

**THE FOUNTAIN GARDEN,  
BOLSOVER CASTLE,  
DERBYSHIRE:  
TRIAL-PITS FOR LOCATING  
A DRAIN, 2013**



**Trent & Peak**  
ARCHAEOLOGY



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A DRAIN, 2013**

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## **SUMMARY**

- On the 17<sup>th</sup> and 29<sup>th</sup> January 2013, Trent & Peak Archaeology carried out targeted trial-pit excavations in the grounds of the Fountain Garden, Bolsover Castle, Derbyshire on behalf of English Heritage.
- The irregular oval plan of the Fountain Garden is thought to replicate the plan of the inner bailey of the original medieval castle, the remains of which were removed in the early 17<sup>th</sup> century when the present mansion was started.
- Repair work is required to an existing external drainage channel that runs around the Little Castle, situated within Fountain Garden. The channel is shown on a plan of c.1947 running several metres parallel to the north-east and south-west sides of the building. The drain is believed to have failed and dampness is affecting the basement area of the Little Castle. Access is required into the drain, preferably through manholes, to ascertain any possible damage.
- Prior to groundworks to locate the drain, a geophysical survey using ground penetrating radar (GPR) was carried out by Carey Consultants. Although the precise intention was to locate the drain and two known manholes, the opportunity was taken to broaden the area of survey to cover the north half of the garden. The results of this survey are provided in a separate report and their archaeological significance is not fully discussed here. The survey was followed by the excavation of three trial-pits, numbered 01-03.
- A manhole shown on the plan dating to c.1947 was not found in Trial-pit 01, positioned near the south-east corner of the Little Castle. An undated cut was found but its relatively shallow depth suggests it was due to something other than the drain. The presence of an electric cable prevented the extension of the excavated area into an area where a cut was recorded in a test-pit in 1996. A relic soil was encountered in Trial-pit 01 beneath a layer of rubble, suggestive of a ground level from the 17<sup>th</sup> century. Similar soil and rubble were found in a service trench in 1999 further to the west. The GPR results suggest the presence of a wide spread of demolition material across the south side of the Castle, possibly related to the demolition of medieval structures.
- Trial-pit 02, near the north-east corner of the Little Castle, confirmed two linear anomalies shown up by the GPR. Initially thought to include the drain they turned out to be a modern metal lightning conductor and the trench cut for and containing a lead pipe, possibly an extension of one known to run from the Cistern House, and thought to date from the 19<sup>th</sup> century. Why the drain was not found is unclear but it strongly suggests that it was never extended as far as the plan shows. The third trial-pit, positioned north of this point was abandoned before being fully excavated.

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## **1. INTRODUCTION**

On the 17<sup>th</sup> and 29<sup>th</sup> January 2013, Trent & Peak Archaeology excavated several trial-pits in the grounds of the Fountain Garden, Bolsover Castle, Derbyshire to locate a drain constructed in the 1940s (Figure 1). This was carried out on behalf of English Heritage.

## **2. SITE BACKGROUND**

### **Topography**

Bolsover Castle is situated on a promontory jutting west of the Magnesium Limestone scarp at the north end of the older part of Bolsover, from where it overlooks the Vale of Scarsdale.

### **Geology**

The underlying geology is Magnesium Limestone of the Cadeby Formation, a Permian Bedrock.

### **Archaeological and Historical Background**

The site is within the Fountain Garden at Bolsover Castle, originally a Medieval castle, which was rebuilt as a mansion in the 17<sup>th</sup> century by Sir Charles Cavendish and his son William (later the first Duke of Newcastle) (Sheppard 2003).

The earliest historical record of Fountain Garden is the Renishaw drawings of c.1630. The garden is of modest size and unusual in its irregular oval plan, and having its main feature, the fountain, positioned off-centre to the path layout. The garden wall is thought to overlie and incorporate the inner bailey of the medieval castle. Early 17<sup>th</sup> century building records and other evidence on the site suggest that the bailey wall may have been completely levelled and replaced by a new and stronger construction. The retention of the original plan (if not structure) may have been a conscious recreation of a mock medieval feature, another example of which is the Little Castle's deliberate keep-like appearance. This too has no obvious medieval fabric (Sheppard 2000).

