REMEDIATION AND DREDGING WORKS
OLD PARK WEIR AND OLD PARK WATER
WREST PARK
BEDFORDSHIRE

ARCHAEOLOGICAL INVESTIGATION AND OBSERVATION

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Preface

Every effort has been made in the preparation of this document to provide as complete a summary as possible within the terms of the method statement. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

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Structure of the Report

After the introductory Section 1, there is a summary of the methodology in Section 2, followed by the results of the archaeological evaluation in Section 3. Section 4 summarises the main conclusions and Section 5 is a bibliography. Detailed context information is contained in Appendix 1. Figures are bound at the back of the report.

Key Terms

Throughout this report the following terms or abbreviations are used:

Albion	Albion Archaeology
BLARS	Bedfordshire and Luton Archives and Records Service
HER	Historic Environment Record
IfA	Institute for Archaeologists
Procedures Manual	*Procedures Manual Volume 1 Fieldwork*, *2nd Edition 2001*. Bedfordshire County Council
SAM	Scheduled Ancient Monument

Non-Technical Summary

Following on from a desk-based assessment and survey (Albion Archaeology 2007a) and an archaeological evaluation (Albion Archaeology 2007b), Albion Archaeology was commissioned by English Heritage to undertake some limited investigative work and archaeological monitoring prior to and during the dredging of Old Park Water and remediation works on Old Park Weir. The work was largely undertaken during January and February 2009, although monitoring of the final stages of work took place during March.

Wrest Park (SAM no. BD48) is located on the southern margins of the greensand ridge at the eastern edge of the village of Silsoe and approximately 15 kilometres south of Bedford. Old Park Weir links Old Park Water with Serpentine Water and lies on the western edge of the current park. It is one of a number of weirs forming part of a complex water management system linking the various waters, canals and lakes, most of which were laid out in the 18th century.

The 40 hectare designed landscape at Wrest Park dates from the 1650s onwards, although the encircling canals including Old Park Water and the Serpentine achieved their present form during the landscaping works carried out by Brown 1758-1760. For the most part, however, Brown's designs were created by modifications in shape to earlier water bodies constructed from the period 1702 - 1720. Although the precise date at which the weir was built is unclear, it is known that Old Park Water and the Serpentine were completed around 1760 and that the great variation in levels necessitated at least the need for a bank (Albion Archaeology 2007a [BLARS: crt 190/45]). It is quite possible that Old Park Weir was created at this point, or soon afterwards, as the requirements for managing the water systems became more apparent.

The archaeological works comprised excavation of three trenches along the western bank of Old Park Water prior to dredging, followed by archaeological monitoring of the ancillary works associated with the dredging, and investigative work and archaeological monitoring during remedial works on Old Park Weir.

Although the trenching along the western bank revealed some earlier alluvial deposits, it demonstrated that the dredging works were unlikely to have any impact on the archaeological deposits associated with Old Park Water. Ancillary works associated with the dredging revealed a possible earlier alignment of the Leg O'Mutton off-take channel and two culverts possibly associated with the draining of features belonging to an earlier phase of garden layout. The location of the most southerly of the two culverts, suggests it may be associated with a path shown crossing the waterway on the 1735 La Rocque plan of the park.

Investigative work during remedial works to Old Park Weir revealed further elements of the weir structure. Although results mostly confirmed previous observations, temporary drainage downstream and removal of silts revealed further information about the construction of the wing walls and the weir itself. The existence of the earlier weir structure and eastern training wall on the downstream side of the more recent concrete insertions were confirmed. The wing walls were revealed to have been largely re-built, with the exception of the lower levels which were in their original form. A large stone 'rip-rap' apron was revealed on the downstream side of the weir.

1 INTRODUCTION

1.1 Background to Project

An archaeological evaluation comprising a series of linear trial trenches was undertaken in order that English Heritage could agree an appropriate archaeological mitigation strategy for the dredging of Old Park Water. In addition, ancillary works being undertaken in preparation for the dredging also required archaeological monitoring.

As a separate exercise English Heritage commissioned an auger survey across Old Park Water. The detailed results of this are not reported on here.

1.2 Site Location

Wrest Park is located on the southern margins of the greensand ridge on a gentle south-facing slope, at the eastern edge of the village of Silsoe and approximately 15 kilometres south of Bedford. It is centred at National Grid Reference (NGR) TL 0910035100. The soil is a calcareous gley type of the Wicken association over gault clay.

Old Park Weir links Old Park Water with Serpentine Water and lies on the western edge of the current park (Fig. 1). It is one of a number of weirs forming part of a complex water management system linking the various waters, canals and lakes, most of which were laid out in the 18th century.

1.3 Archaeological and Historical Background

Wrest Park is Listed Grade 1 and on the English Heritage Register of Parks and Gardens. In addition the house and garden areas are within a Scheduled Ancient Monument (SAM no. BD48). The park and surrounding land has been designated as a conservation area by Central Bedfordshire Council.

The 40 hectare designed landscape at Wrest Park dates from the 1650s onwards, when Amabel (second wife of Henry Grey, 10th Earl of Kent), her son Anthony and his wife Mary began constructing a 'new' garden using Amabel's personnel wealth and, from 1871, that inherited by Mary after the death of her father. Although much of the visible form of the gardens dates from 1758-60 when the park was landscaped under the direction of Lancelot Brown, significant elements of the pre-existing formal garden survive, making Wrest Park one of the best remaining examples of pre-landscape formal gardening in England. The encircling canals, including Old Park Water and the Serpentine, achieved their present form during the landscaping works carried out by Brown, although, for the most part, these were created by modifications in shape to earlier water bodies constructed from the period 1702 - 1720.

The system of lakes and canals at Wrest Park is man-made and relies on a series of built structures to control and retain water. The present pumped system was adapted in 1972 and relies on a circulating pump since the original spring in the Bath Ground no longer flows. The banks of the water bodies are formed in natural clay and prone to erosion, particularly if there is regular

fluctuation in the water levels (Land Use Consultants 1993). Ongoing repairs of the banks and weirs still involve puddling of the clay to prevent leakage (Slatcher pers. com.). The farm ditch entering at the north-west corner has significant catchment and also carries storm water run-off from the A6 Silsoe bypass. It appears to have some silt load which has caused deposits at slack points in the system such as the head of Old Park Water and its overflow (Land Use Consultants 1993).

Although the precise date at which Old Park Weir was built is unclear, it is known that Old Park Water and the Serpentine were completed around 1760 and that the great variation in levels necessitated at least the need for a bank (Albion Archaeology 2007a [BLARS: crt 190/45]). It is quite possible that Old Park Weir was created at this point, or soon afterwards, as the requirements for managing the water systems became more apparent.

Various works to repair and restore elements of the water management system have been undertaken since the late 1940s. However, this work has been of varied success and in some cases has contributed to the current drainage and erosion problems which exist around the park. In 1983, The Department for Ancient Monuments and Historic Buildings commissioned an historical survey of Wrest Park and began to develop a management strategy for the continuing restoration of the gardens (Land Use Consultants 1983, 1993). These reports on the historical background and development of the gardens were drawn up by Land Use Consultants and contain useful summaries of the chronological development of the park, copies of many of the relevant maps and plans and documentary references, many of which refer to the Estate Records held in the Lucas Archive at BLARS.

Previous archaeological investigations within Wrest Park Gardens include a survey of garden features and archaeology (Albion Archaeology 2002) and several excavations and geophysical surveys carried out by BCAS/Albion Archaeology (Dawson, 2001) and the Ampthill & District Archaeological and Local History Society (Albion Archaeology 2007a BLARS 120 SIL acc, 12056) during the late 1980s and 1990s. Most recently, a desk based study and survey of Old Park Weir and some investigative trenching have been undertaken (Albion Archaeology 2007a 2007b).

2 METHODOLOGY

2.1 General Methodology

Albion Archaeology is a Registered Archaeological Organisation with the Institute for Archaeologists and adheres to the IfA's Code of Conduct and all the relevant standard and guidelines. Albion's own standards are outlined in Albion Archaeology's *Procedures Manual for Archaeological Fieldwork and the Analysis of Fieldwork Records* (2001). Guidance contained in English Heritage's *Management of Archaeological Projects* (1991) is also followed.

The work was carried out according to a Written Scheme of Investigation (Albion Archaeology, 2009), agreed with English Heritage. Copies of the report will be deposited with English Heritage and the relevant HER. All archival material will be kept together and, subject to agreement with the site owner, deposited with Luton Museum.

Three trenches (1-3) had previously been excavated along the edges of Old Park Water in order to investigate the impact of previous dredging works (Trench 1) (Fig. 3) and in order to investigate elements of the Weir structure (Trenches 2-3). The overall objective of the current work was to assess the potential impact of dredging works on below-ground archaeological and structural remains associated with Old Park Water, to record any archaeological remains revealed by the subsequent dredging and to record the weir structure as revealed during remediation works. In order to achieve this, the following investigative works were undertaken:-

1. Excavation of three additional trenches along the west bank of Old Park Water. (Trenches 4-6)
2. Observation of ground works associated with the dredging scheme (e.g., excavation of sumps)
3. Investigation of the weir structure (Trenches 7-9) during remedial works
4. Observation of the remedial works on Old Park Weir and recording of elements of the structure newly revealed.

2.2 Archaeological Investigation and Recording

- Any stripping of overburden or removal of modern structural material was monitored to identify *in situ* deposits and structures associated with the weir and surrounding water courses.
- Machine excavation of the trenches was undertaken using a flat-bladed bucket.
- During the opening up of the trenches through the western bank of Old Park Water, top soil and undifferentiated deposits were removed by machine. Deposits revealed below these layers were hand cleaned and recorded.
- All disturbed soil was scanned for artefacts.
- All revealed archaeological features and deposits were recorded in accordance with Albion's *Procedures Manual (2002)*.
- Archaeological features, structures and deposits were recorded in plan and section/elevation form where appropriate.

