photo 12: East facing section of Trench 6 (1m scale)

Trench 7

3.3.14 Trench 7 was situated towards the centre of the proposed development area and was aligned north-east by south-west (Photo 13). It measured 30m in length and was 1.8m wide. At the north-east end of the trench it was excavated through 0.20m of dark brown loamy topsoil (700) which overlay 0.50m of mixed dumps of material imported during the construction of the modern hospital. This in turn sat directly on the natural substrate, comprising bands of yellow, red and grey sand and gravel (702). The dumps of material (703) were only present in the north-eastern 5m of the trench.

3.3.15 To the south-west, the topsoil was underlain by 0.40m of mid-brown sandy silt subsoil (701) that was clearly removed before the construction waste was dumped on the site (Photo 14). The fact that the dumps were only within the north-east 5m of the trench demonstrates the southern extent of this activity within the development area.

3.3.16 No archaeological features or deposits were encountered.

Photo 13: Trench 7, looking north-east (1m & 2m scales)

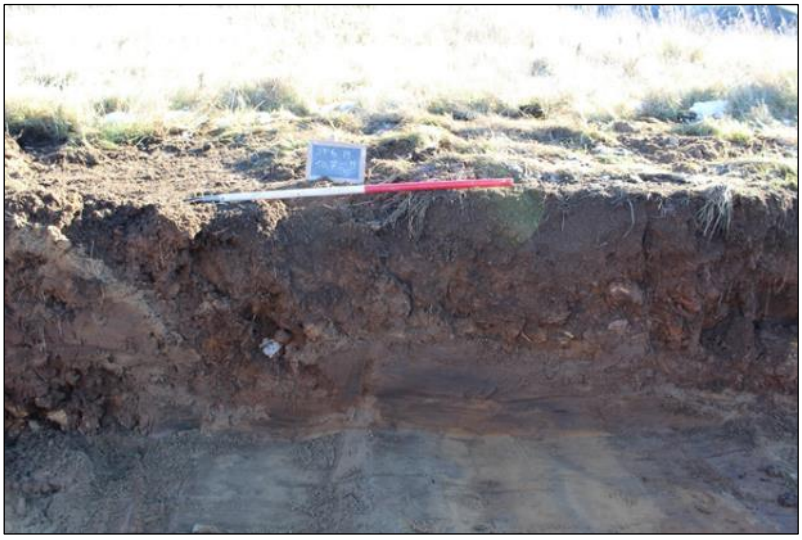

Photo 14: South-east facing section of Trench 7 (1m scale)

Trench 8

3.3.17 Trench 8 was 30m long, 1.8m wide and was aligned north-east by south-west (Photo 15). This trench intersected the south-western edge of the dumped material encountered above, around 50m north-west of Trench 7.

3.3.18 The south-west half of the trench was excavated through 0.20m of soft, dark brown loamy topsoil (800) overlying 0.40m of light greyish brown silty clay subsoil (803) (Photo 16). However, in the north-east half of the trench the topsoil and subsoil had been removed prior to up to 0.90 m of mixed construction waste (801) being imported.

3.3.19 The yellow sand and clay natural substrate (802) below the imported material was discoloured and compacted, indicating that it had been exposed and tracked over for some

time before the material was dumped. This activity is likely to have occurred when the site was used as a compound during the construction of the hospital.

3.3.20 No archaeological features or deposits were encountered.

Photo 15: Trench 8, looking north-east (1m & 2m scales)

Photo 16: South-east facing section of Trench 8 (1m scale)

Trench 9

3.3.21 The south end of Trench 9 was not excavated due to the presence of a monitoring well. For this reason, the trench was 26m long and 1.8m wide, aligned north-south (Photo 17).

3.3.22 It was excavated through between 0.26m - 0.34m of dark greyish brown soft loamy topsoil (900) overlying between 0.10m and 0.26m of mid-grey silty clay subsoil (901) (Photos 17 – 18). The trench rose markedly to the north where it followed the eastern bank of the relict water channel. Towards the centre of the trench, the natural substrate contained rounded stones within a grey clay matrix (902), suggesting standing water or possibly the bottom of the water course which is likely to have shifted course over time.

3.3.23 No archaeological features or deposits were encountered.

Photo 17: Trench 9, looking north (1m & 2m scales)

Photo 18: East facing section of Trench 9 (1m scale)

Trench 10

3.3.24 Trench 10 was located in the far north-west corner of the development area and was aligned north to south (Photo 19). It measured 30m long by 1.8m wide and was excavated through 0.28m of dark brown loamy topsoil (1000) overlying mid-grey silty clay subsoil (1001). This in turn overlay the natural substrate (1002) comprising mid-orange-brown sandy clay with rounded pebbles (Photo 20).

3.3.25 The trench sloped down to the east as it ran along the western side of the relict water course. Two north-east to south-west aligned ceramic land-drains were recorded running across the trench.

3.3.26 No archaeological features or deposits were encountered.

Photo 19: Trench 10, looking south (1m & 2m scales)

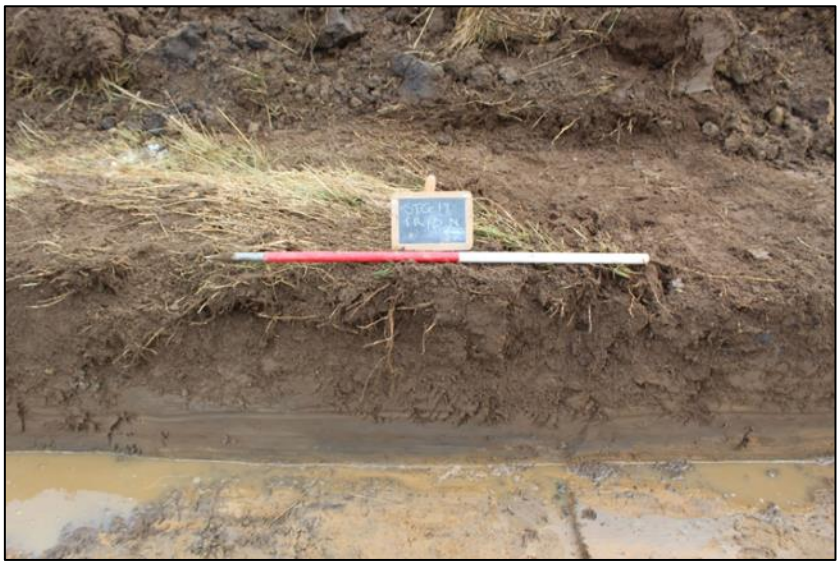

Photo 20: West facing section of Trench 10 (1m scale)

Trench 11

3.3.27 Trench 11 was located towards the north-west of the proposed development area, around 40m south-west of Trench 10. The trench was aligned east-west and its western end was excavated though 0.20m of dark brown loamy topsoil (1100) overlying 0.18m of light greyish brown sandy silt subsoil (1101) (Photos 21 & 22). This in turn overlay the yellowish-brown clay substrate (1102).

3.3.28 Around 10m from the west end of the trench the topsoil and subsoil had been removed in advance of the modern construction debris (1103) being dumped directly onto the levelled

natural clay. This was recorded to a thickness of 1.7m at the eastern end of the trench which was halted after 21m due to safety concerns.

3.3.29 No archaeological features or deposits were encountered

Photo 21: Trench 11, looking east (1m & 2m scales)

Photo 22: South facing section of Trench 11 (1m scale)

Trench 12

3.3.30 Trench 12 was situated towards the centre of the development area, 30m south of Trench 11. The trench was aligned north-east to south-west and was 15m long and 1.8m wide (Photo 23).

