

# LOWTHER CASTLE, PENRITH, CUMBRIA

## Archaeological Watching Brief



Client:  
Lowther Castle and Gardens  
Trust

NGR: 352282 523816

Planning Application Refs:  
7/2010/3091 and  
7/2012/3053

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## Contents

Illustrations.....	1
Non-Technical Summary.....	3
Acknowledgements.....	3
1. Introduction.....	4
2. Methodology.....	6
3. Desk-Based Assessment.....	8
4. Watching Brief.....	10
5. Discussion and Conclusion.....	23
6. Bibliography.....	24
Appendix 1: Project Brief.....	25
Appendix 2: Project Design.....	30
Appendix 3: Summary Context List.....	36
Appendix 4: Summary Finds List.....	37

## Illustrations

### List of Figures

Figure 1: Site location.....	5
Figure 2: Area A trench plan.....	14
Figure 3: Area A trench plan and section after the removal of the asbestos.....	16
Figure 4: Plan of the possible fountain base in the South Lawn.....	19
Figure 5: Plan of concrete gutters in the South Lawn.....	20
Figure 6: Area B trench plan.....	21

### List of Plates

Plate 1 (left): The concrete forecourt to the south-east side of the Coach House (Area A).....	10
Plate 2 (right): Topsoil stripped from the South Lawn.....	10
Plate 3: Area to the north of the Stable Courtyard (Area B).....	10
Plate 4 (left): Clay layer exposed below the layer of rubble.....	11
Plate 5 (centre): The footings of the Coach House exposed.....	11
Plate 6 (right): Section of the retaining wall and embankment.....	11
Plate 7 (left): Concrete stanchions (to the left) and retaining wall (to the rear).....	11
Plate 8 (right): Foundation of the concrete stanchions below the concrete surface.....	11
Plate 9: 'Ribblesdale' cement sack from the foundations of the concrete stanchions.....	12
Plate 10 (left): Concrete stanchion (left) and brick-built structure (centre).....	12
Plate 11 (right): Detail of the north-east external elevation of the brick-built structure.....	12
Plate 12 (left): Section below the south-east retaining wall showing dump of ceramic drain pipes.....	12
Plate 13 (right): Asbestos dumped inside the brick-built structure.....	12
Plate 14 (left): Area of excavation after the removal of the asbestos.....	15

Plate 15 (right): South-east corner of the retaining wall .....	15
Plate 16 (left): North-east trench section .....	15
Plate 17 (right): Detail of the dry stone wall below the north-east section of the retaining wall .....	15
Plate 18 (left): Possible fountain base exposed in the South Lawn .....	17
Plate 19 (right): Detail of the central section of the possible fountain base .....	17
Plate 20 (left): Concrete gutters either side of a possibly tarmacked area.....	17
Plate 21 (right): Detail of the south-west gutter .....	17
Plate 22 (left): Cobbled surface, looking south-east towards the summerhouse .....	18
Plate 23 (right): Detail of the cobbled surface .....	18
Plate 24 (left): Stepped excavation in Area B.....	18
Plate 25 (right): Gravelly ash deposit visible in the section of the pipe trench .....	18

## Non-Technical Summary

An archaeological watching brief was carried out on 5<sup>th</sup> and 7<sup>th</sup> July and 25<sup>th</sup> August 2011 and 5<sup>th</sup> March 2012 during the course of groundworks associated with a programme of restoration and redevelopment at Lowther Castle, Penrith, Cumbria. The watching brief monitored two areas of excavation: one to the south-east of the Coach House (Area A), the other to the north of the Stable Courtyard (Area B). Various features exposed during the course of topsoil stripping on the South Lawn were also recorded. The watching brief was temporarily halted to the south-east of the Coach House as a result of asbestos being found and the recording of this part of the site could only be completed after it had been removed.

Area A formed a concrete courtyard below which was a layer of rubble on top of pinkish clay. Four concrete stanchions were exposed, which probably related to the earlier boiler house that stood on the site, and these were surrounded a small concrete and redbrick-built structure, which may have been an inspection pit, probably associated with a 20<sup>th</sup> century building on the site, and various modern finds were recovered from the area. The trench section contained a dump of 19<sup>th</sup> century ceramic drain pipe, including abundant wasters and misfires associated with production, which may indicate manufacture locally, perhaps associated with the nearby Hackthorpe Hall tilery, which operated between 1846 and 1866. No significant archaeological finds or features were observed in Area B.

Features in the South Lawn included an isolated concrete structure, probably the base of a former fountain, which was located in front of the west outer wing, and concrete gutters either side of a tarmacked driveway which lined up with the entrance to the Castle. Both of these features are thought likely to date to the 19<sup>th</sup> or 20<sup>th</sup> century and finds of post-medieval date were recovered from the surface of a small area of packed cobbles at the far south-east end of the Lawn near to the track to the north-east of the summerhouse.

## Acknowledgements

Greenlane Archaeology would like to thank Lowther Castle and Gardens Trust for commissioning the project and Andrew Mercer, Project Director during the restoration project work, Steve Lannin, former head gardener at Lowther Castle, Martin Ogle, current head gardener, and Jim Lowther, trustee of Lowther Castle and Gardens Trust, for their help during the project. Thanks are also due to Miriam Kelly and Matthew Traub, architects at Fielden Clegg Bradley Studios, for their information relating to the work being carried out on site. Further thanks are due to John Hodgson, Senior Archaeology and Heritage Advisor, and Eleanor Kingston, Archaeology and Heritage Advisor, at the Lake District National Park (LDNPA), for approving the project design and providing information about the site and access to the Historic Environment Record.

The watching brief was carried out by Tom Mace and Dan Elsworth. The report was co-written by Dan Elsworth and Tom Mace and edited by Jo Dawson. The finds were assessed by Jo Dawson, with additional information regarding the ceramic drain pipe assemblage provided by Ted Davis. Tom Mace produced the figures. Dan Elsworth managed the project.

# 1. Introduction

## 1.1 Circumstances of the Project

1.1.1 Following the submission of a planning application (Ref. 7/2010/3091) for a programme of restoration and redevelopment at Lowther Castle, Penrith, Cumbria (NGR 352282 523816), a condition (No. 4) was placed by the Lake District National Park Authority requiring a programme of archaeological work be carried out. Following discussions with the LDNPA it was established that this was to comprise an archaeological watching brief for groundworks within a defined area of archaeological interest and a brief for the work issued (*Appendix 1*) in response to which Greenlane Archaeology produced a project design (*Appendix 2*). The initial phase of watching brief, relating to the construction of a new boiler house, was carried out on 5<sup>th</sup> and 7<sup>th</sup> July and 25<sup>th</sup> August 2011. A watching brief was subsequently also carried out on work carried out in connection with the construction of a new sewage treatment plant on the 5<sup>th</sup> March 2012, which was dealt with as part of separate application (Ref. 7/2012/3053) and it was agreed with the LDNPA that the results of this would be included with the other elements into a single report. Following this groundworks were undertaken to renew the south lawn and construct a group of *parterres*, which were unintentionally not subject to archaeological monitoring due to a breakdown in communication, but the shallow depth to which these works were carried out and the previous disturbance in this area means that it is unlikely that any archaeological remains were affected. Following this there was some delay while it was ascertained what other work might be carried out that would require monitoring, hence the length of time between the completion of the last stage of the watching brief, in 2012, and the production of this report.

1.1.2 Lowther Castle has its origins in the later 14<sup>th</sup> century, when the east tower was constructed (Perriam and Robinson 1998, 290). The west tower was added in the 16<sup>th</sup> century but during the 17<sup>th</sup> and later centuries the whole site underwent several phases of alteration (*ibid*). A serious fire in 1718 damaged much of the structure extant at that time but it was rebuilt in 1812, before being effectively abandoned in 1957 (*ibid*). It has remained an unoccupied ruin ever since.

## 1.2 Location, Geology, and Topography

1.2.1 Lowther Castle is located inside the north-eastern edge of the Lake District on the east side of the River Kent in the Lowther Valley approximately two kilometres west-north-west of Hackthorpe at approximately 215m above sea level (Ordnance Survey 2002; see Figure 1). The watching brief recorded features exposed in the South Lawn and monitored excavation to the south-east of the Coach House (Area A) and to the north of the Stable Courtyard (Area B). The underlying geology of the area comprises Dinantian Carboniferous limestone covered by glacial till (Moseley 1978, plate 1). The landscape is characterised by large expanses of moorland and rolling upland farmland with limestone outcrops (Countryside Commission 1998, 56).

1.2.2 **Area to the south-east of the Coach House (Area A):** the courtyard area to the south-east of the Coach House was relatively flat but beyond the retaining walls to the north-east and south-east of the area the ground sloped steeply upwards to the electricity sub-station (to the north-east) and formed an embankment along the south-east edge of the area (Figure 2). The embankment to the south-east of the area sloped down from the north-east to the south-west.

1.2.3 **Area to the North of the Stable Courtyard (Area B):** the area to the north of the Stable Courtyard comprises the southern edge of an extensive lawn that extends some distance to the north of the Castle and originally comprised part of the associated park. It slopes down gradually towards the valley of the River Lowther (Figure 1).

