

Electricity Substation and Cable Trenching University Parks Oxford



Archaeological Investigation Report



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|-------|---|---|--------------------------------|-----------|
| 1 | Christof Heistermann Assistant Supervisor and Andrew Norton Senior Project Manager | Andrew Norton Senior Project Manager | Dan Poore Head of Fieldwork | |

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Janus House
Osney Mead

Oxford OX2 0ES

t: +44 (0) 1865 263800

e: oasouth@thehumanjourney.net

f: +44 (0) 1865 793496

w: oasouth.thehumanjourney.net

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Electricity Substation and Cable Trenching, University Parks, Oxford

Archaeological Investigation Report

Written by Christof Heistermann and Andrew Norton

with contributions from Edward Biddulph, John Cotter, Geraldine Crann, David Mullin, Ruth Shaffrey, Ian Scott and Lena Strid and illustrated by Sarah Lucas and Georgina Slater

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Summary

Between March and September 2010 Oxford Archaeology (South) undertook an archaeological investigation at Oxford University Parks, Oxford, on behalf of Oxford University Estates Directorate and Scottish & Southern Energy Plc. The work comprised an archaeological watching brief during the trenching for HV and IT ducts, and a small-scale archaeological excavation in advance of an extension to the existing electricity sub-station. A Neolithic pit, part of a possible barrow ditch, Roman ditches and pits, and late medieval and/or post-medieval boundary ditches were recorded. The Neolithic pit may have been contemporary with a nearby barrow and the Roman and later features formed part of an agricultural landscape.



1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 Between 1st March and 30th September 2010, Oxford Archaeology (South) (OAS) carried out an archaeological watching brief at University Parks, Oxford (centred on NGR SP 5155 0713). The work was carried out during the excavation of HV and IT service trenches (Planning Application 09/02056/FUL) on behalf of Oxford University Estates Directorate (Fig. 1).
- 1.1.2 Between 16th June and 20th July 2010 OAS carried out a second phase of work on behalf of Scottish & Southern Energy Plc. The work involved an excavation and watching brief in advance of the extension of the existing electricity sub-station (planning application 08/02709/FUL), within the western part of the parks (NGR SP 5146 0707; Fig. 1).
- 1.1.3 The site lies within a Conservation Area and a Grade II Registered Park and Garden, and was subject to a field evaluation in March 2009 (OA 2009a). The evaluation comprised a single trench, which revealed undated pits and an undated ditch containing animal bone.
- 1.1.4 Following the results of the evaluation David Radford, Oxford City Archaeologist, requested that the proposed footprint of the substation (c 100 m²) was subject to full excavation, and that any new cable trenches were subject to an archaeological watching brief.
- 1.1.5 Oxford Archaeology produced a Written Scheme of Investigation (OA 2009b), detailing how the excavation of the sub-station extension would be undertaken. The watching brief on the service trenches was carried out in accordance with a separate project design (Wessex Archaeology 2009).

1.2 Geology and topography

- 1.2.1 The site lies on flat, partially wooded land at the southern end of University Parks and adjacent to the Clarendon Laboratory, Parks Road (Fig. 1). The investigation area was c 3 ha in area, and the site lies at a height of c 57 m OD on the second river gravel terrace (Summertown-Radley gravel terrace). The geology underlying the quarternary deposits is Oxford Clay and Kellaway Beds (BGS Sheet 236 1:50000).

1.3 Archaeological and historical background

General

- 1.3.1 The archaeological background to the site has been the subject of a Desk-based Assessment (OA 2008). The following information is summarised from that report, and has been supplemented by the results of the evaluation within the park (OA 2009a). Wessex Archaeology and Cotswold Archaeology have also carried out recent works in the vicinity of the sub-station, where they have found evidence for Prehistoric and Roman activity (David Radford pers. comm.).

Prehistoric

- 1.3.2 There is no recorded evidence for early prehistoric deposits in the parks area. The gravel terrace, on which the site is located, represents a post-glacial landscape where the ground surfaces of the Palaeolithic and Mesolithic periods have been eroded away.



It is possible that early prehistoric dislocated flint artefacts may survive within the site, but none have been recorded nearby.

- 1.3.3 Extensive evidence for later prehistoric activity is recorded from the immediate area. This evidence includes at least six Neolithic/Bronze Age ring ditches and other features to the north of the site, noted on aerial photographs of University Parks. The closest crop marks to the site are c 40 m to the north of the proposed cable route, but archaeological features are likely to extend southwards. It has been suggested that the low ridge of gravels between the courses of the Thames and the Cherwell (and upon which the site is located) was a particular focus of ritual or ceremonial activity in the Neolithic and Bronze Age periods (Boston *et al.* 2003, 197-200; Dodd 2003, 9).
- 1.3.4 This prehistoric ritual landscape extends to the east and south-east of the site, as indicated by the partially excavated Bronze Age barrows from the Gene Function Centre (c 80 m from the site; Boston *et al.* 2003) and the Rex Richards Building (c 140 m from the site; Parkinson *et al.* 1993). It is possible that the ritual landscape also extended at least as far west and south as Blackhall Lane (c 280 m from the site), where recent excavations uncovered part of what appears to be a Neolithic henge monument (Wallis forthcoming), and as far south and east as Mansfield College, where Neolithic or Bronze Age pits were excavated (c 270 m from the site; Booth and Hayden 2000). The landscape appears to have its origin in the Neolithic period but continued to be structured and revered in the Bronze Age.
- 1.3.5 There have been a number of 19th-century finds of undated skeletal material from the Parks Road area, which may represent burials of later prehistoric or Roman date. There have also been observations of undated features and deposits within the vicinity of the site, some of which may also be of later prehistoric origin (OA 2008).
- 1.3.6 Evidence from activity of Iron Age date has also been recognised during investigations on South Parks Road (c 70 m from the site; OA 2006), at the Clarendon Laboratory (c 40m west of the site; Case 1956, 82), near the University Observatory (c 200 m from the site; Parkinson *et al.* 1993, 57), and the Rex Richards Building (*ibid.*, 62). This has been interpreted as an Iron Age rural landscape, which may have included settlement, superimposed over the Neolithic/Bronze Age ritual landscape (Booth and Hayden 2000, 329).

Roman and Anglo-Saxon

- 1.3.7 There is extensive and diverse evidence of Romano-British activity around the site. The closest recorded deposits are ditches and a skeleton, found c 20 m south of the cable terminus on Parks Road (Bradley *et al.* 2005, 195), and finds of Roman pottery and animal bone c 40 m to the south of the sub-station (Atkinson and Kirk 1949, 76).
- 1.3.8 Other recorded Romano-British activity comprises possible settlement or field boundary ditches, various artefacts, animal and human bone, and other evidence interpreted as indicating probable occupation or settlement (OA 2008). The evidence recorded at Mansfield College (Booth and Hayden 2000) and the east end of South Parks Road (Bradley *et al.* 2005) shows the presence of a Romano-British rural settlement c 250 m to the south-east of the site. This evidence included at least one structure and a number of enclosure ditches and other features.
- 1.3.9 The northern edge of the late Saxon burh lies c 650 m to the south of the site. There is currently no Saxon settlement evidence north of those defences. However, recent excavations at St Johns College (c 300 m to the south-west of the site) uncovered a mass grave, which has provisionally been dated to the late Saxon period (Lesley



Abrams pers. comm.). The site probably lay in an area that was either used for an agricultural regime of low intensity or was effectively waste ground or woodland.

Medieval

- 1.3.10 The results of various excavations in the vicinity of the site indicate that there is minimal potential to contain significant evidence for activity dating from between the end of the Romano-British period, and the construction of the Civil War defences in the mid 17th century. Evidence of medieval activity has comprised features or finds characteristic of agricultural land, and medieval cultivation was revealed in an excavation c 180 m east of the site (Parkinson *et al.* 1993, 57).
- 1.3.11 Documentary and map sources indicate that the area of the site lay outside the northern perimeter of the medieval town of Oxford, and in cultivated land possibly associated with the Manor of Holywell, an ancient property belonging to Merton college (Bradley *et al.* 2005, 143).

Post-medieval

- 1.3.12 It is likely that the site continued to be used for cultivation in the post-medieval period. The site is not shown on the de Gomme map of 1644, but lay just to the east of the outer civil war defences. The terminus of the outer defences appears to have survived as an earthwork until the late 19th century, and is shown as such on the Ordnance Survey (OS) First Edition 25 Inch map of 1876.
- 1.3.13 The OS map of 1876 depicts the site as a park, and also illustrates the rapid growth north-east of the later 18th- and early 19th-century city. By 1939 the Physics Laboratory had been built on part of the former parkland immediately to the west and south of the site; a complex of buildings which was expanded and rebuilt in several phases in the second half of the 20th century.

1.4 Acknowledgements

- 1.4.1 OA extends its thanks to Oxford University Estates Directorate, RB Development Management Ltd, Scottish & Southern Energy Plc and David Radford (OCC) for their assistance during the works.
- 1.4.2 The fieldwork was carried out by Christof Heistermann, Mark Woodley, and Chris Richardson. The project was managed by Andrew Norton and the illustrations were produced by Sarah Lucas and Georgina Slater.



2 INVESTIGATION AIMS AND METHODOLOGY

2.1 Aims

General

- 2.1.1 The general aim of the investigation was to establish the presence/absence, date, nature and extent of any buried archaeological remains.

Specific

- 2.1.2 To investigate and record any buried archaeological remains along the trenches excavated for the IT duct and HV cables.
- 2.1.3 To investigate and record any buried archaeological remains that will be impacted by the footprint of the sub-station and associated works.
- 2.1.4 To further investigate the extent, nature and date of an undated ditch, a possible buried Roman plough soil and undated pits encountered during the evaluation at the site of the extension of the sub-station.
- 2.1.5 To determine the approximate date or date range of any remains, by means of artefactual or other evidence.
- 2.1.6 To further refine our understanding of the archaeological nature of the south-eastern part of the parks, an area largely devoid of crop marks (Fig. 2).