3 RESULTS

3.1 Introduction

The archaeological evaluation of Old Park Water was undertaken in January and February 2009, with the archaeological observation and recording associated with the dredging and remedial works on the weir being undertaken thereafter. The evaluation included the excavation of three trenches (4 to 6) designed to investigate the impact of dredging works on the western bank, as well as a further three trenches situated in order to investigate the structure of the weir and training wall (7 to 9) at the southern end. The results of this investigation build on an evaluation completed in 2007 which focused mainly on the area around the weir.

The results are discussed in depth below, whilst detailed archaeological context information is listed in Appendix 1.

3.2 Bank Deposits along the Western Edge of Old Park Water (Trenches 4, 5 and 6)

Bank deposits were investigated in three trenches situated at 150m intervals along the length of the western edge of Old Park Water (Fig. 2). Trenches 4 and 6 were located in areas of the lake that were created during the landscaping of the park completed in 1760 by Lancelot Brown. Only Trench 5, located between Trenches 4 and 6, was in a position where the western edge Old Park Water was close to that of an earlier, rectangular body of water.

3.2.1 Bank deposits in the north of Old Park Water (Trench 4)

Trench 4 was excavated towards the northern end of Old Park Water. Two separate episodes of lakeside alluviation (40004 and 40002) were recorded close to the current edge of the lake. The earlier alluvial deposit (40004) was overlain by a bank deposit (40003) containing numerous fragments of mortar. It is likely that the bank was built up in order to consolidate the edge of the lake which existed here from 1760.

3.2.2 Bank deposits in the middle of Old Park Water (Trench 5)

Trench 5 was excavated through the western bank of Old Park Water between Trenches 4 and 6 in a part of the lake where its position coincided with the earlier body of water. One episode of lakeside alluviation (50007) was recorded close to the current edge of the lake. It overlay two bank deposits (50005 and 50006). The lower bank deposit (50005) contained occasional fragments of brick. The upper one (50006) contained more frequent fragments of brick and mortar and may have been contemporary with a similar deposit in Trench 4 (40003.) Like the bank in Trench 4, it is likely that it was built up in order to consolidate the edge of the lake. Four wooden posts in two parallel alignments were also recorded within alluvial and bank deposits close to the edge of the lake. These posts probably held wooden beams which could have further consolidated the bank.

3.2.3 Bank deposits in the south of Old Park Water (Trench 6)

Trench 6 (Fig. 4) was excavated towards the southern end of Old Park Water. A 0.65m thick make up layer (60003) of re-deposited natural subsoil containing occasional brick fragments was observed, extending 10m from the western end of the trench. The bricks within it were from 5.5 to 6.8cm thick. Some of them may date to the 17th century, although others were considerably later. It is probable that this material was brought in and deposited here in order to fill in or consolidate the edge of the lake or, alternatively, to level a natural depression in the landscape. The eastern edge of deposit (60003) was truncated by a ditch-like, linear feature [60004]. The deposit (60005) within the ditch was clean, re-deposited natural clay. This suggests that the feature was backfilled shortly after it was dug. It may have been formed to create an impermeable barrier within the bank. On the eastern side of it there was an earlier alluvial deposit (60007) representing part of the former extent of the lake. This was overlain by a series of dumped deposits which formed the core of the current bank (60008, 60009, 60010 and 60013.) The dumped deposits were truncated by the linear feature [60004] and overlain by a later alluvial deposit (60011.)

3.2.4 Observations during ancillary works associated with dredging of Old Park Water

Three brick culverts were revealed during the dredging of Old Park Water. Two of these (1081 and 1082) were located close to the Leg O' Mutton off-take channel (Fig. 5). Groundworks associated with the renewal of the off-take channel revealed remnants of an earlier brick culvert capped with ironstone slabs, although a modern pipe has been inserted, presumably as a result of restoration works in the 1970s or late 1980s (Dawson 2001).

Culvert (1082) entered the eastern bank of Old Park Water from the direction of the Leg O'Mutton Lake, suggesting that it represents a former alignment of the nearby off-take channel. This culvert cuts through another culvert (1081) aligned parallel with the bank, a 7.5m stretch of which was revealed during the dredging works. It turned towards the bank at its southern end, possibly suggesting it too is associated with a precursor to the Leg O'Mutton off-take or alternatively could be associated with the draining of feature s associated with an earlier garden layout. Both culverts had brick sides and bases, with culvert (1082) being capped with ironstone slabs.

A further brick culvert (1100) was revealed at the southern end of Old Park Water aligned approximately north-south (Fig.6 and 11). Its precise function is unknown, though its location suggests that like culvert (1081), that it could be associated with the draining of features associated with an earlier garden layout. Interestingly, it is located approximately where a path is shown crossing Old Park Water on early 18th-century maps.

3.3 Southern end of Old Park Water and Old Park Weir (Trenches 7, 8 and 9)

Three trenches were excavated in the vicinity of Old Park Weir prior to removal of deposits during the remediation works. Trench 7 was staggered either side of the training wall to the west of the weir (Fig. 7). It was excavated to examine both faces of the wall and the depositional sequences on either

side. Trench 8 was situated on the northern, upstream, Old Park Water side of the weir (Fig. 8). It was excavated to examine a longer section through bank deposits adjacent to the weir than was achieved during the 2007 investigations. Trench 9 was situated in the corner between the eastern wing wall of the weir and the eastern training wall (Fig. 9).

3.3.1 Old Park Water western training wall (Trench 7)

The 2007 archaeological investigation (Albion Archaeology 2007b) established that this section of wall was similar in character to the weir itself and was, therefore, probably contemporary. It was constructed using rough-hewn random coursed ironstone blocks and sat on foundations of coursed rough hewn ironstone blocks, smaller than that used in the wall and bonded together with a yellow sand and lime mortar. It was contained within a foundation trench that was cut into the puddled clay on the lake bed. It was noted that the puddled clay, an imported blue clay was only found at the southern, downstream end of the lake where the need to maintain a watertight seal was, perhaps, greatest.

In this latest investigation, where both sides of the wall were examined, it was discovered that the wall was set against a steep bank of material which included an upper component of re-deposited natural subsoil (70008). It is likely that this was brought in to build up the ground level on the upstream side of the weir. The upstream side of the training wall had a smooth face. Whereas, on the other side where it abutted the bank, the blocks of sandstone were more unevenly formed. The smooth face had later been re-pointed using cement mortar from 0.10m above its foundations. Since no cut was visible in the bank deposits excavated in order to examine this face of the wall, it can be assumed that the bank deposits had built up after the wall had been re-pointed.

3.3.2 Examination of Old Park Weir; concrete drain (Trench 8)

A concrete slab (80014) and foundations (80013) associated with the modern wall that was added to the northern face of the weir were revealed in Trench 8 (Fig. 8). Because of its position and orientation, the concrete slab was identified as being associated with the drain for Old Park Water. This replaced an earlier wooden sluice gate in the latter half of the 20th century (Albion Archaeology 2007a). The concrete was embedded in an alluvial deposit (80002) which extended to the maximum depth of the excavation (1.2m.) This alluvial deposit was not found within Trench 7 and was probably a localised accumulation of clay on the upstream side of weir. The excavation of this trench confirmed that 20th-century alterations to the weir had included the insertion of a separate piece of wall on the upstream side of the weir structure; no doubt with the intention of strengthening the weir and preventing water leakage.

3.3.3 Examination of Old Park Weir and training wall on eastern bank (Trench 9)

The main structure of the weir was investigated thoroughly during the previous evaluation (Albion 2007b). The previous work had suggested that along the south eastern edge of Old Park Water, the former training wall ran behind a more recently inserted cement mortared training wall sitting on concrete foundations. Trench 9, in this investigation, was situated in the

corner where the weir's eastern wing wall abutted the 20th-century concrete, eastern training wall (Fig. 9). It was designed to ascertain whether or not the earlier, eastern training wall survived in this area and, if so, how it was linked to the main weir structure. The investigation revealed the former training wall (90005) which was almost certainly contemporary with the main weir structure. It also revealed a buried 'buttress' (90004), rather crudely constructed using ironstone blocks and bricks, and likely to have been built to reinforce the weir and the training wall.

3.3.4 Old Park Weir: observations during remedial works

During remediation works the downstream side of Old Park Weir was drained and silt deposits were removed prior to the placing of 'rip-rap' stone. The structural works carried out on the weir comprised the dismantling and re-building of the top courses of the weir wall, the reconstruction of the eastern wing wall of the weir, a section of the southern sluice wall and part of the western wing wall, the last mentioned in order to facilitate the works on the sluice wall. In addition tree roots were removed from the training walls and banks and trenches were dug alongside each of the wing walls in order to consolidate their foundations.

Confirming the results of Trench 9 and previous archaeological investigation (2007b), the current eastern training wall was shown to be a modern insertion running along the northern side of the earlier, and probably original, training wall. Although in a poor state of preservation the earlier wall continues for the full extent of its modern replacement. The 'buttress' revealed in Trench 9, was observed at the junction between the 18th-century weir wall, the earlier training wall and the wing wall retaining the eastern bank. This appears to be a later addition.

A distinct change between the lower and upper levels of the eastern and western wing walls suggests the level from which the wing walls were re-built either during the early 20th century, or as part of the 1971 works (Albion Archaeology 2007a). The eastern wing wall appeared to have been almost completely re-built using sandstone blocks bonded with cement mortar. Only a couple of courses at its base were bonded with yellow lime mortar and presumably a remnant of the original construction (Fig. 10). The western wing wall appeared to have been rebuilt to a lesser extent; the earlier lime mortared construction surviving up to the base of the sluice *c.* 1m from the base of the wall. The rebuilt sections of both wing walls were supported by concrete that had been poured behind the walls. Neither of the wing walls were tied into the main weir wall.