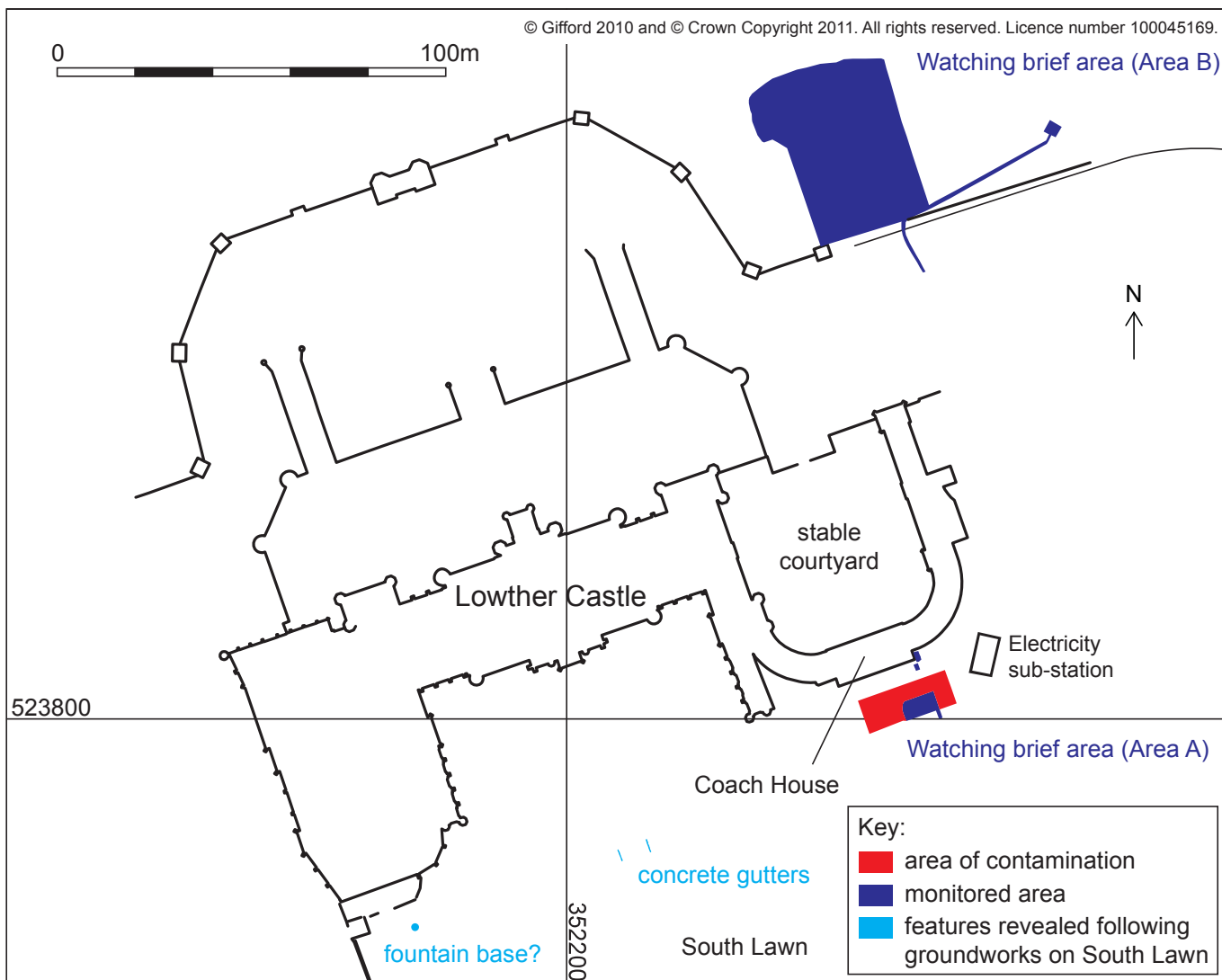
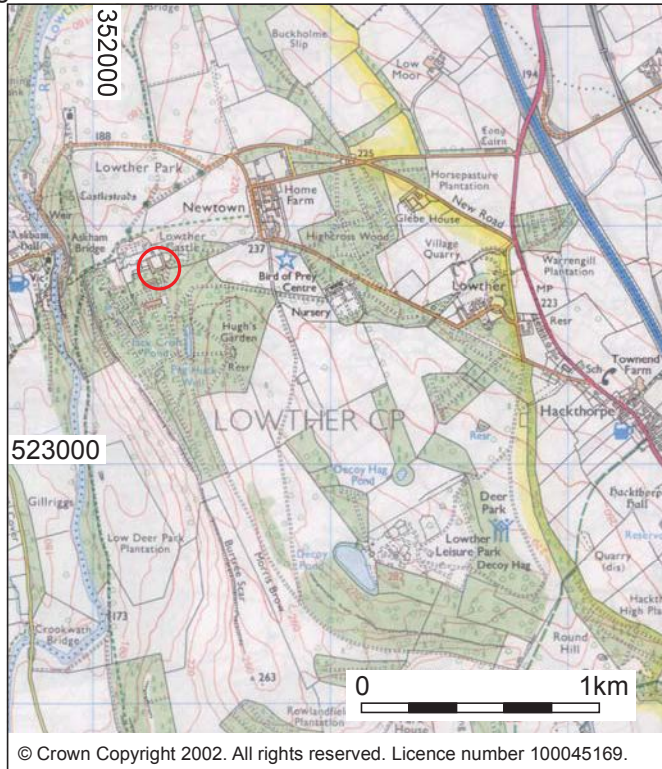
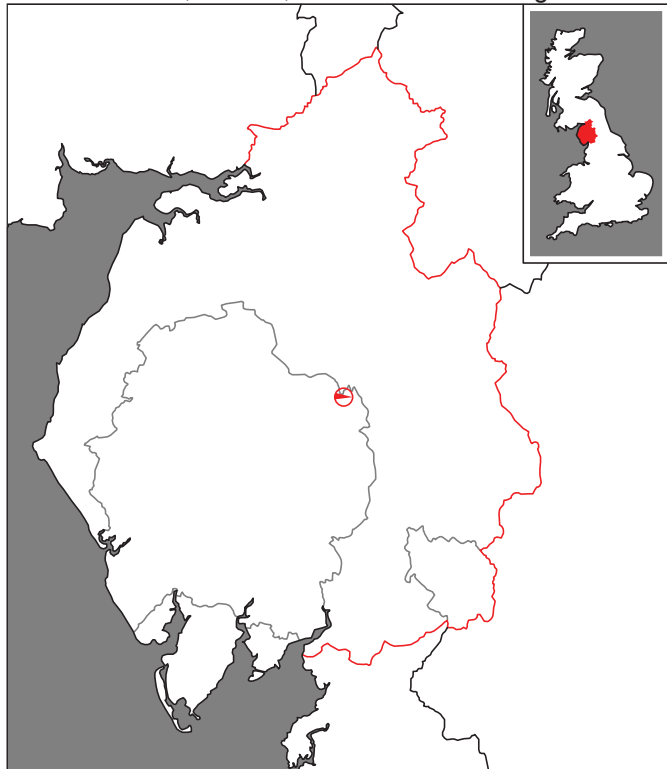


Figure 1: Site location

## 2. Methodology

### 2.1 Desk-Based Assessment

2.1.1 A desk-based assessment was carried out in accordance with guidelines of the Chartered Institute for Archaeologists (CIfA; formerly the Institute for Archaeologists) (IfA 2014a). The intention of this element of the project was to assess the potential and nature of the deposits and finds that were likely to be encountered during the course of the groundworks and principally comprised an examination of early maps of the site, information from the LDNPA Historic Environment Record, and published secondary sources. The following sources of information were used during the desk-based assessment:

- **Lake District National Park Historic Environment Record (HER):** this is a list of all the known sites of archaeological interest within the Lake District National Park, which is maintained by the Lake District National Park and is the primary source of information for an investigation of this kind. Unpublished reports of previous archaeological investigations of the site were examined;
- **Cumbria Archive Centre, Carlisle (CAC(C)):** this was visited in order to examine early maps and plans of the site, and local and regional histories;
- **Greenlane Archaeology Library:** additional secondary sources were examined to provide information for the site background.

### 2.2 Watching Brief

2.2.1 The watching brief encompassed an area to the south-east of the Coach House (Area A), which forms the south wing of the stable courtyard to the east of the Castle, and an area on the lawn to the north of the Stable Courtyard (Area B), where new water tanks were to be inserted. The uppermost concrete surface in Area A was lifted using a tracked mechanical excavator and a dumper and a trenched area comprising approximately 52m<sup>2</sup> was then excavated using the mechanical excavator with a toothless bucket and monitored by an archaeologist. Unfortunately, a large deposit of asbestos was encountered within the area at which point the work on site was stopped immediately. The remainder of the material was removed at a later stage without the presence of an archaeologist on site. The removal of the contamination, which was unmonitored, totalled approximately 170m<sup>2</sup>, and extended the area of excavation to the north-east and south-west and brought the total area of trenching within Area A to approximately 222m<sup>2</sup>. After the contamination had been removed the open area of excavation was revisited, at which time various other stripping features were also recorded that had been exposed on the South Lawn during the course of topsoil stripping in that area. Most of the topsoil in Area B had been removed, a pipe trench connecting to an existing pipe to the east of the area had already been dug, and part of the main area had also been excavated and stepped to c.4m deep ahead of an archaeologist being present on site. A total area of approximately 1490m<sup>2</sup> was excavated in Area B using a tracked mechanical excavator with a toothless bucket, although because of the enormous depth required this was stepped several times.

2.2.2 All aspects of the watching brief were carried out in accordance with CIfA guidelines (IfA 2014b). Features of interest were cleaned by hand and recorded relative to the known location of nearby buildings and other structures that were evident on the site plans. The underlying deposits and features were recorded in the following manner:

- **Written record:** descriptive records were made using Greenlane Archaeology *pro forma* record sheets (Greenlane Archaeology 2007);
- **Photographs:** photographs in both 35mm colour print and colour digital format were taken of all archaeological features uncovered during the groundworks, as well as general views of the site, and working shots. A selection of the colour digital photographs is included in this report. A written record of all of the photographs was also made using Greenlane Archaeology *pro forma* record sheets;
- **Drawings:** drawings were produced on site as follows:



- i. plans showing the location of the ground works, relative to standing buildings on site and the local topography, showing features of archaeological interest were produced at scales of 1:500, 1:250, 1:200, 1:100 and 1:50 as appropriate.

## 2.3 Environmental Samples

2.3.1 No environmental samples were taken as no appropriate deposits were encountered.

## 2.4 Finds

2.4.1 **Processing:** all of the artefacts recovered from the watching brief were washed, with the exception of metal and glass, which were dry-brushed. They were then naturally air-dried and packaged appropriately in self-seal bags with white write-on panels.

2.4.2 **Assessment and recording:** the finds were recorded on *pro forma* record sheets and a catalogue was produced (*Appendix 3*).

## 2.5 Archive

2.5.1 A comprehensive archive of the project has been produced in accordance with the project design and current IfA and English Heritage guidelines (Brown 2007; English Heritage 1991). The paper and digital archive and a copy of this report will be deposited in the Cumbria Record Office in Kendal on completion of the project. Up to three paper copies of this report will be provided for the Lake District National Park Authority (LDNPA) Historic Environment Record (HER), one for the client, a digital copy for the client's agent (as necessary), and one will be retained by Greenlane Archaeology. In addition a digital record of the project will be made on the *Online Access to the Index of Archaeological Investigations* (OASIS) scheme.

### 3. Desk-Based Assessment

#### 3.1 Background History

3.1.1 **Introduction:** several previous historical investigations have been undertaken at Lowther Castle, in particular an extensive conservation plan (The Landscape Agency 2002) and historical map analysis (Land Use Consultants 2010), and much of the information that follows is based on these reports.

