

Trentham Gardens Trentham Staffordshire Works for a new Garden Centre and Italianate Gardens Restoration



Archaeological Watching Brief Report



Oxford Archaeology

November 2005



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Trentham Gardens, Trentham Staffordshire

Works for a new Garden Centre and Italianate Gardens Restoration

NGR SJ 866 409

ARCHAEOLOGICAL WATCHING BRIEF REPORT

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SUMMARY

From March to May 2004, Oxford Archaeology (OA) carried out an archaeological watching brief at Trentham Gardens, Trentham in Staffordshire (NGR SJ 866 409). The work was commissioned by St Modwen Developments Ltd, in advance of restoration works at the site of the Italianate Gardens, the construction of a new Garden Centre and the realignment of Longton Brook.

The watching brief revealed a network of drainage structures/soak-aways and pipes beneath the Italianate Gardens and the remains of brick structures surrounding the extant fountains. Fragmentary evidence of brick walls may hint that the gardens were terraced previously. The make-up bank deposits in the area of Longton Brook were observed and included layers of construction debris, probably left when the Children's Cottage was built here. Drainage structures and soil layers were observed in the area of the new Garden Centre. All of the structures and layers were of 18th/19th or 20th century date.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 In the early part of 2004, Oxford Archaeology (OA) carried out an archaeological watching brief at Trentham Gardens, Trentham in Staffordshire (Fig. 1).
- 1.1.2 The work was commissioned by St Modwen Developments Ltd. in respect of a planning application for new developments and restorations at Trentham Hall (Planning Application No. 35257).
- 1.1.3 Planning Permission has been granted by Staffordshire Borough Council, subject to conditions, for the construction of a hotel, restaurants, a garden centre, a new sports/leisure unit, retail outlets, monkey woodland, holiday lodges, fishing lake, vineyard and for the restoration of the Italianate Gardens.
- 1.1.4 In accordance with Condition 29 of the planning permission, OA submitted Written Schemes of Investigation to Chris Wardle of Staffordshire County Council detailing how it would maintain an Archaeological Watching Brief during construction of a new Garden Centre situated in the former area of the Ballroom/Grand Hall, during the installation of new pipes in the area of the Italianate Gardens and during re-routing of Longton Brook.
- 1.1.5 The resultant watching brief covered all 'phases' of the development for which OA produced Written Schemes of Investigation (Original documents for Phase 1 and Phase 2: OA 2004a; OA 2004b).
- 1.1.6 The archaeological work was undertaken from March-May 2004. This report presents the results from monitoring of the development works.

1.2 Location and geology

- 1.2.1 Trentham Gardens are located immediately south-west of Trentham, on the periphery of the Stoke-on-Trent and Newcastle-under-Lyme conurbation. The site is bounded by the A34 trunk road to the east, the M6 motorway to the west and at its southern limit extends towards Beech Lane and Tittensor village.
- 1.2.2 The overall development area comprises the site of the former Hall and its associated park and gardens, which cover an area of approximately 295 ha., situated within the valley of the river Trent. The former Hall and its associated lake and formal gardens are situated within the floodplain of the river at a height of approximately 100 m above OD with the hall's associated wooded parkland rising westward up the valley slope to a height of approximately 150 m above OD.
- 1.2.3 The underlying geology of the development area comprises alluvial drift deposits of sand, silt and gravel overlying mudstone and sandstone of the Keele formation.
- 1.2.4 The Garden Centre development area is situated to the east of the former hall and formal gardens, bounded by the canalised River Trent to the east and the A34 to the west. The development site is bisected by the Longton Brook and at the time of the work comprised the Grand Hall building, a previous and derelict garden centre, workshops, extensive areas of hard surface including parking, a Grade II Listed Children's Cottage and areas of unmanaged planting.
- 1.2.5 The Italianate Gardens due south of the Hall were evaluated by trial trenching by OA in 2003 and the work has been reported (OA 2003).

1.3 Archaeological and historical background

- 1.3.1 The background is based on the 1998 desk-based assessment by Brian Dix for St. Modwen Developments Ltd. Further information is contained in Elizabeth Banks's topographical history of the site (Banks 1998; Dix 1998).

Prehistoric- medieval

- 1.3.2 Neolithic and Bronze Age activity is known from the environs of Trentham Park. The Staffordshire SMR records residual artefacts of Neolithic and Bronze Age date and two Bronze Age burial mounds in the south and west parts of the park. Further prehistoric sites are known adjacent to the site. There is little evidence of activity dating to the later Prehistoric or Roman periods here.
- 1.3.3 A settlement at Trentham is recorded in Domesday though its origins are likely to be in the Saxon period as suggested by the founding of a nunnery at Trentham in the 7th century by *St Werburgh*. Trentham was recorded as a royal manor comprising c 15 households. This settlement may have been focused around the possible pre-Conquest Minster, or house of secular canons, thought to have been present prior to

the foundation of the Augustinian Priory by Ranulph de Gernon, Earl of Chester at Trentham in the 12th.

- 1.3.4 Trentham Hall was originally the location of a 12th century priory (based around what is now the parish church of St Mary and All Saints), elements of which were possibly incorporated into the first Manor house (first documented in 1599), constructed by James Leveson, following the Dissolution in 1537.