2.2 Methodology

Scope of fieldwork: watching brief on cable trenches (Fig. 2)

- 2.2.1 Two cable duct trenches (Trenches 1 and 2) were machine excavated under close archaeological supervision.
- 2.2.2 Trench 1 was approximately 500 m long, up to 1.5 m deep and 0.9 m wide and ran from the south-western park entrance in a north-east direction and then south and west towards the electricity substation.
- 2.2.3 Trench 2 was approximately 750 m long, 0.7 m deep and 0.6 m wide, and extended from the electricity substation, parallel to Trench 1, before heading first east and then south towards the park entrance at South Park Road.

Scope of fieldwork: electricity substation extension (Fig. 2)

- 2.2.4 Prior to the start of the main excavation, six 0.5 m wide and 0.7 m deep test pits were hand excavated across the footprint of the sub-station extension, in order to locate existing electrical services. Following the location of the services, the overburden within the substation extension area (Trench 3) was stripped by a tracked excavator, fitted with a toothless 1 m wide ditching bucket. Excavation was carried out under close archaeological supervision and ceased at the top of the first significant archaeological horizon (buried soil 201, Fig. 3).
- 2.2.5 Following the recording of the buried soil, machining continued until the level of the natural geology was reached. All archaeological features were cleaned by hand and were sampled to determine their extent and nature, and to retrieve finds and environmental samples. All archaeological features were planned and, where excavated, their sections were drawn at scales of 1:20. All trenches and features were



photographed using digital photographs and black and white print film. All recording was in accordance with established OA practice as detailed in the OA Field Manual (Wilkinson 1992).



3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The following section comprises a description of all significant archaeological deposits, which are described by area and from earliest to latest.

3.2 General soils and ground conditions

3.2.1 The site is near level and lies on the Summertown-Radley Pleistocene gravel terrace. The stratigraphical sequence comprised gravel overlain by a loess deposit, a buried soil horizon and the modern topsoil. The fills of the archaeological features were derived from the soil horizons and natural deposits.

3.2.2 Ground conditions were good and all trenches were dry.

3.3 General distribution of archaeological deposits

3.3.1 The top of the Pleistocene gravel terrace (203) was revealed across the site at a depth c 0.8 m below ground level. Small shallow sand-filled depressions were found incised in the gravel surface, but were overlain by the loess (202) and assumed to be natural features.

3.3.2 Archaeological deposits were revealed sporadically throughout the investigation area, but were more frequent to the west in. However, the eastern part of Trench 2 was shallower than Trench 1 and archaeological deposits may have not have been revealed. A Neolithic pit and Roman ditches were observed within the service trenches (Trenches 1 and 2). Medieval/post-medieval ditches were also observed running between the substation excavation area and the service trenches. In general the deposits were overlain by a buried cultivation soil (201) and the current topsoil (200).

3.4 Description of deposits:

Neolithic

3.4.1 An isolated pit (248; Fig. 3) was identified in Trench 2 in the central area of the site. It measured 0.7 m wide and 0.34 m deep, with a circular base and near vertical sides. The basal fill was a blackish brown sandy silt (249) that sloped down from the eastern edge. It was overlain by a 0.28 m thick dark reddish-brown sandy-silt (250). The lower fill (249) contained nine worked flints, including a Neolithic scraper.

Roman

3.4.2 Two north-south aligned ditches were identified 22 m apart at the western end of Trench 1 (Fig. 4). The western ditch was 1.72 m wide but its base was not revealed (206). The dark greyish brown silty clay fill (207) included four sherds of Roman pottery. The eastern ditch (208) was 2.3 m wide and 0.58 m deep, and was filled by a greyish-brown silty-clay that produced six sherds of Roman pottery (209).

3.4.3 Two shallow gullies (228 and 230) were revealed in Trenches 1 and 2, to the east of the substation (Fig. 5). They both were up to 0.34 m deep, 0.13 m wide and filled with a greyish-brown silty-clay. The fill (229) of gully 228 contained one sherd of Roman pottery. Gullies 228 and 230 almost certainly formed part of the same feature.

3.4.4 A group of three ditches and three pits were revealed within Trench 2, in the central area of the site (Fig. 5). The westernmost ditch (236) was north-south aligned, 0.9 m



wide and 0.54 m deep, and filled with a dark reddish-brown sandy-silt (237) that contained one sherd of Roman pottery.

- 3.4.5 A 1.4 m wide and 0.67 m deep NNW-SSE aligned ditch (238) was revealed to the east of ditch 236, and was filled by a 0.03 m thick primary fill of eroded sand (239). The overlying fill (240) comprised a 0.64 m thick sandy-silt (Fig. 5, Section 215) that contained five sherds of Roman pottery.
- 3.4.6 A third NW-SE aligned ditch (241) was 1.2 m wide and 0.46 m deep, and had a 0.36 m thick basal fill of dark reddish-brown silty-sand (242) and a 0.12 m thick upper fill of dark greyish-brown sandy-silt (243). This fills contained no finds. All three ditches were 'V'-shaped in profile and were possibly contemporary, and may have formed sequential field boundaries based on their proximity and the similarity of their fills. However, ditch 241 was aligned with a circular crop mark and may have formed part of a Roman enclosure or an earlier barrow.
- 3.4.7 Two circular pits were revealed to the east of the ditches. Pit 246 was 1.2 m wide and 0.32 m deep with steep sides and a slightly concave base. Two Roman pottery sherds were found within its sandy-silt fill (247; Fig. 5, Section 218). Pit 244 was 1 m wide and 0.25 m deep with moderately sloping sides and an irregular base. It was filled with a dark brown sandy-silt (245) that contained no finds. The pits were of uncertain function but likely to be contemporary. The third pit (232) was revealed to the west; it was also undated but likely to be contemporary with pits 244 and 246.

Medieval/post medieval

- 3.4.8 Four parallel ditches were revealed within Trench 1 and appeared to extend into the Trench 3 (Figs 6-8). Described from west to east, the first ditch (214/285) was up to 0.92 m wide and 0.46 m deep. Ditch 285 was filled with a yellowish-brown sandy-gravel (286; not illustrated), which contained a sherd of medieval pottery.
- 3.4.9 The second ditch (217/271) was up to 1.81 m wide and 0.86 m deep. The fill of ditch 271 was a dark-brown sandy-silt (272) that contained medieval pottery (284).
- 3.4.10 The third ditch (219/261) was up to 1.95 m wide and 0.95m deep. Ditch 261 was filled with a blackish-brown gravelly sandy-silt (262), which contained a 17th-century copper alloy coin.
- 3.4.11 The easternmost ditch (221/268) was up to 0.6 m wide and 0.94 m deep. The lower fill of ditch 268 comprised a reddish-brown silty-gravel (270) contained animal bone but no pottery. The upper 0.82 m thick fill, a dark brown sandy-silt (269), contained a thin copper alloy wire (269). Two sherds of Roman pottery were recovered from the upper fill of ditch 221 (222). The possible Roman ditch revealed in the evaluation trench (OA 2009a) is likely to form the eastern extent of ditch 268. The ditches were likely to represent the recutting of a medieval field boundary, but it was difficult to determine their stratigraphic relationships. Although the Roman pottery in ditch 221 was likely to be residual, if it was the same feature as ditch 268 it was the earliest in the sequence and it is feasible that it dated from the Roman period.
- 3.4.12 Two undated and heavily truncated ditches were revealed in section within Trench 5. Ditch 319 was 0.5 m wide and 0.85 m deep and was filled with a 0.85 m thick fill of dark brown sandy-silt (320). Ditch 325 was 0.6 m wide but not bottomed. It was filled with a dark brown sandy-silt (326) that was 0.7 m thick. The ditches may have represented a continuation of ditches 271 and 285.



- 3.4.13 The features were overlain by a 0.5 m thick dark brown-grey silty-sand cultivation soil (306; not illustrated), which contained 19th-century pottery sherds.
- 3.4.14 At the western end of Trench 4 (Figs 7 and 8) two deep pits were identified. Neither pit was bottomed but pit 311 was 1.54 m wide and excavated to 0.68 m depth. Its lower fill (318) of brown sandy-silt was more than 0.24 m thick. Its upper fill (312) of a dark brown sandy-silt was 0.48 m thick. Both fills contained late 15th- or 16th-century pottery sherds. The lower fill (318) also contained two residual Roman pottery sherds.
- 3.4.15 Pit 313 was 2.65 m wide and excavated to 0.75 m depth. The east side was vertical, while the west side displayed a slightly concave slope. The pit contained three fills. The lowest fill (316) was a grey silt with charcoal inclusions, and more than 0.3 m thick. It was overlain by a 0.52 m thick sloping fill (315) of olive-brown sandy-silt, which included charcoal, mortar and plaster fragments. The 0.5 m thick top fill (314) consisted of a dark brown sandy-silt. The two upper fills contained 16th/17th-century pottery sherds and fill 314 contained a clay pipe bowl dating to between 1580 to 1610.
- 3.4.16 An irregular pit or possible tree hole was revealed in the eastern section of Trench 2 (335; Fig. 9). It was 1.1 m wide and 0.88 m deep and was filled with three deposits. The basal fill (336) was a 0.34 m thick brown sandy-silt, which contained a single sherd of 15th- or 16th-century pottery. It was overlain by a similar 0.4 m thick fill (338) that contained animal bone. The top fill (339) was a 0.18 m thick brownish-grey silty-sand.

Undated features

- 3.4.17 A ditch and pit were revealed in Trench 1. Ditch 210 (Fig. 4) was 'V'-shaped in profile, 1.6 m wide, 0.42 m deep and filled with orangey-brown sandy-silt (211). Pit 212 (Fig. 4) was 2 m wide, excavated to a depth of 0.6 m and filled with an orangey-brown sandy-silt (213).
- 3.4.18 A possible pit (225) was also recorded in Trench 1 (Fig. 6). It was 1.95 m wide and 0.62 m deep and filled with an eroded sand (226) below an orangey-brown sandy-silt (227). A NE-SW aligned ditch or gully (223) was located to the north, and measured 0.28 m deep and 0.42 m wide. It was filled by a reddish-brown silty-sand (224).
- 3.4.19 An undated ditch (331) was also revealed in Trench 2 (Fig. 9). It was 3.3 m wide, but not bottomed, and contained three fills. The lowest fill (332) was a 0.76 m thick brown sandy-silt that contained fragments of mortar and ceramic building material. It was overlain by a 0.15 m thick dark brownish-grey sandy-silt (333) below a 0.1 m thick deposit of light brown silty-sand (334).