3.1.2 **Lowther Castle and the Lowther Estate:** the Lowther family and coat of arms are documented from the late 12<sup>th</sup> century (Landscape Agency 2002, 10) and the manor at Lowther was enclosed as a park by Sir Hugh Lowther in 1283 (Port 1981, 123). Lowther Castle has its origins in the later 14<sup>th</sup> century, when the east tower was constructed (Perriam and Robinson 1998, 290). The west tower was added in the 16<sup>th</sup> century but during the 17<sup>th</sup> and later centuries the whole site underwent several phases of alteration (*ibid*).

3.1.3 Benefitting from the peaceful conditions near the border towards the end of the 16<sup>th</sup> and early 17<sup>th</sup> century the house was enlarged and beautified. The outer court was created between 1640 and 1664 when Sir John Lowther (d. 1675) (first baronet of Lowther, 1639) built the coach house and stables at a cost of £80 (Port 1981, 123-124). Sir John Lowther, the second baronet, succeeded his grandfather in 1675 and was created Viscount Lonsdale in 1696 (Port 1981, 124). At first he set about improving the old house but began demolishing and rebuilding much of it on a palatial scale, befitting of the leading resident landed dynasty in Cumberland and Westmorland (Landscape Agency 2002, 10), with the architect William Talman, the work being undertaken by contract c1690s (Port 1981, 124-125). He found the location of the old house disagreeable, however, "in the Middle of the Village", so he displaced the old village, shifted the high road, and levelled the landscape such that "when executed the Place would be as pleasant as so Northern a climate was capable off [sic]" (Port 1981, 124). The Hall and inner west or chapel wing was gutted by fire in 1718 and although further rebuilding was planned by the third viscount (d.1751) with designs from Gibbs and Campbell, it was never undertaken (Port 1981, 127).

3.1.4 The estates were inherited by his cousin, Sir James Lowther (d. 1802), who would later become the first Earl of Lonsdale (Landscape Agency 2002, 10). Further grandiose schemes for reviving Lowther Castle were planned during the 1760s and 70s but never implemented, including designs from Brettingham, Capability Brown, and Robert and James Adam (Port 1981, 127). Sir James was succeeded by his distant cousin William (d. 1844), the founder of the modern Lowther family, who was recreated Earl of Lonsdale (of the second creation) in 1807 (Landscape Agency 2002, 11). Further additions and improvements were made to the house c1800s under the supervision of Francis Webster, a mason of Kendal who developed into an architect, and further paper schemes were drawn up by Harrison of Chester, the foremost neo-classical architect in Northern England at the time (Port 1981, 127-8). Ultimately Sir William Lowther commissioned Robert Smirke, the protégé of George Dance (1741-1825), surveyor to the City of London, to design him a Gothic house and he was directed to start work on the new Lowther Castle in April 1806 (Port 1981, 128-9), the ruins of which form the main section of the current Castle. Work started on the new stables in June, being executed by Webster in partnership with one B. Proctor – some of the plasterwork was done by Simpson of Kendal with the greater part completed by the ornamental plasterer, Bernasconi of London, and similarly some of the painting was undertaken by Colvin of Penrith, with the majority performed by Cornelius Dixon of London (Port 1981, 129). With reportedly little of the work left unfinished, Smirke submitted his account in June 1814 for a total expenditure of £77,000 since 1806 (Port 1981, 131).

3.1.5 The estates were inherited by Hugh Lowther (d. 1944), the fifth Earl, known to posterity as 'the Yellow Earl', in 1882 (Landscape Agency 2002, 11). However, his free-spending largely wrecked the estate and struggling financially the fifth Earl closed the castle in 1935, the remaining contents being sold off by his successor at auction in 1947 in the largest English country house sale of the 20<sup>th</sup> century, which lasted 22 days (Landscape Agency 2002, 11; Port 1981, 131). The estate was occupied by a department of the army and used for night-time tank training during the Second World War and the Castle was largely dismantled by the seventh Earl in 1957 (Landscape Agency 2002, 11, 18) at which time the roofs were removed, 'the house gutted, and its bare walls left a magnificent ruin' (Port 1981, 131). It has remained an unoccupied ruin ever since.

## 3.2 Map Regression

3.2.1 **Introduction:** a detailed historical map analysis has already been undertaken for Lowther Castle (Land Use Consultants 2010), covering the period 1683 to 1939. This demonstrates that in the areas in which work was carried out were not extensively developed as far as the available evidence shows. The area south of the former stable block (Areas A) comprised part of the gardens, within an area that was formally arranged from a least 1700 to sometime before the construction of the stables as part of the major rebuilding of the whole site that took place in the early decades of the 19<sup>th</sup> century (see *Section 3.1.4* above). After 1939 a boiler house was also built in this area. The area south-west of this was subject to several garden design schemes from at least 1700 onwards, before being used for agricultural and forestry purposes. The map evidence shows that the area to the north of the stable courtyard (Areas B) has always been outside of any the formal garden schemes and was situated on the edge of the parkland that extended to the north from the Castle.

## 3.4 Conclusion

3.4.1 While the documentary evidence shows that the site has a long history with important remains from at least the medieval period present the Castle and its grounds saw a number of substantial changes to both the buildings and the gardens from the end of the 17<sup>th</sup> century onwards. Of the areas that were subject to watching brief Area A falls within this heavily designed and modified landscape and so there was always likely to be some disturbance, especially given the presence of a 20<sup>th</sup> century boiler house on the site. Area B is in an area less likely to have been disturbed but where there is perhaps a lower potential for archaeological remains to be present.

## 4. Watching Brief

### 4.1 Introduction

4.1.1 The watching brief encompassed an area to the south-east of the Coach House (Area A) and an area to the north of the Stable Courtyard (Area B) and recorded various features that were exposed in the South Lawn during the course of topsoil stripping in that area (see Figure 2 to Figure 6). The Coach House forms the south wing of the stable courtyard and the area to the south-east formed a concrete forecourt (Plate 1). The retaining wall to the south-east side of Area A had a concrete skim over an existing angular limestone block wall which was exposed to the south-west. The concrete skim continued from a short distance from the south-east corner of the courtyard along the south-east wall and along the north-east elevation. Three distinct features were observed in the South Lawn at some separation to each other, including what may be a fountain base, concrete gutters either side of a tarmacked area, and a small cobbled surface and while not part of the main watching brief these were recorded. Those near to the castle are shown on Figure 1. The topsoil came down onto a reddish-brown clay, which had become very dry and dusty and been repeatedly tracked over by the time of the site visit (Plate 2). Similarly, the topsoil in Area B had been removed and the area had been partially excavated ahead of an archaeologist being present on site (Plate 3).



**Plate 1 (left): The concrete forecourt to the south-east side of the Coach House (Area A)**

**Plate 2 (right): Topsoil stripped from the South Lawn**



**Plate 3: Area to the north of the Stable Courtyard (Area B)**

## 4.2 Results

4.2.1 **Area to the south-east of the Coach House (Area A):** removal of the concrete surface revealed a layer of rubble (**100**) up to 0.6m thick above very firm red clay (**102**) (Plate 4). This clay layer (with some minor variation) continued to the depth of the excavation which was stopped at a depth of approximately 1.9m below the original ground level. The rubble layer contained late post-medieval and modern finds (see *Section 4.3.3* and *Appendix 3*). A cable along the south-east side of the Coach House was exposed in a trial hole and another small trial hole against the corner of the Coach House revealed a large ceramic drain pipe (Plate 5). The large coarse gritty sandstone or gritstone blocks of the Coach House continued to a depth of 0.9m then stepped out slightly before continuing another 0.4m into the red clay. A slot was also extended to the south-east of the area at the limit of the concrete skim of the retaining wall on the south-east elevation. The retaining wall extended up to 0.9m into the firm reddish-orange to red clay of the embankment to the south-east (Plate 6).



**Plate 4 (left): Clay layer exposed below the layer of rubble**

**Plate 5 (centre): The footings of the Coach House exposed**

**Plate 6 (right): Section of the retaining wall and embankment**

4.2.2 Excavation of a large rectangular area to the south-east of the area exposed four large concrete stanchions (Plate 7 and Plate 8), three of which were running parallel and up against the south-east retaining wall and the fourth of which was positioned perpendicular to the others a short distance to the north-west at the north-east end of the row of three (Figure 2). All of the stanchions were at roughly the same level below the concrete and rubble and those which it was possible to observe during the course of the groundworks had steel attachments on the top. The foundations included cement filled paper bags marked 'Ribblesdale' (Plate 9).