Post-medieval

- 1.3.5 Cartographic evidence from 1599 suggests that land east of the early manor house was agricultural and is thought to have continued as such until 1752. Then the development area was re-cast as the new location of the estate's Kitchen Garden, possibly undertaken as part of a programme of remodelling works being implemented at Trentham Hall, either by Francis Smith or Lancelot, 'Capability', Brown. The Kitchen Garden comprised c.5 acres enclosed by a brick wall with gravel walks connected to the house and park to the west by a stone bridge across the river; this bridge was replaced in 1794 with an iron bridge.
- 1.3.6 The walled 18th century form of the Kitchen Garden was retained during remodelling works carried out by Charles Barry from 1830. Notable alterations were the removal of part of the west wall to create a stone arcade, later to form the end of Fleming's conservatory. Barry was also responsible for designing and constructing the Children's cottage and garden (known as the Duchess's cottage) and Gardener's cottage situated adjacent to the Kitchen Garden north of the Longton Brook.
- 1.3.7 The Kitchen Gardens came to prominence in the mid-19th century with advances being made in fruit culture under the innovations of head gardener George Fleming. Much of this work was undertaken within a 600-yard long glasshouse structure known as the 'Trentham Glass Case'. The creation of such a large glasshouse in this period was undoubtedly made viable by the invention of sheet glass in 1833 and the abolition of glass tax and repeal of window tax between 1845 and 1851. A variety of glasshouses were constructed here at this time, including a vinery, pine and melon pits, an orange and fig house, a peach house and an orchid house. Fleming was also further responsible for creating a new channel for the River Trent, feeding to the lake, which bounds the site to the east. These works were completed by 1853.
- 1.3.8 George Fleming was succeeded as head gardener by Archibald Henderson in 1859 (responsible for developing the Italian Gardens) who was succeeded in 1867 by Zadok Stevens, one of the most celebrated gardeners in Britain during the 1870s and 1880s. Stevens was responsible for implementing a number of improvements to the glasshouses created by Fleming, notably introducing the 'Trentham Boiler' to the hothouses. Stevens was later succeeded as head gardener in 1886 by Peter Blair who made further alterations and improvements within the garden, specific to the Kitchen Garden being the rebuilding of several of the old hothouses.

- 1.3.9 Early 1st edition Ordnance Survey maps (1875) show the Kitchen Gardens in their fully developed form. The gardens comprise a series of rectilinear glass/hot houses situated both to the north and south of the Longton Brook. The glasshouses, including Fleming's conservatory were situated to the south of the brook, enclosed by walls and sub-divided by a network of paths. The Children's cottage and its circular garden are also shown.
- 1.3.10 By the late 19th century, Trentham estate was in decline. The house was demolished in 1912 and the gardens and parkland were developed: a golf course was created in 1911 and tennis courts, a bowling green and a bandstand were in place by 1924. The Kitchen Garden saw many of its glasshouses (including the wall case) dismantled. The circular garden associated with the Children's cottage was also lost at this time and the 18th century iron bridge was replaced by a new concrete bridge. This decline was followed by re-developments with the building of the new Ballroom. This was commissioned as part of the new management of the estate following the creation of Trentham Gardens Limited in 1931. Maps of 1938 still depict elements of the walled Kitchen Garden, including internal sub-divisions.
- 1.3.11 Today, few of the former features of the Kitchen Gardens remain, with much of the area now being occupied by roads and car-parks associated with the Grand Hall building. Some historic elements indicative of the site's former use, such as the Children's cottage, a block of workshops, isolated sections of the garden walls and the stone base of Fleming's conservatory, do however, still remain.

1.4 Acknowledgements

- 1.4.1 OA extends its thanks to St Modwen Developments for plans of the development area and for the advice of Chris Wardle at Staffordshire County Council. OA's Eireland Hindmarch and Bryan Matthews undertook the watching brief.

2 PROJECT AIMS AND METHODOLOGY

2.1 Aims - General

- 2.1.1 To monitor all ground-works likely to affect or reveal archaeological deposits. This included monitoring the removal of existing footings during the demolition process, the excavation of new foundation and service trenches, any areas of surface stripping (such as in preparation for car park surfacing works) and any extensive impacting hard and soft landscaping works.
- 2.1.2 To determine the presence or absence, extent, condition, nature, character, quality and date of any archaeological remains encountered and establish the ecofactual and environmental potential of archaeological deposits and features.
- 2.1.3 To make available the results of the investigation.

2.2 Aims - Specific

- 2.2.1 To monitor the removal of former footings associated with the demolition of existing structures on the site and the subsequent excavation of new foundations for the Garden Centre building and its associated infrastructure.
- 2.2.2 To monitor the realignment of the Longton Brook and service provisions for the site.

2.3 Methodology

- 2.3.1 The excavation of service trenches by small machine and laying of new pipes was monitored by the attending archaeologist. Also monitored were new foundation trenches for the footings of a new bridge across the diverted Longton Brook. Observations were made on works in progress for the new Garden Centre. The watching brief was undertaken in accordance with IFA standard guidelines for watching briefs (IFA 2001).
- 2.3.2 All archaeological features were planned at a scale of 1:100 and where excavated their sections drawn at scales of 1:20. All excavated features were photographed using colour slide and black and white print film. A general photographic record of the work was made. Recording followed procedures detailed in the *OA Fieldwork Manual* (ed. D Wilkinson, 1992).

3 RESULTS

3.1 Description of deposits

Italianate Gardens: drainage features and brick structures

- 3.1.1 The usual soil sequence across this area of the site comprised pinkish/brown clay at the base of the excavations beneath a thick layer of red/brown silt loam with gravel (251), in turn sealed by turf/topsoil (250) or gravel pathways. Excavations by contractors of new drainage trenches revealed a network of drains and culverts across the gardens. These were aligned either north-south or east-west. The locations and alignments of these structures are detailed on Fig. 2. A full catalogue of these structures can be found in Appendix 1. Principal structure types are described below.
- 3.1.2 At the northern upper part of the gardens, an east-west aligned brick-built culvert (200) was noted beneath the gravel path. The culvert had a brick arch and was 0.6 m wide and 0.6 m deep. A return to the south was noted towards the west end of the culvert.
- 3.1.3 To the south in the area of the sunken gardens, a row of north-south aligned culverts was identified in a long east-west service trench. These culverts (ctx's 201-216 inclusive) were brick-built with parallel walls surmounted by brick arched roofs. All the culverts were in various stages of collapse and were partially silted. Culverts 208 and 211 appeared to be the best preserved of these (Plate.1, culvert 208 and Fig. 3,

elevation of culvert 211). Ceramic land drains typical of the type were also drawn (Fig. 3, elevation of drain 215).

