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Archaeological Investigation Report



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ARCHAEOLOGICAL INVESTIGATIONS REPORT

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Summary

Between July 2001 and February 2002, Oxford Archaeology (OA) undertook an archaeological investigation on behalf of Thames Water Utilities on the remediation of former sludge beds in advance of the construction of a new sewage treatment works. This investigation revealed a partial ring-ditch, possibly a borrow pit around a Bronze Age barrow. Two phases of field boundaries were also present, evidence for post-medieval enclosure. The margins of the site were blanketed in alluvium, deposited during the post-medieval period.

1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 Oxford Archaeology (OA) was commissioned by Thames Water to undertake the archaeological investigations necessary to mitigate the impact of the construction of the new Sewage Treatment Works (hereafter STW). This reflects Thames Water's commitment to fully understanding the archaeological consequences of STW construction and to ensure that adequate mitigation is in place for any impacts on features of archaeological or cultural heritage importance.
- 1.1.2 The new facility is to be built on the site of former sludge beds, and so required ground remediation prior to construction. These works comprised the construction of a bentonite-cement slurry cut-off wall around the whole site to prevent groundwater movement and transfer of contamination; removal of the contaminated sludge and land fill covering the site; artificially restoring the ground level with imported construction fill; excavation and construction of the sewage inlet pipes; and construction of the Treatment Works itself from the remediated ground level. The initial layout of the STW does not cover the whole site, the southern quarter being reserved for possible future development. However, this part of the site was also remediated in the same way and at the same time as the other parts of the site.
- 1.1.3 The archaeological investigation was undertaken in two stages. The first and major stage of the investigation comprised an archaeological watching brief across the entire STW. This watching brief was designed to map and record any archaeological features encountered during the stripping of the overburden and any modern made ground horizons, particularly where no alluvium was present. The second stage comprised the excavation of 15 trial trenches through the alluvium in order to assess the state of preservation of the archaeology below the alluvium.

1.2 Site Location, Geology and Topography

- 1.2.1 The site lies approximately 2.5km south of Reading town centre and 1km north of the M4 motorway, centred on SU 706705 (Fig.1). The STW is to be constructed on the site of former sludge beds, which have also been used in part for landfill of inert and domestic waste. A flood relief channel runs along the west side of the site with a landfill site immediately west of that. On the east side is Reading Greyhound Stadium. The Foudry Brook flows between the existing Manor Farm Sewage works

and the stadium and the recently completed A33 relief road runs between the stadium and Foudry Brook. Island Road runs along the north side of the site. The highest ground lies in the north at 41.00 m OD, sloping gently to 39.25 m OD in the south. Within the sludge beds, levels are 2-3 m lower.

- 1.2.2 The geology maps (BGS, 1946 sheet 268) show the site falling within two geological bands. The majority of the site is over Alluvium which covers River Gravels which overlay Reading Formation sands and clays, under which is the Upper Chalk. The south west corner of the STW lies directly over Valley Gravel. However, previous boreholes taken over the site (Thames Water, 2000) show that Alluvium is located over a wider area than indicated on the geology map.
- 1.2.3 The previous boreholes and test pits already excavated on the STW revealed a layer of made-ground composed of recent landfill and sewage sludge extending from 0.5 m to more than 5.5 m in depth. Where the base of the made-ground was reached, the natural gravel was observed across most of the STW though some alluvium was present on the margins.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 General Background

- 2.1.1 The site has been the subject of a desk-top study (OA 2000a), which was subsequently revised and included as part of the Environmental Impact Assessment for the proposed development (OA 2000b). What follows is a summary of the background detailed in those reports.

2.2 Previous Archaeological Work in the Area

- 2.2.1 Though no investigations have been previously undertaken, the archaeological potential of the site and its surrounding area is known to be high. Previous investigations have revealed activity from the Palaeolithic period onwards, with particularly intense occupation phases occurring during the Neolithic, Bronze Age and Roman periods. Aerial photography has also shown up many cropmarks of field systems, enclosures and ditches in the area, which often cannot be assigned to a particular use or period.
- 2.2.2 Most of the study area lies between the River Kennet and Foudry Brook and was criss-crossed by smaller streams, most of which are now dried up although a few have been channelled for drainage. Many finds have come from the river or from the fills of palaeochannels. The prehistoric channels from Smallmead Farm contained late prehistoric pottery and were found about 1 m below the ground.
- 2.2.3 A number of evaluations and excavations have taken place in the Kennet Valley south and south west of the development site in the last 20 years and have led to the discovery of a complex archaeological landscape with its origins in the late Neolithic.

- 2.2.4 Excavations at Pingewood (SU698694) by the Berkshire Archaeological Unit in 1978-9 and Wessex Archaeology in 1982, found evidence for middle to late Bronze Age activity and late Iron Age and Roman field systems (Lobb & Rose 1996). This area has also been extensively fieldwalked as part of the Lower Kennet Valley Survey, where finds covering the same time span were discovered.
- 2.2.5 OA excavated at Moore's Farm (SU688690) in 1998-99, where settlement dating to the Neolithic, middle Bronze Age and early Iron Age periods, were recorded (OA 2000d).
- 2.2.6 Evidence for prehistoric, Roman and post medieval activity was found by Wessex Archaeology in 1993-4 at Smallmead Farm (SU698711). This site lies on the floodplain and the most significant find was a silted up prehistoric river channel. Another part of Smallmead, now occupied by Reading Business Park (SU701699), was excavated in 1987-88 by OA (Moore and Jennings 1992). Part of the site lay on the gravel terrace and part on the floodplain. Neolithic features and a large late Bronze Age settlement were found and excavated on the terrace. On the floodplain, sealed below the alluvium, Roman field systems were discovered, overlying Bronze age material.
- 2.2.7 East of Reading Business Park and south of the development site, Wessex Archaeology found evidence of late Bronze Age/ early Iron Age activity and Roman ditches at Reading Football Club (SU 706697) in 1998. Alluvium covered part of the area and a silted up palaeochannel containing prehistoric pottery was found.
- 2.2.8 North of Manor Farm there has been little excavation, although Thames Valley Archaeological Services recovered flint and pottery from the Palaeolithic to medieval periods near Elgar Road (SU718719) in 1986-88. Much of the archaeology recovered from the north of the study area has been associated with gravel extraction.
- 2.2.9 Most recently at Burghfield Green Park, excavations by OA in 2001 revealed a low level of middle Bronze Age activity in the form of a number of water-holes, along with parts of later Bronze Age and Roman field systems (OA forthcoming).