**Plate 7 (left): Concrete stanchions (to the left) and retaining wall (to the rear)**

**Plate 8 (right): Foundation of the concrete stanchions below the concrete surface**



**Plate 9: 'Ribblesdale' cement sack from the foundations of the concrete stanchions**



**Plate 10 (left): Concrete stanchion (left) and brick-built structure (centre)**

**Plate 11 (right): Detail of the north-east external elevation of the brick-built structure**

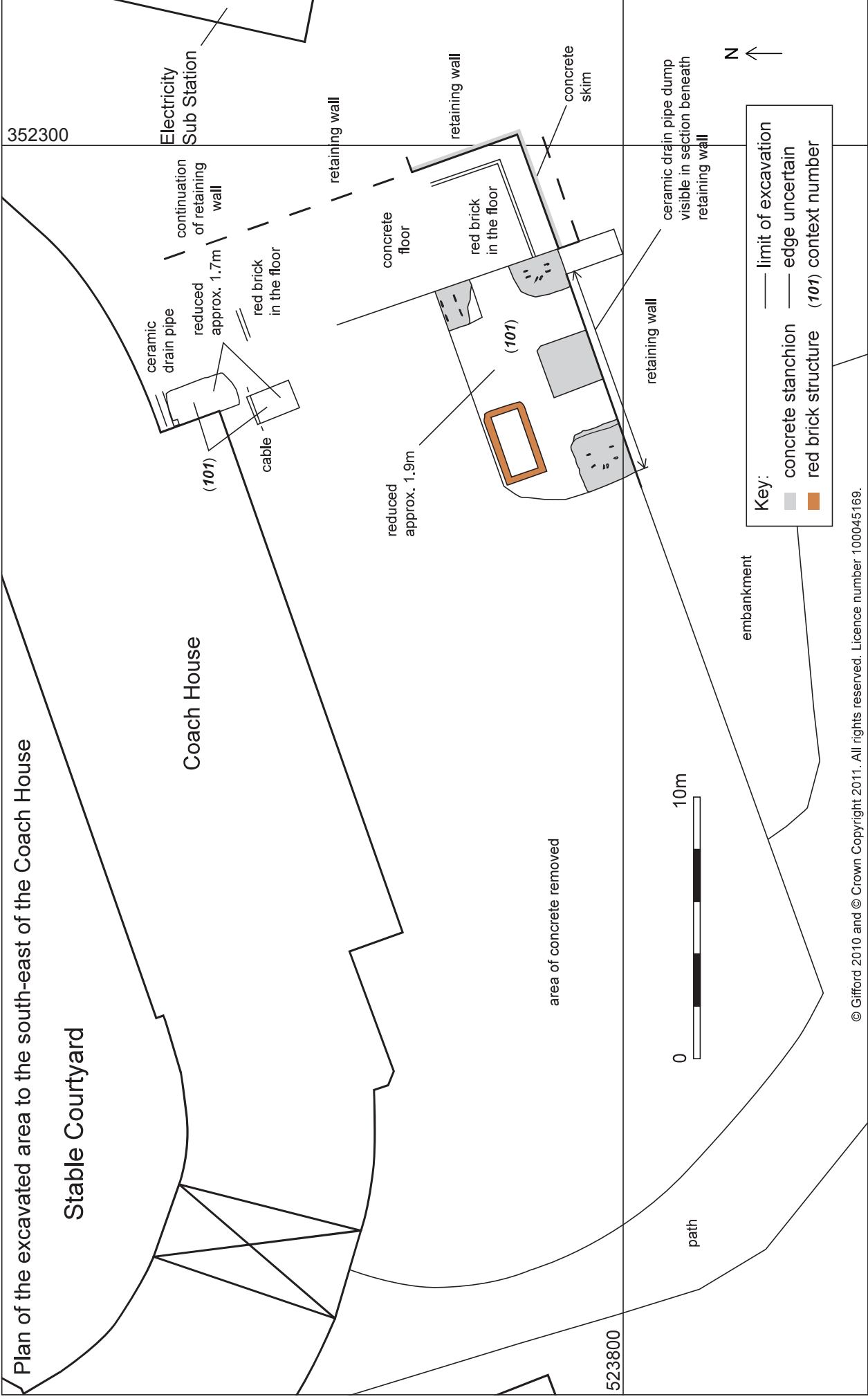


**Plate 12 (left): Section below the south-east retaining wall showing dump of ceramic drain pipes**

**Plate 13 (right): Asbestos dumped inside the brick-built structure**

4.2.3 A red brick built structure was exposed at a similar level to the surrounding concrete stanchions, which stood approximately 0.9m high from the base of the trench (Plate 10). Each brick measured exactly three by five by nine inches (76x127x229mm) and was set in smooth concrete cement (Plate 11). Ten courses remained of the structure, which might have been an inspection pit. Removal of the concrete stanchions along the south-east edge of the area revealed a large quantity of ceramic drain pipes in the trench section below the limestone blocks of the retaining wall and above the clay (Plate 12).

The pipe was present in an unusually large quantity and included a superabundance of 'wasters' or misfires (see *Section 4.3.2*). This pipe dump (**101**) did not intrude into the area of excavation at this point but appeared to continue below the embankment to the south-east and along the trench edge. When the end of the possible inspection pit was removed to reveal the section across it, its base was found to contain a large quantity of dumped asbestos sheeting (Plate 13) and the job was halted.



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Figure 2: Area A trench plan



4.2.4 Removal of the contamination extended the area of excavation to the south-west and to the retaining wall to the north-east (Figure 3). The maximum depth of excavation was maintained at roughly 1.9m, which was cut into the pinkish clay (Plate 14). No features were apparent to the south-west of the area. The dump of ceramic drain pipes continued below the retaining wall to the north-east along the south-east elevation (Plate 15; Figure 3). The concrete skim continued part of the way to the north-west along the north-west/south-east aligned section of the retaining wall before becoming exposed red brick mostly in a stretcher bond (roughly 3:1 stretcher / header ratio, although the headers did not form a complete course; Plate 16). Below this section of the wall was an almost dry built angular stone wall (Plate 17); it appeared to be flush with the retaining wall above it. It was not clear if this wall continued along the south-east elevation which appeared to be more disturbed and contained a rubble deposit at a similar level in the trench section (Plate 15). The ceramic pipe dump did not continue in section below the lower angular stone wall which sat on top of the clay layer; it did appear to continue part of the way along the trench at this end of the site but only a small quantity was noted possibly in a cut along the north-east edge of the area.



**Plate 14 (left): Area of excavation after the removal of the asbestos**

**Plate 15 (right): South-east corner of the retaining wall**



**Plate 16 (left): North-east trench section**

**Plate 17 (right): Detail of the dry stone wall below the north-east section of the retaining wall**

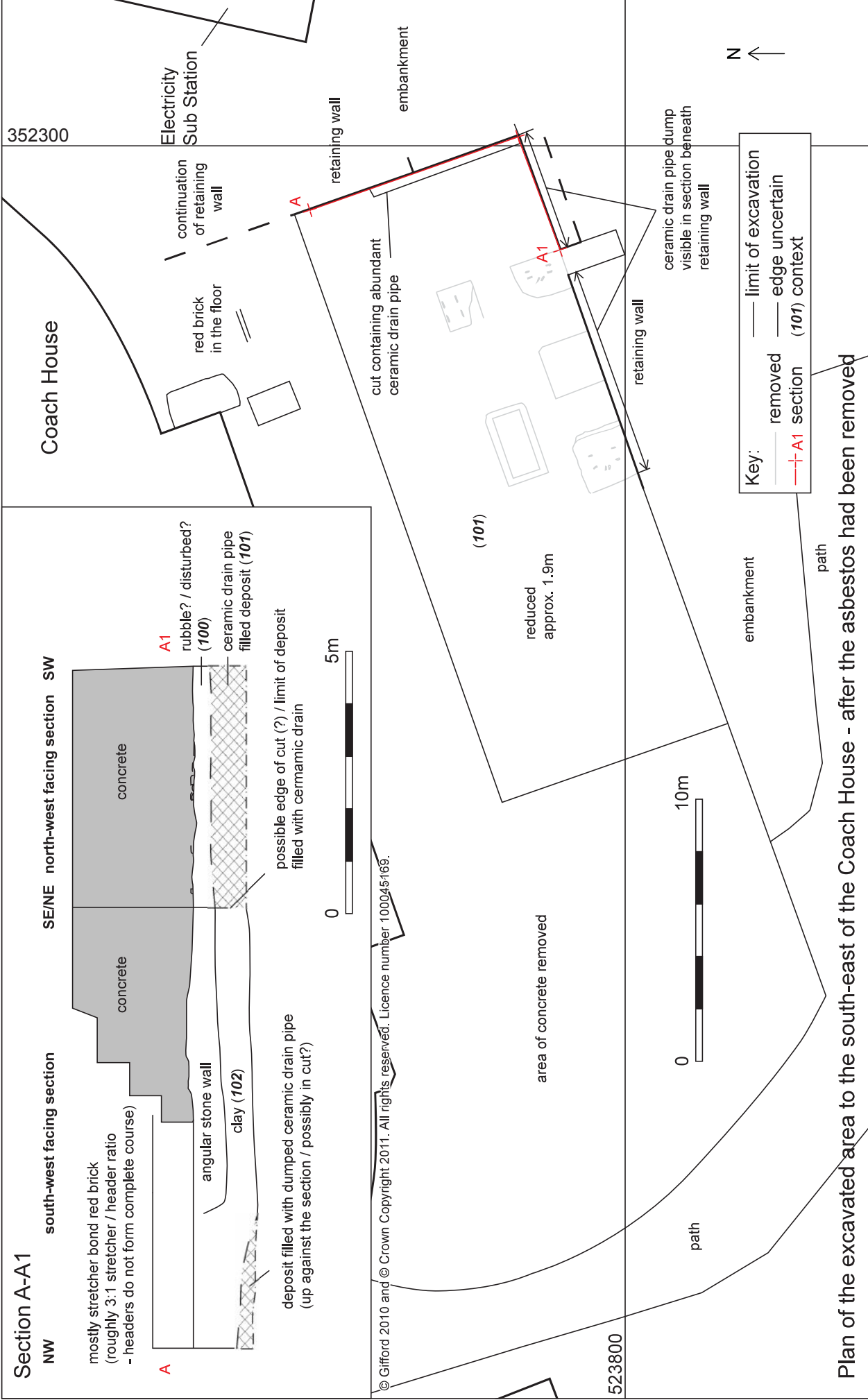


Figure 3: Area A trench plan and section after the removal of the asbestos

4.2.5 **Features in the South Lawn:** removal of the topsoil in the South Lawn exposed a long oval-shaped concrete feature (Plate 18) in front of the west outer wing of the Castle near to the steps to the Sunken Garden (Figure 4). It had a slight lip around the outer edge and had a sunken centre. There was a round protuberance in the centre, with rusted attachments, flanked by two ovoid orifices (Plate 19). The holes either side appeared to have been filled with cement and packed with stone. It is thought to have been a fountain base or possibly a sculpture base.



**Plate 18 (left): Possible fountain base exposed in the South Lawn**

**Plate 19 (right): Detail of the central section of the possible fountain base**

4.2.6 Some distance to the east of this concrete feature two concrete gutters were exposed either side of a possibly tarmacked area (Plate 20 and Plate 21; Figure 5). The tarmacked area and gutters appeared to line up with the central entrance to the Castle and were perpendicular to it and presumably would have led up to the entrance to the Castle in its heyday in the late 19<sup>th</sup> to 20<sup>th</sup> century. A track is first shown to extend to the south from this entrance to the Castle on the Ordnance Survey map of 1863 (**Error! Reference source not found.**; Land Use Consultants 2010, figure 14a and b). It was later extended all the way to the summerhouse by 1939 (**Error! Reference source not found.**; Land Use Consultants 2010, figure 18a and c; CAC(C) D Lons L5/3/2/Low10 1939).



**Plate 20 (left): Concrete gutters either side of a possibly tarmacked area**

**Plate 21 (right): Detail of the south-west gutter**

4.2.7 A small area of cobbles (each approximately 0.15x0.10x0.06m) was also recorded to the south end of the Lawn, beginning approximately four or five metres to the north-west side of the track to the north-west of the summerhouse (Plate 22). Some of the cobbles appeared to be packed in a brown

sandy-silt, possibly for consolidation or a path (Plate 23). It did not appear to be associated with any other structural remains and some unstratified glass and post-medieval pottery was recovered from its surface (see *Section 4.3.4* and *Appendix 4*).