3.3.31 Dark brown loamy topsoil (1200), which had a thickness of 0.2m, sat directly on top of dumps of modern construction debris (1201) getting thicker towards the north-eastern end of the

trench and displaying a maximum thickness of 1.7m within the trench. This in turn overlay the yellow and orange sand natural substrate (1202) (Photos 23 & 24). Due to safety concerns, the excavation was halted after 15m when the modern debris (1201) reached a thickness of 1.7m at the north-eastern end of the trench.

3.3.32 No archaeological features or deposits were encountered.

Photo 23: Trench 12, looking north-east (2m scale)

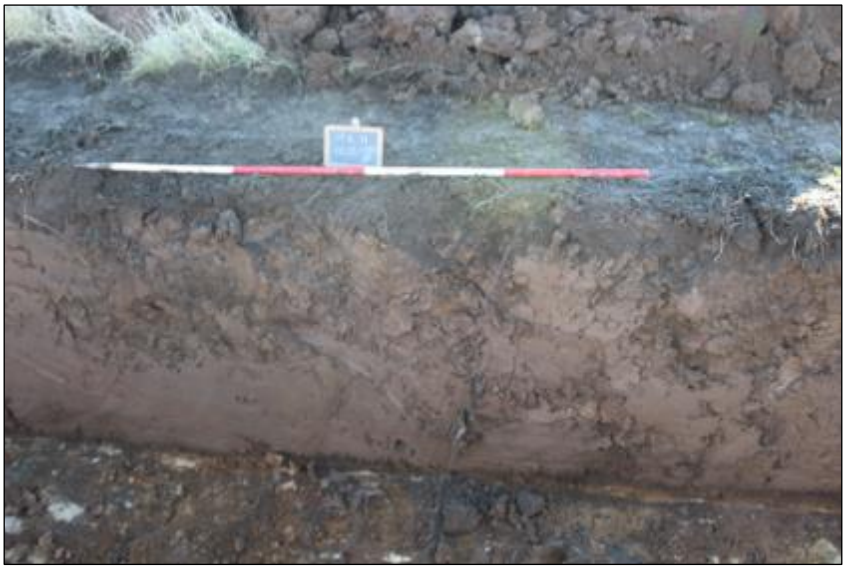

Photo 24: North-west facing section of Trench 12 (2m scale)

Trench 13

3.3.33 Due to its location at the top of the extensive modern construction dump at the centre of the site, it was recognised that this deposit (1301) was likely to be thick enough at this point to make the excavation of full trench unsafe.

3.3.34 A test pit was excavated through 0.12 m of dark brown loamy topsoil (1300), followed by 3.60 m of dumped construction waste (1301) to the top of the yellowish-brown clay natural substrate (1302) 3.72 m below the current ground surface (Photo 25).

3.3.35 No archaeological deposits or features were encountered.

Photo 25: South facing section of Test Pit 18 (1m scale)

Trench 14

3.3.36 Trench 14 was not excavated as the results from the trenches undertaken in the surrounding area indicated that its intended location was situated on the top of a deep man-made mound of imported modern construction arisings.

Trench 15

3.3.37 Trench 15 was not excavated due to the same concerns as with Trench 14.

Trench 16

3.3.38 Trench 16 was located towards the eastern boundary of the site near to the modern hospital car park. Due to the presence of trees and undergrowth, the trench was shortened to 10m in length and was 1.8m wide (Photo 26).

3.3.39 It was excavated though 0.25m of dark brown loamy topsoil (1600) underlain by 0.20m of mid greyish brown subsoil (1601) at its south-east end, and up to 1.90m of modern dumped material (1603) at its north-west end (Photo 27). As in the other trenches intersecting this dump of material, it could be seen that the top and subsoil had been removed completely before the dumped material was spread directly on the exposed yellow clay natural substrate (1602).

3.3.40 No archaeological deposits or features were encountered.

Photo 26: Trench 16, looking north-west (1m & 2m scales)

Photo 27: South-west facing section of Trench 16 (1m scale)

Trench 17

3.3.41 Trench 17 was situated towards the north-west corner of the site, around 30m east of Trench 10. The trench was 30m long, 1.8m wide and aligned north-south (Photo 28).

3.3.42 At its southern end it was excavated through 0.40m of dark brown loamy topsoil (1700) and 0.24m of mid-brown sandy-silt subsoil (1701), which overlay the natural substrate comprising sand, gravels and orange clay (1702) (Photo 29). 10m from its southern end the western edge of the modern construction dump was encountered and at the northern end of the trench

the natural substrate was overlain by 0.30 m of building debris (1703) which in turn underlay 0.30m of reinstated topsoil.

3.3.43 No archaeological deposits or features were encountered.

Photo 28: Trench 17, looking south (1m & 2m scales)

Photo 29: East facing section of Trench 17 (1m scale)

Trench 18

3.3.44 Trench 18 was excavated for 20m down the northern side of the modern mound of construction waste c. 30m east of Trench 17. It was 1.8m wide and was aligned north-east to south-west (Photo 30).

3.3.45 At its north-eastern end, the natural stratigraphic sequence was preserved, with 0.25m of soft dark brown loamy topsoil (1800) overlying 0.27m of reddish-brown sandy silt subsoil (1801). This in turn overlay the orange sand and clay natural substrate (1803). Further south-west the

topsoil and subsoil had been removed and the substrate overlain by up to 1.75m of building debris (1802) (Photo 32). Topsoil had been subsequently reinstated over this. Further excavation of the trench was halted c. 10m before its south-west end due to safety concerns, as the mound of debris continued to rise in this direction.

3.3.46 No archaeological features or deposits were encountered.

Photo 30: Trench 18, looking south-west (1m & 2m scales)

Photo 31: North-east facing section of Trench 18 (1m scale)

Trench 19

3.3.47 Trench 19 was not excavated due to the overriding safety concerns of working on the steep slope encountered at its intended location.

Trench 20

3.3.48 Trench 20 was not excavated for the same reasons as Trench 19.

4. POTTERY ASSESSMENT

Prepared by Chris Scott MCIfA

4.1 Introduction

4.1.1 One sherd of glazed 'whiteware' pottery was recovered from deposit (1802), a mixed dump of reworked construction arisings forming the large landscaped mound present within Trench 18. Other sherds of the same pottery were present in this deposit but could not be recovered due to the depth of the trench at this location.

4.2 Assessment

4.2.1 The angular fragment of pottery is a white-glazed single sherd, measuring 28 mm x 18 mm x 4 mm. Its flat profile suggests it is from the base of a plate or bowl. A black and white transfer print is present on the upper face of the sherd, including the lettering '…erland C…' within a double-lined curving motif.

4.3 Discussion

4.3.1 This sherd matches pottery uncovered in late-19th or early 20th century levelling deposits during archaeological evaluation to the south of the Victorian asylum at St. George's (Archaeological Research Services, 2016, 29). That pottery bore the legend 'Northumberland County Asylum' and was clearly used within that institution.

4.3.2 The presence of this institutional pottery within the deposits making up the landscaped mound on the proposed development site illustrates their provenance as having been sourced from close to the Victorian asylum. This fits well with the site of the current psychiatric hospital.

4.3.3 Given its small size and the discovery of more complete examples from archaeological work nearby, this single sherd is recommended for disposal.

5. DISCUSSION

5.1 Geology and Geomorphology

5.1.1 The evaluation has characterised the underlying substrate as being made up of variable glaciofluvial deposits of intermixed coarse orange sand and gravel and buff or red clay till. This is in-line with the glacially-derived clay, sand and gravel deposits typical of the area.

5.1.2 The evaluation has also uncovered the course of a probable short-lived palaeochannel running roughly east-west across the northern part of the site. Having excavated across the width of this former watercourse and without exposing any preserved organic deposits, it is not considered likely that this geological feature has significant potential for further paleoenvironmental or archaeological research. It does, however, illustrate that this northern section of the site is unlikely to have been suitable for past settlement.