3.5 Finds summary

- 3.5.1 Prehistoric activity was represented by eleven Neolithic flint flakes that were recovered from three contexts. The bulk of the material was recovered from fill 249, which formed a seemingly deliberately placed deposit within a pit.
- 3.5.2 Pottery spanning the entire Roman period was recovered from across the site, and representative of either dumped material within agricultural boundary ditches or the product of manuring.
- 3.5.3 Medieval and post-medieval pottery and building material were recovered from later boundary/drainage ditches, as were clay pipe fragments, metalwork and a Charles I (1625-1649) Rose farthing. Full reports can be found in Appendix A.
- 3.5.4 Five pieces of slag were also present, and although too few to aid in the interpretation of the site they may have derived from nearby activity. The slag was recovered from a



Roman ditch fill (280; 18 g), a probable post-medieval ditch (345; 118 g) and included 277 g of unstratified material.

3.6 Environmental summary

- 3.6.1 Animal bone and shell was recovered from contexts across the site and was largely indicative of the waste from Roman, medieval and post-medieval manuring. Full specialist reports can be found in Appendix B.
- 3.6.2 A 40 litre bulk soil sample was taken from post-medieval ditch fill 262 but the resulting flot contained negligible environmental material and no finds were recovered (Rebecca Nicholson pers. comm.).



4 DISCUSSION

4.1 Reliability of field investigation

- 4.1.1 The revealed features within the investigation area were mostly of Roman or late medieval/early post-medieval date. Accurate dating of the features within the service trenches was difficult due to the small sample sizes. Where ditches continued between the service trenches and the larger sub-station extension area, it could be seen that ditches within the service trench excavations, which only contained Roman pottery, were likely to be later in date. It is possible that some of the Roman features described in Section 3 may also be medieval or post-medieval in date but no later pottery was recovered.
- 4.1.2 Due to the high density of truncation by service trenches within Trench 3, it is also possible that the 'medieval' ditches are Roman in date and contain intrusive later finds. Only single sherds of medieval pottery and a coin were recovered from fills 284 and 286, and a modern button was clearly intrusive. However, these ditches were also largely devoid of Roman material and a medieval/post-medieval date is more likely.
- 4.1.3 By opening up a larger area it could be seen that possible undated and sterile filled features revealed during the evaluation are likely to be natural features, as similar irregular and sterile features were revealed below the natural loess.

4.2 Interpretation

- 4.2.1 The most significant feature encountered was the Neolithic pit within Trench 2, which must be considered in light of the wider prehistoric landscape that includes at least six Neolithic/Bronze Age barrows. It has been suggested that the site was a particular focus of ritual or ceremonial activity in the Neolithic and Bronze Age periods (Boston *et al* 2003, 197-200; Dodd 2003, 9), and it is significant that the pit contained an apparently deliberately placed deposit. Significantly the pit lies to the east of a large circular crop mark. The crop mark may represent a ditch around a similarly dated barrow (Fig. 2) although it may alternatively form a later enclosure. Ditch 241 appeared to form part of this crop mark, the ditch was undated and although it was similarly shaped and filled to adjacent Roman ditches, a Bronze Age or Neolithic date cannot be ruled out.
- 4.2.2 The majority of the archaeological features comprise Roman field boundaries and associated pitting. A Romano-British rural settlement is located c 250 m to the south-east of the site (Booth and Hayden 2000; Bradley *et al* 2005), and the low density of material remains is indicative of field systems at the edge of a settlement. Work to the east of the investigation area also revealed evidence of a Roman farming community, which had its origins in the middle Iron Age period (Radford 2010, 219-221). It is possible that some of the undated features revealed during this investigation were also Iron Age in date.
- 4.2.3 Ditch 241
- 4.2.4 There is evidence of medieval cultivation c 180 m east of the site (Parkinson *et al.* 1993, 57), and documentary and map sources show fields with ridge and furrow, and indicate that University Parks lay outside the northern perimeter of the medieval town of Oxford. The site most likely lay in cultivated land possibly associated with the Manor of Holywell, an ancient property belonging to Merton college (Bradley *et al.* 2005, 143). The north-south aligned boundary ditches within the sub-station extension represent



the recutting of a single boundary over several decades. The ditches lie to the east of a north-south aligned trackway shown on Fadden's map of 1789 (Fig. 10), and are likely to have provided drainage at the edge of a field.



APPENDIX A. FINDS REPORTS

A.1 Roman pottery

By Edward Biddulph

- A.1.1 A total of 27 sherds of Roman pottery, weighing 286 g, were recovered. Four of the sherds were residual in medieval/post-medieval contexts. The assemblage spanned the Roman period and the earliest pottery, dating to the second half of the 1st century AD, was collected from contexts 209, 229, 237, 240, and 247 (Table 1). This early Roman group included high-shouldered necked jars in grog-tempered and sandy fabrics, and storage jar fragments in Savernake ware. No pottery was certain to date to the 2nd century or first half of the 3rd, although it is possible that some of the more broadly-dated context groups could belong to this period. Contexts 207 and 222 contained late Roman pottery, all products of the Oxford pottery industry. A fragment of a dish base in context 207 belonged to a dish (Young 1977, type C45) that derived from a samian prototype (Drag. 31). Though typically present in the prototype, the tall and pointed floor of the base seen in the imitation is uncharacteristic in most examples produced in the Oxford workshops, suggesting that the piece from this site was a more accurate copy than usual. Ditch fill 222 contained a sherd in a gritty burnt white ware, also produced in Oxford, as well as an oxidised ware flagon. The pottery from both contexts dates from c AD 240 onwards.
- A.1.2 The assemblage, though small, is from a site located within an area of known Roman occupation that spanned the 1st to 4th/5th centuries. Some 14 kg of Roman pottery were recovered from Mansfield College on the south side of South Parks Road (Booth 2000), while a further 18 kg were recovered from the Chemistry Laboratory a short distance to the east of Mansfield College (Biddulph 2005). The pottery from University Parks is consistent with these larger assemblages in terms of dating, forms and fabrics.

A.2 Post-Roman pottery

By John Cotter

- A.2.1 A total of 41 sherds of post-Roman pottery (548 g) were recovered. These cover a date range from the 13th or 14th century to, perhaps, as late as the early 20th century. All the pottery was examined and spot-dated and for each context the total pottery sherd count and weight were recorded on an Excel spreadsheet, followed by the context spot-date which is the date-bracket during which the latest pottery types in the context are estimated to have been produced, or were in general circulation (Table 1). Comments on the presence of datable types were also recorded, usually with mention of vessel form (jugs, bowls etc.) and any other attributes worthy of note (eg. decoration etc.).
- A.2.2 The assemblage is mostly in a fairly fresh condition with some fairly large sherds present. The earliest pottery type present comprises a few glazed jug sherds in Brill/Boarstall ware (Fabric OXAM). Although this industry has a broad date range of c 1200-1600, the small assemblage here includes one or two sherds with green glaze and applied strips which are likely to date to the 13th or 14th century. The bulk of the sherds present here (in all fabrics), however, date to the late medieval/early post-medieval period - roughly from c 1475-1650. These include late Brill/Boarstall products and early post-medieval redwares - also perhaps made at Brill (Bucks). Common German stoneware imports of the period include a Raeren stoneware mug rim (c 1475-1550) and the moulded base of a Frechen stoneware jug (moulding datable c 1550-



1630). Context 200 (topsoil) produced two joining sherds from a London tin-glazed earthenware drug jar (c 1600-1650) with polychrome decoration (but also a much later flowerpot rim, see below).

- A.2.3 There is a small, unremarkable, collection of late 18th- and 19th-century pottery including common tablewares of the period, and a stamped Nottingham-made terracotta flowerpot dating to c 1880-1950 (200). The pottery types present are fairly unremarkable for Oxford.