**Plate 22 (left): Cobbled surface, looking south-east towards the summerhouse**

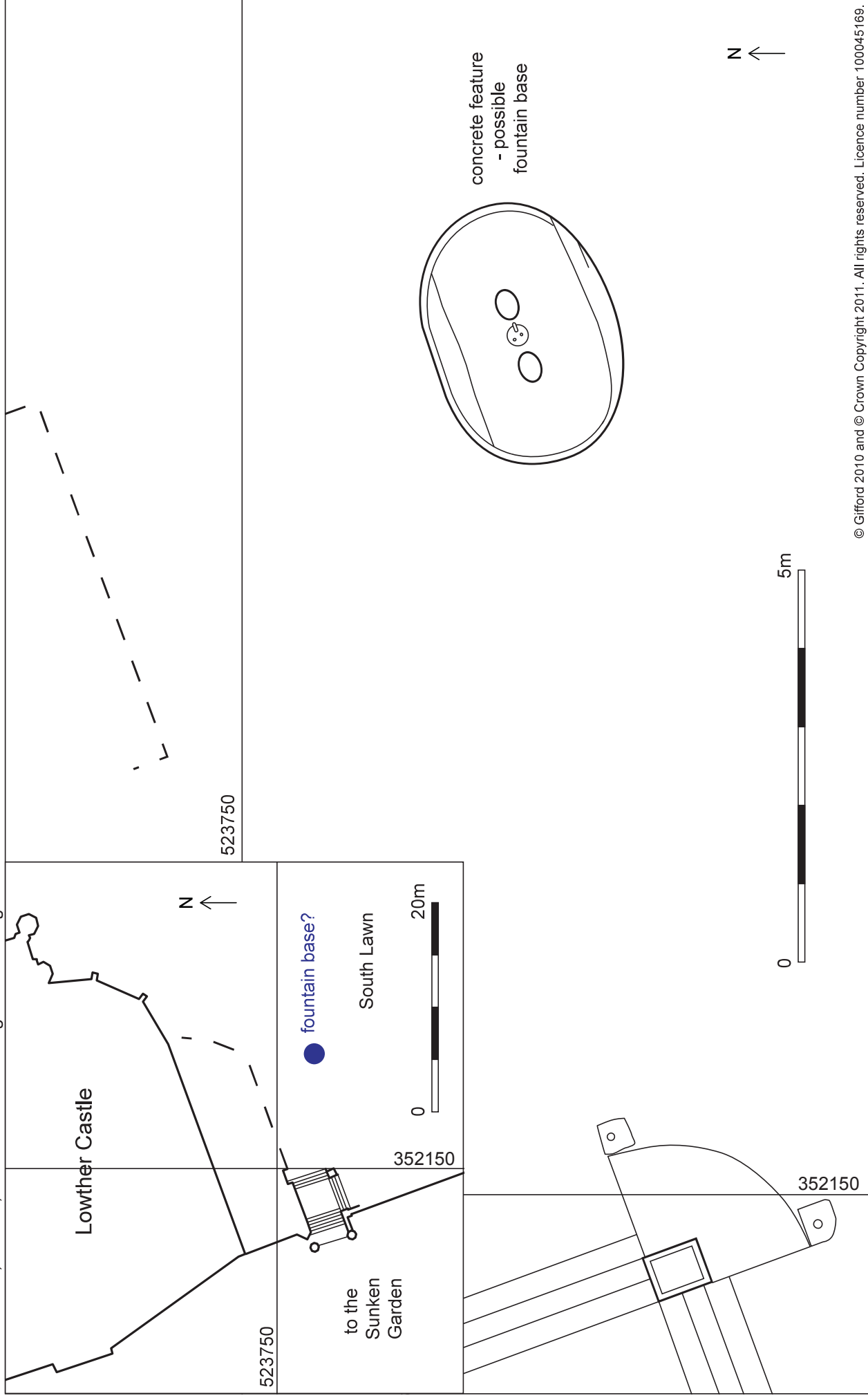
**Plate 23 (right): Detail of the cobbled surface**

**4.2.8 Area to the North of the Stable Courtyard (Area B):** there was very little topsoil across Area B (**200**), perhaps only 0.2 to 0.3m thick on top of the subsoil (**202**), and the underlying clay natural (**203**) was encountered at a depth of approximately 0.4 to 0.7m. The subsoil was hard to distinguish from the underlying natural as it was a similar colour, but the natural was noted to be stonier and contained some large boulders (Plate 24). Some post-medieval pottery and glass was recovered from a thin layer of gravelly ash (**201**) below the topsoil in the pipe trench (*Appendix 3*; see also Figure 6). This ashy deposit measured approximately 6.3m long from east to west and was up to 0.2m thick (Plate 25). Some pieces of ceramic water pipe were also observed in the spoil along the pipe trench and an old iron water pipe was observed elsewhere. A ceramic pipe ran north/south to the east of the ash layer and a stone built drain ran north/south to the west of it. The stone drain was built from slabs and dressed stone and was c.0.4m wide.



**Plate 24 (left): Stepped excavation in Area B**

**Plate 25 (right): Gravelly ash deposit visible in the section of the pipe trench**



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Figure 4: Plan of the possible fountain base in the South Lawn