5.2 Modern Period

5.2.1 The evaluation works have provided a detailed understanding of the nature and extent of the construction works undertaken on the site in the recent past. Across the majority of the eastern part of the site, a large mound of arisings from the construction of the modern St. George's psychiatric hospital, extending to a maximum depth of c. 4 m, has been created and landscaped.

5.2.2 From excavation into this mound it is clear that the pre-existing ground surface was stripped of soils and extensively disturbed before the arisings were stored and landscaped. In evidence of this, no buried soils are left in place beneath the mound and no intact or undisturbed upper surface of the natural glaciofluvial substrate was encountered.

5.2.3 A significant area of the site to the south and west of the mound was also shown to have been similarly disturbed by this phase of construction works. The area of the palaeochannel at the northern part of the site was seemingly undisturbed by these works, presumably due to its uneven topography. Perhaps unsurprisingly, given the extensive nature of these past works, no earlier archaeological features or deposits were detected anywhere on the site.

6. CONCLUSION

6.1 Confidence, Constraints and Limitations

6.1.1 Trenches 14 and 15 were omitted due to their location on the top of the large mound of imported material discovered to have been placed on the site during adjacent construction works. The nature and extent of this material was felt to have been adequately investigated and understood without the need to excavate these trenches.

6.1.2 Trenches 19 and 20 were omitted due to the risks associated with excavating on the steep slope at their intended location.

6.1.3 Trenches 5, 9, 11, 12, 13, 16 and 18 were all reduced in length in order to avoid local obstructions.

6.1.4 Given the sample size of the site area and the clear modern disturbance apparent across much of the site, it is not considered that these constraints have affected the value or diminished the accuracy of the results of the evaluation.

6.2 Research Potential

6.2.1 Given the degree of modern disturbance across the site, and the lack of archaeological features or deposits detected during this evaluation work, the site is not considered to have the potential to contribute to any of the research themes identified within the North East Regional Research Framework (Petts and Gerrard 2006).

6.3 Potential Impacts on the Archaeological Resource

6.3.1 The results of the evaluation indicate that the potential direct effect of the proposed development on the archaeological resource will be minimal, particularly given the clear modern disturbance apparent across much of the site related to relatively recent construction works.

6.4 Recommendations

6.4.1 Karen Derham (Assistant County Archaeologist for Northumberland County Council) attended the site with Daniel Dodds (Principal Heritage Consultant, AB Heritage) on 7th February 2019. The results of the evaluation trenching were discussed in detail. It was agreed that the potential for surviving archaeological remains was very low and that further investigation could not be justified on archaeological grounds. This was confirmed in an email on the same day from Karen Derham to Daniel Dodds.

6.4.2 It is considered, therefore, that the results of the programme of evaluation trenching are sufficient to inform a planning decision in respect of the archaeological potential of the proposed development site and no further archaeological work is recommended.

6.4.3 All recommendations are subject to the approval of the Local Planning Authority.

6.5 Project Archive

6.5.1 The physical and digital archive for this project is currently held in the offices of AB Heritage's specialist elected contractor, Solstice Heritage LLP, pending a decision on the requirement for

any future work on the site. Given the lack of archaeological interest identified at the site, it is considered that this report is enough to serve as the archive for this project.

7. REFERENCES

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8. APPENDIX 1: CONTEXT REGISTER

Context Number	Type	Description	Probable Date
100	Deposit	Soft, dark brown loamy topsoil	Modern
101	Deposit	Mid brown sandy silt subsoil	Unknown
102	Deposit	Orangey brown clay and gravel substrate	Glacial
200	Deposit	Soft, dark brown loamy topsoil	Modern
201	Deposit	Mid brown sandy silt subsoil	Unknown
202	Deposit	Orange boulder clay with iron panning	Glacial
300	Deposit	Soft, dark brown loamy topsoil	Modern
301	Deposit	Mid reddish-brown sandy silt	Unknown
302	Deposit	Orange clay with sandstone fragments	Glacial
400	Deposit	Soft, dark brown loamy topsoil	Modern
401	Deposit	Yellowish brown silty sand subsoil	Unknown
402	Deposit	Yellow, red and orange sand and gravel bands	Glacial
500	Deposit	Soft, dark brown loamy topsoil	Modern
501	Deposit	Yellow and grey boulder clay	Glacial
600	Deposit	Soft, dark brown loamy topsoil	Modern
601	Deposit	Light brown silty clay subsoil	Unknown
602	Deposit	Grey and yellow boulder clay, iron panning and sandstone blocks	Glacial
700	Deposit	Soft, dark brown loamy topsoil	Modern
701	Deposit	Mid brown silty sand subsoil	Unknown
702	Deposit	Bands of sand and gravel	Glacial
703	Deposit	Mixed dumps of construction waste	Modern
800	Deposit	Soft, dark brown loamy topsoil	Modern
801	Deposit	Mixed dumps of construction waste	Unknown
802	Deposit	Light yellow sand and clay substrate	Glacial
803	Deposit	Mid brown silty clay subsoil	Unknown
900	Deposit	Soft, dark brown loamy topsoil	Modern
901	Deposit	Mid grey silty clay subsoil	Unknown
902	Deposit	Clay and sand bands substrate	Glacial
1000	Deposit	Soft, dark brown loamy topsoil	Modern
1001	Deposit	Mid grey silty clay subsoil	Unknown
1002	Deposit	Orangey brown clay with pebbles	Glacial

1100	Deposit	Soft, dark brown loamy topsoil	Modern
1101	Deposit	Yellowish brown sandy silt subsoil	Unknown
1102	Deposit	Natural clays and gravels with iron panning	Glacial
1103	Deposit	Mixed dumps of construction waste	Modern
1200	Deposit	Soft, dark brown loamy topsoil	Modern
1201	Deposit	Mixed dumps of construction waste	Modern
1202	Deposit	Yellow, orange sand and clay	Glacial
1300	Deposit	Soft, dark brown loamy topsoil	Modern
1301	Deposit	Mixed dumps of construction waste	Modern
1302	Deposit	Yellowish brown clay substrate	Glacial
1600	Deposit	Soft, dark brown loamy topsoil	Modern
1601	Deposit	Mid greyish brown sandy silt subsoil	Unknown
1602	Deposit	Yellow and white clay substrate	Glacial
1603	Deposit	Mixed dumps of construction waste	Modern
1700	Deposit	Soft, dark brown loamy topsoil	Modern
1701	Deposit	Mid brown sandy silt subsoil	Unknown
1702	Deposit	Bands of sand and gravels	Glacial
1703	Deposit	Mixed dumps of construction waste	Modern
1800	Deposit	Soft, dark brown loamy topsoil	Modern
1801	Deposit	Mid reddish-brown sandy silt subsoil	Unknown
1802	Deposit	Mixed dumps of construction waste	Modern
1803	Deposit	Orange sand and clay with sandstone frags	Glacial

OASIS DATA COLLECTION FORM: England

Printable version

OASIS ID: abherita1-360533

Project details

Project name	Land at St Georges Hospital, Morpeth Archaeological Evaluation
Short description of the project	AB Heritage Limited were commissioned to undertake a programme of archaeological works, comprising Geophysical Survey and Archaeological Trial Trench Evaluation, on land to the north of St. George's Hospital, in Morpeth, Northumberland. This work followed from an earlier Archaeological Desk Based Assessment and Heritage Statement (AB Heritage, 2018), which had identified some potential for archaeological remains, based on past excavations to the north and south of the site. A geophysical (gradiometer) survey of the site was inconclusive, due to magnetic disturbance. .
Project dates	Start: 04-02-2019 End: 24-05-2019
Previous/future work	Yes / No
Any associated project reference codes	STG19 - Sitecode
Type of project	Field evaluation
Site status	None
Current Land use	Grassland Heathland 2 - Undisturbed Grassland
Monument type	0 None
Significant Finds	POTTERY Post Medieval
Methods & techniques	"""Targeted Trenches""","""Geophysical Survey"""
Development type	Housing estate
Prompt	Planning Application
Position in the planning process	Pre-application
Solid geology	CARBONIFEROUS/DEVONIAN TRANSITION GROUP
Solid geology (other)	Pennine Lower Coal Measures Formation - Sandstone. Sedimentary Bedrock formed approximately 318 to 319 million years ago in the Carboniferous Period.
Drift geology	Unknown
Techniques	Magnetometry