2.3 Historical Background

- 2.3.1 During the medieval development the site lay in the hamlet of Whitley, within the rural parish of Reading St. Giles, which belonged to Reading Abbey until the Dissolution. The Victorian County History (1923) mentions Whitley Manor and an associated park, but does not mention whether there was a manor house attached to the manor holdings. The Ordnance Survey of 1817 and 1830 shows a Whitley Park lying c. 2 km to the north east of the development site. There does not appear to be main settlement or a village within the parish and what houses/farms there were appear to be of a dispersed nature situated along the roads of the parish. The parish is characterised by streams, meadows, marshland, common and farmland.
- 2.3.2 The STW lies within fields probably belonging to Whitley Manor Farm. This farm and its associated houses is first seen on the 1792 Lewknor Estate Map and could

have had its origins in the medieval period, as suggested by the term 'manor' in its name. The buildings were demolished as part of the Manor Farm Sewage farm development and the date of this farm house was not ascertained during the course of this study. It is possible that even if the farm seen on the 1792 map was not medieval, it could have had its origins in the medieval period.

- 2.3.3 During the post-medieval and modern periods the STW is marked on historic maps associated with Whitley Manor Farm (known later as just Manor Farm). The Manor Farm buildings lay alongside the Foudry Brook on its east side. The historic maps, especially the 1841 Tithe Map shows the new STW and the area between it and Foudry Brook, as containing several small streams or drainage channels associated with the brook, although these smaller water courses are not seen on the earlier, 1792 map. It also shows the area in between as being marshy. The 1792 map also shows a narrow strip of land laying between water courses, marked as 'The Slipe of Willow'. This crosses the eastern part of the development site in a north south zigzag. This and most of the smaller streams disappeared from the maps when the sewage farm was constructed, seen first on the 1913 OS map.

3 METHODOLOGY

3.1 The Bentonite-cement Slurry Cut-off Wall

- 3.1.1 Before the ground remediation commenced, a cut-off wall was inserted around the entire site to prevent movement of groundwater and the possible transfer of contamination. The wall extended 6-8 m into the Reading Formation Beds to a depth of between 32 to 39 m OD. A trench 600 mm wide was excavated by machine and the wall constructed by pouring in concrete slurry from ground level. No archaeological mitigation was undertaken for this work due to the impracticality of access to the trench and the minimal scale of the impact.

3.2 The Sewage Inlet/Outlet Pipes

- 3.2.1 These works will be mitigated by a separate archaeological watching brief and so do not form part of this report.
- 3.2.2 The sewage inlet pipes will be brought from their present locations at Manor Farm Sewage Works under Foudry Brook and the A33, along the south side of Island Road and into the north of the STW. The outlet pipes will run along the north side of Island Road and discharge into the Brook. This will entail the excavation of pipe trenches along this route and the construction of concrete chambers 15 m wide by 5 m long and about 1.5 m deep on either side of the stream and road to provide access and house hydraulic equipment.

3.3 The Remediation and Construction of the STW

- 3.3.1 Before remediation the site was covered by a layer of made ground between 0.5 m and 5.5 m thick, comprised of sewage sludge, with more recent landfill composed of industrial and domestic waste, overlying it in the northern part. This material was

removed, thus considerably lowering the ground level. The contaminated sludge was taken off-site and the waste sorted so that suitable material could be retained for use as construction fill and the rest removed. The retained construction fill, along with material imported from off-site, was then used to artificially restore the ground level. It was from this level that the STW itself was constructed.

- 3.3.2 The impact of the ground remediation works was mitigated by the archaeological monitoring of the removal of the made ground. This was carried out in 50 m x 50 m cells by a 360° excavator using a toothless bucket. Machine excavation ceased on reaching the top of the terrace gravels or, where present, the alluvium. Any archaeological features present were then recorded following procedures laid out in the OA fieldwork manual (OA 1992).
- 3.3.3 Where alluvium was present, potentially sealing archaeological deposits, a 2% sample of such areas was evaluated through the excavation of trial trenches (Fig. 2). These were typically 30 m long by 2 m wide, although the precise dimensions of individual trenches were varied to fit their particular circumstances, areas of surface water being a quite frequent constraint. This mitigated any construction impacts of the STW which impacted below the reduced ground level.
- 3.3.4 Recording procedures follow the standards and guidelines laid out in the OA Fieldwork manual (OA 1992). All archaeological features were planned at an appropriate scale and sampled by hand excavation to establish their nature and extent. Each context was individually numbered and recorded on a pro forma sheet, and sections drawn at a scale of 1:20. Finds were retrieved and bagged by context, and environmental samples taken where appropriate. All features were recorded photographically using colour slide and black and white print film.

4 RESULTS: GENERAL

4.1 Soils and ground conditions

- 4.1.1 The site is situated on the gravel terrace of the Kennet Valley, partly overlain by alluvium. Generally, gravel was exposed in the central part of the site, while the northern area was covered by a layer of alluvium up to 1.5 m thick. Alluvium was also present at the south end of the site, albeit less thick. This contradicts the information shown on geological maps of the area, which show only the south - west corner of site as being free of alluvium. The alluvium was consistently found to be divided into two distinct layers, divided by a layer of peat or peaty clay indicative of a period of drier conditions between alluvial episodes.
- 4.1.2 Due to the work being carried out during autumn and winter, rain was a frequent occurrence, and this problem was exacerbated by the poor drainage properties of the site. This was partly due to the blanket of alluvium that covered much of the site, but even the areas of exposed gravel drained only very slowly. The consequent presence of standing water presented a constraint on the positioning of the evaluation trenches, while excavation of individual features was hampered by inundation by both standing water and groundwater.

5 RESULTS: DESCRIPTIONS

5.1 Description of Deposits

5.1.1 The earliest deposit encountered on the site was the natural terrace gravel of the Kennet Valley. This horizon was cut by a series of truncated ditch features that represented a possible Bronze Age ring ditch and post-medieval field systems. The gravel and the features were sealed around the southern and eastern margins of the STW by a thick sequence of alluvial deposits separated by a layer of peat. The alluvium was deposited as a result of flooding episodes with the peat layer attesting for drier interludes. The alluvium was directly overlain by a thick layer of made-ground composed of recent land-fill and sewage sludge that can be dated from the construction of the sludge beds in the 19th century.

5.1.2 A detailed description of the deposits and features identified during the fieldwork is supplied in appendix 1 and should be used in conjunction with the context information in appendix 2 and figures 2, 3 and 4.

6 FINDS

6.1.1 No pottery or other dating evidence was recovered from any of the features other than the flint (see below)

6.2 Flint

6.2.1 Two pieces of worked flint were found during the course of the excavation. The first of these was a single platform core from context 57, the primary fill of trackway ditch 56. A flint flake with no signs of retouch was also found in 182, the uppermost of three fills of field boundary ditch 185. Neither piece is intrinsically dateable, but both would fit with a broadly Bronze Age date. They both derive from features thought to be post-medieval in date and so are presumably residual.