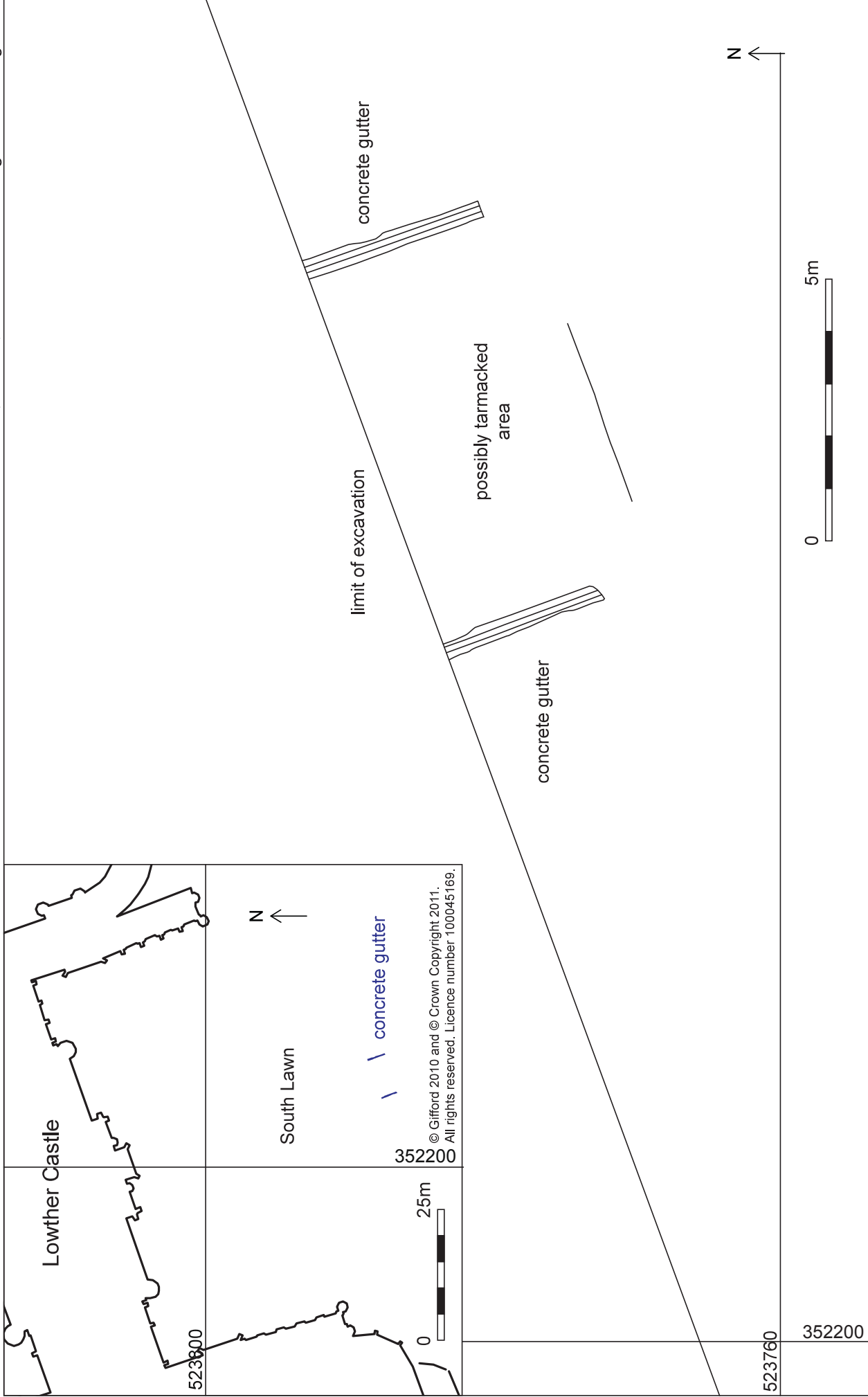


Figure 5: Plan of concrete gutters in the South Lawn

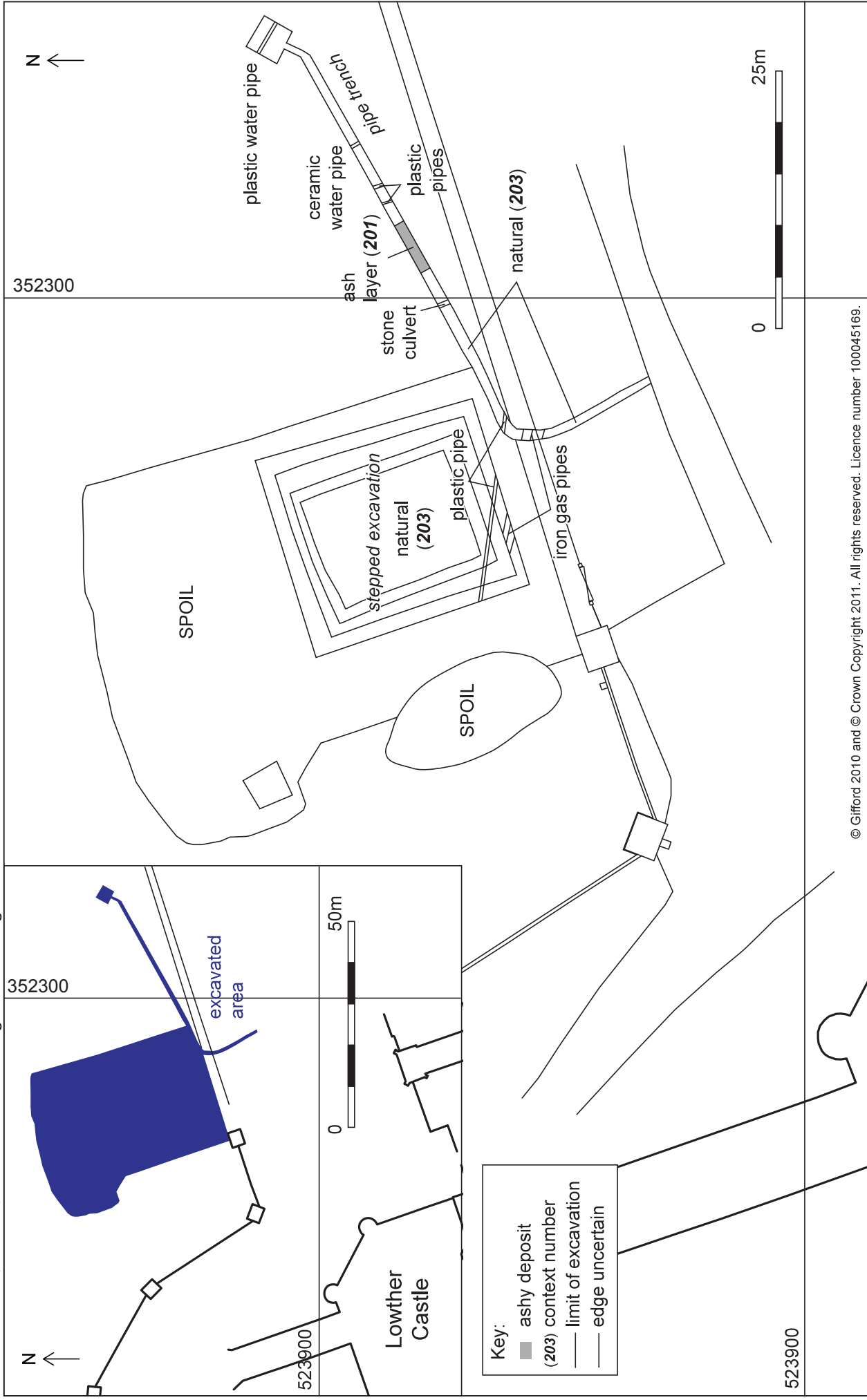


Figure 6: Area B trench plan

### 4.3 Finds

4.3.1 A 20L sample was taken of the dumped ceramic drain pipes (**101**). Manufacture of machine-made tiles began in the 1840s and cylindrical tiles were widely used for drainage after 1845 when they could be cheaply mass-produced thanks to mechanisation of the process (Keates 2002, 48). Fortunately, the date of their manufacture can be fairly closely determined by the pipe gauge. The internal diameter of most of the pipes was one inch across. These so-called 'pencil pipes' are 'a relic of technical failure'; one inch diameter field drains were introduced in the 1840s when it was thought that reducing the cross-sectional area of the pipe would keep the pipe clear by increasing the rate of flow, however, the pipes proved to be too small and would quickly block with silt and their manufacture ceased by the 1870s (*ibid.*). This means that the pipes were manufactured sometime between the 1840s and 1870s, however, it is unclear when the material came to be dumped in the Castle grounds; it may have been dumped at around the same time or it may have been much later.

4.3.2 Significantly, the ceramic pipe dump was of industrial quantity and contained a number of wasters. As such it probably represents large scale dumping from a nearby manufacturer. A tilery operated close by at Hackthorpe at around the right time, which was part of the Lowther estate; records held at the Cumbria Record Office relating to the Hackthorpe Hall tilery start from 1846 and include employee details and accounts of stock at Hackthorpe and Lowther dating from the 1850s and 60s, until the tile-making machinery there was sold by auction in 1866 (CAC(C) D Lons L15 n.d.; Davies and Davies 2013, 209-211). During this period they produced millions of small bore pipes, also collars to join two pipes. The one inch was the most popular size but they also manufactured slightly larger diameters. They were mainly used in draining the estate, although in some years were also offered for sale (Ted Davis pers comm).

4.3.3 The finds recovered from the rubble deposit within Area A (**100**) were all fairly late post-medieval in date and included modern items, such as a plastic comb from the late 20<sup>th</sup> century (see *Appendix 3*). Paper sacks of 'Ribblesdale Cement' used in the foundation of the concrete stanchions date from between the 1930s and the 1980s; Ribblesdale Cement was formed in the 1930s in Ribblesdale, near Clitheroe, and was amalgamated with Ketco Cement and Tunnel Cement to form Castle Cement in the 1980s, which was rebranded as Hanson Cement in 2009 ([http://en.wikipedia.org/wiki/Hanson\\_Cement](http://en.wikipedia.org/wiki/Hanson_Cement)).

4.3.4 The finds recovered from the cobbled surface in the South Lawn and from Area B also all dated from the post-medieval period and comprise likely domestic and casual waste material accumulated in the area as dumped rubbish but on a very small scale (*Appendix 3*).



## 5. Discussion and Conclusion

### 5.1 Discussion

5.1.1 **The area to the south-east of the Coach House (Area A):** the concrete stanchions show that a building stood on the site of the concrete forecourt to the south-east of the Coach House at some point in the 20<sup>th</sup> century; more specifically, it was probably built at some point between the 1930s and the 1980s and seems likely to have served as part of a boiler house. The brick-built structure is likely associated with these other structural elements and might have been an inspection pit located inside the building.

5.1.2 The ceramic pipe dump (**101**) along the edge of the trench and beneath the embankment is difficult to account for in the grounds of the Castle. It contained wasters associated with manufacture and was likely being produced on an industrial scale nearby, possibly at Hackthorpe. How it came to be dumped in the grounds of the Castle is unknown, but it seems likely that this material was simply being used as a means to raise the ground in this area. The dump did not intrude into the area of excavation except in what may have been a small cut along the north-east edge; unfortunately, since the north-easternmost end of the area could not be monitored due to health and safety issues arising from the presence of asbestos on site, it is difficult to determine if the clay pipe dump had indeed filled a cut along the trench edge. The dump clearly continued below the embankment to the south-east but it is not known how far. It may have helped drainage of the site along the north-east edge, been used to raise the embankment for some reason, or merely provided a convenient place to dump the material at some stage.

5.1.3 **Features in the South Lawn:** the South Lawn contained two concrete features which are fairly late in date; the guttering was aligned to the entrance of the Castle and was presumably used when the Castle was in its heyday. A road is first shown at this location on the Ordnance Survey map, surveyed in 1859 (**Error! Reference source not found.**). Similarly, the concrete fountain base in front of the west outer wing perhaps also dates from the 19<sup>th</sup> or 20<sup>th</sup> century and finds recovered from the cobbled surface near the summerhouse were also post-medieval in date.

5.1.4 **Area to the North of the Stable Courtyard (Area B):** although an area in which remains associated with the earlier park might have been expected to be present no features or deposits of archaeological interest were encountered. The only finds made were post-medieval in date and not significant.

### 5.2 Conclusion

5.2.1 The watching brief revealed details of post-medieval and more modern activity at the Castle and the stripping of topsoil in the South Lawn provided an opportunity to record some of the garden features and paths in the area, the latter of which are shown on the 1863 Ordnance Survey and later maps. The discovery of a layer of dumped waste material from a drain tile manufactory, probably deriving from the Hackthorpe tiler a short distance away, is of interest although it is not directly relevant to the history of Lowther Castle.

## 6. Bibliography

### 6.1 Primary and Cartographic Sources

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## Appendix 1: Project Brief



# BRIEF FOR AN ARCHAEOLOGICAL WATCHING BRIEF

AT

**Lowther Castle & Gardens, Lowther, Penrith**

**February 2011**

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# Brief for an Archaeological Watching Brief

Location: Lowther Castle & Gardens, Lowther, Penrith

Proposed: Conservative repair of Lowther Castle ruin to consolidate structure, arrest ongoing decay and facilitate safe access in and around the ruin. Conservative repair and alterations of the castle stables courtyard building and east sculpture gallery in association with existing planning permission (ref: 7/2009/3136) for the use of Lowther Castle & Gardens as a visitor attraction. Works to Lowther Castle Gardens to reveal historic garden structures, enable visitor access and interpretation. Development of landscaped car park on existing hard standing. Demolition of 1940's generator house, construction of new boiler house. Localised widening of site access road from Newton Head to enable two-way traffic.

## Summary

*An application has been approved by the Lake District National Park Authority for the conservative repair of Lowther Castle ruin, the stables and sculpture gallery, works to Lowther Castle Gardens to reveal historic garden structures, development of a landscaped car park, construction of a new boiler house and widening of the site access road at Lowther Castle and Gardens, Lowther, Penrith (7/2010/3091). Lowther Castle is a grade II\* listed building, set within a grade II registered park and garden of historic interest. Evidence of the two earlier castles dating from the medieval and post medieval period have been found within the proposed development site.*

*Therefore, it is a condition of the planning permission that, before the development commences, the applicant should secure 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 National Park Authority. This is in line with government advice as set out in the CLG Planning Policy Statement on the Historic Environment (PPS 5). This brief sets out the requirements for the watching brief element of that programme of archaeological work.*

*Detailed proposals and tenders are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this Brief and to produce a report on that work. The work should be under the direct management of either an Associate or Member of the Institute of Field Archaeologists, or equivalent. No fieldwork may commence until approval of a specification has been issued by the Lake District National Park Authority.*

## 1. Location

1.1 The site is centred on national grid reference NY 52335 23570, in the parish of Lowther. The total area of the current proposal (7/2010/3091) affects some 45 hectares, which is presently in use as a ruined castle and gardens.

1.2 The geology of the site is Limestone and Argillaceous rocks.

## 2. Archaeological Background

2.1 The site of the proposed development is a grade II\* listed building and a grade II registered park and garden of historic interest. Previous investigation work has revealed the site of the two earlier castles, dating from the medieval period under the South Lawn (OAN, 2007). Archaeological features and remains exist on this site.

2.2 There are a number of other sites or finds in the immediate area which were identified during the survey of Lowther Park in 1997 (see references below). Further details of these sites can be obtained from the Lake District National Park Authority, Murley Moss, Oxenholme Road, Kendal, LA9 7RL. Tel. 01539 724555/Fax. 01539 740822/Email [archaeology@lakedistrict.gov.uk](mailto:archaeology@lakedistrict.gov.uk)

### 3. Requirement for archaeological work

3.1 The proposed development would severely damage or destroy any archaeological remains which may be present on the site. It is a condition of the planning permission that the applicant should secure 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 Lake District National Park Authority.