- 3.1.4 Two fountains in the north part of the gardens were linked to new service runs. The service runs extended on a NNE/SSW alignment. South of the westerly fountain were three east-west aligned inverted 'u'-shaped ceramic drains (252, 253, 254), lying just 0.2 m below the topsoil. A further drain, 255, was a round ceramic pipe, presumably a part of a different system.
- 3.1.5 South-west of the easterly fountain were inverted 'u'-shape drain types (256, 257). To the north-east of these were three areas of stonework (258, 259, 260). Structures 258 and 259 consisted of pitched red sandstones, possibly foundations for a superstructure since removed. Structure 260 was a mix of brick and red sandstones, with up to five courses of brickwork and a capping layer of bricks surviving. The function of the structure was unclear - it was too large to have been a drain, so may have been a foundation for a garden structure, possibly associated with 258 and 259.
- 3.1.6 South of drain 211 and extending south was a long service run extending fully the length of the gardens. A variety of drains were revealed showing that there had been several attempts to install drainage over the years (Ctx nos. 217-238). These were either inverted 'u'-shaped ceramic drains (219, 220, then 221-238 inclusive), or ceramic pipes (217, 218). Drain 220 was typical of the type constructed (Fig. 3, drain 220). The 'u' drains were regularly spaced at 7 m intervals. The ceramic pipes are certainly part of a different phase of drainage installation.
- 3.1.7 The long N-S drain run was routed to the east at the south end of the gardens, and formed a 'dog-leg' around a thick concrete structure at the corner of the gardens. Three sandstone structures (239 - continuing as 266 to the south - and 240, 241) may have been soak-aways or stone coverings over unseen drainpipes. Between these were three N-S aligned brick culverts (similar to 210-213 seen to the north.) - these were culverts 242, 243, 244.
- 3.1.8 East of these were two east-west aligned large ceramic pipes (245/246), both damaged, and two north-south drainpipes. A probable continuation of drain 215 to the north was noted - drain 249.
- 3.1.9 Two further fountains at the south end of the gardens were linked to the new service runs with single service trenches. Adjacent to the SE fountain was a brick structure (261) about 1 m wide and consisting of one course of red bricks on a bed of mortar. This may be an original surround or the remains of an ornamental feature.
- 3.1.10 Further ceramic drain pipes were noted (262, 263), and an inverted 'u'-drain (265), adjacent to which was another brick structure (264), comprising a double width of bricks in header formation over at least two further courses. The structure, possibly a wall, was 0.5 m wide - a function as a garden feature or terracing wall is possible.

- 3.1.11 The SW fountain was surrounded by a single course brick structure (267) - again possibly part of the original design or a different ornamental feature. Other service pipes were observed - two of the inverted 'u'-type and three ceramic pipes (Ctx's 268, 270-274). A portion of brick wall (269) was also seen; its function was unclear.

Site of new Garden Centre/Longton Brook

- 3.1.12 The watching brief here observed the construction of a new bridge carried across the diverted Longton Brook, north of the site of the new Garden Centre. The brook was diverted around the covered area set aside for the new garden centre (Plate 2). Two new foundation trenches for the bridge footings were observed (Figs 4 & 5, location and sections).
- 3.1.13 Footing 1 measured 3 m by 2 m and was 1.8 m deep. Recording of the section was made from the trench edge owing to the unstable nature of the trench sides. At the base of the trench was the natural sandstone (282) up to 0.45 m in thickness, overlain by a thick layer of brown loam (281) - a garden soil that contained willow pattern china (not retained).
- 3.1.14 Footing 2 was 3 m by 2 m and was excavated to a depth of 1.8 m. At the base of the trench was a red/brown clay with sandstone (280) - the natural. This was sealed by a 0.55 m thick layer of decayed mortar with pebbles (279), presumably construction debris, in turn overlain by a layer of cinders/charcoal of modern origin (278). Layers of garden soil followed in turn (277 then 276) with the present turf and topsoil (275) completing the sequence (Fig. 5).

Arboretum/new Garden Centre car park area

- 3.1.15 Works in the arboretum at the site of the new Garden Centre (Plate 3) were monitored - these involved landscaping and the excavation of a test pit. The only feature of note was a brick-built drain (300), though only the upper part of the structure was revealed (Plate 4).
- 3.1.16 The test pit was excavated through layers of soil and general make-up for the arboretum. No archaeological remains were observed across this part of the site.

3.2 Finds

- 3.2.1 A sherd of a flower pot and a sample of brick from the Italianate Gardens were retained - both date to the 19th century, but otherwise require no further comment.

3.3 Palaeo-environmental remains

- 3.3.1 No samples suitable for environmental sampling were observed in the course of the watching brief.

4 DISCUSSION AND CONCLUSIONS

- 4.1.1 The new drainage trenches in the Italianate Gardens revealed a complex and dense concentration of drainage structures and it is clear there were at least two phases of drainage installation here. The ceramic inverted 'u'-drains are possibly the oldest in the sequence, replaced later by ceramic pipes. The brick culverts are possibly contemporary with these. There was no precise dating evidence, though the earlier ceramic 'u'-drains may be of 18th century date, replaced in the 19th or 20th centuries with pipes.
- 4.1.2 The new drainage trenches were too narrow to afford a detailed interpretation of the other structures observed during the watching brief here. However, it seems likely that the fountains were at one time surrounded by more elaborate structural features, or that there were earlier structures to the ones currently extant. Wall-like structures in the gardens may be terrace walls from the original garden design.
- 4.1.3 Only a full excavation of these gardens would allow the full extent of the work undertaken here and the function of all the structures constructed to be accurately mapped.
- 4.1.4 At Longton Brook, the footings for the new bridge were excavated through mostly garden soil layers, though there was evidence of construction debris probably from the ornamental garden adjacent to the Children's Cottage.
- 4.1.5 Landscaping in the arboretum revealed a culvert and the formation of the garden soils, but otherwise little of archaeological value.