Removal of silt at the base of the Serpentine on the downstream side of Old Park Weir revealed a layer of closely placed, randomly-sized rectangular ironstone sets, enclosed within a row of larger rectangular curb stones (Fig. 10). Some 0.24m thick, the stones extended 2m from the base of the weir wall. These stones would have been laid in order to reduce erosion on the downstream side of the weir.

3.3.5 20th-century deposits adjacent to the weir

Modern deposits of up to 0.9m thick were revealed in the area of Old Park Water upstream of the weir. In Trench 7, they overlay the puddle clay lining of the lake. In Trench 8 they overlay the concrete slab associated with the drain for Old Park Water. The deposits comprised two distinct layers, both containing brick fragments and modern materials. The uppermost layer consisted of a relatively loose mixture of clay silt and limestone blocks; whilst the lower was firmer yellow-brown clay. It is conceivable that these deposits were imported at the time of the construction of the drain and 20th-century wall built adjacent to the weir wall.

4 CONCLUSIONS

The information gained from these works builds on the evaluation carried out in 2007 and the historical record of the park (Albion Archaeology 2007a, 2007b). This synthesis places the evidence from the different sources in sequential, chronological order.

The 1735 La Rocque representation of the park shows that the lake superseded by Old Park Water was rectangular and was mostly to the east of it. It also shows that the Serpentine to the south of Old Park Water extended further to the west with a larger curve. The two lakes were divided by one of the main paths through the park.

The landscaping of the Park completed in 1760 connected both lakes and altered their shape. A new, ornamental water supply was also constructed to the north of Old Park Water. The bank deposits recorded in Trenches 4 – 6 which consolidated the western edge of the Old Park Water probably occurred sometime after 1760 since they overlay alluvial deposits. The make up layer (60003) and linear feature [60004] recorded in Trench 6 were probably part of the same period of earthworks.

Observations during ancillary works associated with the dredging revealed a possible earlier alignment of the Leg O'Mutton off-take channel and two culverts possibly associated with the draining of features belonging to an earlier phase of garden layout. The location of the most southerly of the two culverts, suggests it may be associated with a path shown crossing the waterway on the 1735 La Rocque plan of the park.

Old Park Weir was constructed by Capability Brown between Old Park Water and the Serpentine, possibly replacing a banked area referred to in the documentary description of his initial works. During the 2007 evaluation, it was established that a training wall on the west side of the weir was originally of a similar construction to the Weir and, therefore probably contemporary (Albion Archaeology 2007b). The training wall had later been re-pointed using cement mortar. It was also established that at least part of the contemporary training wall also existed on the eastern side of the weir, although in recent times this had been replaced on the upstream side by a separately built concrete wall. Further investigation of the 18th-century training wall revealed that it had been strengthened with 'buttress'-like projections.

During remediation works further constructional details of the main weir structure were recorded. In most cases the works enabled more detailed recording of the structure than had previously been possible, although some new information was also collected. The wing walls, which were not tied into the main weir wall, had been largely re-built although it appeared that the lower levels were, with the exception of some minor re-pointing, in their original form. Removal of silt deposits on the down stream side of the weir wall revealed an apron of closely packed, roughly rectangular sets enclosed by larger curb stones. This appeared to be part of the original weir construction

and would have been constructed to prevent erosion on the downstream side of the weir.

Later in the 20th-century, alterations to the Weir included the construction of a concrete wall in front of the stone built eastern training wall and weir. The construction of this wall necessitated the removal and later replacement of part of the bank in front of the weir in order to obtain access. In the 1970s, a concrete drain and manhole replaced earlier wooden sluice gates on the western side of the weir. A concrete slab associated with the base of this drain was revealed in Trench 8. It was overlain by two distinct bank deposits. The lower deposit was mostly re-deposited clay natural. The upper deposit contained imported lumps of limestone.

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6 APPENDIX 1 – CONTEXT SUMMARY

Trench: 4

Max Dimensions: Length: 7.70 m. Width: 1.40 m. Depth to Archaeology Min: 0.35 m. Max: 0.5 m.

Co-ordinates: OS Grid Ref.: TL 08855 35233

OS Grid Ref.: TL 08862 35236

Reason: Assess bank deposits along western edge of Old Park Water

Context:	Type:	Description:	Excavated:	Finds Present:
40000	Topsoil	Friable dark brown grey clay loam occasional small stones Up to 0.62m thick.	☑	☐
40001	Subsoil	Friable mid orange brown silty clay occasional small ceramic building material 0.14m thick	☑	☐
40002	Alluvium	Friable dark brown grey clay silt 0.10m thick	☑	☐
40003	Dump material	Friable dark grey brown clay silt Frequent fragments of mortar. 0.26m thick	☑	☐
40004	Alluvium	Firm mid brown grey silty clay 0.20m thick	☑	☐
40005	Natural	Firm light yellow grey clay occasional flecks chalk	☐	☐

Trench: 5

Max Dimensions: Length: 9.80 m. Width: 1.40 m. Depth to Archaeology Min: 0.31 m. Max: 0.5 m.

Co-ordinates: OS Grid Ref.: TL 08915 35089

OS Grid Ref.: TL 08923 35089

Reason: Assess bank deposits along western edge of Old Park Water

Context:	Type:	Description:	Excavated:	Finds Present:
50000	Topsoil	Friable dark grey brown clay loam occasional small-medium stones Up to 0.59m thick	☑	☐
50001	Subsoil	Friable mid red brown clay silt occasional small stones 0.33m thick	☑	☐
50002	Natural	Firm light yellow grey clay occasional small stones	☐	☐
50003	Posthole	Circular profile: vertical dimensions: min depth 0.12m, max diameter 0.1m Holes for four wooden posts to support the bank.	☐	☐
50004	Timber	Stumps of four wooden posts - around 0.10m in diameter.	☐	☐
50005	Make up layer	Firm light yellow grey silty clay occasional small ceramic building material, occasional small stones Up to 0.21m thick	☑	☐
50006	Dump material	Friable mid red brown silt frequent small-medium ceramic building material 0.19m thick	☑	☐
50007	Alluvium	Firm dark grey brown clay silt occasional small stones 0.27m thick	☑	☐

Trench: 6

Max Dimensions: Length: 16.40 m. Width: 1.40 m. Depth to Archaeology Min: m. Max: m.

Co-ordinates: OS Grid Ref.: TL 08919 34942

OS Grid Ref.: TL 08936 34941

Reason: Assess bank deposits along western edge of Old Park Water

Context:	Type:	Description:	Excavated:	Finds Present:
60000	Topsoil	Friable dark grey brown clay loam occasional small-medium stones 0.46m thick	☑	☐
60001	Subsoil	Friable mid red brown clay silt occasional small stones 0.20m thick	☑	☐
60002	Natural	Firm mid yellow grey clay occasional flecks chalk	☐	☐
60003	Make up layer	Compact mid brown grey silty clay occasional small stones 0.65m thick.	☑	☐
60004	Ditch	Linear N-S profile: steep dimensions: max breadth 1.51m, min depth 0.82m	☑	☐
60005	Redeposited natural	Firm light yellow grey silty clay moderate flecks chalk, occasional small stones	☑	☐
60006	Layer	Firm light brown grey silty clay occasional small stones 0.26m thick	☑	☐
60007	Alluvium	Firm dark blue grey clay silt occasional small stones At least 0.23m thick	☑	☐
60008	Dump material	Firm light yellow grey silty clay 0.33m thick	☑	☐
60009	Dump material	Firm mid yellow brown clay silt occasional small stones 0.45m thick	☑	☐
60010	Dump material	Friable dark grey brown silty sand frequent small-medium ceramic building material, occasional small stones 0.2m thick	☑	☐
60011	Alluvium	Firm dark grey brown clay silt occasional small stones 0.41m thick	☑	☐
60012	Layer	Firm mid blue grey clay Clay -probably used to line lake bed	☐	☐
60013	Dump material	Firm light yellow grey clay	☑	☐

Trench: 7

Max Dimensions: **Length: 2.00 m.** **Width: 1.00 m.** **Depth to Archaeology Min: 0.1 m.** **Max: 1.2 m.**

Co-ordinates: **OS Grid Ref.: TL 08933 35082**

Reason: **Investigate western training wall and adjacent deposits.**

Context:	Type:	Description:	Excavated:	Finds Present:
70000	**Topsoil**	**Friable dark brown grey clay loam Thickness: 0.2m**	☑	☐
70001	**Natural**	**Firm light yellow grey clay**	☐	☐
70002	**Foundation trench**	**Linear NW-SE profile: vertical base: flat dimensions: max depth 0.32m**	☑	☐
70003	Foundation	Foundations of training wall on west side of Old Park Water. Wall constructed of rough hewn random coursed greensand blocks bonded with lime mortar. 0.55m wide and 0.31m in depth. The size of the stones varies from 360mm in length and 90mm in height to 100mm in length and 30mm in height. The stone is roughly hewn, forming a rough face.	☐	☐
70005	Backfill	Plastic mid yellow blue clay occasional small ceramic building material Thickness: 0.35m	☑	☐
70004	**Wall**	**Training wall on west side of Old Park Water. Wall constructed of rough hewn random coursed greensand blocks bonded with redish lime mortar. Repointed with cement (70006). 0.55m wide and 0.74m high. NE face is formed of smoother flat faced blocks. The SW face, built against the bank, is more roughly constructed.**	☐	☐
70006	**Wall**	**Concrete Cement repointing of wall**	☐	☐
70007	**Alluvium**	**Friable dark grey black silty clay Thickness: 0.01m**	☑	☐
70008	**Make up layer**	**Plastic mid grey yellow silty clay moderate medium-large stones Thickness: 0.6m**	☑	☐
70009	**Make up layer**	**Limestone frequent medium stones Thickness: 0.18m**	☑	☐
70010	**External surface**	**Plastic dark grey blue clay Thickness 0.32m excavated.**	☐	☐
70011	**Redeposited natural**	**Firm light orange yellow clay Thickness: 0.3m**	☑	☐
70013	**Wall**	**Thickness: 0.04m - concrete capping of wall**	☐	☐
70012	Topsoil	Firm mid grey silty clay Thickness: 0.26m	☐	☐

Trench: 8

Max Dimensions: Length: 3.10 m. Width: 1.00 m. Depth to Archaeology Min: 0.05 m. Max: 1.2 m.