Table 1 Roman and post-Roman pottery

| Context | Spot-date | Sherds | Weight | Comments |
|---------|---------------|--------|--------|---|
| 0 | c1825-1900 | 6 | 142 | Blue transfer-printed ware (TPW), Creamware (CREA), Base brown stoneware ink bottle (ENGS). 3x Brill (OXAM) incl worn 15/16C jar strap handle & incl 1x med |
| 200 | c1880-1950 | 1 | 8 | Fresh red flowerpot rim with fragmentary 'NOTTINGHAM, BULWELL' stamped inscription |
| 200 | c1200-1600 | 1 | 5 | Worn bs unglz Brill jug. Prob 15/16C? |
| 200 | c1600-1650/75 | 5 | 58 | 2 joining bs from tin glazed earthenware (TGW) drug jar with ochre horiz bands and blue trellis dec zone. Poss mid 17C? 2x early post-med red earthenware (PMRE). 1x bs Early Roman Savernake ware (12g, ident Ed Biddulph) |
| 201 | c1780-1830 | 9 | 124 | 1x blue transfer-printed Pearlware. 1x prob pmed Brill slipware 18C. 1x Westerwald stoneware mug/jug handle junction. 2x late Brill incl OXAP & flanged dish rim. 3x med Brill. 1x v worn Roman Oxford greyware jar rim (7g). |
| 201 | ROMAN | 1 | 1 | SF31. Small unident bs burnt white sandy ware. Sooted ext. thin-walled. Roman |
| 207 | ROMAN | 4 | 53 | 2x Oxford red colour-coated sherds, including rouletted dish (Young C45, though with uncharacteristic high kick to base); 2 x Oxford grey wares sherds, including beaker rim. AD 240-410 |
| 209 | ROMAN | 6 | 70 | 2 x sandy grey ware rim and body sherds of high-shouldered necked jar; 2 x oxidised ware base; 2 x misc grey ware. AD 43-130 |
| 222 | ROMAN | 2 | 10 | 1 x oxidised flagon rim; 1 x Oxford burnt white ware body sherd. AD 250+ |
| 229 | ROMAN | 1 | 6 | Worn bs Savernake ware. AD43-150 |
| 237 | ROMAN | 1 | 6 | Bs shell-tempered. ?1st century AD |
| 240 | ROMAN | 5 | 104 | 3 x grog-tempered sherds, incl rim sherd of high-shouldered necked jar; 1 x sandy grey ware jar rim; 1 x shell-tempered. c. AD43-100 |
| 247 | ROMAN | 2 | 6 | 2 x grog-and-?flint-tempered body sherds. ?First century AD |
| 280 | ROMAN | 1 | 1 | Fine white ware, probably Oxford. AD100+ |
| 284 | c1200-1600 | 1 | 7 | Jug neck Brill. Poss late med - partial yellow glz ext |
| 286 | c1200-1600 | 1 | 3 | Brill. Yell glazed jug bs. Poss trace red strip. Fresh |
| 306 | c1825-1900 | 1 | 4 | TPW blue. Worn |
| 312 | c1475-1550 | 8 | 38 | 1x rim Raeren stoneware mug. 4x late Brill/early post-med redwares? 1x med Brill. 2x resid Roman (10g) |
| 314 | c1600-1700 | 2 | 112 | Fresh yellow Borderware pipkin base with tripod foot. Fresh PMR jar rimw int glz - prob 17C |
| 315 | c1550-1650 | 6 | 55 | 1x Frechen stoneware moulded jug base. 1x bs green-glz Border ware. 4x fresh PMR - good quality |
| 318 | c1475-1550? | 3 | 20 | 1x ?late Brill green-glazed ?cup or jug rim. 1x unglz bs late Brill/early PMRE. 1x burnt black ditto ?rim with traces decayed glz? |
| 336 | c1475-1550? | 1 | 1 | Scrap fine red sandy early PMRE? Poss a Guy's-style slipware with yellow glz sitting on a thin pinkish allover int slip |
| TOTAL | | 68 | 834 | |



A.3 The clay pipes

By John Cotter

- A.3.1 Four pieces of clay pipe weighing 32 g were recovered from three contexts. These have been catalogued and spot-dated in a similar way to the pottery though in slightly more detail (Table 2). Bowl shapes have been compared to those published from St Ebbe's, Oxford (Oswald 1984). The assemblage, which is in fairly good condition, includes nothing later than the 17th century. There is a complete small early bowl of c 1580-1610 (ditch fill 314) and a complete bowl of c 1660-1680 (topsoil 200). These are all plain and unmarked.

Table 2 Clay tobacco pipes

| Context | Spot-date | Stem | Bowl | Mouth | Tot sherds | Tot Wt | Comments |
|---------|------------|------|------|-------|------------|--------|--|
| 0 | 17/E18C | 1 | 0 | 0 | 1 | 6 | Stem bore c 3mm |
| 200 | c1660-1680 | 1 | 1 | 0 | 2 | 20 | Complete bowl with short stubby spur. Slight milling. Fresh. Stem prob from same pipe. SB c 3mm |
| 314 | c1580-1610 | 0 | 1 | 0 | 1 | 6 | Complete small early bowl with milled rim and heart-shaped heel. Good quality burnish. Scorched. Faint traces red pigment ext? |
| TOTAL | | 2 | 2 | 0 | 4 | 32 | |

A.4 The worked flint

By David Mullin

- A.4.1 A total of 11 lithic items were recovered from three contexts. Of note is the scraper from pit fill 249, which is certainly of Neolithic date, as is the narrow blade from the same context. These were recovered with five waste flakes and another piece which appears to have been polished, has curved edges and is probably part of a polished flint axe. The core trimming flake from this context was removed by a soft hammer and may also be of Neolithic date. There is no reason why this small assemblage was not deposited together in the fill of this feature. The remaining material from the site could also be Neolithic in date.

Table 3 The worked flint

| Context | Description | Raw Material | Date |
|---------|----------------------|-------------------|------------|
| 200 | Core trimming flake | Patinated | |
| 201 | Retouched flake | Grey flint | |
| 249 | Core trimming flake | Light brown flint | |
| 249 | End and side scraper | Patinated | Neolithic |
| 249 | Blade-like flake | Patinated | Neolithic |
| 249 | ?axe fragment | Burnt | ?Neolithic |
| 249 | Tertiary flake | Light brown flint | |
| 249 | Tertiary flake | Patinated | |
| 249 | Tertiary flake | Patinated | |
| 249 | Tertiary flake | Patinated | |
| 249 | Tertiary flake | Light grey flint | |



A.5 The stone

By Ruth Shaffrey

- A.5.1 Seven fragments of oolitic limestone, possibly Taynton stone were recovered from fills 280, 312, 314, 318 and 342. They could be fragments of building stone but are small and undiagnostic. A single fragment of slate came from topsoil 200, it could be roofing material but is also very small and undiagnostic. An additional seven fragments were unworked and of no interest.

Table 4 The Stone

| Form | Count | Weight (g) |
|--------------------|--------------|-------------------|
| Brick | 4 | 73 |
| Brick/flat | 2 | 34 |
| Flat | 11 | 164 |
| Flat/indeterminate | 1 | 11 |
| Floor | 1 | 30 |
| Indeterminate | 2 | 23 |
| Peg | 1 | 43 |
| Grand Total | 22 | 378 |

A.6 Metal and glass

By Ian Scott

Glass

- A.6.1 There are 5 sherds of vessel glass. Two sherds are unstratified; these comprise the base of a wine bottle, probably of late 19th- or early 20th-century date, and a heavily weathered sherd from the base of another wine bottle.
- A.6.2 Two sherds were recovered from the topsoil (200), one comprising the kick or pushup from a modern wine bottle, the second rim sherd from a cased vessel or glass lampshade made with colourless glass over opaque white glass. Neither sherd need date before the end of the 19th century.
- A.6.3 A small, probably modern, and undiagnostic sherd of blue green vessel glass was recovered from a buried soil layer (201).

Metalwork

- A.6.4 There are 8 metal objects including a coin and a token. The objects comprised:
- A small square iron buckle frame recovered from an unstratified deposit, and which was not closely datable.
- A small iron ring or collar (SF 3; D: 22 mm; W of band: 5 mm) was recovered from the topsoil (200).
- A Nuremberg Rose and orb jetton of Hans Krauwinckel II (SF 10), dating to late 16th or early 17th century, was recovered from a buried soil horizon (201).



Three finds were recovered from ditch fill 262; a Rose farthing (SF 1) of Charles I (1625-1649), a modern button of gilt with mother of pearl inlay, and part of a table knife blade with narrow plate tang.

A fragment of thin copper alloy wire, very probably the stem of a dress pin, was recovered from ditch fill 269.

Part of a large nail with small flat head was recovered from pit fill 343.

A.6.5 With the exception of the Nuremberg jetton and the Charles I farthing, the metal finds are not closely datable.



APPENDIX B. ENVIRONMENTAL REPORTS

B.1 Animal bones

By Lena Strid

- B.1.1 A total of 93 animal bones were recovered from pits and ditches (Table 5). The recording methodology follows OA standard practice. An attempt to identify sheep and goat to species on horn cores, skulls and metapodials was not successful, and all caprine remains were classified as 'sheep/goat'. Ribs and vertebrae, with the exception for atlas and axis, were classified by size: 'large mammal' representing cattle, horse and deer, and 'medium mammal' representing sheep/goat, pig and large dog. A full record of the assemblage can be found in the site archive.
- B.1.2 The condition of the bone was graded on a 6-point system (0-5), grade 0 equating to very well preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable. Most bones were in a fair condition (Table 6), with few traces of gnawing. This suggests that the bones were covered fairly rapidly after disposal, thus making it difficult for dogs and rodents to access the bones. Three bones from medieval/post-medieval features were burnt.
- B.1.3 The bone assemblage could be divided into two periods: Roman and medieval/post-medieval. However, a large part of the assemblage derived from undated or modern features (Table 5). The Roman assemblage is very small, but contains bones from cattle, sheep/goat and horse. Dog is indirectly represented in this phase by gnaw marks on two horse pelves. Judging by bone surface structure, all remains belong to adult or subadult animals, with the exception of one juvenile cattle femur. Butchery marks and pathologies were absent. Previous excavations have yielded evidence of Roman activity in the area; a settlement was located south of South Parks Road and boundary ditches and burials were excavated between South Parks Road and the present excavation area (Booth and Hayden 2000; Bradley et al. 2005; Hassall 1972). The animal remains from the nearby Roman settlement comprised cattle, sheep/goat, pig, horse, dog and fowl. In all cases the assemblages are too small to carry out an inter-species comparison (Hambleton 1999, 39). A selection of other sites in Oxfordshire have produced a predominance of bones from cattle and sheep/goat, although their inter-species ratio vary (Table 7). The variation is not great and could be explained by difference in local environment, for example wetland grazing is more suitable for cattle and the dry downs are more suitable pasture for sheep (Davis 1995, 181). Other factors which may explain species differences, in what is after all a very small bone collection, include difference in bone preservation and representation of different feature types on the sites (Rielly 2009, 206). Even bearing in mind the small sample sizes, the three assemblages appear to provide evidence for a similar animal husbandry strategy, where cattle and sheep/goat were kept for a variety of purposes, such as dairy, wool, manure, meat and traction, whereas pigs were slaughtered young for meat (Lange 1995; Levitan 1984; Maltby 1996).
- B.1.4 The species present in the medieval/post-medieval assemblage include cattle and sheep/goat. Most cattle bones come from the lower legs and thus represent butchery waste, whereas the majority of the sheep/goat bones represent kitchen waste. All bones derive from adult or sub-adult animals (Table 8), with the exception of a single juvenile long bone from a large mammal. Butchery marks occurred on four bones, two vertebrae from large mammals were axially split, and one of these was also split transversally - an indication that the vertebral column had been divided into portions. Cut marks, at the



proximal end of on one cattle first phalanx and on one sheep/goat metatarsal represent skinning. During the late medieval/post-medieval period, the area presently occupied by the University Parks consisted of fields. The bones are most likely to have been transported to the fields as part of midden heaps, which were used as fertilizer.