6.3 Palaeo-environmental remains

6.3.1 A total of nine soil samples were taken during excavation of the partial ring ditch (500), distributed evenly across the feature and including both terminals. However they contained no material with potential for dating or environmental reconstruction.

7 DISCUSSION AND INTERPRETATION

7.1 Reliability of Results

7.1.1 Of the archaeological remains uncovered during the investigation, those that were located towards the middle of the site were not covered by the thick layers of alluvium present on the site margins. The features and deposits not sealed by the alluvium exhibited a demonstrable degree of truncation. It is possible that the upper fills of the features had been removed during the construction of the sludge beds

leaving only the base of the features intact. This may be reflected in the general paucity of artefacts recovered from the investigation - although it would seem more likely that the low level of artefact retrieval accurately reflects the lack of human activity other than agriculture on the site.

7.2 Overall Interpretation

7.2.1 The archaeological investigation revealed a series of ditched features which were associated with land use on the site prior to the construction of the sludge beds. The ditches formed the parts of the remnants of field systems that can be clearly picked out in the present day landscape. The fieldwork also identified an undated semi-circular ditch (500) that may have been of prehistoric origin.

7.2.2 Feature 500 comprised a roughly semi-circular or horse shoe shaped ditch. The ditch was filled with three distinct deposits. The primary fill was a mid grey gravelly clay 0.15-0.25 m thick, overlain by a lighter grey deposit. This varied between 0.15 and 0.35 m in thickness and was in turn overlain by a layer of dark bluish grey clay. None of the fills produced any dateable artefacts. Many similar features have been identified on aerial photographs and it may be that this feature constituted an unfinished or damaged prehistoric funerary monument, though the nature and function of this particular example remains unknown due to the lack of any artefactual evidence being recovered.

The Field System

7.2.3 The investigation also revealed at least two distinct phases of field boundaries pre-dating the sludge beds (which occupied the site from the late 19th century). The earlier of these comprised a rectilinear arrangement of ditches represented by ditch 255 and associated features in the northern part of the site, and ditches 187, 274 and 275 which extend across the southern and of site. The features of this phase conform with the alignments of boundaries shown outside the limits of the STW on the historic maps and must be earlier than 1792 (Fig. 4). Thus, ditch 255 continues the line of a boundary to the north of the site and 187 etc. align with a boundary to the west, while a ditched track-way excavated on the eastern side of ditch 255 aligns with a track shown further east on the maps branching off the Basingstoke Road and running along the south side of Whitley Manor Farm, and later named as Manor Farm Road. The origin of this field system is not dated, but is likely to belong to the post-medieval period, since there is no evidence for medieval activity here. Local field names such as Hither, Middle and Further Cow Leaze indicate that this area was primarily used for pasture. It was during this period that the alluvium at the margins of the site was deposited (OA 2000c).

7.2.4 By the time of the earliest mapping of the development area, Lewknor's 1792 survey of Coley Estate and Whitley Farm (Fig. 5), the field boundaries within the STW had been rearranged, the rectilinear system being superseded by a zig-zagging feature known as the 'slipe of willow', which crossed the site from north-east to south-west.

This adjustment to the layout of the fields was confined to a roughly square parcel of land defined on its south and west sides by the limits of the current development area and to the north and east by Island Road and the Foudry Brook respectively. Outside this area, the historic maps show the previous field system continuing in use. The 'slipe of willow' remained through the 19th century until all existing landscape features were removed or in-filled as part of the construction of the sludge farm which occupied the site until the present redevelopment.

Part Truncation

- 7.2.5 The construction and use of the sludge beds may have significantly disturbed the underlying deposits. The site would first have been levelled, and much of the alluvium overlying the gravel removed to improve the drainage. During the operation of the sludge works the beds would have been regularly stripped of cake, probably using bulldozers. Both of these operations would clearly have impacted on the underlying deposits, and this is likely to be the cause of the truncation observed to the ditches excavated in the central part of the site. Ditch 255 for example had lost much of its western extension while the survival of the track-way to its south was very partial, and ditches 153, 159 and 283 had probably extended across the width of the site before being truncated, leaving only short lengths of them surviving near the western boundary.

Conclusions

- The investigation represents an accurate and reliable record of the archaeological deposits surviving *in situ* across the STW.
- The STW contained a low density of archaeological features.
- There is evidence for possible prehistoric ritual/funerary activity on the site represented by feature 500
- The investigation provided evidence for post-medieval boundaries in existence before the STW and evidence of alluviation episodes separated by drier conditions represented by peat formation.

8 GENERAL

8.1 Acknowledgements

- 8.1.1 OA would like to thank all those involved in the successful completion of this project. These include the Construction Team of Target Alliance (an Alliance of Thames Water/Taylor Woodrow and Black & Veatch), particularly Bill Wood and Terry Bane; members of Thames Water's Environment, Quality and Sustainability Department, specifically Darren Towers; Rob Bourn and Kev Beachus at Babtie (acting for Reading Borough Council), and Dave Hillary and Graham Sheene of Thames Waste Management.

- 8.1.2 The site team from OA comprised Dan Bashford, Richard Barton, Adam Brossler, Peter Crawley, Valerie Diez, Ben Jeffs, Hugo Lamdin-Wymark, Andy Simmonds (Site Supervisor), Lorna O’Gorman and Matt Ridley. The Project was managed for OA by Richard Brown and Greg Pugh.

APPENDICES

Appendix 1 Description of Deposits

Feature (500)

This feature was located near the eastern edge of site, toward the north end (Fig. 3). It was positioned on a rise in the underlying natural gravel, so that gravel was exposed within its circuit, while alluvium surrounded it, particularly on the east side, and lapped up against it, slightly overlying its outer edge. Within the area enclosed by the ditch lay a large tree throw hole (545).

The ring-ditch enclosed an area 17 m across, open to the west. It was asymmetrical, the north terminus being turned inward slightly while the south terminus was noticeably straighter. The width of the ditch was initially difficult to ascertain in plan due to the alluvium obscuring its outer edge. Six interventions were excavated, distributed evenly along the ditch including both terminals.

The ditch was generally V-shaped in profile with sides sloping at between 45° and 60°, although segments 527 and 530 tended more towards a concave base. Its dimensions were very consistent around the feature, the width varying from 1.9 m to 2.2 m, while its depth ranged from a maximum of 0.72 m to a minimum of 0.62 m.