Co-ordinates: OS Grid Ref.: TL 08914 34884

Reason: Investigate bank deposits adjacent to upstream side of weir.

Context:	Type:	Description:	Excavated:	Finds Present:
80001	**Foundation trench**	**Linear E-W profile: vertical dimensions: max breadth 1.85m, min depth 1.m, min depth 0.62m**	☑	☐
80000	Fill	Plastic mid brown grey clay silt occasional small stones Not fully excavated. Excavated thickness: 0.3m	☑	☐
80014	Concrete	Concrete	☐	☐
80002	**Natural**	**Firm mid yellow grey silty clay occasional small ceramic building material Not fully excavated. Thickness excavated: 0.62m**	☑	☐
80003	**Make up layer**	**Firm mid yellow grey clay silt occasional small ceramic building material, moderate small-large stones Thickness: 0.39m**	☑	☑
80004	**Make up layer**	**Firm light orange yellow silty clay occasional small ceramic building material, occasional small-large stones Thickness: 0.49m**	☑	☑
80005	**Modern intrusion**	**Linear E-W profile: steep base: concave dimensions: max breadth 1.12m, max depth 0.67m, min length 1.m Trench dug at same time as 2007 eval.**	☑	☐
80006	Backfill	Friable mid grey clay silt moderate small-large stones Thickness:0.67m	☑	☑
80016	Timber	Timber placed within recent trench [80005] and within 2007 trial trench.	☐	☐
80007	**Make up layer**	**Friable mid grey clay silt frequent small-large stones Thickness: 0.13m**	☑	☐
80008	**Make up layer**	**Friable dark brown grey clay silt Thickness: 0.27m**	☑	☐
80009	**Make up layer**	**Plastic light grey clay silt occasional small-large stones Thickness: 0.31m**	☑	☐
80010	**Make up layer**	**Plastic mid grey yellow clay silt moderate small-large stones Thichness: 0.1m**	☑	☐
80011	**Topsoil**	**Friable dark grey brown silty loam occasional small-large stones Thickness: 0.05m**	☑	☐
80015	**Wall**	**Concrete Modern wall adjacent to north side of weir wall**	☐	☐
80017	**Foundation trench**	**Linear E-W profile: vertical base: flat dimensions: max breadth 0.5m, min depth 0.3m Foundation cut to contain concrete 80012.**	☑	☐
80012	Concrete	Concrete Support for modern weir wall	☐	☐
80018	Backfill	Firm dark brown clay silt moderate small stones	☑	☐
80019	**Foundation trench**	**Linear E-W profile: near vertical base: flat dimensions: max breadth 1.1m, min depth 0.4m Cut containing concrete foundation 800013.**	☑	☐
80013	Concrete	Concrete Support for modern weir wall. Thickness: 0.45m	☐	☐
80020	Backfill	Firm mid brown clay silt frequent small-medium stones	☑	☐

Trench: 9

Max Dimensions: Length: 1.30 m. Width: 0.50 m. Depth to Archaeology Min: 0.15 m. Max: 0.9 m.

Co-ordinates: OS Grid Ref.: TL 08920 34882

Reason: Investigate relationships between eastern training wall, weir and eastern wing wall.

Context:	Type:	Description:	Excavated:	Finds Present:
90000	Topsoil	Friable dark brown black clay loam occasional small-medium ceramic building material, occasional small stones Thickness: 0.21m	☑	☐
90001	Subsoil	Firm mid brown silty clay moderate small-large ceramic building material, occasional small stones Thickness: 0.22m	☑	☐
90002	Redeposited natural	Firm light orange brown clay occasional small stones Thickness: 0.33m	☑	☐
90003	Dump material	Friable dark brown black silty clay Contains frequent small shell fragments	☑	☐
90004	Stone structure	Probable butressing of earlier eastern training wall. A mixture of rough hewn green sandstone and Bedfordshire yellow and red brick. Bonded with a sandy mortar. Some coursing, forming tiers of brick and stone.	☐	☐
90005	Wall	Remains of east weir wall. Predating modern concrete based construction. Constructed from fough hewn green sandstone and bonded with sandy mortar.	☐	☐
90006	Wall	Modern eastern training wall	☐	☐