3.2 The objective of the work should be to obtain an adequate record of any archaeological deposits or finds which will be disturbed or exposed by work associated with the development.

3.3 The area identified on the attached plan should be covered by this brief. This includes any works associated with the South Lawn and the construction of a new boiler house. Further works including the repair of the sculpture gallery and works associated with the water treatment plant are not included and will be dealt with in separate briefs.

### 4. Techniques

Land use at the time fieldwork is carried out will influence the methods used. The techniques chosen should be selected to cause the minimum amount of destruction and should comply with all relevant health and safety regulations. It is envisaged that the following work would be required:

4.1 A rapid review of the published and unpublished information relevant to the site and its immediate surroundings will be undertaken. This will aim to review the currently available archaeological information for the site and its locality, with particular reference to recent archaeological work in the vicinity. It will also investigate the past use of the site through an examination of the historic mapping of the area. Sources consulted should include: data held by the Lake District Historic Environment Record; maps (printed and manuscript); aerial photographs and other illustrative evidence; place and field name evidence; published and unpublished documentary sources and other relevant background material, including information produced as part of the planning application.

4.2 All topsoil stripping, footings, service trenches and trench cutting must be carried out under archaeological supervision. Any archaeological features encountered must be cleaned by hand and a stratigraphic record made. Finds and environmental samples should be retrieved as appropriate. A reasonable period of uninterrupted access should be allowed to the archaeologist for all necessary archaeological recording.

4.3 The position of all trenches and observations should be recorded on a site plan, at an appropriate scale. All significant deposits should be fully recorded on appropriate context sheets, photographs, scale plans and sections. A general photographic record should also be maintained.

### 5. Proposal

A **detailed** proposal, including the following, should be prepared by potential contractors in accordance with the recommendations of the MORPHE Project Managers Guide and Project planning Note 3 ([www.english-heritage.org.uk/publications/morphe-project-managers-guide](http://www.english-heritage.org.uk/publications/morphe-project-managers-guide)) and submitted to the National Park Archaeology and Heritage Adviser for approval:

5.1 A description of the proposed methods of observation and recording system to be used.

5.2 A description of the finds and environmental sampling strategies to be used.

5.3 A description of the post excavation and reporting work that will be undertaken.

5.4 A projected timetable for all work on site, including machine hire time and staff structure and numbers of people to be employed on site per day.

5.5 A projected timetable for all post excavation work, including staff numbers and specialist sub-contractors (through to final publication of results).

5.6 The names of the project director, supervisors, specialists and any sub-contractors to be employed on the project (including details of qualifications and experience of the key project personnel).

5.7 A separate itemised estimate of costs (core/project staff, specialist fees, travel/subsistence, site works, equipment/materials, archive preparation and copying, report preparation, finds storage fees, overheads, contingency, specified other costs).

5.8 Any significant variations to the proposal must be agreed by the National Park Archaeology and Heritage Adviser in advance.

## 6. Site Monitoring

6.1 The National Park Archaeology and Heritage Adviser will be responsible for monitoring the work. A minimum of one week's notice of the commencement of fieldwork must be given by the archaeological contractor to the Lake District National Park Authority so that arrangements for monitoring can be made.

## 7. Reporting Requirements

7.1 The work should result in a report including as a minimum:

- a location plan at an appropriate scale, related to the national grid;
- a concise, non-technical summary of the results;
- a description of the methodology employed;
- a summary of the historical and archaeological background;
- plan(s) and section(s) at an appropriate scale showing location and position of trenches dug, features and finds located;
- section drawings should include heights OD;
- plan(s) should include OD spot heights for all principal strata and features;
- a list of and date for any significant finds recovered;
- photographs where appropriate;
- a description of archaeological features and deposits identified;
- a description of any environmental or other specialist work undertaken and the results obtained;
- an interpretation of the results and of their potential archaeological significance;
- a full bibliography of sources consulted and a list of any further sources identified but not consulted;
- an index to the project archive;
- a copy of the brief and agreed project design and an indication of any variations.

7.2 The objective account of the archaeological evidence recovered should be clearly distinguished from the interpretation of those features. The methodology used should be critically reviewed.

7.3 Two hard copies and one digital copy (in pdf format) of the watching brief report should be deposited with the Lake District National Park Authority, on the understanding that it will be made available as a public document after an appropriate period (not exceeding 6 months from the completion of fieldwork).

7.4 The results of the work should be published in an appropriate journal or other publication and should include an account of any structures located and full details of significant finds, illustrated as appropriate. Details of the place and date of publication must be notified to the Lake District National Park Authority. **Developers and archaeological contractors should be aware that fulfilment of this part of the brief is mandatory and that the Lake District National Park Authority will not issue approval for a specification that does not include details for its implementation.**

7.5 The Lake District Historic Environment Record (LDHER) supports the Online Access to Index of Archaeological Investigations (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the LDHER prior to

completing the form. Once a report has become a public document by submission to or incorporation into the HER, the LDHER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the archaeological officer at the LDHER.

## **8. Deposition of Archive and Finds**

8.1 The archaeological archive arising from the watching brief should be deposited in an appropriate local institution, in a format to be agreed with that institution. The National Park Authority must be notified of the arrangements made. Any finds of archaeological interest should be appropriately conserved and deposited in an appropriate institution. Any finds which cannot be so deposited should be fully analysed and published.

## **9. Further Requirements**

9.1 The Code of Conduct of the Institute of Field Archaeologists must be followed.

9.2 It is the archaeological contractor's responsibility to establish safe working practices in terms of current health and safety legislation, to ensure site access and to obtain notification of hazards (e.g. services, contaminated ground).

9.3 The involvement of the Lake District National Park Authority should be acknowledged in any report or publication generated by this project.

## **10. References**

Lancaster University Archaeological Unit, March 1997, 'Lowther Park, Cumbria: Archaeological Survey Report'.

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The Landscape Agency, July 2002, 'The Castle and Gardens of Lowther, Cumbria: Conservation Plan'.

## Appendix 2: Project Design

# LOWTHER CASTLE, PENRITH, CUMBRIA

Archaeological Watching Brief Project Design



Client: Lowther Castle and Gardens Trust

July 2011



## 1. Introduction

### 1.1 Project Background

1.1.1 Following the submission of a planning application for a programme of restoration and redevelopment at Lowther Castle, Penrith, Cumbria (NGR 352282 523816), a condition was placed requiring an archaeological watching brief to be undertaken during any groundwork. This project design has been produced in response to that condition in order to outline the methodology that would be used to carry out the archaeological work.

1.1.2 Lowther Castle had its origins in the later 14<sup>th</sup> century, when the east tower was constructed (Perriam and Robinson 1998, 290). The west tower was added in the 16<sup>th</sup> century but during the 17<sup>th</sup> and later centuries the whole site underwent several phases of alteration (*ibid*). A serious fire in 1718 damaged much of the structure extant at that time but it was rebuilt in 1812, before being dismantled in 1957 after the death of the 6<sup>th</sup> Earl (*ibid*). It has remained an unoccupied ruin ever since.

### 1.2 Greenlane Archaeology

1.2.1 Greenlane Archaeology is a private limited company based in Ulverston, Cumbria, and was established in 2005 (Company No. 05580819). Its directors, Jo Dawson and Daniel Elsworth, have a combined total of over 18 years continuous professional experience working in commercial archaeology, principally in the north of England and Scotland. Greenlane Archaeology is committed to a high standard of work, and abides by the Institute for Archaeologists' (IfA) Code of Conduct. The watching brief will be carried out according to the Standards and Guidance of the Institute for Archaeologists (IfA 2008).

### 1.3 Project Staffing

1.3.1 The project will be managed by **Dan Elsworth (MA (Hons), AiFA)**. Daniel graduated from the University of Edinburgh in 1998 with an honours degree in Archaeology, and began working for the Lancaster University Archaeological Unit, which became Oxford Archaeology North (OA North) in 2001. Daniel ultimately became a project officer, and for over six and a half years worked on excavations and surveys, building investigations, desk-based assessments, and conservation and management plans. These have principally taken place in the North West, and Daniel has a particular interest in the archaeology of the area. He has recently managed a wide variety of projects including building recordings of various sizes, watching briefs, and excavations in the region, including an excavation and evaluation in the centre of medieval Kendal (Greenlane Archaeology 2009a; 2010a), evaluation in the Roman *vicus* at Stanwix (Greenlane Archaeology 2010b), evaluation of a Scheduled post-medieval gunpowder works (Greenlane Archaeology 2010c), and watching briefs in Preston (Greenlane Archaeology 2009b; 2010d).

1.3.2 The watching brief will be carried out by **Tom Mace (BA (Hons), MA, MAAIS)**, depending on scheduling constraints. Tom has extensive experience of working on a variety of archaeological projects, especially watching briefs, but also excavations, evaluations, and building recordings, as well as report writing and illustration production. He joined Greenlane Archaeology in 2008 having worked for several previous companies including Archaeological Solutions and Oxford Archaeology North.

1.3.3 All artefacts will be processed by Greenlane Archaeology, and it is envisaged that they will initially be assessed by Jo Dawson, who will fully assess any of post-medieval date. Medieval pottery will be assessed by Tom Mace, and other finds will be assessed by specialist sub-contractors as appropriate. The client will be notified of any other specialists, other than those named, whom Greenlane Archaeology wishes to engage.

1.3.4 Environmental samples and faunal remains, should significant deposits of these be recovered, will be processed by Greenlane Archaeology. It is envisaged that charred plant remains will be assessed by Scott Timpany of Headland Archaeology Ltd, and faunal remains by Auli Tourunen, also at Headland Archaeology. Should any human remains be recovered for assessment it is envisaged that these will be examined by Malin Horst at York Osteoarchaeology, following appropriate advice on initial processing.

## 2. Objectives

### 2.1 Rapid Desk-Based Assessment

2.1.1 To examine available published and unpublished information relating to the historical development of the site and its archaeology and consult the Historic Environment Record (HER) held by the Lake District National Park Authority (LDPNA) in order to better understand the development of the site, and set the results of the watching brief in context.

## 2.2 Watching Brief

2.2.1 To identify any surviving archaeological remains and to investigate and record any revealed archaeological remains or deposits.

## 2.3 Report

2.3.1 To produce a report detailing the results of the watching brief, which will outline the nature, form, extent, and date of any archaeological remains discovered.