APPENDICES

APPENDIX I ARCHAEOLOGICAL CONTEXT INVENTORY

<i>Context</i>	<i>Type</i>	<i>Depth (m)</i>	<i>Width (m)</i>	<i>Height</i>	<i>Comments</i>
200	Structure	0.6	0.6	-	Brick culvert
201	Structure	0.6	0.6	-	Brick culvert
202	Structure	0.6	0.6	-	Brick culvert
203	Structure	0.6	1.0	-	Brick culvert/main drain
204	Structure	0.6	0.6	-	Brick culvert
205	Structure	-	-	--	Sandstone/brick drain
206	Structure	0.6	0.6	-	Brick culvert
207	Structure	0.4	0.6	-	Brick culvert/fountain water supply
208	Structure	0.6	0.6	-	Brick culvert
209	Structure	0.6	0.6	-	Brick culvert
210	Structure	0.6	0.6	-	Brick culvert
211	Drain pipe	-	0.3	-	Ceramic pipe
212	Structure	0.6	0.6	-	Brick culvert
213	Structure	0.6	0.6	-	Brick culvert
214	Structure	-	-	-	Sandstone capping over clay drain pipes
215	Structure	-	-	-	Sandstone capping over clay pipes
216	Structure	0.6	0.6	-	Brick culvert
217	Drain pipe	-	0.3	-	Ceramic pipe
218	Drain pipe	-	0.3	-	Ceramic pipe
219	Structure	0.6	0.6	-	Inverted U ceramic drain
220	Structure	0.6	0.6	-	Inverted U ceramic drain
221	Structure	0.6	0.6	-	Inverted U ceramic drain
222	Structure	0.6	0.6	-	Inverted U ceramic drain
223	Structure	0.6	0.6	-	Inverted U ceramic drain
224	Structure	0.6	0.6	-	Inverted U ceramic drain
225	Structure	0.6	0.6	-	Inverted U ceramic drain
226	Structure	0.6	0.6	-	Inverted U ceramic drain
227	Structure	0.6	0.6	-	Inverted U ceramic drain
228	Structure	0.6	0.6	-	Inverted U ceramic drain
229	Structure	0.6	0.6	-	Inverted U ceramic drain
230	Structure	0.6	0.6	-	Inverted U ceramic drain
231	Structure	0.6	0.6	-	Inverted U ceramic drain
232	Structure	0.6	0.6	-	Inverted U ceramic drain

233	Structure	0.6	0.6	-	Inverted U ceramic drain
234	Structure	0.6	0.6	-	Inverted U ceramic drain
235	Structure	0.6	0.6	-	Inverted U ceramic drain
236	Structure	0.6	0.6	-	Inverted U ceramic drain
237	Structure	0.6	0.6	-	Inverted U ceramic drain
238	Structure	0.6	0.6	-	Inverted U ceramic drain
239	soakaway	-	-	-	Sandstone soakaway
240	soakaway	-	-	-	Sandstone soakaway
241	soakaway	-	-	-	Sandstone soakaway
242	Structure	0.6	0.6	-	Brick culvert
243	Structure	0.6	0.6	-	Brick culvert
244	Structure	0.6	0.6	-	Brick culvert
245	Drain pipe	-	0.3	-	Ceramic
246	Drain pipe	-	0.3	-	Ceramic
247	soakaway	-	-	-	Sandstone soakaway
248	soakaway	-	-	-	Sandstone soakaway
249	Structure	-	-	-	Sandstone capping over clay pipes
250	Layer	-	0.2	-	Topsoil
251	Layer	-	0.5	-	garden soil
252	Structure	0.6	0.6	-	Inverted U ceramic drain
253	Structure	0.6	0.6	-	Inverted U ceramic drain
254	Structure	0.6	0.6	-	Inverted U ceramic drain
255	Drain pipe	-	-	-	Ceramic
256	Structure	0.6	0.6	-	Inverted U ceramic drain
257	Structure	0.6	0.6	-	Inverted U ceramic drain
258	Structure	-	0.38	-	Sandstone ?drain feature
259	Structure	-	0.38	-	Sandstone ?drain feature
260	Structure	-	0.38	-	Sandstone ?drain feature
261	Structure	-	0.4	-	Surround to fountain
262	Drain	-	0.36	-	Ceramic
263	Structure	0.6	0.6	-	Inverted U ceramic drain
264	Structure	0.46	0.2	-	Wall, garden terrace
265	Structure	0.6	0.6	-	Inverted U ceramic drain
266	soakaway	-	-	-	Sandstone soakaway
267	Structure	-	0.4	-	Surround to fountain
268	Structure	0.6	0.6	-	Inverted U ceramic drain
269	Structure	0.45	0.2	-	Wall, garden terrace
270	Drain	-	0.36	-	Ceramic

271	Structure	0.6	0.6	-	Inverted U ceramic drain
272	Structure	0.6	0.6	-	Inverted U ceramic drain
273	soakaway	-	-	-	Sandstone soakaway
274	Structure	0.6	0.6	-	Inverted U ceramic drain
275	Layer	0.3	-	-	Make-up/brook bank layer
276	Layer	0.3	-	-	Make-up/brook bank layer
277	Layer	0.22	-	-	Make-up/brook bank layer
278	Layer	0.2	-	-	Make-up/brook bank layer
279	Layer	0.55	-	-	Mortar/stone. Make-up/brook bank layer of construction debris.
280	Layer	0.5+	-	-	Natural clay
281	Layer	1.2	-	-	Garden soil
282	Layer	0.6+	-	-	Natural clay
300	Structure	0.6	0.6	-	Culvert in arboretum

APPENDIX 2 BIBLIOGRAPHY AND REFERENCES

- Banks, E, 1998 *Trentham Park and Gardens Topographical History*; unpublished client report for St Modwen Developments
- Dix, B, 1998 *An Archaeological Desk-based Assessment of Trentham Gardens*; unpublished client report for St Modwen Developments.
- IFA 2001 *Standard and Guidance for archaeological watching briefs*
- OA 1992 *Fieldwork Manual*, (ed. D Wilkinson, first edition, August 1992)
- OA 2003 *Trentham Gardens {Italianate Gardens}, Trentham, Staffs.* Unpublished evaluation report.
- OA 2004a *Garden Centre Area. Trentham Gardens, Trentham, Staffs Written Scheme of Investigation for an archaeological watching brief. Phase 1 -*
- OA 2004b *Arboretum and Reserve Garden Area. Trentham Gardens, Trentham, Staffs Written Scheme of Investigation for an archaeological watching brief. Phase 2.*