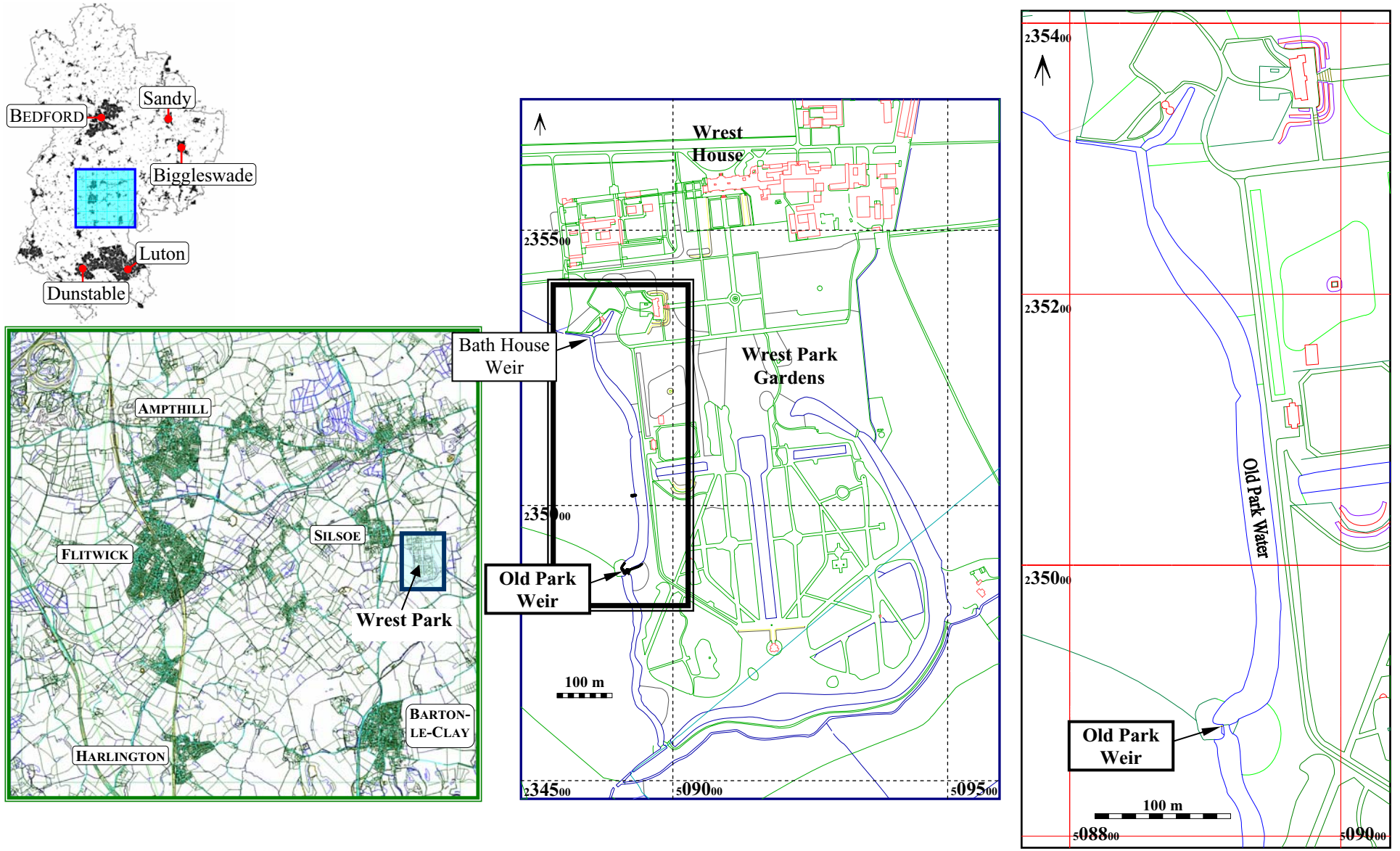


Figure 1: Site location map

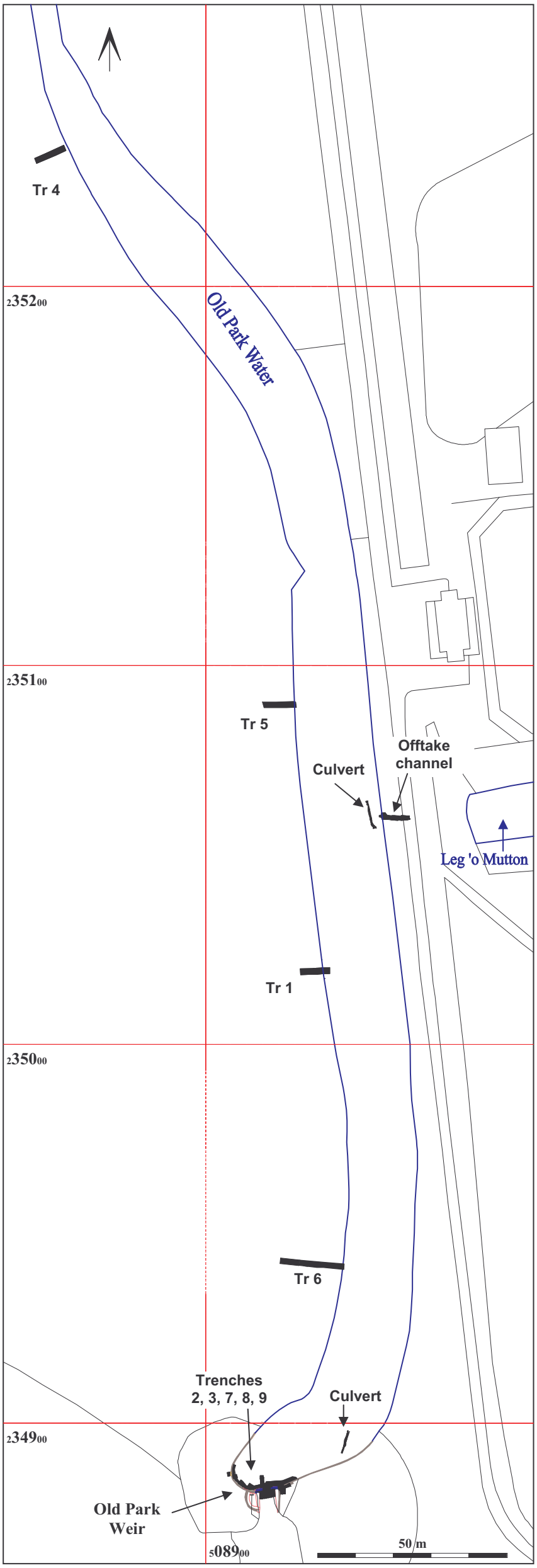
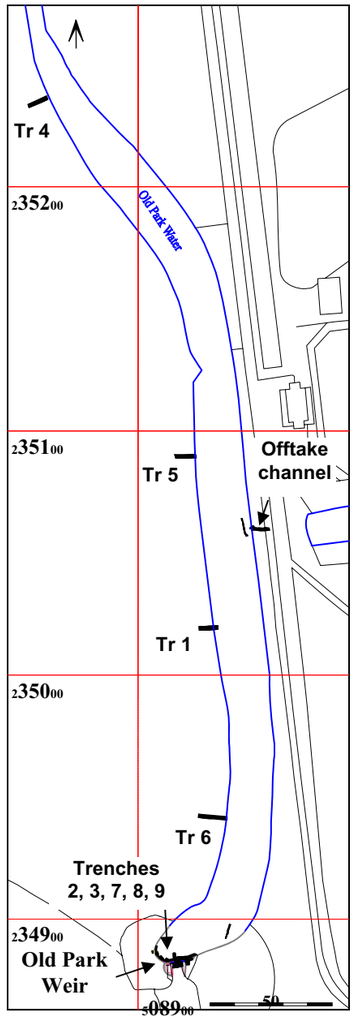
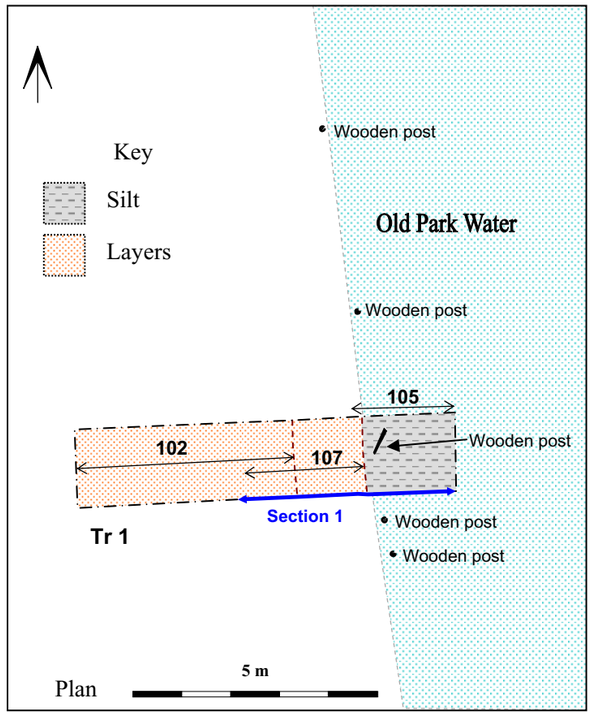
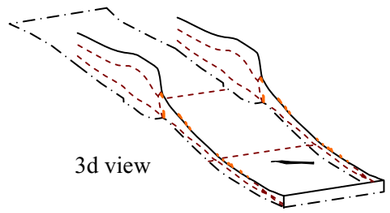
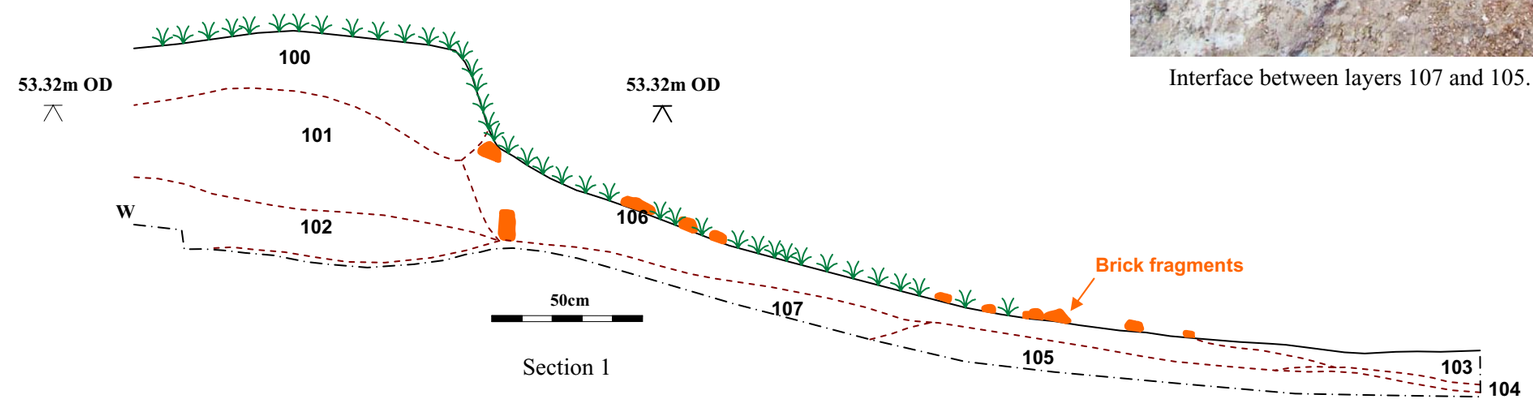


Figure 2: Trench locations









Section 1

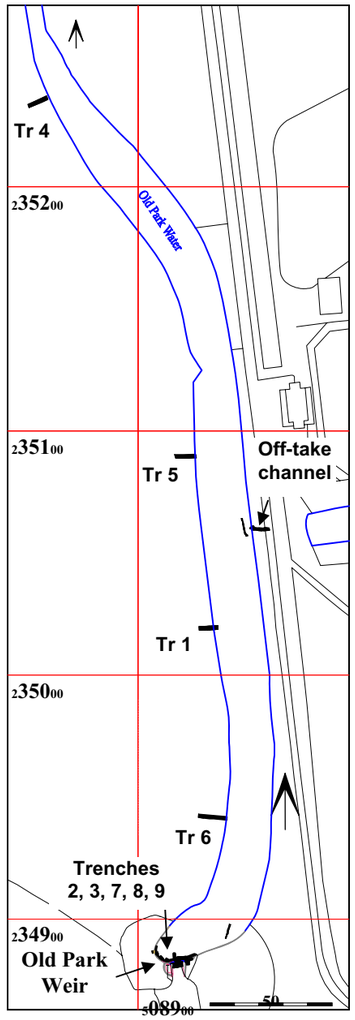
Trench 1, looking west

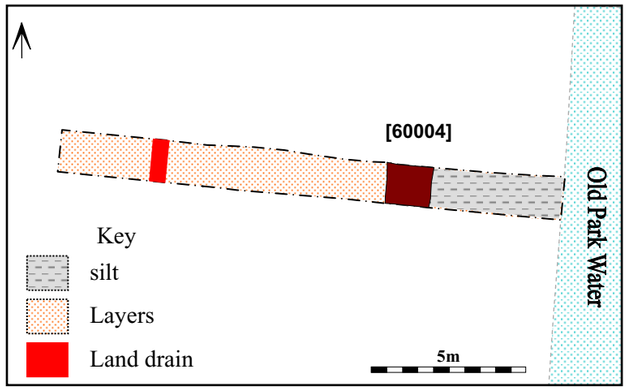
Trench 1, looking east. scale 40cm

Interface between layers 107 and 105. scale 40cm

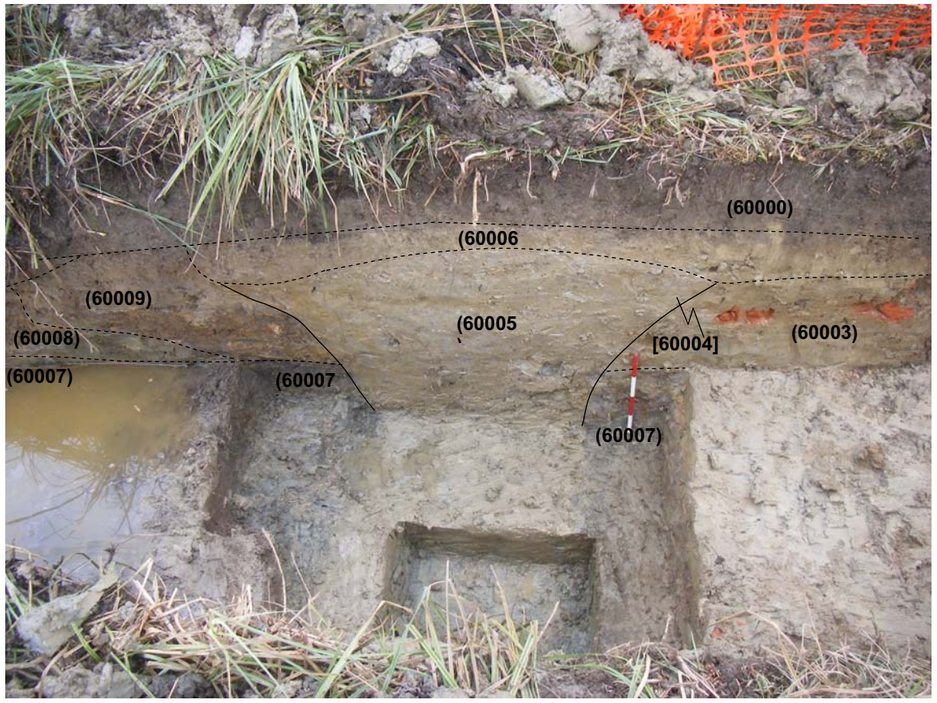
Interface between layers 102 and 107. scale 40cm