Table 5. Number of identified bones/taxon by chronological phase

| | Roman | Post-medieval | Modern | Undated | Total |
|---------------|----------|---------------|-----------|-----------|-----------|
| Cattle | 1 | 10 | 1 | 8 | 20 |
| Sheep/goat | 1 | 4 | 2 | 3 | 10 |
| Pig | | | 1 | 8 | 9 |
| Horse | 3 | | | 3 | 6 |
| Fallow deer | | | | 1 | 1 |
| Indet. bird | | | 1 | | 1 |
| Medium mammal | | | 2 | 3 | 5 |
| Large mammal | 1 | 8 | 7 | 1 | 17 |
| Indeterminate | 2 | 9 | 1 | 12 | |
| TOTAL | 8 | 31 | 15 | 39 | 93 |
| Weight (g) | 745 | 598 | 218 | 904 | 2465 |

Table 6. Bone preservation

| Site | N | Excellent | Good | Fair | Poor | Very poor | Abysmal |
|---------------|----|-----------|-------|-------|-------|-----------|---------|
| Roman | 8 | | 12.5% | 75.0% | 12.5% | | |
| Post-medieval | 31 | 19.4% | 64.5% | 16.1% | | | |
| Modern | 15 | | 33.3% | 66.7% | | | |
| Undated | 39 | | | | | | |

Table 7. Inter-species ratio (%) between cattle, sheep/goat and pig at three Roman Oxfordshire sites

| | N | Cattle | Sheep/goat | Pig |
|-------------------|-----|--------|------------|------|
| Wantage | 357 | 49.6 | 42.3 | 8.1 |
| Middleton Stoney | 336 | 39.6 | 50.0 | 10.4 |
| Old Shifford Farm | 329 | 55.9 | 33.4 | 9.7 |

Table 8. Post-medieval assemblage. Epiphyseal fusion of cattle, sheep/goat and pig

| | Cattle | | Sheep/goat | |
|--------------|----------|----------|------------|----------|
| | Unfused | Fused | Unfused | Fused |
| Early fusion | | | | |
| Mid-fusion | 1 | 5 | | 1 |
| Late fusion | | | | |
| Total | 1 | 5 | | 1 |

For definition of fusion stages see Serjeantson 1996:216-218



B.2 Shell

By Geraldine Crann

- B.2.1 Shell, predominantly oyster, was recovered from 11 contexts on the site. The assemblage is of low potential and does not aid our understanding of the site.

Table 9 Shell

| Context | Material description |
|----------------|--|
| 0 | 1 oyster shell, 13g. |
| 200 | 1 oyster shell, 9g. |
| 252 | 1 oyster shell, 8g |
| 262 | 3 oyster shell fragments, 35g. 3 garden snails, 5g |
| 272 | 1 oyster shell fragment, 3g |
| 280 | 1 oyster shell fragment, 3g |
| 284 | 1 oyster shell fragment, 4g |
| 312 | 3 oyster shell fragments, 16g |
| 314 | 2 oyster shells, 22g |
| 315 | 7 oyster shell fragments, 36g |
| 318 | 1 oyster shell fragment, 6g |



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APPENDIX D. SUMMARY OF SITE DETAILS

| | |
|-----------------------------|--|
| Site name: | Electricity Substation and Cable Trenching, University Parks, Oxford |
| Site code: | OXUPE10 |
| Grid reference: | NGR SP 5146 0707 and SP 5155 0713 |
| Type: | Watching Brief and Excavation |
| Date and duration: | March to September 2010 |
| Area of site: | c 3 ha |
| Summary of results: | The work comprised an archaeological watching brief during the trenching for HV and IT ducts, and a small-scale archaeological excavation in advance of an extension to the existing electricity sub-station. A Neolithic pit, part of a possible barrow ditch, Roman ditches and pits and medieval/post-medieval boundary ditches and pits were revealed. |
| Location of archive: | The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with the Oxford County Museum Service in due course, under the following accession number: OXCMS:2009.10 |