Project location

Country	England
Site location	NORTHUMBERLAND CASTLE MORPETH MORPETH Land to the north of St George’s Hospital, Morpeth, Northumberland

Postcode	NE61 2NU
Study area	5.1 Hectares
Site coordinates	NZ 20222 87381 55.180257534255 -1.682419322499 55 10 48 N 001 40 56 W Point
Height OD / Depth	Min: 57m Max: 69m

Project creators

Name of Organisation	AB Heritage Limited
Project brief originator	Local Planning Authority (with/without advice from County/District Archaeologist)
Project design originator	AB Heritage Limited
Project director/manager	AB Heritage Limited
Project supervisor	AB Heritage Limited
Name of sponsor/funding body	Developer

Project archives

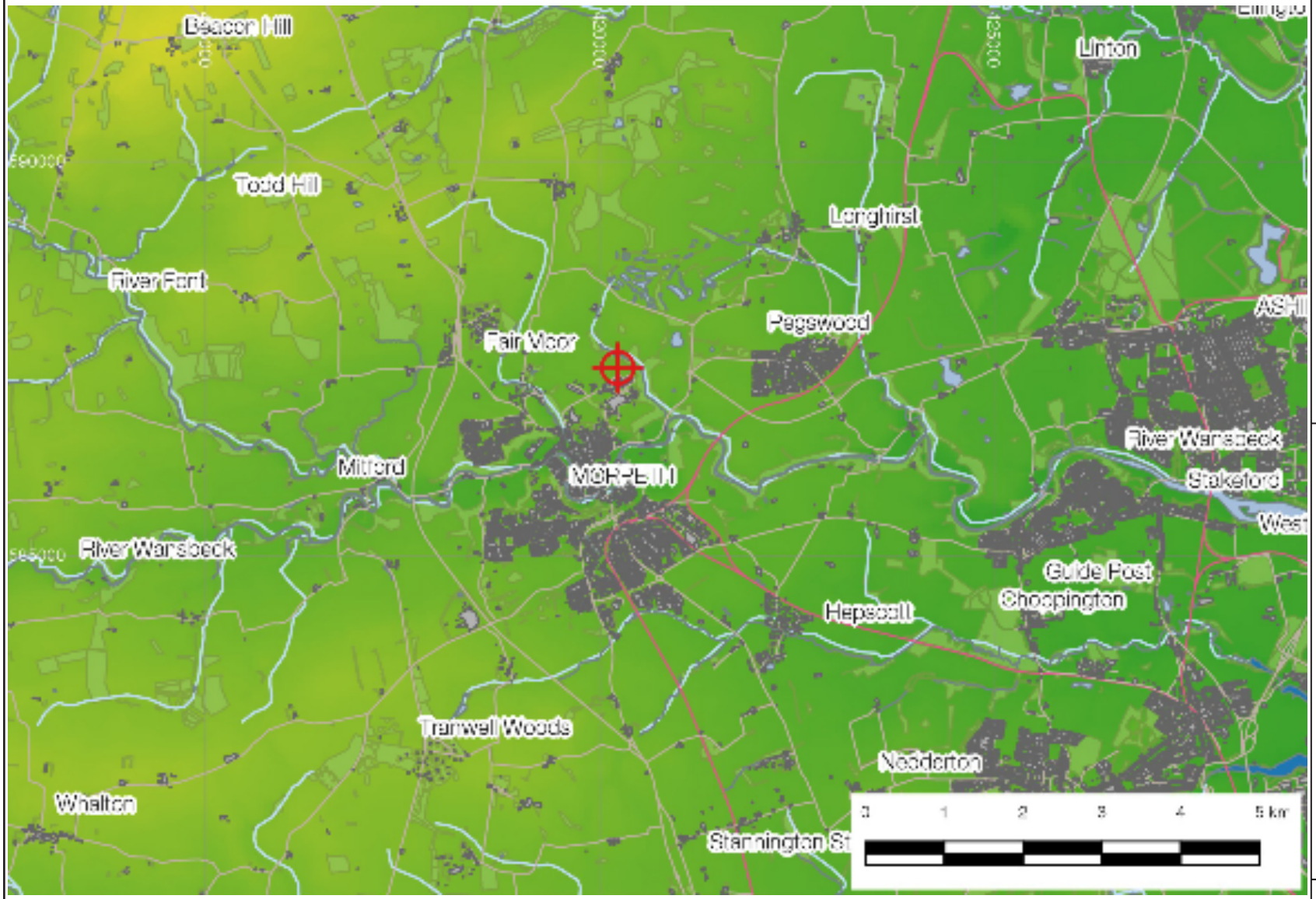
Physical Archive Exists?	No
Digital Archive Exists?	No
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Land at St. George's Hospital, Morpeth, Northumberland Archaeological Evaluation Report
Author(s)/Editor(s)	AB-H
Date	2019
Issuer or publisher	AB Heritage Ltd
Place of issue or publication	Jarrow, Tyne and Wear

Entered by	Kim McDonald (info@abheritage.co.uk)
Entered on	24 July 2019

OASIS:



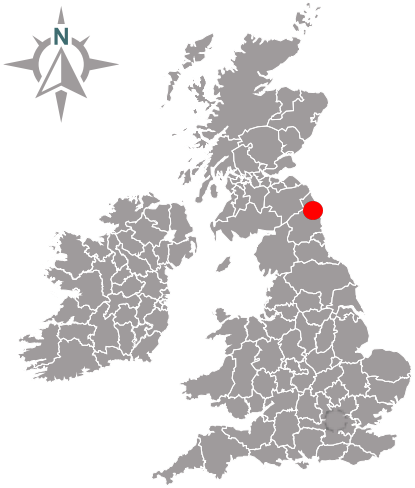
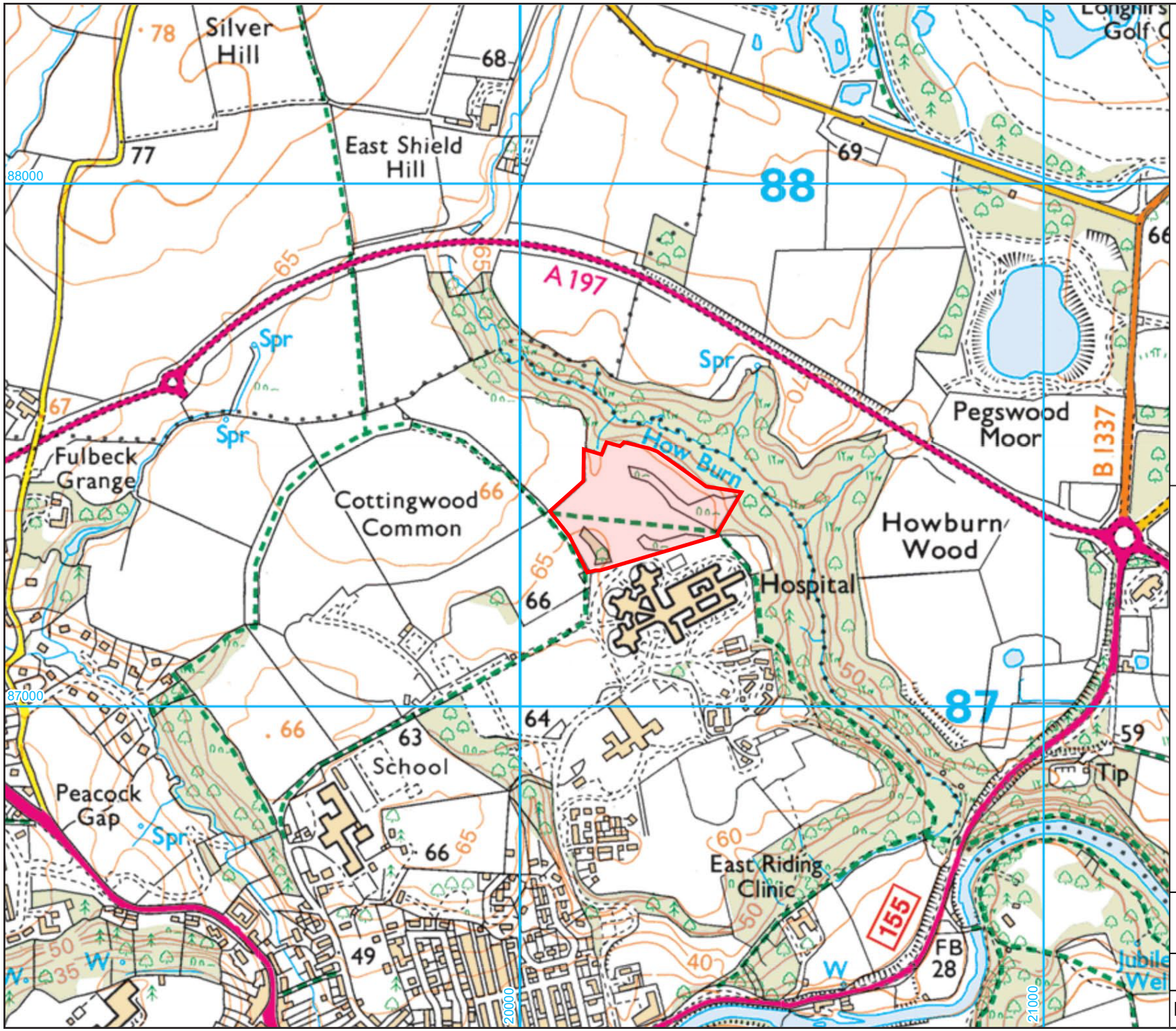