Figure 3: Trench 1

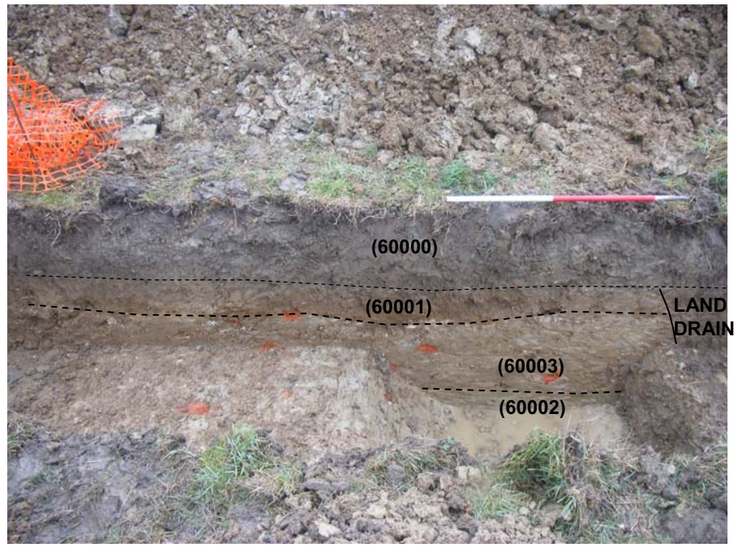




Photograph of Trench 6, pre-excavation. Looking east. Scale 40cm

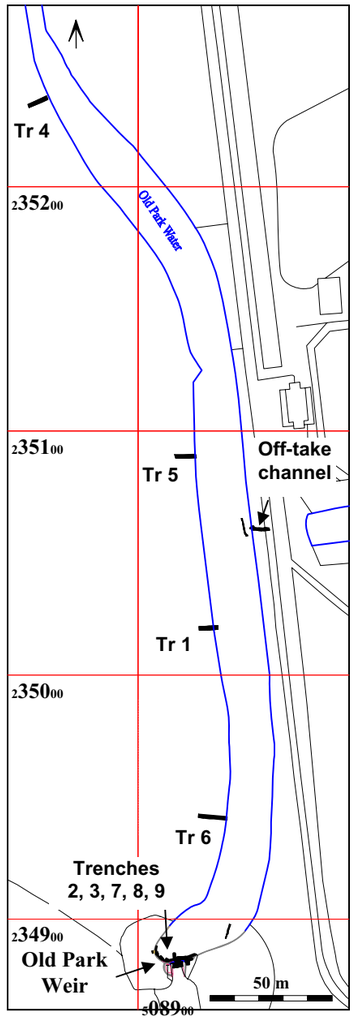


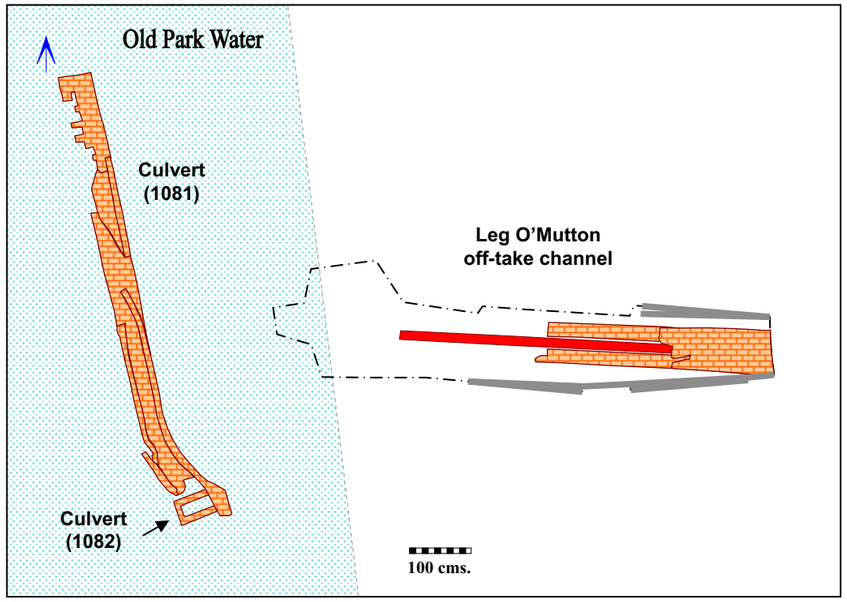
Photograph of ditch [60004], looking south. Scale 40cm



Photograph of bank material, looking south. Scale 1m

Figure 4: Trench 6





Leg O'Mutton off-take channel, looking east. Scale 1m

Culvert (1081), looking south. Scale 1m

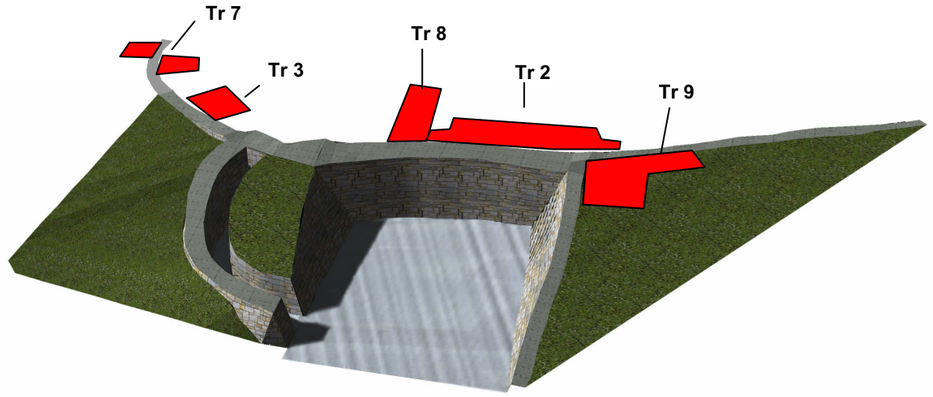
Middle part of culvert (1081), looking east. Scale 1m

Middle part of culvert (1081), looking east. Scale 1m

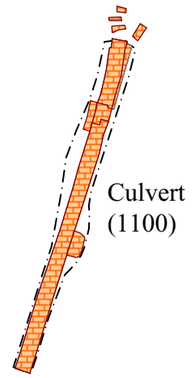
Where culverts (1081) and (1082) meet. Scale 1m