### **Project background**

Repair work is required to an existing external drainage channel that runs around the Little Castle, situated within Fountain Garden. The channel is shown on a plan of c.1947 running several metres parallel to the north-east and south-west sides of the building (Figure 2). The drain is believed to have failed and dampness is affecting the basement area of the Little Castle. Access is required into the drain, preferably through manholes, to ascertain where the drain may have deteriorated.

Prior to groundworks to locate the drain, a geophysical survey using ground penetrating radar (GPR) was carried out by Carey Consultants; this was following a suggestion by English Heritage that GPR be used. Although the precise intention was to locate the drain and two known (and one other suspected manhole entry), the opportunity was taken to broaden the area of survey to cover the north half of the garden. The results of this survey are provided in a separate report (see references).

The overall archaeological significance of its results are not discussed here. The positioning of three trial-pits was largely determined by results of this survey.

### **3. ARCHAEOLOGICAL OBJECTIVES AND METHODOLOGY**

#### **Objectives**

The key objective of the first trial-pit was to establish the location of a manhole shown on the plan c.1947, located c.4m out from the Little Castle's south-east corner, beneath a modern path. Secondly, two other trial-pits were excavated to confirm the presence of the drain alongside the north-east side of the Little Castle and to test whether there might be a third manhole, not shown on the original plan.

#### **Methodology**

Three trial-pits were hand excavated. The location of the trial-pits was informed by the GPR survey (Carey 2012) and a previous watching brief report (Sheppard 2000), and then agreed by English Heritage. Prior to excavation each trial-pit location was CAT scanned for live services.

All deposits were hand cleaned where appropriate and representative sections photographed and drawn at a scale at 1:20. Plans were drawn at 1:20 and 1:100. Archaeological features and natural deposits were given an individual four figure context number e.g. 0001 and each find bagged individually and assigned a code e.g. AAA.

### **4. RESULTS**

#### **Trial-pit 01 Figures 3-5, Plates 1-2**

Trial-pit 01 was irregular in shape, measuring up to 1.4m x 1.1m and 0.8m in width and was up to 0.82m in depth. It was located close to the Little Castle's south-east corner, in the present path, its aim being to locate a manhole recorded on the plan dating to c.1947, possibly now showing as an anomaly on the ground penetrating radar survey.

Removal of the compacted hardcore modern path (in the position of the original 17<sup>th</sup> century one), and terram (0001) exposed a bedding layer for the present path (0002), comprising very dark brown sandy silt loam which extended across much of the trench. Beneath 0002 in the eastern half of the trench at a depth of 0.3m there was a compacted rubble layer (0003), up to 0.22m thick. The layer may have been previously encountered during service excavations south of the Little Castle in 1999 (Sheppard 2000, 8; layer 0124). It may show as a general spread on the GPR survey results at 0.6m depth and it could be associated with the demolition of the Medieval Castle in the 17<sup>th</sup> century.

Layer 0003 extended for 0.62m to the west, where it was truncated by 0004, a north-south aligned cut up to 0.26m in depth, infilled with loose stone within a matrix of dark brown sandy silt loam; it contained a single fragmented piece of tile. A modern service 0007 (probably a redundant



electric cable), was encountered in the west of the trench beneath 0001 and cutting 0004. At a depth of up to 0.42m and beneath 0003 and 0004 there was 0.3m thick deposit 0005, a brown sandy clay loam with residual finds (clay pipe stems, tile and bone) in the upper 0.20m of the deposit. This deposit too may also have been encountered before in Fountain Garden and is interpreted as a relic soil (Sheppard 2000, 8; layer 0125). Deposit 0005 lay above natural dark yellowish brown sandy clay, encountered at a depth of 0.8m.

Neither the manhole cover or the drain itself were located. The presence of the cable and the known proximity of another cable trench dating from 1999 prevented further expansion of the trench to the south-west where further anomalies showed in the GPR survey and where a trench excavated by Northamptonshire Archaeology in 1996 had found a modern disturbance (Figure 3).

#### Trial-pit 02 Figures 3, 6 and 7, Plate 3

Trial-pit 02 was L-shaped and measured 1.5m x 1m, and was 0.5m in width and was up to 1.06m in depth. It was located to the north-east of the Little Castle adjacent to a known water tank and within the modern path. The trench targeted two NW-SE running linear anomalies detected during the GPR survey, one corresponding to the assumed course of the drain.