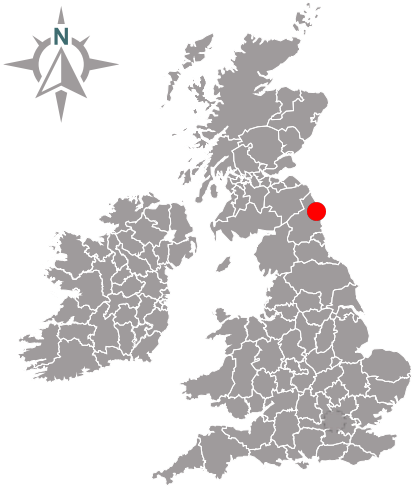
Figure 1: Site Location

Project: St George's, Morpeth

Date: 12/2/2019 | Job No: 60630



AB HERITAGE
ARCHAEOLOGICAL CONSULTANCY



KEY

Site Boundary

0 500m

1:10,000

Figure 2: Site Plan

Project: St George's, Morpeth

Date: 12/2/2019 | Job No: 60630

Project:

Land north of St George's Hospital
Morpeth, Northumberland

Archaeological Evaluation

Drawing:

Trench Locations

AB HERITAGE
ARCHAEOLOGICAL CONSULTANCY

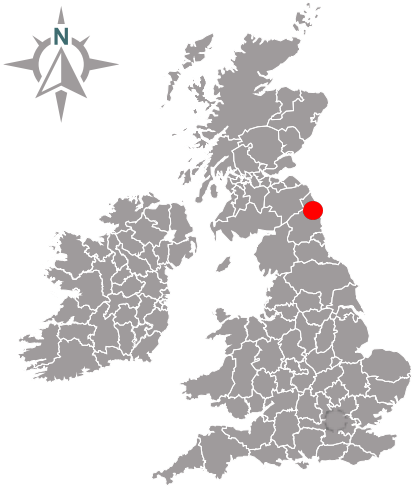


Figure 3: Trench Plan

Project: St George's, Morpeth

Date: 12/2/2019 | Job No: 60630

Land North of St Georges Hospital, Morpeth, Northumberland

WSI for Archaeological Work

Client: Cushman & Wakefield

AB Heritage Project No:60630

Accession Number: TBC

Date:22/01/2018

Land North of St Georges Hospital, Morpeth, Northumberland

WSI for Archaeological Work

Client	**Cushman & Wakefield**
Project Number	**60630**
Prepared By	**Daniel Dodds**
Illustrated By	**Pighill Illustrations**
Approved By	**Alex Farnell**

Rev Number	Description	Undertaken	Approved	Date
1.0	DRAFT	DD	AF	17/12/2018
1.2	DRAFT for LPA Approval	DD	AF	18/01/2019
1.3	DRAFT for LPA Approval	DD	AF	22/01/2019

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CONTENTS

FIGURES

1. INTRODUCTION

1.1.1 AB Heritage Limited (hereafter AB Heritage) has been commissioned by Cushman & Wakefield to produce a Written Scheme of Investigation (hereafter WSI) for a programme of archaeological work, in the form of a Geophysical Survey (magnetometer) and a Trial Trench Evaluation. The work will be carried out to provide an assessment of the presence of archaeological remains, and where present, their character, date, state of preservation, and extent. This information will form a report which will be submitted in support of a forthcoming planning application.

1.1.2 The works will be undertaken at land North of St Georges Hospital, Morpeth, Northumberland NE61 2NU. The site is approximately 5.1 ha and is centred on National Grid Reference (NGR): NZ20208738 (Fig. 1).

1.1.3 Previous work has been undertaken at the site in the form of an Archaeology Desk- Based Assessment (DBA) (AB Heritage 2018). The DBA noted that the site lies in an area of known archaeological activity. Excavations have taken place to the north of the site at Pegswood Moor Farm, and to the south of the new St Georges Hospital. The DBA therefore advised that the proposed development site has the potential for the survival of archaeological remains from the prehistoric period through to the medieval period.

1.1.4 The work has been requested for pre-determination support for a current application, by Karen Derham, Assistant County Archaeologist for Northumberland County Council (NCC).

1.1.5 This Written Scheme of Investigation (WSI) document sets out the detailed methods to be employed for the Geophysical Survey and the Trial Trench Evaluation. The project will be carried out in line with the Standards and Guidance laid down by the Institute for Archaeologists – particularly those relating directly to guidance for Archaeological Geophysical Survey and for Archaeological Evaluation (CIfA, 2014 (both)).

2. SITE BACKGROUND

2.1 Site Location Geology & Topography

2.1.1 The proposed development site comprises a sub-rectangular parcel of land immediately to the North of the new St Georges Hospital, and c. 40m west of the How Burn. The site is currently unused pasture and has an area of c.5.1 ha, centred on NGR: NZ NZ20208738.

2.1.2 The town of Morpeth is located 1km to the South West. The recently opened Morpeth Bypass is c. 470m north of the centre of the proposal site.

2.1.3 The site is bounded to the south by the new St Georges Hospital site, to the north and east by How Burn Wood, and to the west by open fields (Fig. 1).

2.2 Geology & Topography

2.2.1 The underlying bedrock on the site is Pennine Lower Coal Measures Formation - Sandstone. Sedimentary Bedrock formed approximately 318 to 319 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

2.2.2 The superficial geology at the site is Till, Devensian - Diamicton. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (BGS Geological Viewer, 2018).

2.2.3 The site is located at approximately 62.5m above Ordnance Datum (OD). The topography of the land is undulating. The site rises to a highest point of approximately 69m at the centre of the site. The land in the eastern part of the site declines sharply toward the woodland and How Burn and is approximately 57m above OD at the eastern boundary

2.3 Proposed Development

2.3.1 The proposed development is for c. 54 detached and semi-detached residential buildings (Figure 3). Further ancillary buildings such as garages will also be constructed. A new access will be created from the Hospital access road on the southern site boundary.