Figure 5: Leg O'Mutton off-take channel

Old Park Weir, looking north-east.
Scales 2m in 50cm increments



3d model



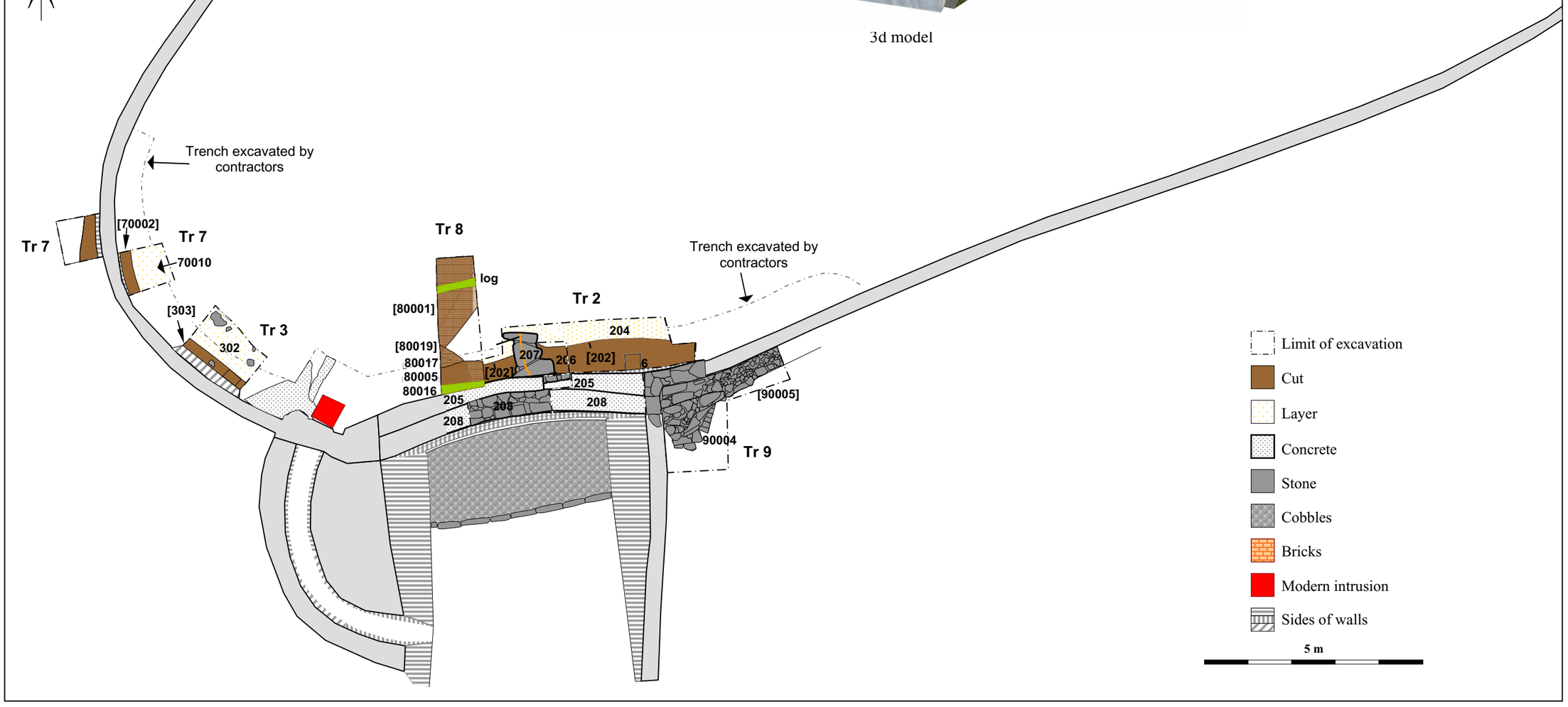
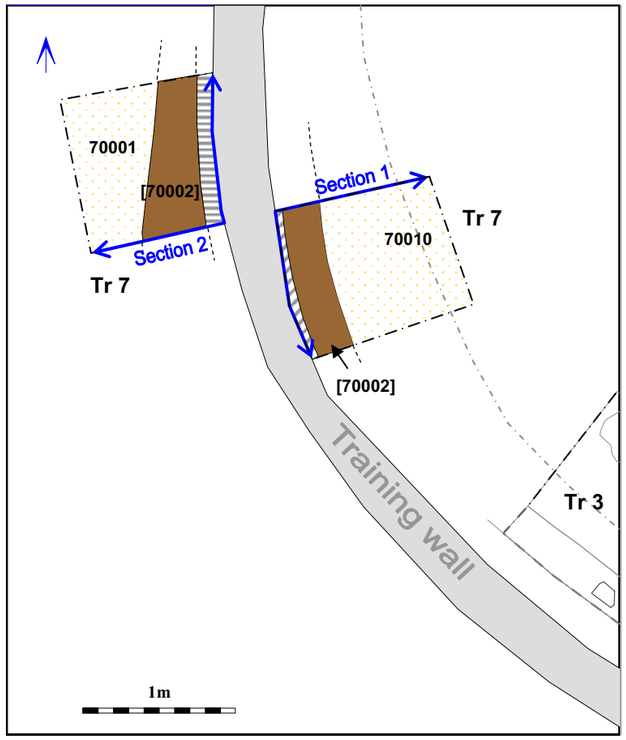
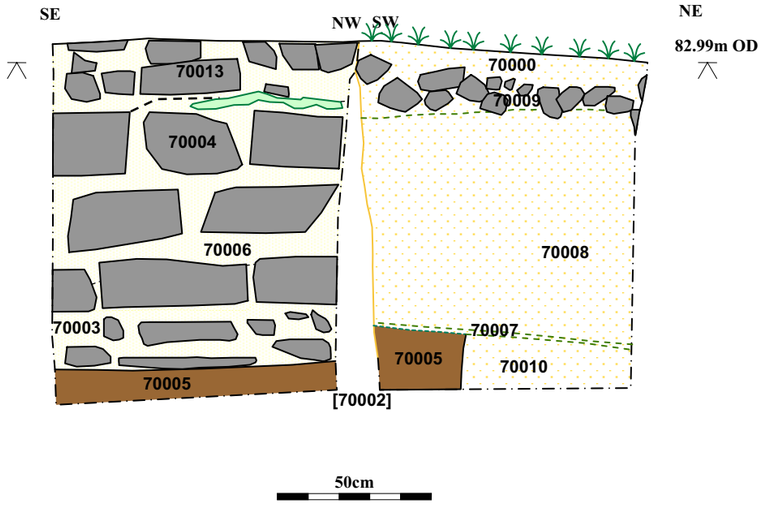


Figure 6: Old Park Weir. All trenches



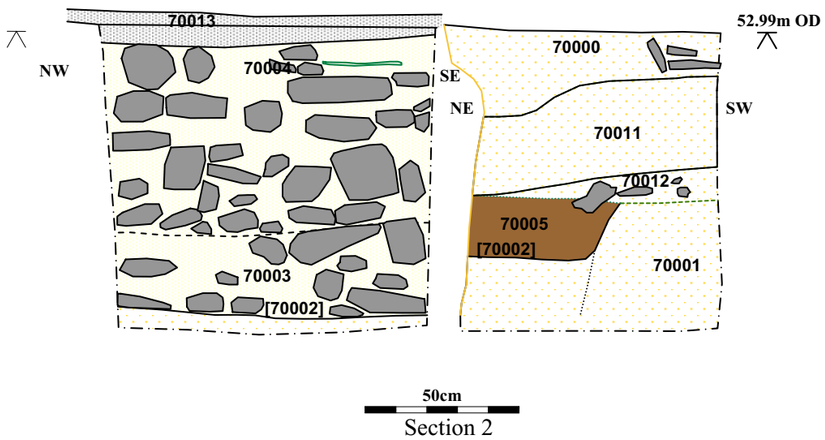


Section 1

Trench 7, Inner face of training wall. Looking west. Scale 1m

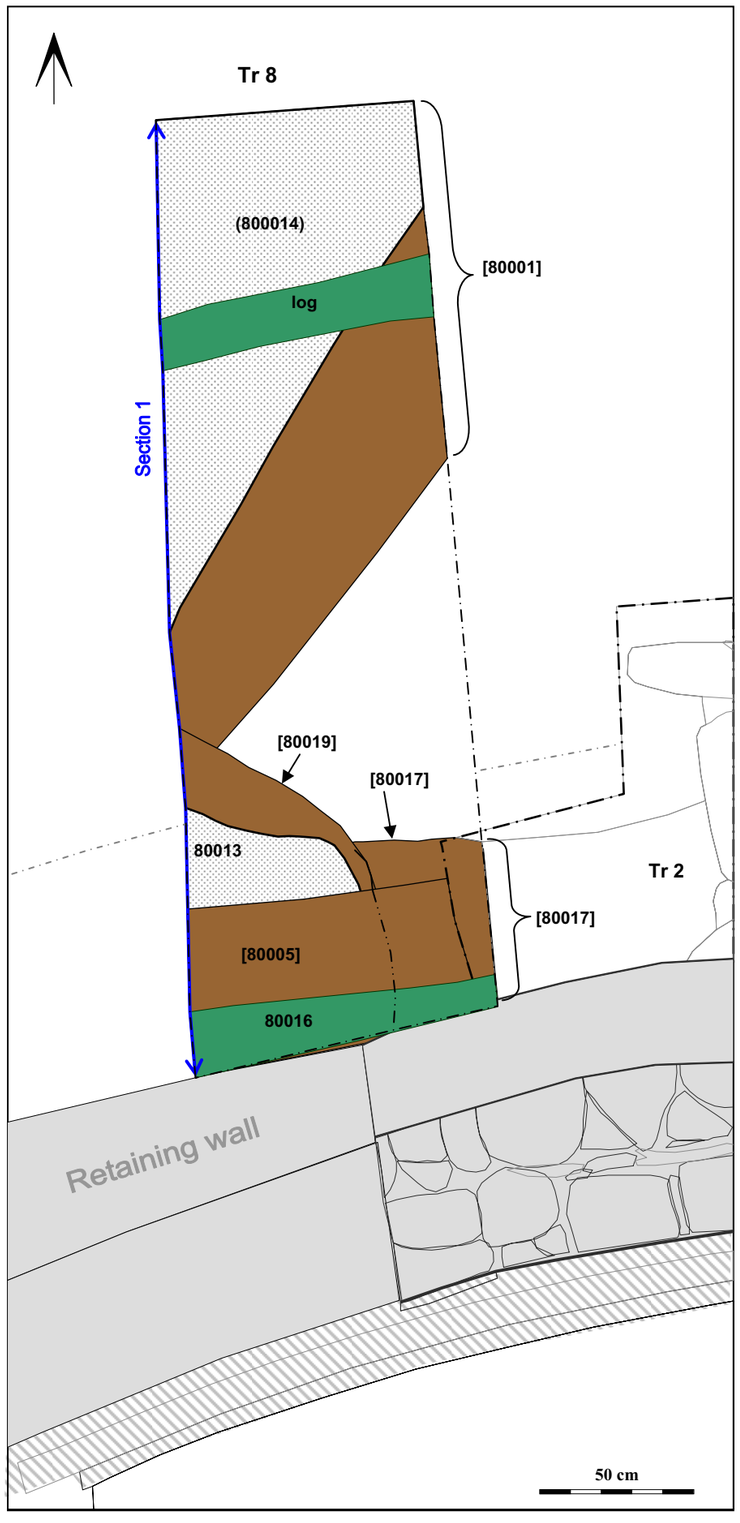
Limit of excavation
Cut
Layer
plaster
Concrete
Stone
Sides of walls