Scale 1:10,000

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Figure 1: Site location

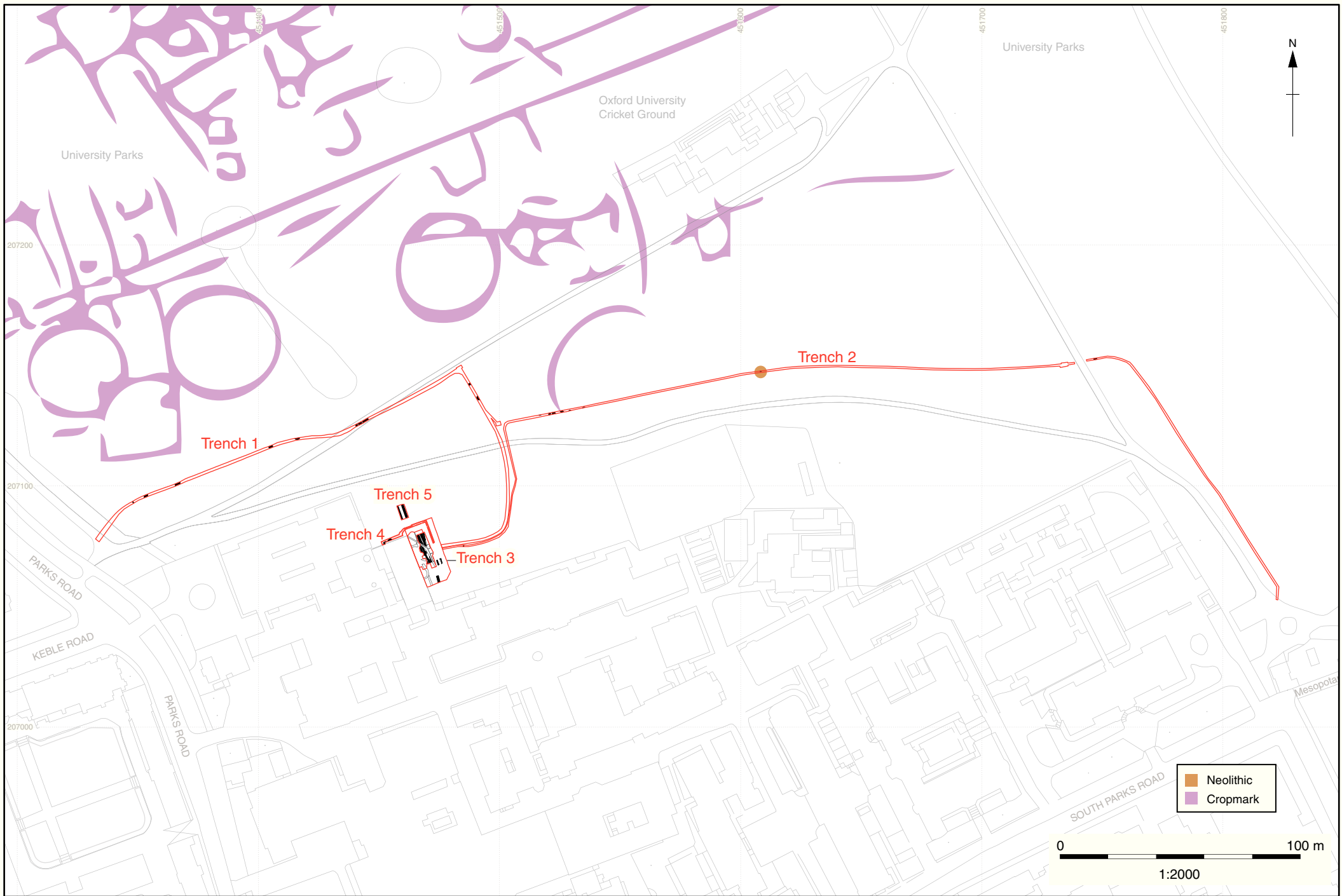


Figure 2: Investigation areas

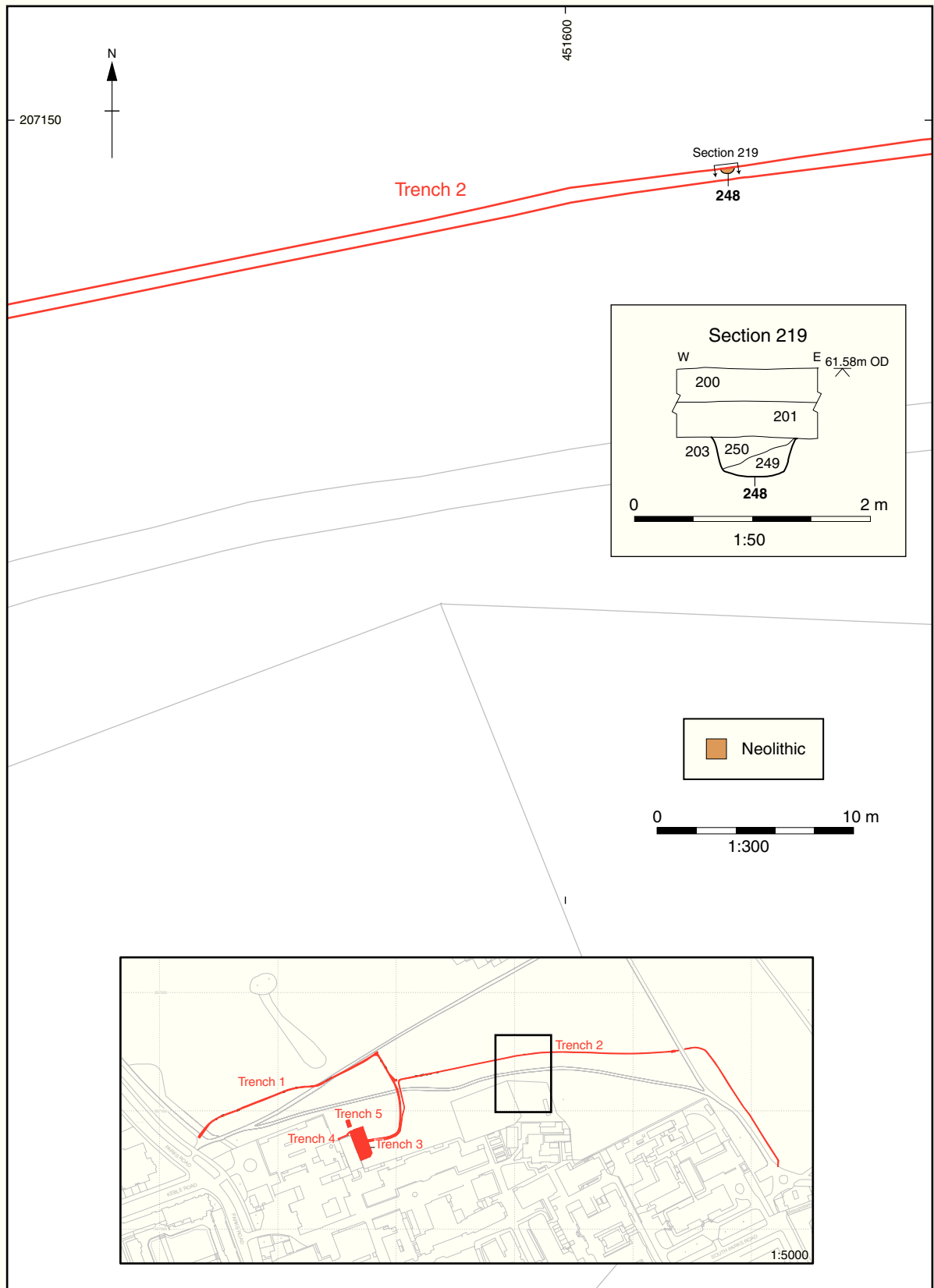


Figure 3: Neolithic pit 248

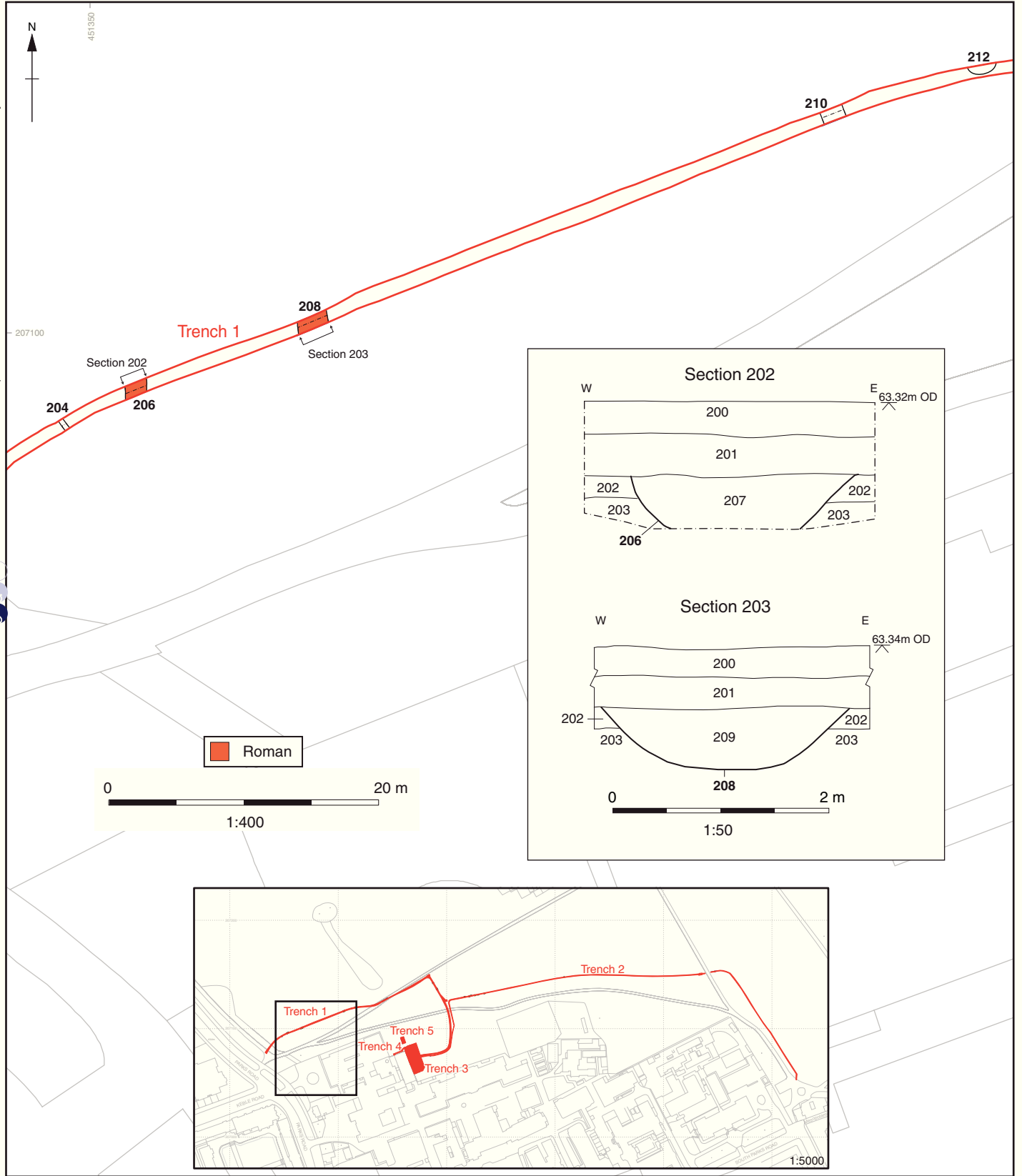


Figure 4: Features within the west of Trench 1

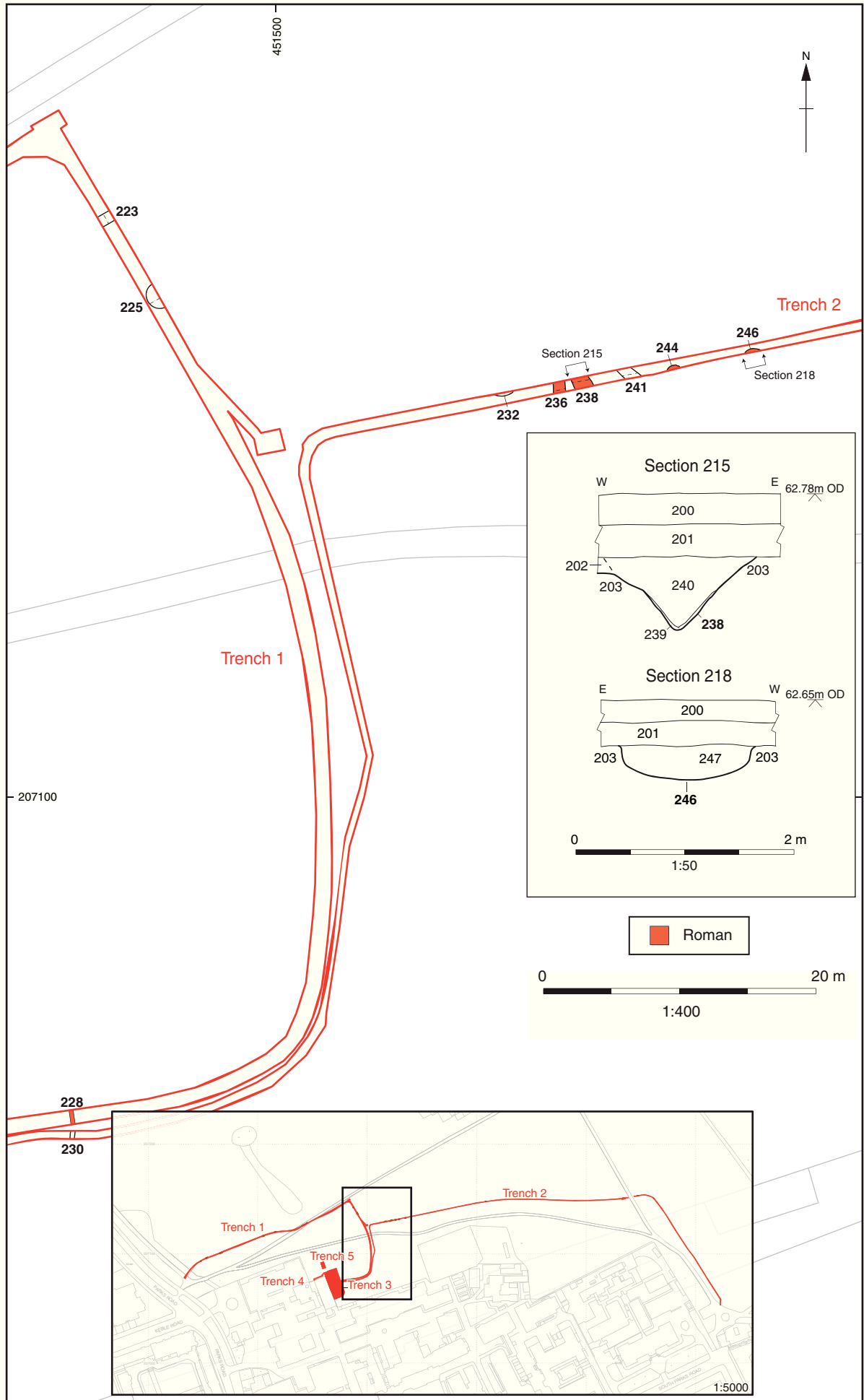


Figure 5: Eastern extent of Trench 1 and western extent of Trench 2

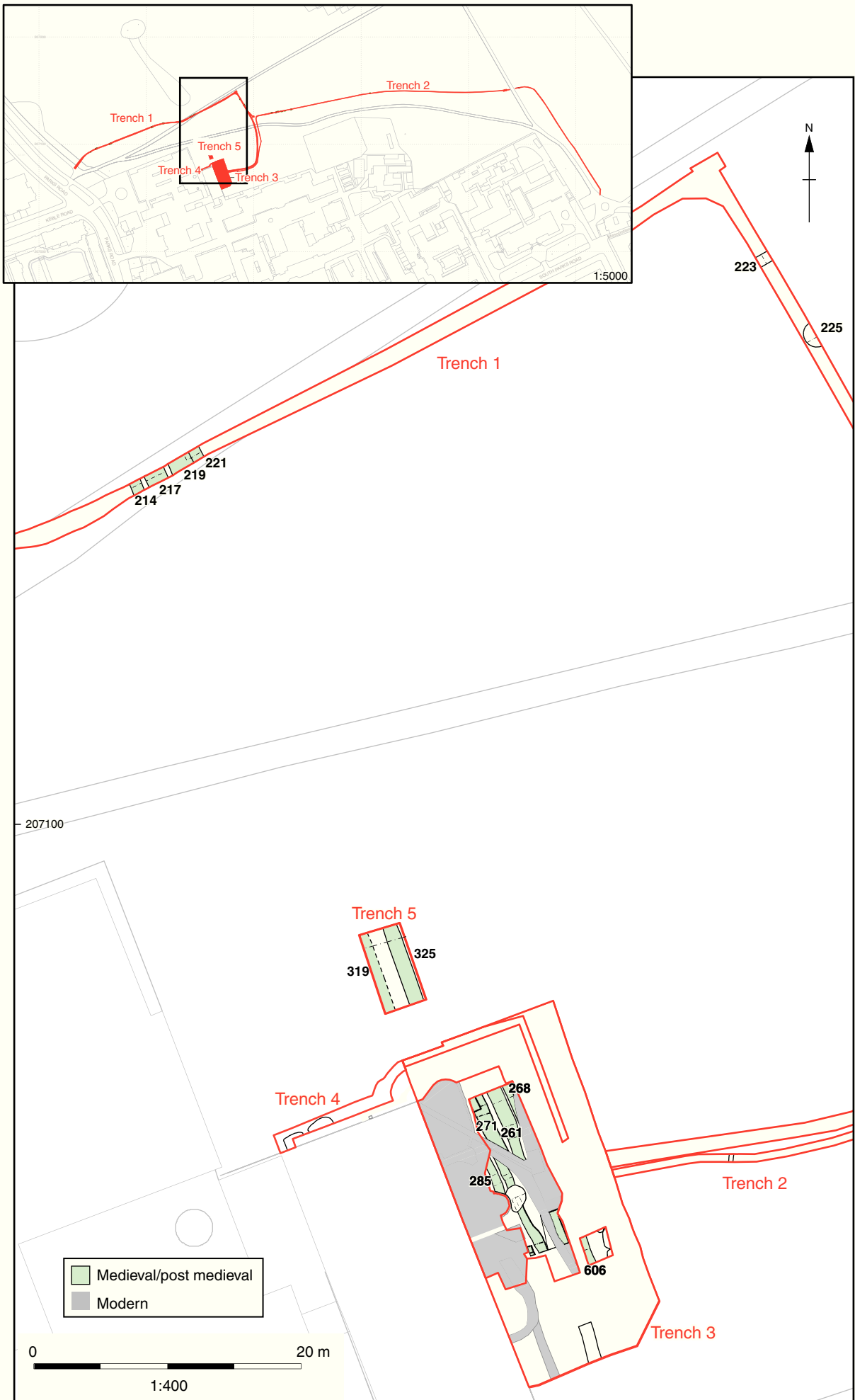


Figure 6: Medieval ditches

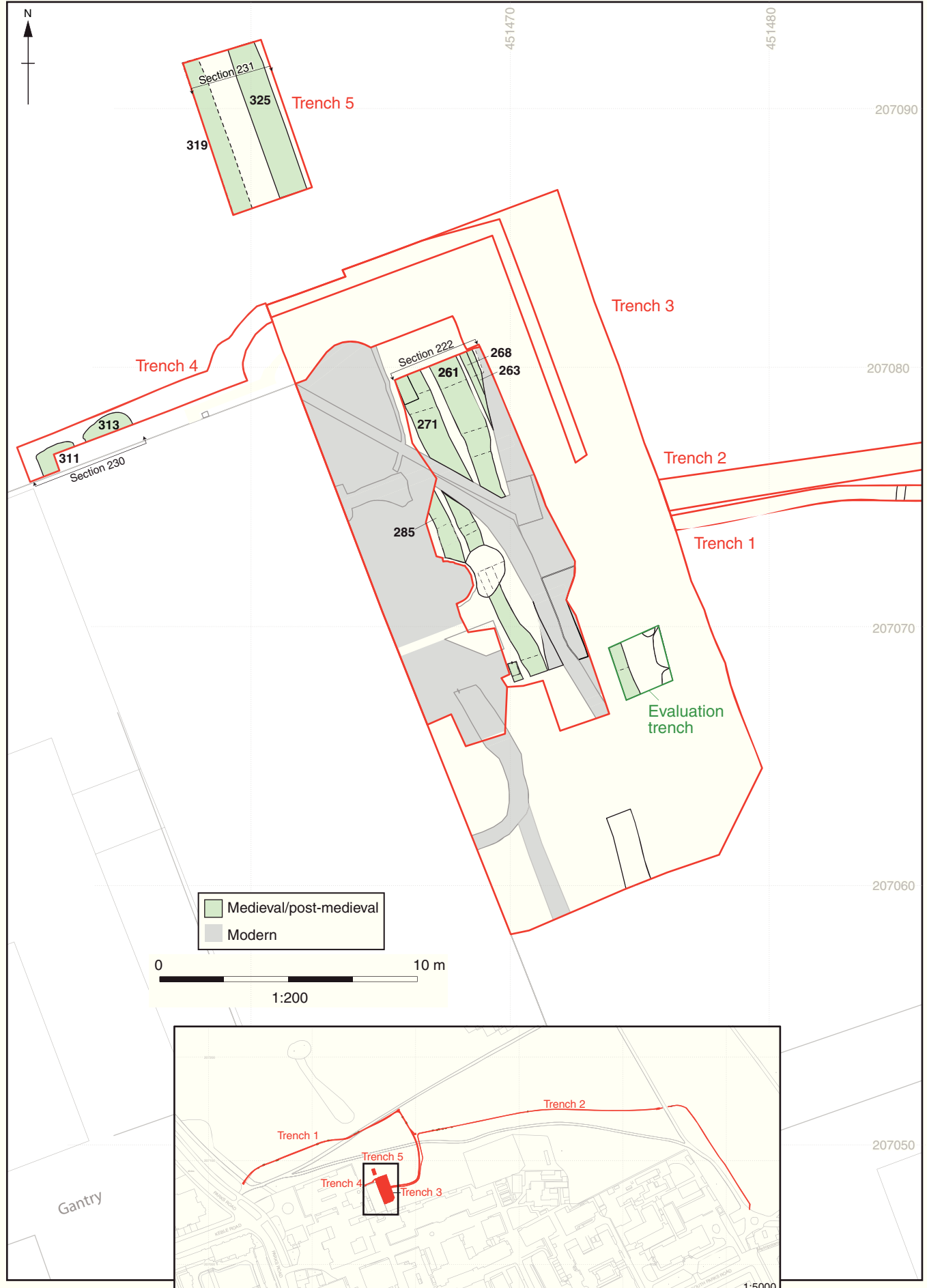