2.3.2 Adopted highways, green space and utility services on the site are also included in the proposal (Fig 3). The woodland to the east, the two immature plantations within the site, the mature trees on the western boundary and vegetation along the southern boundary will all be retained as part of the proposal.

2.4 Archaeological Potential

2.4.1 The archaeological background to the site was elucidated by a Historic Environment Desk-Based Assessment (DBA) carried out by AB Heritage in 2017.

2.4.2 In recent years a number of important development-led investigations have shown the area to the north and east of Morpeth to be an area that was actively settled and utilised during the pre-historic period. These works have included the important excavations at Pegswood Moor Farm located c. 670m north of the proposed development site (PCA, 2009). This work uncovered evidence for activity in this area from the Mesolithic/Early Neolithic period through

to the Bronze Age. The main body of evidence at this site, however, was the settlement of the area during the Late Iron Age continuing to the Romano-British period.

2.4.3 Another important development-led excavation was undertaken at land c. 450 to the south of the new St Georges Hospital. This work, carried out in 2015, investigated substantial remains from the Early Neolithic period through to the Romano-British Period (ARS, 2016).

2.4.4 Recent work in conjunction with the Morpeth Northern Bypass c. 900 m north west of the development site included a Geophysical Survey (ASDU,2010) that identified archaeological features consistent with those found at Pegswood Moor Farm and at the site south of the new St Georges Hospital.

2.4.5 The conclusion of the work outlined above would indicate that there is a potential for the recovery of archaeological remains from the Mesolithic/Neolithic periods through to the Romano-British period. Further remains are also anticipated from the agricultural use of the site from the medieval period.

The New St George's Hospital Works

2.4.6 The proposal site was used during the construction of the new St Georges Hospital for the stockpiling of arisings from the ground work at the hospital site. The exact volume of material imported to the proposal site is unknown but was sufficient to require a Planning Application (Reference unknown at time of writing).

2.4.7 It is not known to the author whether the stockpiling works required the proposal site to be stripped of topsoil in advance, or whether the arising were simply stacked on the existing land surface.

2.4.8 The following photos show how the site appeared prior to the hospital works and the site under preparation for the stockpiling. Photo 1, taken in 2002, shows the site as a relatively even, green field.

Photo 1. Arial photo taken in 2002

2.4.9 Photo 2 shows the site under preparation in 2006, with at least one excavator in action and the site compound established.

Photo 2. Aerial photo taken in 2006

2.4.10 This movement of material to the proposal site has the potential to have caused damage to underlying archaeological deposits by the movement of heavy machinery or by the stripping of soils.

2.4.11 In 2019, AB Heritage carried out a geophysical survey of the proposal site (results forthcoming), to try and understand extent of the disturbance caused by the stockpiling. Figure 4 shows a series of preliminary plots showing a very high level of disturbance across the site.

3. AIMS OF THE ARCHAEOLOGICAL INVESTIGATION

3.1.1 The general aims of the archaeological investigation are:

- To survey the site to understand the likely presence and nature of possible archaeological remains across the site, as far as can be surveyed by gradiometer survey. The results of the survey will be used to inform the location of Trial Trenches for the investigation of anomalies and for control areas;
- Trial Trenching will be undertaken to assess the character, date, location and preservation of any archaeological remains on the site. The results will include a comment on the quality and significance of the remains;
- To assess the nature and extent of any previous damage to archaeological remains on the site, that may have occurred during the construction of the new St Georges Hospital; and
- To collect enough information for a suitable mitigation strategy to be devised, with this information being presented in an updated WSI if required.

3.1.2 The North East Regional Research Framework (NERRF II, 2018) has identified that areas beyond the extensively studied Northumberland uplands such as the Cheviots, have the potential to contain important and little studied remains from the later prehistoric period.

3.1.3 Frontiers of Knowledge a Research Framework for Hadrian's Wall (Symonds & Mason, 2009) has identified in Research Agenda A1 that further work is required to better understand the pattern and form of Pre-Roman Iron Age in the Wall Zone. This is perhaps most easily identified in the areas north of Hadrian's Wall that have escaped heavy urbanisation.

3.1.4 Recent work on the Northumberland Coastal Plain (TWAM, 2012), and at St Georges Hospital, Morpeth (ARS, 2016) and at Pegswood Moor, Morpeth (Proctor, 2009), amongst others has shown that hitherto unknown late prehistoric sites and landscapes do survive on the cultivated areas of south east and central Northumberland.

3.1.5 The evaluation has the potential to identify remains which may add to the current understanding of the pattern of settlement and exploitation of the site and its surrounding during these remote periods and the Pre-Roman Iron Age as well as for the Roman period proper.

3.1.6 Discussions with Karen Derham (Assistant County Archaeologist, NCC) and Daniel Dodds (AB Heritage) on 14th December 2018, highlighted that more ephemeral features such as stake holes and some smaller pits were known to be difficult to identify in Trial Trenches. The evaluation will be alert to the possibility of such features being present within the trenches.

4. METHODOLOGY

4.1 Geophysical Survey

4.1.1 AB Heritage has elected to employ the specialist services of Sumo Services to undertake the Geophysical Survey fieldwork at the proposed development site, Sumo Services will also carry out the processing of the gathered data. The interpretation and utilisation of the processed data will be carried out by AB Heritage.

4.1.2 Detailed magnetic survey has been selected as the most suitable technique for this site as it can detect a wide range of features including those that may be associated with Iron Age enclosures and medieval settlement such as ditches, land boundaries and agricultural features. It is also fast and more suited to prospection over large survey areas.

4.2 Geophysical Survey - Site Work

4.2.1 A temporary grid system will be established over the site and marked out using wooden pegs or canes. The location of the grid will be set out using an RTK GPS system theoretically accurate to some 0.01m and referenced to OS co-ordinates.

4.2.2 **Hand Held:** Data will be collected using a Bartington Grad 601-2. The instrument consists of two paired sensors (see below) and readings are logged at 0.25m centres along traverses 1.0m apart across 30m grids. The collection of data at 0.25m centres provides an appropriate methodology balancing cost and time with resolution as per Historic England guidelines.

4.2.3 **Sensors:** Two sensors mounted 1m vertically apart and very accurately aligned to nullify the effects of the earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background.

4.2.4 The readings are logged consecutively into the data logger which in turn is daily downloaded into a portable computer whilst on site. At the end of each job, data are transferred to the office for processing and presentation.

4.3 Archaeological Trial Trench Evaluation

4.3.1 AB Heritage has elected to employ the services of Solstice Heritage to undertake the trial trenching at the proposed development site.

4.4 Staged Archaeological Trial Trench Evaluation – Scope of Work

4.4.1 It is proposed to enact a staged approach to the trial trenching evaluation. This is based on the potential for archaeological remains having been damaged or destroyed during the work associated with the New St George's Hospital in recent years.

4.4.2 The first stage will be to excavate 20 trenches, measuring 30m x 1.8m across the site (c. 2.5% of the site area). This will afford a good coverage to understand the depth of soils, including any imported material, as well as investigating whether underlying deposits have been affected by the recent earth moving activities.

4.4.3 It is proposed that this initial sample size will be enough to provide robust evidence for the presence/absence of archaeology on the site. If the site is clearly damaged, then the evaluation might be completed, with the agreement of the Assistant County Archaeologist.

4.4.4 If archaeological remains are present, then Stage 2 comprising the final trenching sample of 2.5% (23 trenches at 30 x 1.8m) can be carried out, based on the results to that point.

4.4.5 A report of the results of the evaluation will be prepared and submitted by AB Heritage to NCC within 5 weeks of the end of the Fieldwork.