A large, irregularly shaped feature 9.5 m NE-SW by 5 m NW-SE lay within the arc of the ring-ditch (545). On excavation, it was found to be just 0.15 m deep for most of its width, increasing to 0.5 m on its north-western side. The north-west edge of the feature was also found to be under-cut. The irregular form of this feature would indicate that it was probably a tree throw hole. Whether it was associated with the ring-ditch was impossible to determine.

Field Systems

Two phases of field boundaries were uncovered. The earlier phase consisted of a rectilinear network of ditches that conform to the alignment of existing boundaries outside the area of the STW (Fig. 4), while the later phase relates to boundaries visible on the earliest extant map of 1792 (Fig. 5).

Earlier Phase

Ditch 255 was a significant field boundary in the northern part of the site, forming the eastern and southern sides of a former field and continuing a boundary seen to the north of the STW on the historic maps (Figs. 4 and 5). It extended for 182 m southward from the northern edge of site before turning westward and continuing for a further 87.5 m. Seven sections were excavated across this feature, one of which was in evaluation Trench 2. Two of the sections could not be fully excavated due to localised flooding. In the sections which were completed, the ditch was found to be generally V-shaped in profile, its width being consistently around 2.2 m and its depth varying from 0.55 m in segment 519 to 0.65 m in segment 557. The only exception to this was segment 16, near the western end of the feature, which was only 0.26 m deep. The feature thus became shallower toward the west, most likely due to increased truncation in this area. This ditch enclosed a large area constituting much of the northern half of the site, which contained no archaeological features or deposits. Although this may reflect a genuine absence of features it could also be due to severe truncation in this part of site, which is suggested by the truncation apparent to the western

end of 255 and nearby ditches 18 and 20. This ditch was cut by ditch 271, which formed part of a linear feature known as the 'Slip of Willow' (see below).

The only feature observed within the area enclosed by ditch 255 was ditch 503, which could be traced for 17 m running on a NE-SW alignment. A single section was excavated across it, in which it was found to be 1.2 m wide and 0.44 m deep with a U-shaped in profile. The ditch contained no finds and could not be related to any other features on spatial grounds (Fig. 2).

East of ditch 255, ditches 56 and 62 ran parallel with each other on an east-west alignment, and were probably the flanking ditches of a trackway approximately 10 m wide (Fig. 2). The two ditches were very similar in shape and size; ditch 56 measured 2.68 m wide and was 0.8 m deep, while 62 was 2.38 m wide and slightly shallower at 0.62 m. Both had slightly irregular, quite steeply sloping sides and a flat base. The trackway is aligned at right angles to boundary ditch 255, indicating that it is associated with this boundary. Unfortunately, the point at which they intersected was badly disturbed by wheel-ruts, however, the trackway ditches did not appear to continue westward beyond 255, so it is possible that they terminated here and that there was a break at this point in 255 to allow access through it from the trackway. This trackway may align with a track shown further east on the historic maps branching off the Basingstoke Road and running along the south side of Whitley Manor Farm, and later named as Manor Farm Road (Figs. 4 and 5).

Part of a probable second trackway was uncovered in the central area of site, defined by ditches 3 and 258 (Fig. 2). This track was oriented north-south, at right angles to ditch 255. It was at least 54 m long and, like the trackway described above, 10 m wide. Ditch 3, which formed the east side of the track, was 40 m long and 1.38 m wide. A single section was excavated across it, revealing the ditch to be 0.38 m deep, with very steep sides and a flat base. Ditch 258 was interrupted in two places along its length. Two segments of this feature were excavated. Near its south end, segment 2 was 2.11 m wide and 0.33 m deep. Further north, segment 18 was found to be narrower and much more shallow, at 1.35 m wide and 0.15 m deep. This probably reflects a greater degree of truncation toward the north end of the feature, consistent with the truncation of the west end of ditch 255 nearby. Truncation may also explain the apparently interrupted plan of this ditch. In total, ditch 258 extended for 54 m, although both ends seem to be truncated rather than terminating and so it was probably originally longer. Neither end of this trackway was located, but since it was not detected north of ditch 255 it could have terminated at this boundary.

Located 50 m south of boundary ditch 255, Ditch 1 was on the same east-west orientation, and at right-angles to trackway ditch 258. It is therefore likely to be associated with both of those features. This ditch was 1.4 m wide and 0.35 m deep, with steeply sloping sides and a flat base. The west end was poorly defined in plan, possibly implying that it was truncated. At its east end it converged with trackway ditch 258 and NW-SE ditch 4, but no relationships could be established here due to damage caused by machine tracks. It does not appear to have extended beyond the intersection with ditch 258, so it may have terminated at this point. Alternatively, the two features may have been integral to each other, forming a T-junction, rather than being separate features.

Ditch 20 was parallel to and roughly half way between ditches 1 and 255 (Fig. 2). This feature was severely truncated, surviving only to a depth of 0.07 m. It was 12 m long, but may originally have extended considerably further before it was truncated.

At the south end of site were three closely-spaced parallel ditches aligned NW-SE, which appear to have extended across the full width of the excavated area. They continued the line of a boundary visible in the field adjacent to the STW on its western side (Fig. 4). This

boundary is not shown continuing across the area of the STW on any of the historic maps and so must be part of an earlier field system presumably contemporary with the rectilinear boundaries in the northern part of the site. It seems most likely that these ditches represent three phases of the same boundary, which perhaps required frequent re-establishment due to in-filling with alluvium.

The most northerly of these ditches was ditch 274. This ditch was seen to extend for at least 170 m across the entire width of the site except where masked by layers of alluvium, at either end. At the west end it was located in a slot dug through the alluvium for this purpose (segment 251) and at the east end it similarly appeared sealed beneath alluvium in evaluation Trench 13. In this trench the ditch was clearly shown to underlie layer 1302, the earlier of the two alluvial layers. The ditch was investigated by hand-excavation in five locations, and found to be consistently flat-based with straight sides which sloped at about 45 degrees. Its width varied from 1.5 m in segments 185 and 263 to 2.52 m in segment 1310, and its depth from 0.32 m in segment 263 to 0.70 m in segment 251. The smaller of these measurements may be the result of truncation caused during the construction of the sludge beds. Near the western edge of the site, where this ditch was masked by alluvium, a linear band of relict subsoil (250) was excavated overlying the alluvium and apparently continuing the line of the ditch. This subsoil seemed to be sitting in a hollow caused by the alluvium settling into the top of the ditch, indicating that the ditch continued westward beyond section 47 underneath the alluvium.

Ditch 187 ran parallel with 274 some 3.5 m to its south (Fig. 2). It could be seen to extend for 39.5 m before being masked at both ends by alluvium (194). Like ditch 271 it had fairly steep, straight sides and a flat base. It was 0.78 m wide and 0.2 m deep, although again these dimensions may have been reduced by truncation.