APPENDIX 3 SUMMARY OF SITE DETAILS

Site name: Trentham Gardens, Staffordshire. Works for new Garden Centre and Italianate Gardens Restoration

Site code: STTG 04

Grid reference: NGR SJ 866 409

Type of watching brief: Monitoring of service and foundations trenches, area stripping

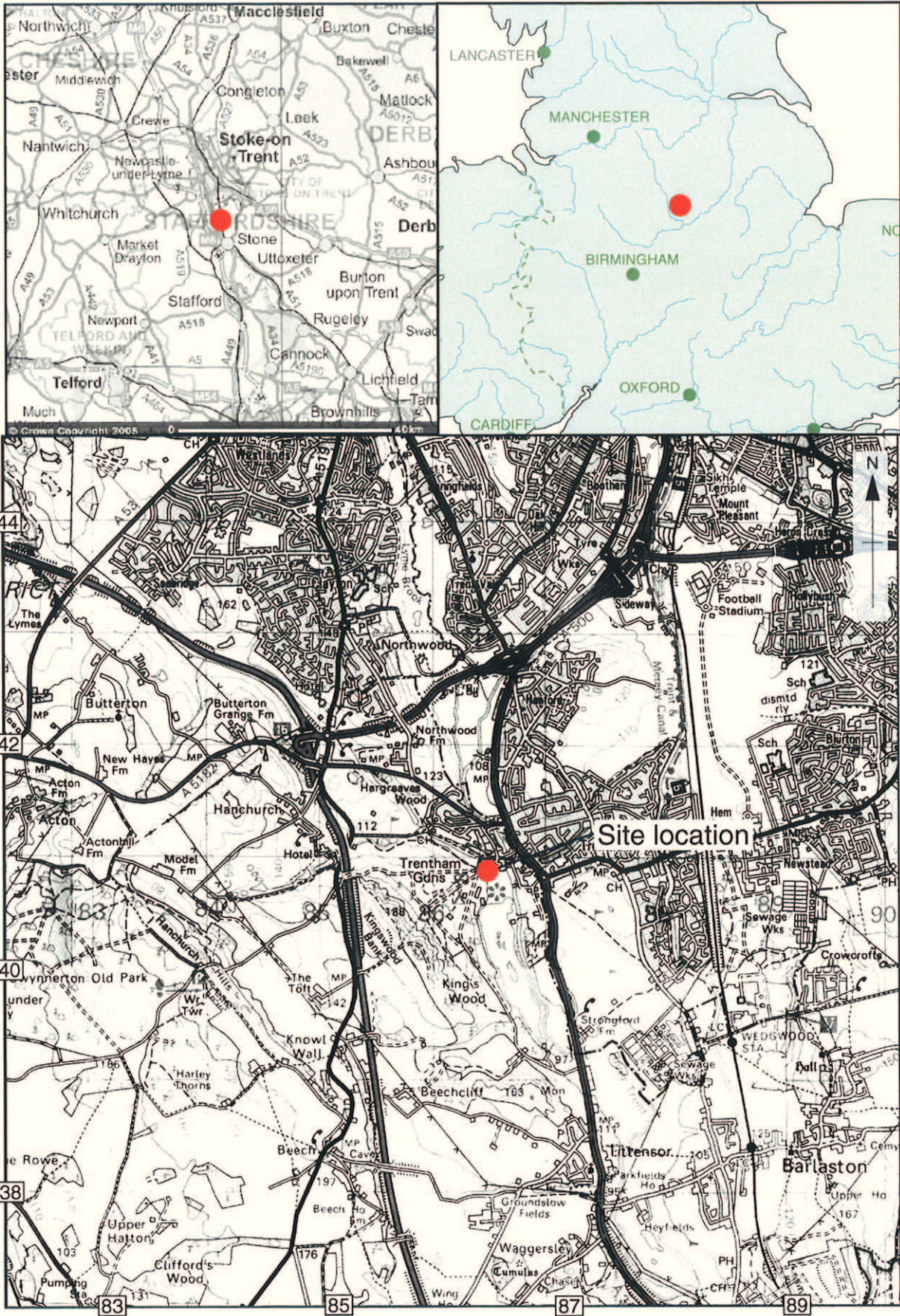
Date and duration of project: March-May 2004

Area of site: 295 ha.

Summary of results: Drainage structures/soak-aways and pipes beneath the Italianate Gardens and the remains of brick structures surrounding the fountains. Fragmentary evidence

of brick walls, possibly terrace walls. The make-up deposits in the area of Longton Brook were observed and included layers of construction debris, probably left when the Children's Cottage was built. Drainage structures and soil layers were observed in the area of the arboretum/new garden centre. All of the structures/layers were of 18th/19th or 20th century date.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Potteries Museum and Art Gallery, Stoke-on-Trent in due course, under the following accession number: STKMG 2002.k.19