## 2.4 Archive

2.4.1 Produce a full archive of the results of the watching brief.

# 3. Methodology

## 3.1 Rapid Desk-Based Assessment

3.1.1 Published and unpublished sources relating to the history and archaeology of the site will be examined in order to place the results of the watching brief in context. It is envisaged that this will involve consultation of the following sources:

- **LDNPA Historic Environment Record (HER):** this is a list of all of the recorded sites of archaeological interest recorded in the county, and is the primary source of information for a study of this kind. The details of sites recorded in the HER from a suitably sized study area around the development site will be obtained. Each HER site is recorded with any relevant references, a brief description, and location related to the National Grid. All of the references relating to sites identified in the HER will be examined in order to verify them and add any necessary background information. In addition, relevant secondary sources, particularly details of previous archaeological investigations in the immediate area and relevant aerial photographs, will also be examined;
- **Greenlane Archaeology:** a number of copies of maps, local histories, unpublished reports, and journals are held in Greenlane Archaeology's library. These will be consulted in order to provide further information about the development of the site, and any other elements of archaeological interest.

## 3.2 Watching Brief

3.2.1 The groundworks are to be monitored, with one archaeologist on site. If there are multiple machines operating on site it may be considered necessary to have more than one archaeologist on site.

3.2.2 The watching brief methodology will be as follows:

- Foundation trenches and/or trenches for services and any areas of ground reduction will be excavated under supervision by staff from Greenlane Archaeology;
- All deposits of archaeological significance will be examined by hand if possible in a stratigraphic manner, using shovels, mattocks, or trowels as appropriate for the scale;
- The position of any features, such as ditches, pits, or walls, will be recorded and where necessary these will be investigated in order to establish their full extent, date, and relationship to any other features. If possible, negative features such as ditches or pits will be examined by sample excavation, typically half of a pit or similar feature and approximately 10% of a linear feature;
- All recording of features will include detailed plans and sections at a scale of 1:20 or 1:10 where practicable or sketches where it is not, and photographs in both colour print and colour digital format;
- All deposits, drawings and photographs will be recorded on Greenlane Archaeology *pro forma* record sheets;
- All finds will be recovered during the watching brief for further assessment as far as is practically and safely possible. Should significant amounts of finds be encountered an appropriate sampling strategy will be devised;
- All faunal remains will also be recovered by hand during the watching brief as far as is practically and safely possible, but where it is considered likely that there is potential for the bones of fish or small mammals to be present appropriate volumes of samples will be taken for sieving;

- Deposits that are considered likely to have, for example, preserved environmental remains, industrial residues, and/or material suitable for scientific dating will be sampled. Bulk samples of between 20 and 60 litres in volume (or 100% of smaller features) where possible, depending on the size and potential of the deposit, will be collected from stratified undisturbed deposits and will particularly target negative features (e.g. gullies, pits and ditches) and occupation deposits such as hearths and floors. An assessment of the environmental potential of the site will be undertaken through the examination of samples of suitable deposits by specialist sub-contractors (see *Section 1.3.4* above), who will examine the potential for further analysis. All samples will be processed using methods appropriate to the preservation conditions and the remains present;
- Any articulated human remains discovered during the watching brief will be left *in situ*, and, if possible, covered. The client will be immediately informed as will the local coroner. Should it be considered necessary to remove the remains this will require a Home Office licence, under Section 25 of the Burial Act of 1857, which will be applied for should the need arise;
- Any objects defined as 'treasure' by the Treasure Act of 1996 (HMSO 1996) will be immediately reported to the local coroner and secured stored off-site, or covered and protected on site if immediate removal is not possible;
- Should any significant archaeological deposits be encountered during the watching brief these will immediately be brought to the attention of the client and ground works in that area halted so that the need for further work can be determined. Any additional work and ensuing costs will be agreed with the client, and subject to a variation to this project design.

### 3.3 Report

3.3.1 The results of the watching brief will be compiled into a report, which will contain the following sections as necessary:

- A front cover including the appropriate national grid reference (NGR);
- A concise non-technical summary of results, including the date the project was undertaken and by whom;
- Acknowledgements;
- Project Background;
- Methodology, including a description of the work undertaken;
- Results of the watching brief including descriptions of any deposits identified, their extent, form and potential date, and an assessment of any finds or environmental remains recovered during the watching brief;
- Discussion of the results;
- Illustrations at appropriate scales including:
  - a plan showing the location of the ground works;
  - plans and sections of the watching brief ground works, as appropriate, showing any features of archaeological interest;
  - photographs of the watching brief, including both detailed and general shots of features of archaeological interest and the trenches;
  - photographs of individual artefacts as appropriate.

### 3.4 Archive

3.4.1 The archive, comprising the drawn, written, and photographic record of the watching brief, formed during the project, will be stored by Greenlane Archaeology until it is completed. Upon completion it will be deposited with the Cumbria Record Office in Kendal. The archive will be compiled according to the standards and guidelines of the IFA (Brown 2007), and in accordance with English Heritage guidelines (English Heritage 1991). In addition details of the project will be submitted to the Online Access to the Index of archaeological investigationS (OASIS) scheme. This is an internet-based project intended to improve the flow of information between contractors, local authority heritage managers and the general public.

3.3.2 A copy of the report will be supplied to the client, a digital copy will be supplied to the client's agent, and within six months of the completion of fieldwork three copies will be provided for the LDNPA HER. In addition, Greenlane Archaeology Ltd will retain one copy, and a digital copy will be deposited with the OASIS scheme as required.

3.4.3 The client will be encouraged to transfer ownership of the finds to a suitable museum. Any finds recovered during the watching brief will be offered to a suitable repository, which in this case is anticipated will be Penrith Museum. Should no suitable repository be available the finds may have to be discarded, and in this case as full a record as possible and necessary would be made of them beforehand.

## 4. Work timetable

4.1 Greenlane Archaeology will be available to commence the project on **5<sup>th</sup> July 2011**, or at another date convenient to the client. It is envisaged that the project will involve tasks in the following order:

- **Task 1:** rapid desk-based assessment;
- **Task 2:** watching brief;
- **Task 3:** post-excavation work on archaeological watching brief, including processing of finds and production of draft report and illustrations;
- **Task 4:** feedback, editing and production of final report, completion of archive.

## 5. Other matters

### 5.1 Access

5.1.1 Access to the site will be organised through co-ordination with the client and/or their agent(s).

### 5.2 Health and Safety

5.2.1 Greenlane Archaeology carries out risk assessments for all of its projects and abides by its internal health and safety policy and relevant legislation. Health and safety is always the foremost consideration in any decision-making process.

### 5.3 Insurance

5.3.1 Greenlane Archaeology has professional indemnity insurance to the value of **£500,000**. Details of this can be supplied if requested.

### 5.4 Environmental and Ethical Policy

5.4.1 Greenlane Archaeology has a strong commitment to environmentally- and ethically-sound working practices. Its office is supplied with 100% renewable energy by Good Energy, uses ethical telephone and internet services supplied by the Phone Co-op, is even decorated with organic paint, and has floors finished with recycled vinyl tiles. In addition, the company uses the services of The Co-operative Bank for ethical banking, Naturesave for environmentally-conscious insurance, and utilises public transport wherever possible. Greenlane Archaeology is also committed to using local businesses for services and materials, thus benefiting the local economy, reducing unnecessary transportation, and improving the sustainability of small and rural businesses.

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### Appendix 3: Summary Context List

Context	Area	Type	Description	Interpretation
<b>100</b>	A	Deposit	Rubble in a mid-brown sand and silt matrix up to 0.6m thick	Rubble / make-up layer
<b>101</b>	A	Deposit	Unusually large quantity of 1" gage ceramic drain pipes, including abundant 'wasters' or misfires, in a orangey-brown sandy-silt matrix	Ceramic drain pipe dump
<b>102</b>	A	Deposit	Very firm red clay with infrequent rounded limestone cobbles and boulders	Natural
<b>200</b>	B	Deposit	0.2 to 0.3m thick soft orangey, reddish-brown silty clay	Topsoil
<b>201</b>	B	Deposit	Gravelly ash deposit; 6.3m long from east to west and up to 0.2m thick	Post-medieval ash deposit?
<b>202</b>	B	Deposit	0.3 to 0.4m thick orangey, reddish-brown, firm silt with a small amount of rounded gravel	Subsoil
<b>203</b>	B	Deposit	Higher up this deposit was noted to be fairly loose sandy clay, a similar colour to <b>202</b> , but lower down it was noted to be firmer, stonier, with some large boulders, and a greyish-brown-orange clay	Natural

## Appendix 4: Summary Finds List

Context	Type	Qty	Description	Date range
<i>U/S</i> (near the cobbled surface near the summerhouse)	Glass	3	Green bottle fragments	18 <sup>th</sup> to early 20 <sup>th</sup> century
<i>U/S</i> (near the cobbled surface near the summerhouse)	Pottery	1	Porcelain: painted body fragment	c18 <sup>th</sup> - 20 <sup>th</sup> century
<b>100</b>	Plastic	1	Fine-tooth comb	Late 20 <sup>th</sup> century
<b>100</b>	Glass	1	Colourless window pane glass fragment	18 <sup>th</sup> to early 20 <sup>th</sup> century
<b>100</b>	Metal	1	Composite metal oval-shaped brooch(?) or cap of some sort	19 <sup>th</sup> to 20 <sup>th</sup> century
<b>100</b>	Pottery	1	White earthenware: blue and white transfer printed (cracked ice and prunus pattern?) plate base	19 <sup>th</sup> - 20 <sup>th</sup> century
<b>100</b>	Pottery	1	Red earthenware: unglazed flower pot	Late 17 <sup>th</sup> to early 20 <sup>th</sup> century
<b>100</b>	Animal bone	1	Loose tooth	Not closely dateable
<b>200</b>	Glass	5	3x green bottle fragments; 1x colourless press-moulded vessel fragment covered in bobbles; 1x colourless ink well	18 <sup>th</sup> to 20 <sup>th</sup> century
<b>200</b>	Pottery	2	Bone china refitting saucer fragments	Late 18 <sup>th</sup> to early 20 <sup>th</sup> century
<b>201</b>	Glass	1	Possibly moulded green bottle fragment	18 <sup>th</sup> to early 20 <sup>th</sup> century
<b>201</b>	Pottery	1	Pearlware with factory-produced slipware decoration	Mid 18 <sup>th</sup> – early 19 <sup>th</sup> century
<b>201</b>	Pottery	1	Brown glazed red earthenware with unglazed external white slip band, blackened on exterior	Late 17 <sup>th</sup> to 19 <sup>th</sup> century