Two metres south of and parallel with ditch 187, was ditch 275. It was similarly flat-based. The ditch was seen in plan except where masked by alluvium, and also encountered in evaluation Trench 13. In this trench, where the ditch was sealed by a layer of alluvium and thus protected from truncation, it was 1.85 m wide and 0.58 m deep. The two other sections investigated were in locations where the ditch was not overlain by alluvium and was thus exposed to truncation, and it was found to be correspondingly shallower. This ditch was stratigraphically later than 187 and 274. The latter features were both sealed by alluvial layer 194 (=1302) but ditch 275 cut this layer and was sealed by the overlying peat layer 1301. It is therefore likely to represent a redefining of this boundary after an alluvial episode. In Trench 13, the gravel up-cast from the original construction of the ditch (1305,1306) was found to be preserved *in situ* sealed by the peat (1301). This up-cast was located on both sides of the ditch rather than being deposited on one side to form a bank.

Ditch 179 was located to the north of these three ditches, running on a similar northwest-southeast alignment. It could be traced on the ground for 30 m, terminating at its west end 26 m from the edge of site. It was 2.1 m wide, its sides sloping at c.45° to a flat base at a depth of 0.64 m. It contained a gravelly primary fill (181) with a silty upper fill (180), probably the result of natural in-filling. Although this feature was not observed in the central part of the STW, it was probably the same as ditch 262, seen on the eastern side of the site. Ditch 262 was 2.0 m wide and 0.6 m deep and displayed the same sequence of fills as above (179). It was recorded over a distance of 30 m, before being masked at its eastern end by alluvial deposit 194. Evaluation trench 14, excavated through this alluvium, confirmed that the ditch continued beneath the overlying layer, appearing in the trench as ditch 1402.

In the central part of the site was a second group of three ditches (153, 159, 283) (Fig. 2). These ditches did not correspond with any boundaries outside the STW, and possessed no intrinsically datable features, but the coincidence of there being three of them, so closely

spaced and running parallel, suggests that they relate to the same phase of boundaries as the similar group of ditches (187), (274) and (275) near the south end of the site. They are probably three phases of a single boundary. The presence of three phases of both this boundary and that further south indicates that they are part of a single system of field enclosures, which was maintained and re-defined as a unit.

The largest of these features was ditch 283. This was 1.9 m wide and 0.48 m deep, with a flat base and sides which sloped at about 60°. It was observed for 32 m, its north-west end continuing beneath an overlying blanket of alluvium.

Ditch 159 ran on a parallel alignment to ditch 283, 2 m to its south. Where excavated it was found to be less substantial than ditch 283 at 1.2 m wide and 0.3 m deep. Like 283, it extended beneath the alluvium at its north-west end. The south-east ends of this pair of ditches both petered out at about the same point, suggesting that there has been some degree of truncation in this part of the site.

The third of this group of ditches was ditch 153, which was on the north side of ditch 283, and was again on the same NW-SE orientation. This feature extended for 16 m but may originally have continued for considerably further since its ends seemed to be truncated rather than forming convincing terminals. It was 0.84 m wide and 0.28 m deep.

Toward the eastern side of the site a pair of ditches, 22 and 24 were recorded just one metre apart and apparently parallel (Fig. 2). Both of these features were shallow in relation to their widths, with gently concave profiles. The larger of the two, ditch 22 was 1.3 m in width and 0.18 m deep, while ditch 24 was slightly smaller at 0.8 m wide and 0.2 m deep. It seems probable that these are a continuation of two of the group of three ditches described above, indicating that these ditches, like those further south, may have extended across the entire width of the site prior to modern truncation.

Ditch 283 was cut by a later ditch, 282. This was a concave-based feature 1.4 m in width and 0.42 m deep, which terminated immediately south of its intersection with 283. It extended at least 25 m north-west from here before becoming masked by alluvium toward the edge of the site. This ditch does not relate obviously to any other features, so how it fits in with the sequence of enclosure represented by the ditch systems present across the site is unclear.

There were two other ditches which did not seem to form part of the enclosure systems, and cannot be allocated to either of the two phases of ditched boundaries. Both of these features were located toward the western side of the central part of the site. Ditch 15 was aligned approximately north-south and extended for at least 19 m, its north end being covered by an area of standing water. It was 0.43 m wide and where excavated was found to be only 0.18 m deep with a V-shaped profile.

Ditch 170 extended for 12 m on a NE-SW alignment. It was 1.17 m wide and had steeply sloping sides with a concave base at a depth of 0.43 m.

Later Phase

Former Western Boundary of Site

Ditch 65 ran on a NNE-SSW orientation, parallel with and 7 m from the current western boundary of the site (Fig. 2). It was traced on the ground for a distance of 85 m toward the north end of site. At 6 m wide and 0.6 m deep it was disproportionately wide for its depth, indicating some degree of truncation. The lower 0.1 m of this feature was filled by a dark brown humic clay (64) probably deposited by the natural accumulation of silt and rotted vegetable matter to be expected within a water-filled ditch. The remaining depth of the ditch was filled by very clean light grey clay (63). This was material ultimately derived from the surrounding alluvium, re-deposited as the back-fill of the ditch when it was filled in during the construction of the sludge beds.

Ditch 65 was likely to be a drainage channel which marked the western boundary of the fields on which the sludge farm was constructed. It fed into a channel running along the south side of The Drift Way, now Island Road, and was one of several small streams and drainage ditches shown crossing this marshy area on 18th and 19th century maps. These channels were probably a mixture of deliberately dug ditches and canalised streams, but which is the case for this particular feature is not certain. It was clearly filled in when the sludge works were constructed, its role as a boundary being superseded by the bund created around the perimeter of the sludge beds at this time.

The 'Slippe of Willow'

The historic maps of the development area, dating from 1792 to 1883, all show a feature which crosses the site in a zigzag from northeast to southwest, it is marked on the 1792 survey as 'The Slippe of Willow' (Fig. 5). In the excavation three lengths of ditch were found which corresponded to this feature.

Ditch 556 was a very shallow linear feature, only 0.15 m deep, aligned NE-SW. It was 1.7 m wide and at least 43 m long, extending beyond the eastern limit of site at its northeast end. Despite its relative shallowness, it contained two distinct fills, a dark grey clay silt (555) being overlain by a browner, more humic layer (554). This ditch cut a north-south ditch 255, indicating that an earlier system of boundaries on a north-south alignment had been replaced by a system oriented NE-SW, represented here by the 'Slippe'.

The 'Slippe' turns to the southeast and is recorded as ditch 4. The change in orientation of the 'slippe' occurs some 120m southwest of ditch 556. This length of ditch was again very shallow, being 1.1 m wide but only 0.05 m deep, and extending for 42 m before, like 556, continuing beyond the edge of site. It was seen in plan to cut ditch 3, part of a trackway aligned north-south, but this relationship was not confirmed by excavation.