Removal of the compacted hardcore modern path and terram (0101) exposed a bedding layer up to 0.26m thick (0102), comprising very dark brown sandy silt loam. Placed at the base of 0102 close to the south-west edge of the trench was a NW-SE aligned metal lightning conductor. Beneath 0102 there was feature 0103, a NW-SE aligned service trench cutting the natural light yellowish brown sandy silt loam (0104) at a depth of 0.8m. Feature 0103 had been cut for and contained a lead pipe placed on the base of the cut at a depth of 1.06m. Pottery finds from 0103 indicates a likely Victorian date.

The drain was not present at this location and some doubt must be expressed as to whether it was actually extended as far as the 1940s plan shows.

#### Trial-pit 03: Figure 8, Plate 4

Another trial-pit was started 3m north of and 0.4m out from the south-east corner of the Little Castle's projecting corner close to the garden wall, beyond where the garden path veers eastwards and near the end of the drain shown on the 1940s plan. It measured 0.60m x 0.50m and was 0.8m in depth. Plants within the garden's border prevented the GPR survey extending this far.

Removal of the black clay loam topsoil (0201) revealed subsoil deposit 0202 at a depth of 0.26m, comprised of dark greyish-brown sandy clay loam. Beneath 0202, at a depth of 0.42m, there was an olive-brown sandy clay loam deposit (0203) which extended beyond the base of the trial-pit at a depth of 0.8m. Small quantities of modern pottery were



recovered from both of the deposits, indicating a likely recent date for their formation.

The three deposits within the trench may all be associated with the landscaping of the Fountain Garden. However, the similarity between the fill of the Victorian service trench 0103 in Trial-pit 02, and the lowest deposit 0203 in Trench 03, suggests the possibility that the Victorian service pipe may have extended as far as here.

## **5. CONCLUSIONS**

The manhole shown on a plan dating to c.1947 was not found in Trial-pit 01. The presence of an electric cable prevented the extension of the excavated area to fully determine whether it might be situated to the south-west of where it is indicated on the 1940s plan. An undated cut was found but its relatively shallow depth suggests it was due to something other than the drain. The GPR survey had found a number of anomalies within the general area but these have included accumulations of rubble and no clear distinctions could be made for a manhole cover.

A relic soil was encountered in Trial-pit 01 beneath a layer of rubble, suggestive of a ground level from the 17<sup>th</sup> century. The GPR results suggest the presence of a wide spread of demolition material across the south side of the Castle, possibly related to the demolition of medieval structures (? including the keep) in the early 17<sup>th</sup> century.

Trial-pit 02 confirmed two linear anomalies shown up by the GPR. Initially thought to include the drain they turned out to be a modern metal lightning conductor and the trench for and including a lead pipe, possibly an extension of one known to run from the Cistern House across the Fountain Garden towards the Little Castle, and thought to date from the 19<sup>th</sup> century. Why the drain was not found is unclear but it strongly suggests that it was never extended as far as the plan shows.

## **6. REFERENCES**

Carey, C., 2012. 'Bolsover Castle, Derbyshire: Ground Penetrating Radar Survey in Fountain Garden.' Unpublished report by Carey Consulting.