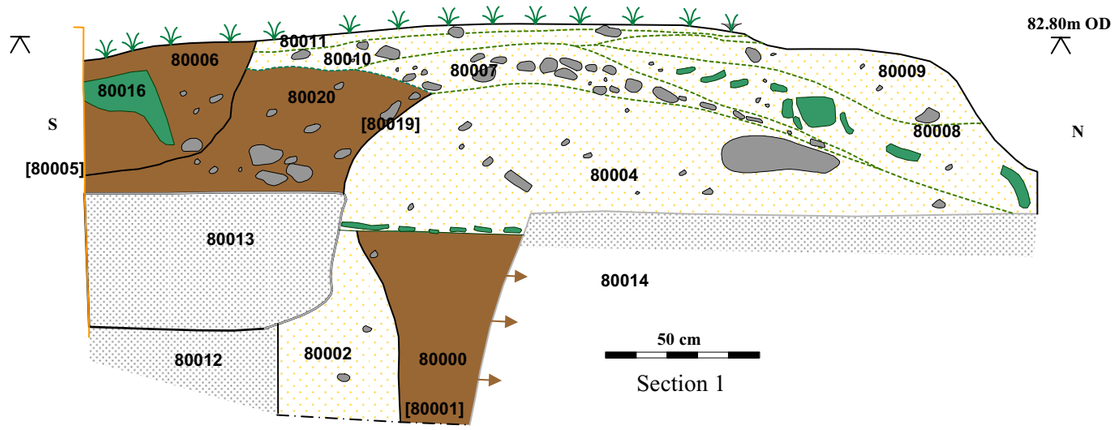
Trench 7, Outer face of training wall. Looking south-east. Scale 1m



Section 2

Figure 7: Trench 7

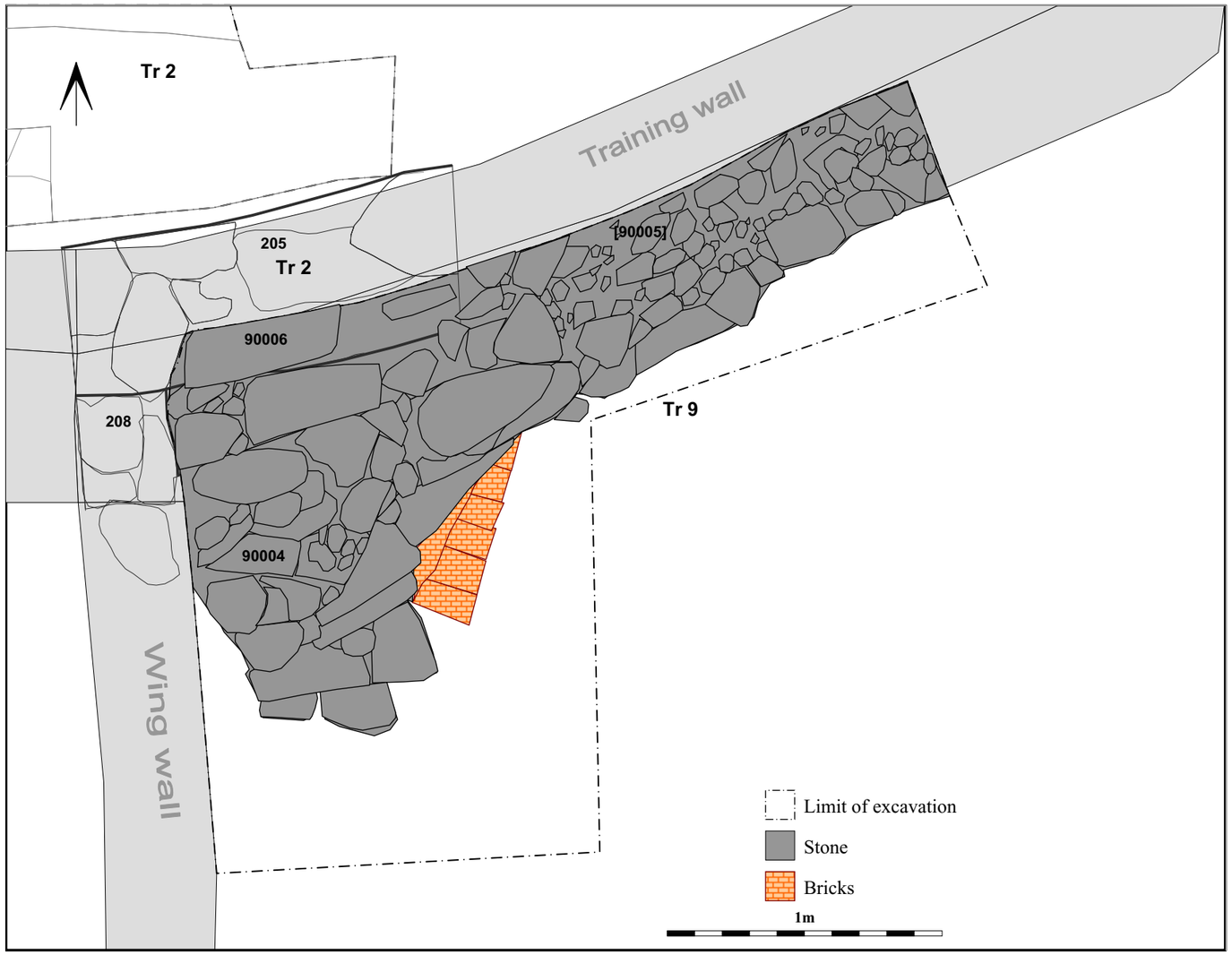




Trench 8, looking west. Scale 1m

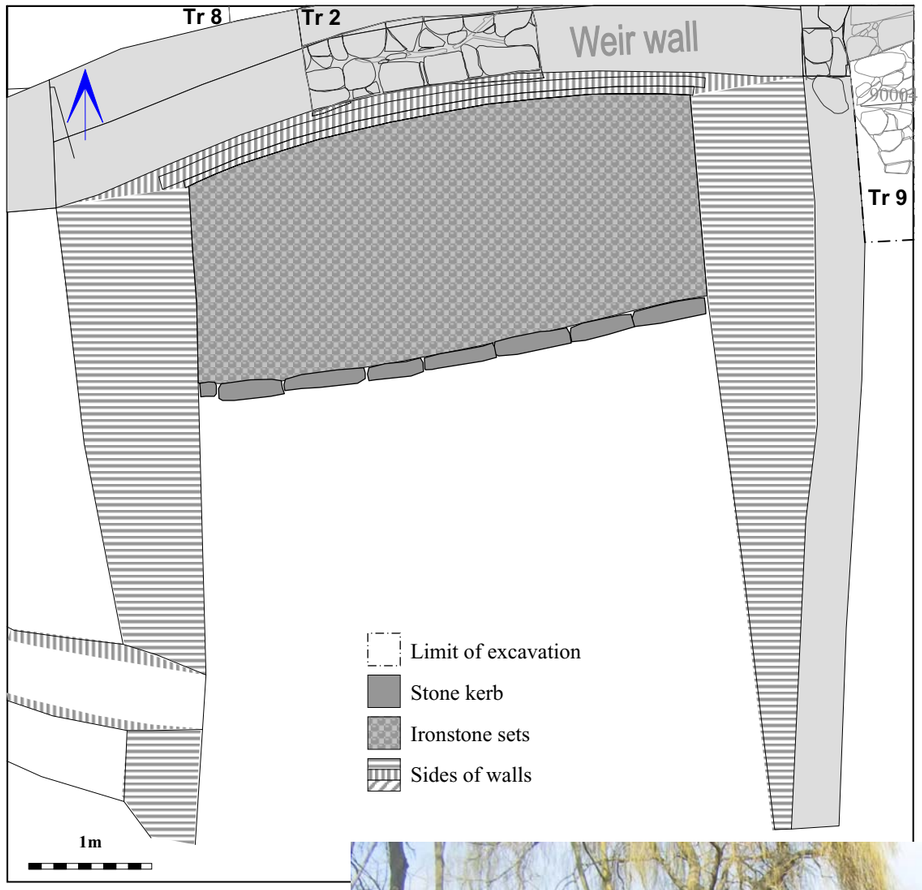
Limit of excavation
Cut
Layer
Concrete
Stone
Sides of walls
Wood

Figure 8: Trench 8



Trench 9. 'Buttress', looking north west. Scale 1m

Figure 9: Trench 9

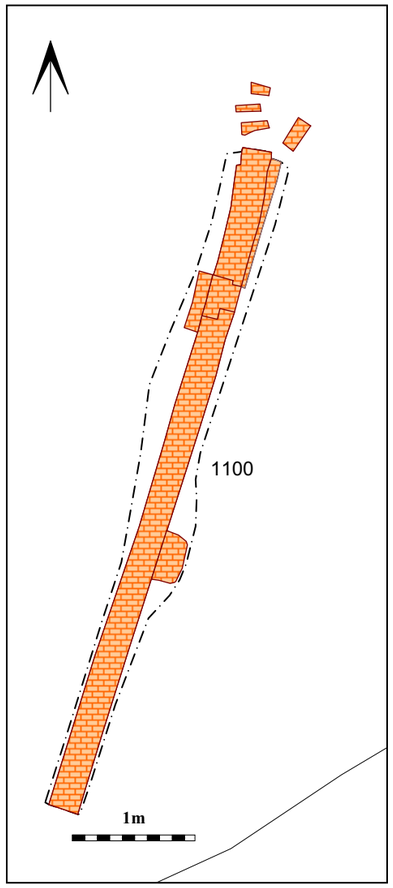


Stones at base of weir. Looking north west.
Scale 1m

Foundations revealed after removal of east
wing wall Scale 1m

Stones at base of weir. Looking north. Scale 1m

Figure 10: Weir remediation



Limit of excavation

Bricks

Culvert, training wall of weir in the background, looking south west. Scale 1m

Culvert, looking south west. Scale 1m

Culvert, looking north east.

Figure 11: Culvert (1100)