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Figure 1: Site location

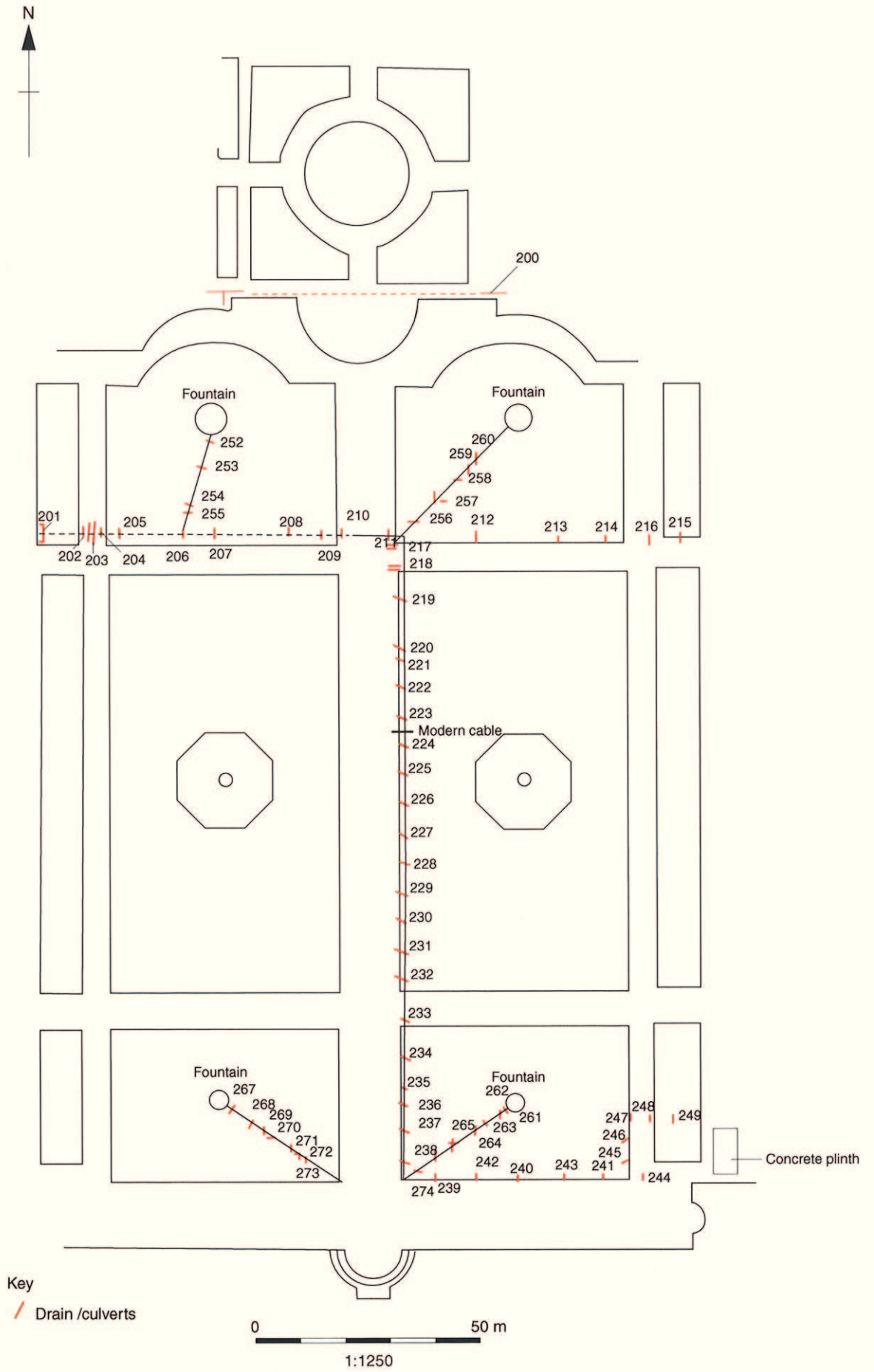


Figure 2: Italianate Gardens: Area of watching brief

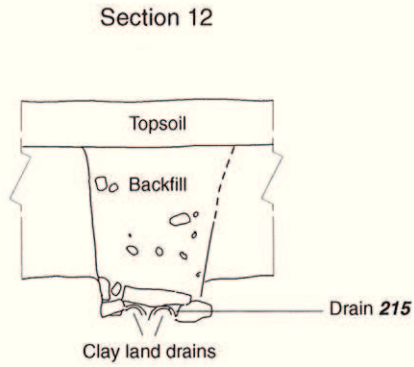
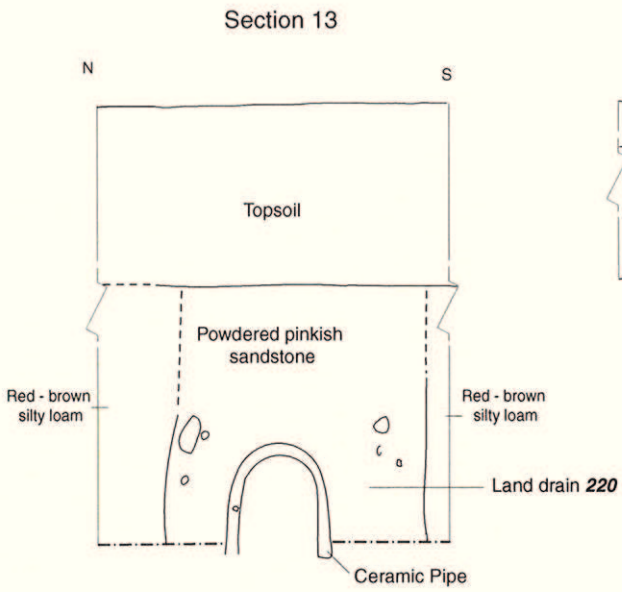
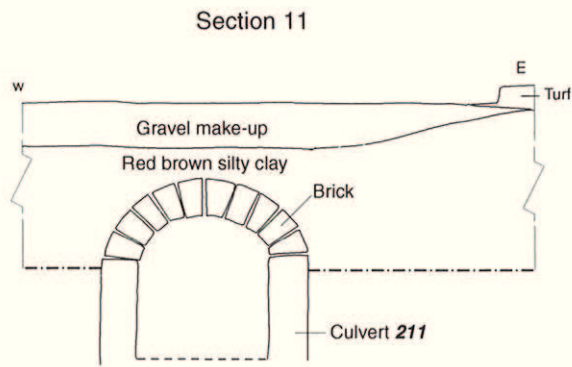
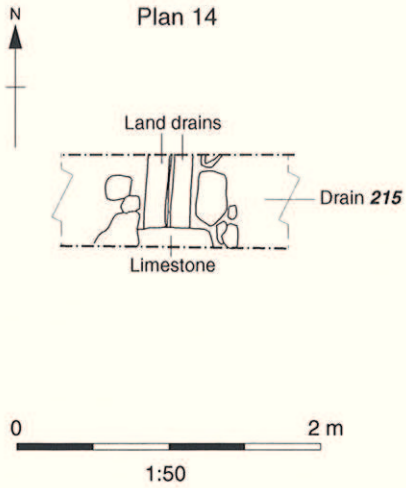