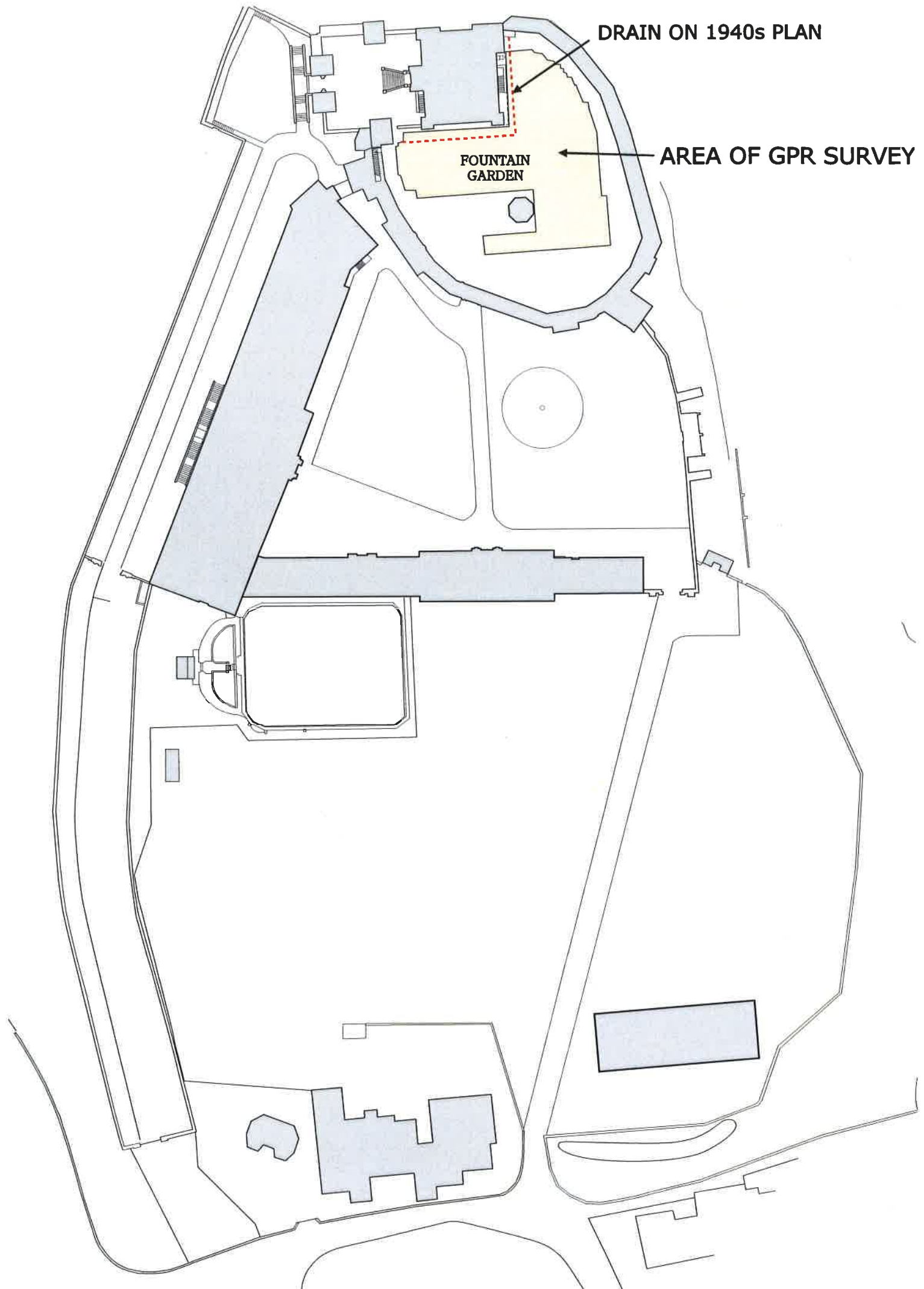
Sheppard, R., 2000. 'Bolsover Castle: Archaeological Watching Briefs in the Fountain Garden, Autumn 1999.' Unpublished report by Trent & Peak Archaeological Unit.

Sheppard, R., 2003. 'Excavation of a Medieval Building and a Civil War Refortification at Bolsover Castle, Derbyshire. *Derbyshire Archaeological Journal*. Volume 123, 111-145.

## APPENDIX

### Context Summary

Context	Description	Interpretation
0001	Compacted limestone hardcore, reddish yellow	Modern garden path
0002	Very dark brown sandy silt loam, 5% charcoal flecks, 1% mortar flecks and pieces up to 30mm x 40mm white with charcoal flecks, 1% tiny tile fragments up to 15mm, 10% rounded to angular stones up to 30mm in size	Path bedding layer
0003	Solid, interleaved rubble, stones angular up to 0.45m x 0.22m in a matrix of dark brown sandy silt loam	Rubble relating to demolition of medieval castle in 17 <sup>th</sup> century
0004	Vertical sides, flat base trench, infilled with 20% loose stone up to 0.16m x 0.10m in an 80% matrix of dark brown sandy silt loam, 5% white mortar fragments up to 20mm x 20mm white with 1% charcoal flecks, 1% tile fragments up to 10mm in size	Foundation for 17 <sup>th</sup> garden path
0005	Brown sandy clay loam, 5% mortar flecks white, 10% stones angular up to 30mm x 20mm	Medieval relic soil
0006	Dark yellowish brown sandy clay, 40% angular stones up to 0.12m x 0.13m.	Natural substrata
0007	U-shaped shallow trench infilled with yellow sand and cable	Modern service
0101	Compacted limestone hardcore, reddish yellow	Modern garden path
0102	Very dark brown sandy silt loam, 5% white mortar flecks, 10% rounded to angular stones up to 30mm in size	Path bedding layer
0103	Shallow U-shaped trench infilled with brown sandy clay loam, 1% charcoal flecks, 40% loose rubble angular up to 230mm x 200mm, <1% charcoal flecks	Victorian service
0104	Light yellowish brown sandy silt loam	Natural substrata
0201	Black clay loam, <5% stones, <1% tile fragments and charcoal flecks	Top soil
0202	Very dark greyish brown sandy clay loam with demolition rubble present – very similar to 0004	Sub soil
0203	Olive brown sandy clay loam with yellow sand mottles, <1% charcoal flecks, <10% angular stones	Landscaping deposit/fill of service trench 0103?