Toward the southeast corner of the site, ditch 273 was also found to correspond with the 'Slippe of Willow'. This feature was 38 m long and was investigated by two hand-dug sections. Segment 268 was 2.3 m wide and 0.2 m deep, filled by a humic brown silt (267). Excavated 17 m northeast of this, segment 269 was considerably wider at 4 m wide, but still only 0.2 m deep. This was filled by (270), which was the same material as (267). This feature cut the uppermost layer of alluvium (252) and earlier boundary ditch 274.

The 'Slippe of Willow' is shown on the maps of 1792 and 1841, as a thin strip of land sandwiched between two ditches or channels, but only the truncated remains of a single channel has survived the truncation and back-filling involved in the construction of the

sludge works. The fact that ditch 4 (part of the 'slipe') cut through ditch 3 would indicate that the 'Slipe of willow' is a very late component of the landscape, superseding an earlier scheme aligned north-south, of which these ditches 3 and 255 are components.

Evaluation Trenches

Fifteen evaluation trenches were located across the site as shown on figure 2. The trenches were sited in order to establish the presence or absence of archaeological remains beneath the alluvium and where identified to establish the character and condition of the archaeology.

These trenches were located across the STW though none were situated towards the centre. They were each 15m long and 2.4m wide, and revealed similar sequences of deposits. Trench 1 was oriented NE-SW with Trench 2 on a similar orientation 4m to its north-east. The latter trench was positioned on the projected alignment of ditch 255 in an area where the ditch was masked by alluvium. Trenches 3 and 4 were conjoined to form an L-shape, Trench 3 being aligned E-W with Trench 4 extending south from its eastern end.

In Trenches 1 and 2, the natural gravel was overlain by a layer of blue alluvial clay 0.2 m thick (100,202), increasing to 0.4 m at the south-west end of Trench 1 as the gravel sloped downward. A mixed sandy clay deposit (101) 0.11 m thick at the base of this alluvium in Trench 1 is probably the result of mixing between the alluvium and the natural rather than a separate layer.

In Trench 2 this alluvium was cut by ditch 201, a continuation of ditch 51 cutting laterally across the trench on a north-west to south-east alignment. Ditch 201 was 2.2 m wide, with straight sides which sloped down at 60 degrees. The feature could not be fully excavated as the trench became rapidly inundated by water from a burst drain, but was more than 0.23 m deep. It contained a single fill (200), a dark brown, slightly humic silty clay which contained no finds.

The main difference observed in Trenches 3 and 4 was a layer of firm dark brown peat (302, 402) 0.2m thick sealed beneath the alluvium. The alluvium itself was sub-divided in these trenches into an olive grey lower layer 0.18 m thick (301,401) overlain by a blue layer (300,400) 0.4 m thick.

Trench 5 was located in the central part of the site, near the eastern edge and about 60 m south of ring ditch 500. It was 25 m long and 1.8 m wide, situated in an area of alluvium interrupted by frequent patches of gravel. This was a very shallow trench, the natural gravel (553) being overlain by only 0.15 m of bluish grey alluvial clay (552).

In Trenches 6 and 7, natural gravel (605,704) was encountered at between 0.55 m at the south end and 0.75 m at the north end. The gravel was overlain by a layer of light greyish blue alluvial clay (604,703) the thickness of which varied from 0.15 m to 0.25 m. This was overlain by two layers of peaty clay. The lower of these (603,702) was light brown and 0.1 m thick while the upper (602,701) was 0.07 m to 0.2 m thick and a darker brown. The uppermost deposit encountered in this trench was a bluish grey alluvial layer (601,700) up to 0.25 m thick.

The natural gravel (804) in Trench 8 was overlain by a layer of light yellowish grey sand up to 0.48 m thick which became thinner until it petered out altogether 2 m from the north end of the trench. This sand (803, 904) was the earliest deposit encountered in Trench 9 and was either a palaeochannel fill or a pocket of sandy alluvium sitting in a hollow in the underlying

gravel. The rest of the sequence in trenches 8 and 9 was the same as in Trenches 6 and 7, a greyish blue alluvial layer (802,903) 0.3 m thick being sealed by peat layers (801, 901, 902) over which was a bluish grey alluvial clay (800, 900) up to 0.4 m thick.

Trench 10 was aligned N-S. It was 30 m long by 2 m wide with a maximum depth of 0.7 m. The natural gravel (1003), encountered at a depth of just 0.25 m was cut by a palaeochannel 16.2 m wide which ran laterally across the trench east to west. This was filled by a yellowish grey silty clay (1002) and was excavated to a depth of 0.45 m but not bottomed. A ditch (1006) orientated NW-SE cut across the channel. Ditch 1006 was 1.16 m wide and 0.21 m deep with gently sloping sides and a shallow concave profile. It was filled by a brownish grey silty clay (1005) but contained no finds. The ditch may be a return from one of the E-W ditches immediately to the north of the trench (153, 282 or 283). The ditch was sealed by a layer of peat (1001) 0.26 m thick, over which was a grey alluvial clay (1000) 0.25 m thick.

Trenches 11 and 12 were excavated through the alluvium blanketing the south end of the site. Trench 11 was oriented E-W with trench 12 to its west, aligned N-S. In both trenches the natural gravel (1101, 1201) was overlain by a single layer of alluvium. This layer was not very thick, its greatest depth being at the east end of Trench 11, where it was 0.4 m thick. In Trench 12 the gravel rose up from a maximum depth of 0.32 m at its southern end until the alluvium all but petered out at the north end. No features/deposits of archaeological significance were observed.

Located toward the south-east corner of the site, Trench 13 was positioned on the projected lines of ditches 187, 274 and 275 to establish whether they continued under the alluvium covering this area. Two of the ditches were probably picked up in the trench, providing a stratigraphic sequence that elucidated how the ditches related to the alluvium.

The natural gravel in Trench 13 (1303) was encountered at a depth of 0.3 m and was found to be cut by ditch 1310 at the north end of the trench. This ditch was on the line of ditch 274, and was probably a continuation of that boundary. It was 2.5 m wide, with straight sides sloping at c.45° to a flat base at a depth of 0.48 m. A gravelly primary fill (1311) was overlain by a main fill of bluish grey clay, possibly of alluvial origin (1312). This feature was sealed by a layer of bluish grey alluvium 0.2 m to 0.3 m thick, which was in turn cut by ditch 1309. This was probably a continuation of either ditch 187 or ditch 275. Ditch 1309 was 1.85 m wide and 0.58 m deep and like 1310 had a flat base. The up-cast from the digging of this ditch (1305,1306) had been thrown up on both sides to form two spreads of gravel 0.05 m to 0.1 m thick rather than being used to construct a bank, and was preserved beneath the overlying layers. The initial fill of the ditch (1307) was overlain by a deposit of dark brown, slightly humic clay (1304), which had also built up over up-cast layer 1305. This was sealed by a blackish brown peaty clay layer 0.08m thick (1301), overlain by a layer of greenish grey alluvium (1300).