Figure 3: Elevations of drain types in Italianate Gardens

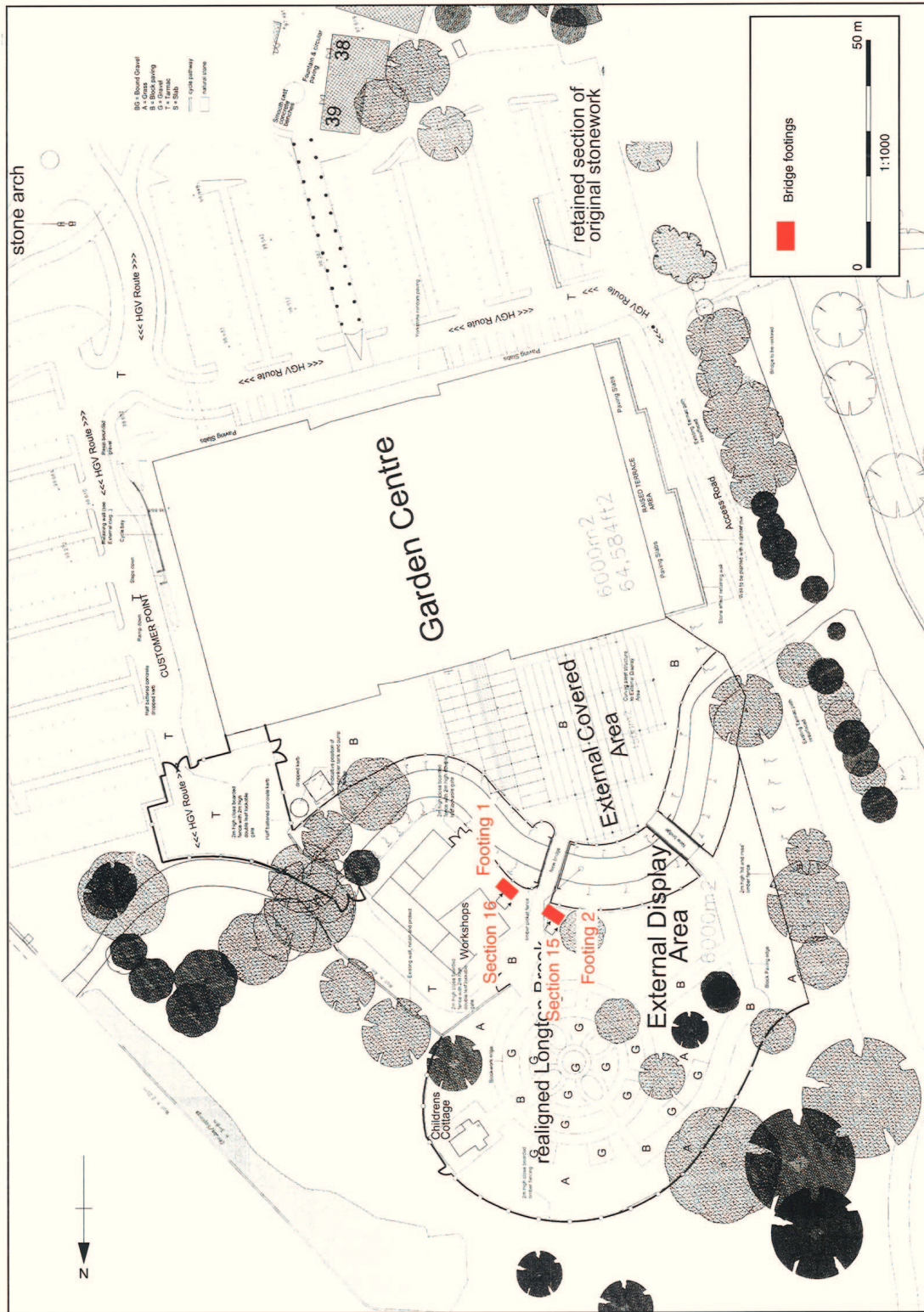
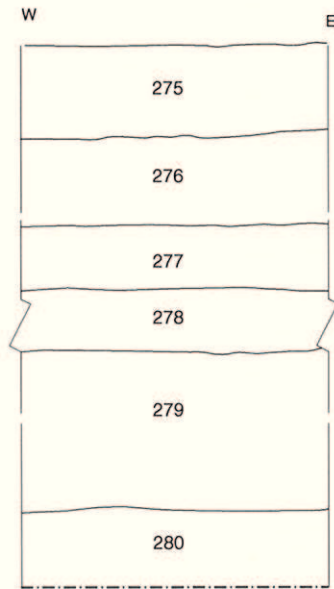


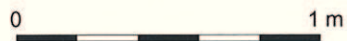
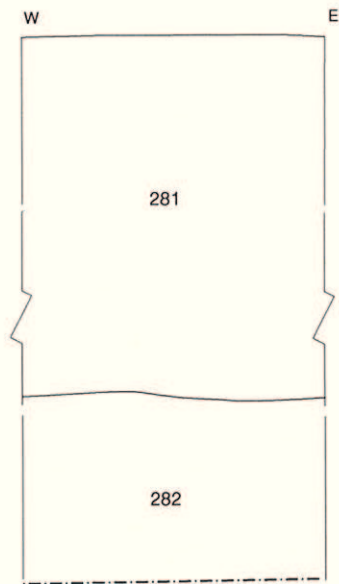
Figure 4: Location of footings of new bridge at Longton Brook