Figure 7: Sub-station extension area

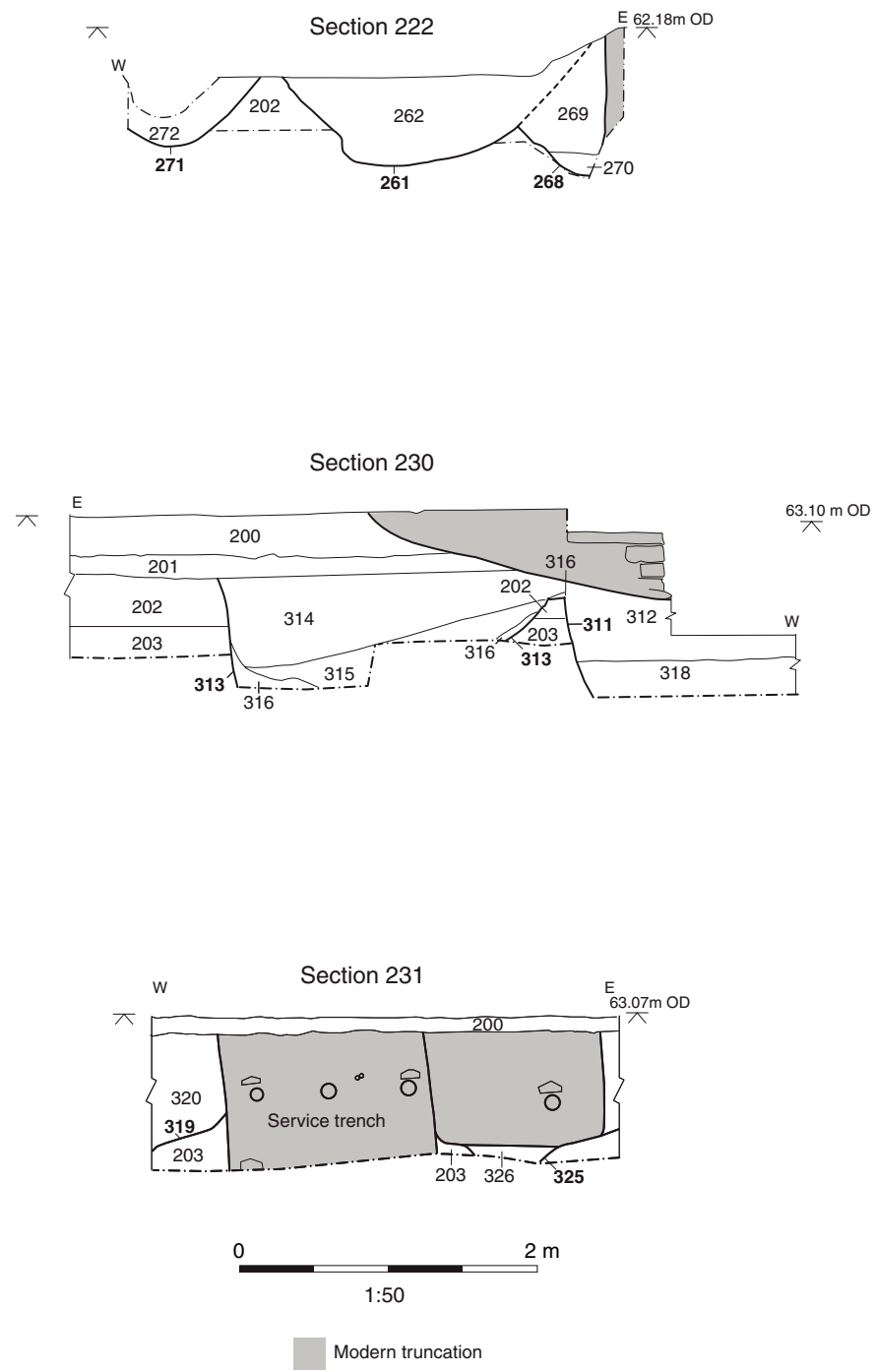


Figure 8: Medieval ditch sections

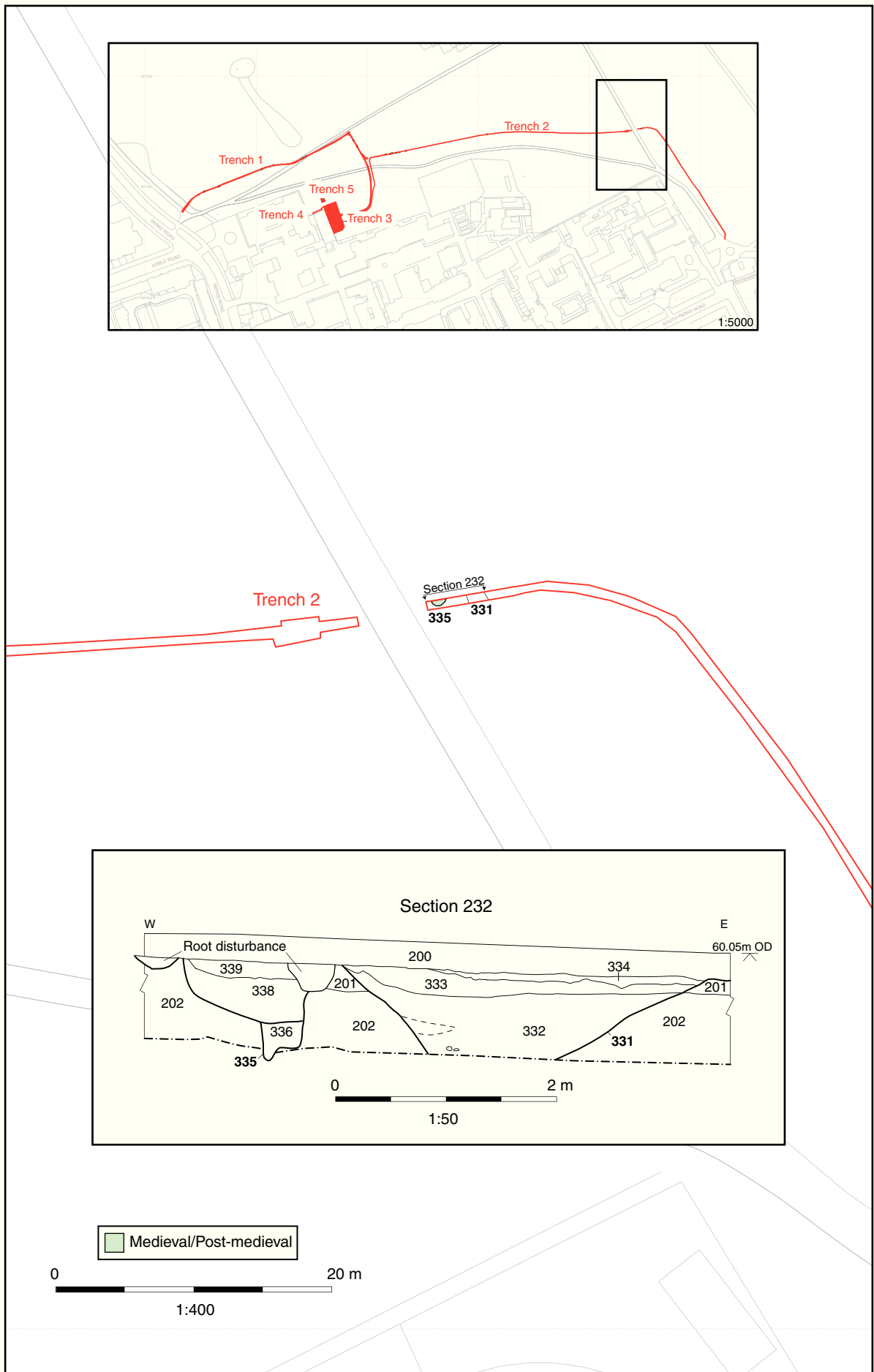


Figure 9: Ditch 331 and pit 335

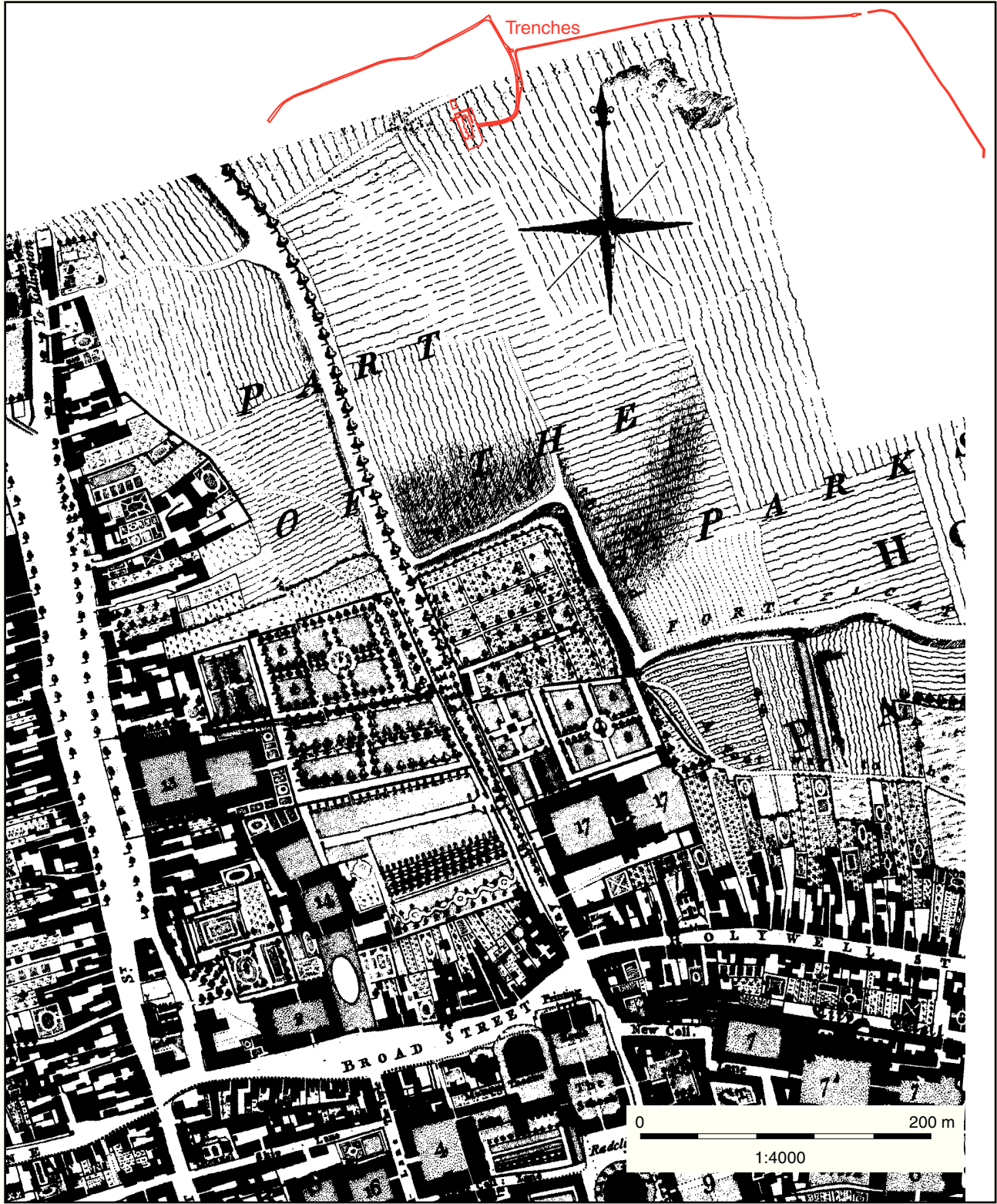


Figure 10: Detail from Fadden's map of 1789



OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
f: +44 (0) 1223 850599
e: oaeast@thehumanjourney.net
w: <http://thehumanjourney.net>

OA North

Mill 3
Moor Lane Mills
Moor Lane
Lancaster LA1 1GF

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: oanorth@thehumanjourney.net
w: <http://thehumanjourney.net>

OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarch.co.uk
w: <http://thehumanjourney.net>

OA Grand Ouest

7 Rue des Monderaines
ZI - Ouest
14650 Carpiquet
France

t: +33 (0) 249 88 01 01
f: +33 (0) 249 88 01 02
e: info@oago.fr
w: <http://oago.fr>

OA Méditerranée

115 Rue Merlot
ZAC La Louvade
34 130 Maugeio
France

t: +33 (0) 4.67.57.86.92
f: +33 (0) 4.67.42.65.93
e: oamed@thehumanjourney.net
w: <http://oamed.fr/>

Director: David Jennings, BA MIFA FSA



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