Trench 14 was excavated near the eastern edge of the site, positioned on the line of ditch 262. The gravel (1403) was found to be sealed beneath a layer of bluish alluvial clay 0.17 m thick (1400). Cutting the gravel, and overlain by the alluvium, ditch 262 extended across the trench as ditch 1402. At this point the ditch was 2.15 m wide, and was filled by a dark bluish grey gravelly clay (1401). Due to flooding of the trench it was not possible to excavate the ditch.

Trench 15 was excavated through the alluvium along the eastern boundary of the STW. Its depth varied from 0.37 m to 0.6 m with the slope of the natural gravel. The gravel (1503) was overlain by a layer of bluish grey alluvial clay 0.3 m thick (1502), which was in turn overlain by a layer of dark brown peaty clay up to 0.18 m thick (1501). This latter layer became thinner toward the southern end, eventually petering out 3.5 m from the south end of

the trench. Above this was a layer of greenish grey alluvium 0.11 m thick (1500), which likewise petered out toward the southern end of the trench. This is the same alluvial sequence as seen in Trenches 6, 7, 8, 9, 10 and 13.

Appendix 2 Table of Context Information

Context Number	Type	Thickness (m)	Width (m)	Comment
1	Cut	0.35	1.4	Ditch
2	Cut	0.33	2.11	Ditch
3	Cut	0.38	1.38	Ditch
4	Cut	0.05	1.1	Ditch
5	Cut		2	Ditch
6	Dep	0.35	1.4	Fill of 1
7	Dep	0.03	1.4	Fill of 1
8	Dep	0.33	2.11	Fill of 2
9	Dep	0.02		Fill of 2
10	Dep	0.38	1.38	Fill of 3
11	Dep	60 mm		Fill of 3
12	Dep	0.05	1.1	Fill of 4
13	Dep			Alluvium
14	Dep	0.18	0.43	Fill of 15
15	Cut	0.18	1.43	Ditch
16	Cut	0.26	2.16	Ditch
17	Dep	0.26	2.16	Fill of 17
18	Cut	0.15	1.35	Old Stream Bed
19	Dep	0.15	1.35	Fill of 18
20	Cut	0.07	1.05	? Ditch
21	Dep	0.17	1.3	Fill of 22
22	Cut	0.17	1.3	Ditch
23	Dep	0.2	0.8	Fill of 24
24	Cut	0.2	0.8	Ditch
25	Dep			Natural
50	Dep	0.05	2.2	Fill of 51
51	Cut	0.05	2.2	Ditch
52	Dep	0.52		Fill of 56
53	Dep	0.26		Fill of 56
54	Dep	0.12		Fill of 56
55	Dep	0.02		Fill of 56
56	Cut	0.92	2.68	Ditch
57	Dep			Alluvium
58	Dep	0.51	2.2	Fill of 62
59	Dep	0.2	1	Fill of 62
60	Dep	0.22	1	Fill of 62
61	Dep	0.1	1.3	Fill of 62
62	Cut	0.62	2.38	Ditch
63	Dep	0.5	6	Fill of 65
64	Dep	0.2	6	Fill of 65
65	Cut	0.6	6	Ditch
66	Dep			Natural
100	Dep	0.2	15	Alluvium
101	Dep	0.11	15	Sandy Clay
102	Dep			Natural
200	Dep	0.05		Fill of 201

Context Number	Type	Thickness (m)	Width (m)	Comment
201	Cut	0.23	2.2	Ditch
202	Dep	0.22		Alluvium
300	Dep	N/A	N/A	Alluvium
301	Dep	N/A	N/A	Alluvium
302	Dep	N/A	N/A	Buried soil
400	Dep	0.4		Alluvium
401	Dep	0.18		Alluvium
402	Dep	0.22		Peat
403	Dep	0.05		Gravel
404	Dep			Natural
500	Group			Ring Ditch
501	Cut	0.6	2.18	Ditch
502	Cut	0.65	1.5	Intervention
503	Cut	0.44	1.2	Intervention
504	Dep	0.06	1.2	Fill of 503
505	Dep	0.18	1.2	Fill of 503
506	Dep	0.25	1.05	Fill of 503
507	Dep	0.06	1.2	Fill of 501
508	Dep	0.54	2.05	Fill of 501
509	Dep	0.06	1.1	Fill of 501
510	Dep	0.22	1.36	Fill of 501
511	Dep	0.15		Fill of 502
512	Dep	0.4		Fill of 502
513	Dep	0.15		Fill of 502
514	Dep			Fill of 502
515	Cut	0.64	2	Intervention
516	Dep	0.2	2	Fill of 515
517	Dep	0.42	2	Fill of 515
518	Dep	0.2	1.8	Fill of 515
519	Cut	0.8	2.07	Ditch
520	Dep	0.14		Fill of 519
521	Dep	0.42		Fill of 519
522	Dep	0.4		Fill of 519
523	Dep	0.48		Fill of 519
524	Dep	0.12		Fill of 519
525	Dep	0.12		Fill of 519
526	Dep	0.16		Fill of 519
527	Cut	0.68	2	Intervention
528	Dep	0.26	2	Fill of 527
529	Dep	0.22	2	Fill of 527
530	Cut	0.72	1.3	Intervention
531	Dep	0.22	1.3	Fill of 530
532	Dep	0.22	1.3	Fill of 530
533	Dep	0.22	1.33	Fill of 530
534	Cut	2.2	0.7	Intervention
535	Dep	0.2	0.7	Fill of 534
536	Dep	0.4	0.7	Fill of 534
537	Dep	0.2	0.7	Fill of 534
538	Dep	0.18	2.2	Fill of 541