Section 15



Section 16



1:25

Figure 5: Footing sections

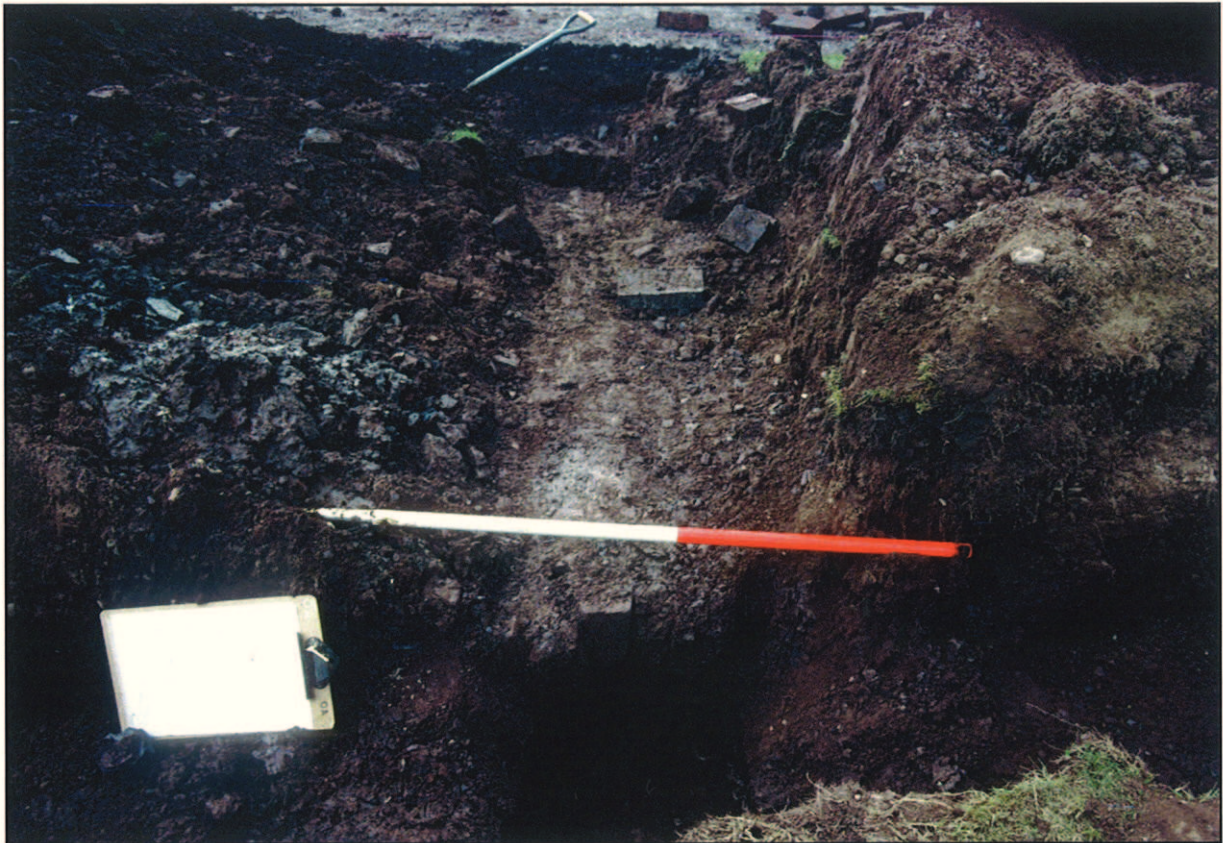


Plate 1: Culvert 208



Plate 2: Longton Brook looking South-East



Plate 3: Arboretum landscaping

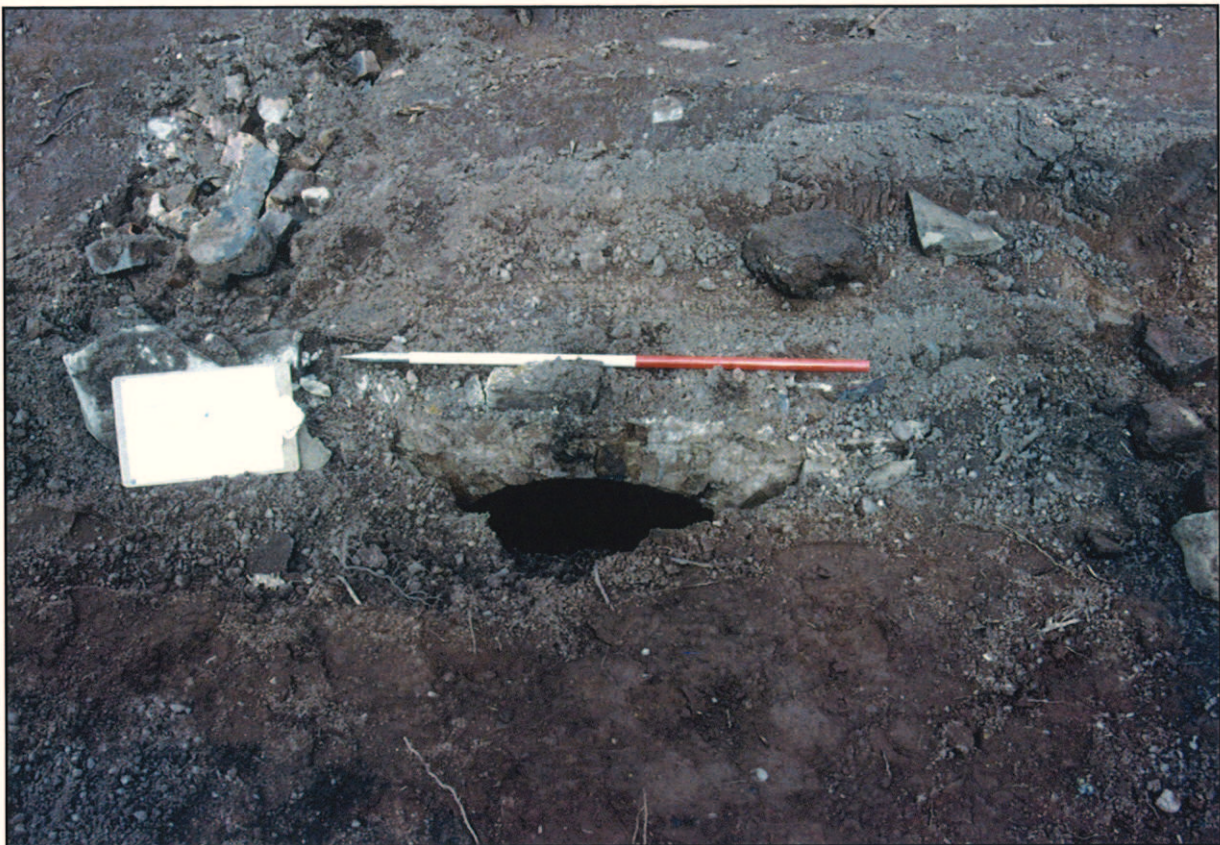


Plate 4: Culvert 300



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