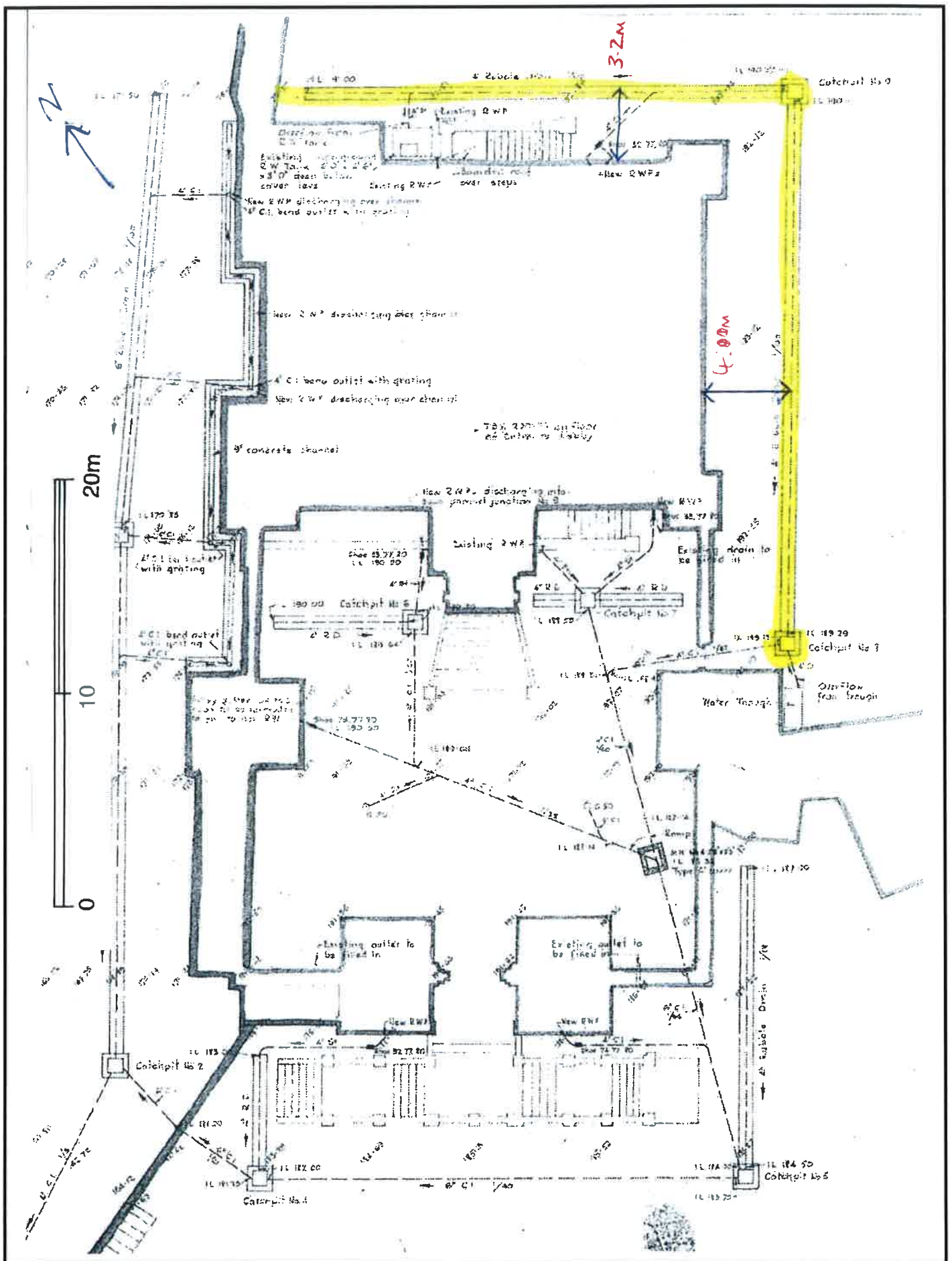


Figure 2: Plan from the 1940s in the possession of English Heritage showing the location of a drain adjacent to two sides of the Little Castle at