4.5 Archaeological Trial Trench Evaluation - Site Work

Stage 1 – 20 Trenches

4.5.1 A total of 20 trenches, measuring 30m x 1.8m will be excavated across the site (Figure 3). This will fulfil the aims of the evaluation. The site area is approximately 5.1 ha and the trenching equate to c. 2.5% sample of the total area.

4.5.2 Where small discrete features such as stake-holes, post-holes or pits are revealed in a linear trench, or where a feature is partially exposed in the trench and the origin of the feature is uncertain, the trench should be expanded for a machine bucket width either side of the trench as standard, in order to quantify the feature, its function or the presence of comparable features.

4.5.3 The trench locations for Stage 1 Trenches are provided in Fig. 2. The trenches have been located with particular regard to the local topography, trenches have not been sited across slopes for safety reasons.

4.5.4 If / when the evaluation moves into Stage 2 then a revised Trench Plan will be drawn up and based on discussion with the Assistant County Archaeologist. The revised Trench Plan will be submitted by AB Heritage for approval by the Assistant County Archaeologist.

4.5.5 Trench locations might be subject to reasonable change by the field officer dependent on local conditions on site, to avoid services or obstructions. No changes will be made that affect the aims of the project. Any changes to the trench locations will only be made after agreement with the Assistant County Archaeologist.

4.5.6 The trench locations will be accurately surveyed using DGPS prior to excavation and related to the National Grid.

4.5.7 A toothless ditching bucket will be used by either a tracked 360 mechanical excavator, or a JCB-type back acting machine for the purpose of opening the trenches.

4.5.8 Machining of the trenches will be to the natural geology or the top of the first layer of significant archaeology – whichever is contacted first. The resulting surface will be cleaned by hand, and any exposed features/structures planned both digitally and by hand.

4.5.9 Once the trenches are open and any features planned, a site meeting will be held with Karen Derham and AB Heritage, to assess the significance of the deposits and to decide on a sampling strategy sufficient for assessment purposes. If features with the potential for the retrieval of environmental data are identified, then it may be necessary to discuss a strategy for the retrieval of such data with Don O'Meara, Regional Science Advisor (North East and Hadrian's Wall) for Historic England.

4.5.10 Once a strategy has been agreed, all archaeological deposits will be manually excavated, using appropriate tools, to determine their nature and extent. Excavation undertaken for

evaluation purposes will be sufficient to clarify the extent, nature and significance of any archaeology present and no more.

4.5.11 Any archaeological deposits will be examined and recorded both in plan and section. As a minimum guideline however, discrete features will be half-sectioned in the first instance; linear features will be sampled at a minimum of 20% along their length. Where features intersect or terminate, these points will be excavated to ensure the stratigraphic sequence is understood.

4.5.12 Backfilling of trenches will only be carried out with approval of NCC Conservation Team.

4.5.13 All works will be carried out in accordance with the Code of Approved Conduct as set out by the Chartered Institute for Archaeologists (CIfA 2014). The project team will abide by the CIfA's code of Code of Conduct and the CIfA's Standard and Guidance for Archaeological Evaluation (Chartered Institute for Archaeologists 2014).

4.6 Finds

4.6.1 All identified finds, artefacts, industrial and faunal remains will be collected and retained. Certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained.

4.6.2 The archive will be deposited with The Great North Museum upon completion of the project.

4.6.3 Deposition must be in accordance with guidance for deposition provided by the Great North Museum. Bulk finds will be bagged in clear self-sealing plastic bags marked with the same details

4.6.4 Any item which qualifies as Treasure under the 1996 Treasure Act will be reported to the local coroner as such. Contact will be made with the local Finds Liaison Officer or the treasure team at the British Museum, who will be able to assign a treasure number and report the find to the coroner. The treasure number will be quoted in the final report. A short report on the object and photographs will be required.

4.6.5 Any human remains will be left *in-situ*, covered and protected. In the event that burials are at imminent risk of damage, then they will be excavated. The remains will not be excavated and lifted until a Section 25 licence has been obtained from the Ministry of Justice. Both the client and Assistant County Archaeologist will be informed if human remains are found so that an agreement can be reached on the best possible way forward.

4.6.6 Should finds that require immediate conservation be encountered, they will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the United Kingdom Institute for Conservation “Conservation Guideline No. 2” (UKIC 1983). Appropriate guidance set out in the Museums and Galleries Commissions “Standards in the Museum Care of Archaeological Collections (MGC 1992)” and the CIfA Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (CIfA 2014c) will also be followed. Packaging of all organic finds and metalwork will follow the UKIC/Rescue guidelines, ‘First Aid for Finds’ (Leigh, 1998). Any necessary conservation and treatment of metalwork will be arranged in conjunction with specialist conservators. X-ray photography of metal objects must be used where appropriate.

4.7 Environmental Sampling

4.7.1 Environmental sampling during the evaluation will target a representative range of contexts from each identified phase and will examine the survival of material and key archaeological contexts. Should significant environmental deposits be encountered, they will be sampled and processed in line with English Heritage guidelines (Campbell et al. 2011). Sampling should be demonstrated to be both fit for purpose and in keeping with the aims and objectives of the project. If appropriate, the environmental sampling strategy will be agreed with Don O'Meara, Historic England Regional Science Advisor (North East and Hadrian's Wall).

4.7.2 Provision will be made for the collection and processing of the following samples:

- Bulk samples of 40-60 litres, or 100% of the context, for process using a floatation tank for the recovery of charred plant remains from the 'flot' and artefacts such as small bones, mineralised plant remains, charcoal and hammer scale from the residues.
- Samples of 1-5 litres from waterlogged deposits for analysis of waterlogged plant remains. These may be taken as sub-samples from bulk samples.
- Samples of 5-15 litres from waterlogged deposits for analysis of insect remains and other macroscopic artefacts. These may be taken as sub-samples from bulk samples.
- Bulk samples of 100 litres for coarse sieving on site for specific artefacts such as animal bone.
- Samples of 2 litres for mollusc analysis, with associated continuous column samples.
- Monolith samples which may be sub-sampled for diatom, spore or pollen analysis.
- Monolith samples for soil micromorphology.

4.7.3 All environmental samples will be assessed for potential through summary analysis by a suitably qualified environmental specialist.

4.7.4 Bulk samples will be processed as soon as possible or discarded with the agreement of the Assistant County Archaeologist. Residues will be treated as part of the finds assemblage.

4.7.5 If waterlogged deposits are encountered, they will be dealt with in accordance with relevant national guidance such as *Waterlogged Organic Artefacts* (English Heritage 2012), *Investigative Conservation* (English Heritage 2008), and *Waterlogged Wood* (English Heritage 2010). Advice will be sought from the Historic England Archaeological Science Advisor for the North East and Hadrian's Wall where appropriate.

4.8 Scientific Dating

4.8.1 Scientific dating techniques will be applied where appropriate. The form and number will be discussed with the Assistant County Archaeologist and the Historic England Regional Science Advisor (North East and Hadrian's Wall). Where appropriate, samples for scientific dating will be taken. Provision will be made for:

- Dendrochronological analysis from timbers.

- C14 dating from organic material, which may be taken as sub-samples from bulk or monolith samples.
- Archaeomagnetic dating from hearths or other suitable deposits.

4.9 Archaeological Trial Trench Evaluation - Recording System

4.9.1 A unique site code will be allocated prior to fieldwork commencing. This code will be used to label all sheets, plans and other drawings; all context and recording sheets; all photographs (but not negatives); all other elements of the documentary archive.

4.9.2 The recording system used will follow the Museum of London Archaeological Site Manual (Spence 1994). Context sheets will include all relevant stratigraphic relationships and for complex stratigraphy a separate matrix diagram will be employed. This matrix will be fully checked during the evaluation. If there is any doubt over recording techniques, the Museum of London Archaeological Site Manual will be used as a guide (Spence, 1994).