Bolsover Castle (highlighted in yellow). Not at regular scale.



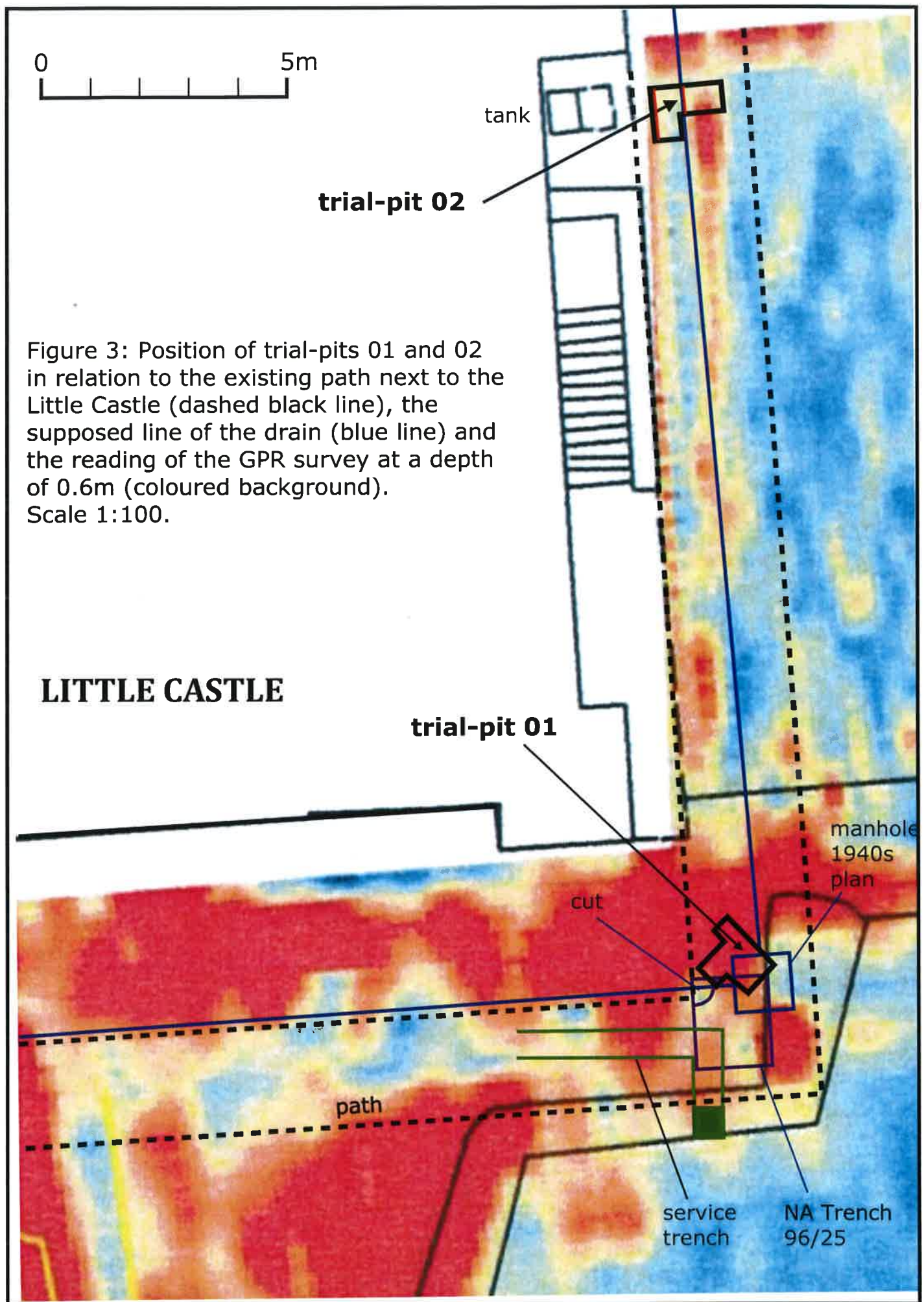
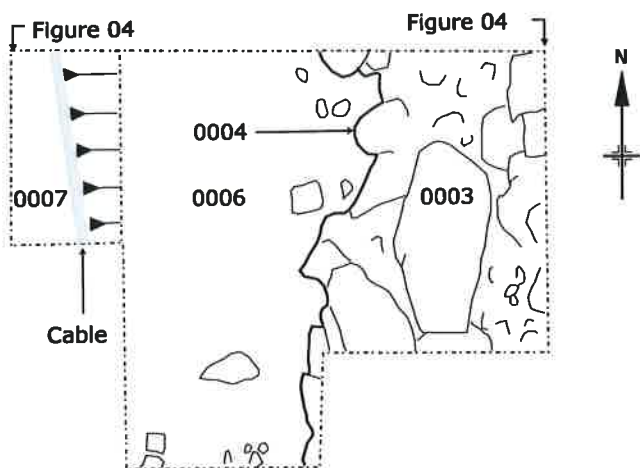
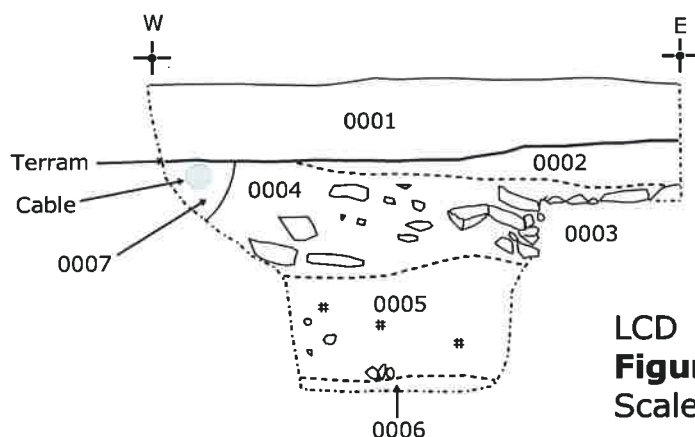


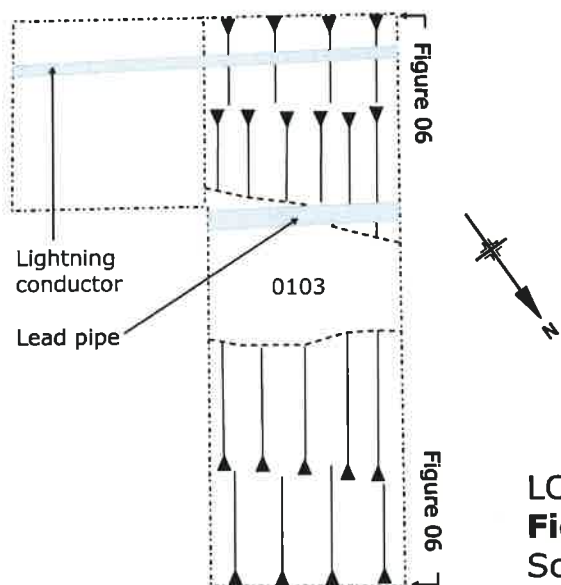
Figure 3: Position of trial-pits 01 and 02 in relation to the existing path next to the Little Castle (dashed black line), the supposed line of the drain (blue line) and the reading of the GPR survey at a depth of 0.6m (coloured background). Scale 1:100.



LCD Bolsover Castle, Derbyshire  
**Figure 04:** Trial-pit 01 plan.  
 Scale 1:20 at A4.



LCD Bolsover Castle, Derbyshire  
**Figure 05:** Trial-pit 01 south facing section.  
 Scale 1:20 at A4.



LCD Bolsover Castle, Derbyshire  
**Figure 06:** Trial-pit 02 plan.  
 Scale 1:20 at A4.



Plate 1: Trial-pit 01: south facing section, viewed looking north-east.



Plate 2: Trial-pit 01, viewed looking south.



Plate 3: Trial-pit 02, viewed looking north.



Plate 4: Trial-pit 03: south-east facing section, viewed looking north-west.