4.9.3 A site location plan will be prepared in GIS showing investigation area and development site in relation to the surrounding locality and related to the National Grid.

4.9.4 The extent of any visible archaeological deposits will be recorded in plan.

4.9.5 Sections will be recorded by means of a measured drawing at an appropriate scale. Sections will be drawn at 1:10. The height of a datum on the drawing will be calculated and recorded. The locations of sections will be recorded on the site plans.

4.9.6 Cut features will be recorded in profile, planned at an appropriate scale and their location accurately identified on the appropriate trench plan. Plans will be drawn at 1:20. Burials will be drawn at 1:10.

4.9.7 All drawn records will be clearly marked with a unique site number and will be individually identified. The scale and orientation of the plan will be recorded. All drawings will be drawn on dimensionally stable media. At least two grid references will be marked on each plan.

4.9.8 All archaeological features will be photographed and recorded at an appropriate scale. Photographs will be of archival quality; either as black & white prints and negatives or as born-digital images, archived accordingly. In the case of long term archiving of digital images guidance for Digital Image Capture and File Storage (Historic England, 2015), will be followed. The photographs will illustrate both detail and general context the principal features and finds discovered. The photographic record will also include working shots to illustrate the general nature of the archaeological works. A register of all photographs taken will be kept on standardised forms.

4.9.9 A full record of excavated features will be made using a single context recording system. Each archaeological context will be recorded separately by means of a written description. The stratigraphic relationships of each context will be recorded in the form of a Harris Matrix stratification diagram that will be compiled and fully checked per trench. Pro-forma record sheets will be used throughout. An index will be kept of all record types.

4.10 Community Involvement

4.10.1 On site staff will be allowed to answer questions from members of the public regarding the archaeology of the area and the purpose of the investigation as part of the pre-planning process.

4.10.2 Given the nature and scale of the works information boards, site tours and other community involvement activities are not considered appropriate for the evaluation stage of the work.

5. REPORT & DISSEMINATION

5.1 Geophysical Survey

5.1.1 The report for the survey will comprise a written section describing the background to the survey, the methodologies used and a discussion of the results. The text will be illustrated using plots of the results using CAD to overlay the results and interpretations over the base mapping. The format for these drawings will either be A3 or A1 depending on the size and configuration of the survey areas.

5.1.2 Processing of the data will be carried out using the specialist software ***Anomaly*** and ***GeoSub,*** sometimes ***Geoplot***. This can emphasise various aspects contained within the data but which are often not easily seen in the raw data. Basic processing of the magnetic data involves 'equalising' the background levels with respect to adjacent traverses (Zero mean traverse). 'Despiking' is very occasionally performed to remove the anomalies resulting from small iron objects often found on agricultural land but this practice is not favoured as it creates a ‘false’ dataset and can obscure the possible archaeological derivation of such anomalies. Once the basic processing has levelled the background it is then possible to carry out further processing including de-stagger and interpolation to emphasise the archaeological or man-made anomalies.

5.1.3 The presentation of the CAD drawings will include:

- a general location plan;
- detailed site location showing the grid position;
- grey scale plots of the minimally processed and processed data; and
- Interpretation plot showing anomalies identified.

5.1.4 As a minimum the report will contain;

- Non-technical summary;
- Introductory statement;
- Aims and purposes of the evaluation;
- Methodology;
- Results, including a confidence rating for the results and their interpretation;
- Conclusion;
- Plans/plots, including interpretive plans of the results; and
- References.

5.2 Trial Trenching

5.2.1 A formal report on the results of the archaeological evaluation will be prepared on completion of the fieldwork. The report will conform to Annex 2 of the Chartered Institute for Field Archaeologists Standard and Guidance for Archaeological Field Evaluation (CIfA 2014b) and will include:

- Executive summary;
- A site location plan to at least 1:10,000 scale with at least an 8-figure central grid reference;
- OASIS reference number; unique site code; museum accession number for the site;
- Planning application number;
- Consultant's details including date work carried out;
- Nature and extent of the proposed development including developer/client details as far as is known at the time of preparation;
- Description of the site location and geology,
- A site plan to a suitable scale and tied into the national grid;
- Discussion of the results of the field work;
- Context & feature descriptions;
- Features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format;
- Stratigraphic matrices for the various areas examined
- Plans and section drawings of the features drawn at a suitable scale;
- Initial assessment reports by specialists;
- Discussion of how the work has contributed to the North-East Regional Research Framework objectives identified in the WSI;
- Recommendations regarding the need for, and scope of, any further archaeological fieldwork
- Recommendations for any further post excavation analysis, including proposals for publication, if appropriate; and
- Bibliography.

5.2.2 If no archaeology is found it will be sufficient to include a plan of the trench locations and evidence in some form (i.e. photographic) that the trenches are devoid of archaeology

5.2.3 A draft report in .pdf format will be provided to the Assistant County Archaeologist at NCC for review and approval.

5.2.4 A copy of the report will be prepared for the client. A hard copy of the report and a .pdf version will be sent to NCC for inclusion into the Northumberland Historic Environment Record (HER).

5.2.5 AB Heritage Limited shall retain full copyright of any report under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client in all matters directly relating to the project as described in this document. Any document produced to meet planning requirements can be copied for planning purposes

by the Local Planning Authority. Any information deposited in the Historic Environment Record can be freely copied without reference to the originator for research or planning purposes.

5.2.6 A digital copy of the final report will be submitted to the OASIS online archive along with a completed OASIS form within 3 months of the completion of the report.

5.2.7 Editors of regional journals, such as Archaeologia Aeliana, and/or other relevant journals will be contacted for information on outline publication costs in the event that results require publication. Other forms of publication may be appropriate in certain cases, to be agreed with NCC.

6. ARCHIVE

6.1.1 The unique site code will be allocated prior to fieldwork commencing and will be used to mark all plans, drawings, context and recording sheets, photographs and other site material during excavation.

6.1.2 The archive both material and digital will be deposited with the Great North Museum under an accession number allocated by the museum.

6.1.3 If the Great North Museum cannot digitally archive any files, then digital aspects of the archive will be archived via the ADS.

6.1.4 In the event that the landowner should wish to retain the finds, then a full measured, written and graphic record of the assemblage will be made.

7. ACCESS AND SAFETY

7.1.1 Reasonable access to the site will be arranged for the Local Planning Authority and the Assistant County Archaeologist who may wish to make site inspections to ensure that the archaeological investigations are progressing satisfactorily.

7.1.2 NCC Conservation Team has identified that up to 3 site visits maybe necessary on site. AB Heritage understands that the first site visit by NCC Conservation Team will be free of charge, with subsequent visits charged per the NCC Conservation Team Charging Policy.

7.1.3 The Assistant County Archaeologist will be given two weeks (or in exceptional circumstances a minimum of 48 hours) notice in writing of the commencement of geophysical survey and groundworks.

7.1.4 Before any site work commences, a full Risk Assessment will be produced. This document will be updated as necessary as site conditions evolve.

7.1.5 All relevant health and safety regulations will be followed. Barriers, hoardings and warning notices will be installed as appropriate. Safety helmets and visibility jackets will be used by all personnel as necessary.

7.1.6 No personnel will work in deep unsupported excavations. The installation of temporary support work and other attendance will be provided as required.

8. STAFFING AND TIMETABLE

8.1.1 AB Heritage has elected Sumo Services to undertake the specialist Geophysical Survey and data processing. Solstice Heritage have been chosen to progress the onsite trenching works.

8.1.2 The phase of works described in this document is expected to begin in January 2019.

8.1.3 Site work is expected to be completed within 3-4 weeks.

8.1.4 Specialists will be consulted based on the results of the trial trenching. All specialists will have knowledge of the area and will be acceptable to NCC Conservation Team.

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