Context Number	Type	Thickness (m)	Width (m)	Comment
539	Dep	0.15	1.2	Fill of 541
540	Dep	0.15	0.7	Fill of 541
541	Cut	0.62	2.15	Intervention
542	Dep	0.35	2.15	Fill of 545
543	Dep	0.1	2.15	Fill of 545
544	Dep	0.05		Fill of 545
545	Cut	0.5		Tree throw pit
546	Dep	0.8	0.5	Fill of 545
547	Dep	3		Modern Overburden
548	Dep	2		Sewage sludge
549	Dep	0.2		Buried Soil
550	Dep	0.2		Buried Subsoil
551	Dep	0.1		Peat
552	Dep	0.15		Alluvium
553	Dep			Natural
554	Dep	0.08	1.7	Fill of 556
555	Dep	0.07	1.7	Fill of 556
556	Cut	0.15	1.7	Ditch
557	Cut	0.65	2.6	Ditch
558	Dep	0.2	2.6	Fill of 557
559	Dep	0.2	2.6	Fill of 557
560	Dep	0.25	2.6	Fill of 557
601	Dep	0.25		Alluvium
602	Dep	0.2		Peat
603	Dep	0.1		Peat
604	Dep	0.25		Alluvium
605	Dep			Natural
700	Dep	0.18		Alluvium
701	Dep	0.2		Peat
702	Dep	0.1		Peat
703	Dep	0.4		Alluvium
704	Dep			Natural
800	Dep	0.2		Alluvium
801	Dep	0.3		Peat
802	Dep	0.3		Alluvium
803	Dep	0.48		Alluvium
804	Dep			Natural
900	Dep	0.4		Alluvium
901	Dep	0.15		Peat
902	Dep	0.25		Peat
903	Dep	0.3		Alluvium
904	Dep			Alluvium
1000	Dep	0.25		Alluvium
1001	Dep	0.26		Peat
1002	Dep	0.45	16.2	Palaeochannel
1003	Dep	0.58		Gravel

Context Number	Type	Thickness (m)	Width (m)	Comment
1004	Dep			Natural
1005	Dep	0.21	1.16	Fill of 1006
1006	Cut	0.21	1.16	Ditch
1100	Dep	0.4		Alluvium
1101	Dep			Natural
1200	Dep	0.32		Alluvium
1201	Dep			Natural
1300	Dep	0.14		Alluvium
1301	Dep	0.08		Peat
1302	Dep	0.3		Alluvium
1303	Dep			Natural
1304	Dep	0.44	2.13	Fill of 1309
1305	Dep	0.05	0.85	Up cast
1306	Dep	0.1	2	Up cast
1307	Dep	0.14	1.85	Fill of 1309
1309	Cut	0.58	1.85	Ditch
1310	Cut	0.9	3.5	Ditch
1311	Dep	0.08		Fill of 1310
1312	Dep	0.6	1.8	Fill of 1310
1400	Dep	0.17		Alluvium
1401	Dep	0.1	2.15	Fill of 1402
1402	Cut	0.1	2.15	Ditch
1403	Dep			Natural
1500	Dep	0.11		Alluvium
1501	Dep	0.18		Peat
1502	Dep	0.3		Alluvium
1503	Dep			Natural
151	Dep	0.07	0.84	Alluvium
152	Dep	0.2	0.84	Fill of 153
153	Cut	0.28	0.84	Ditch
154	Dep	0.15	1.9	Fill of 156
155	Dep	0.4	1.8	Fill of 156
156	Cut	0.48	1.9	Ditch
157	Dep	0.07		Alluvium
158	Dep	0.2	1.2	Fill of 159
159	Cut	0.3	1.2	Ditch
160	Dep	0.33	1.16	Fill of 163
161	Dep	0.33	0.61	Fill of 163
162	Dep	0.11	0.6	Fill of 163
163	Cut	0.42	1.4	Ditch
164	Dep	0.4	1.74	Fill of 166
165	Dep	0.15	1.8	Fill of 167
166	Cut	0.2	1.2	Ditch
167	Cut	0.3	1.2	Ditch
168	Dep	0.19	1.16	Fill of 170
169	Dep	0.23	0.77	Fill of 170

Context Number	Type	Thickness (m)	Width (m)	Comment
170	Cut	0.43	1.17	Ditch
178	Dep			Natural
179	Cut	0.64	2.1	Ditch
180	Dep	0.5	1.65	Fill of 179
181	Dep	0.4	2.1	Fill of 179
182	Dep	0.25	1.15	Fill of 185
183	Dep	0.2	1.5	Fill of 185
184	Dep	0.05	0.5	Fill of 185
185	Cut	0.5	1.5	Ditch
186	Dep	0.2	0.78	Fill of 187
187	Cut	0.2	0.78	Ditch
188	Dep	0.25	0.92	Fill of 190
189	Dep	0.17	0.6	Fill of 190
190	Cut	0.25	1.3	Ditch
191	Dep	0.1	1	Fill of 192
192	Cut	0.1	1	Ditch
193	Dep	2		Modern Overburden
194	Dep			Alluvium
195	Dep	0.6	2.05	Fill of 196
196	Cut	0.6	2.05	Ditch
197	Dep	0.1	2	Peat
199	Dep	0.03		Peat
250	Dep	0.07	2.5	Buried Subsoil
251	Cut	0.7	2	Ditch
252	Dep	0.2		Alluvium
253	Dep	0.2	2	Fill of 251
254	Dep	0.4		Fill of 251
256	Dep	0.15		Peat
257	Dep	0.05		Alluvium
259	Dep	0.14	6	Modern Soil
260	Dep	0.55		Fill of 262
261	Dep	0.2		Fill of 262
262	Cut	0.6	2	Ditch
263	Cut	0.32	1.5	Ditch
264	Dep	0.12	1.5	Fill of 263
265	Dep	0.12		Fill of 263
266	Dep	0.1		Fill of 263
267	Dep	0.25		Fill of 268
268	Cut	0.2	2.3	Ditch
269	Cut	0.2	4	Ditch
270	Dep	0.18	4	Fill of 269
276	Cut	0.16	1.2	Ditch
277	Dep	0.08	1.2	Fill of 276
278	Dep	0.08	1.2	Fill of 276
279	Cut	0.45	3	Ditch
280	Dep	0.12	3	Fill of 279
281	Dep	0.24	3	Fill of 279

Appendix 3 Environmental Data

A total of nine soil samples were taken during the excavation from several locations across the ring-ditch feature for the recovery of charred plant remains. Bulk samples, 30-40 litres in volume, were processed by flotation using a modified Siraf-type machine, with the sample held on a 500µm mesh and the flot collected on a 250µm mesh. The resultant flots had the appearance of waterlogged material and were kept wet. Dr Mark Robinson of the Oxford University Museum examined the flots under a binocular microscope at x10 and x20 magnification.

All of the flots produced similar assemblages of vast quantities of herbaceous roots. There was no evidence of modern or ancient seeds apart from a single decayed sedge seed in sample 508 (context 516), which may be a contaminant. Indeed, a certain level of modern contamination deriving from the sewage would be expected. Given the lack of preserved ancient remains, these samples offer no potential for dating or for environmental reconstruction.

Appendix 4 Bibliography and References

BGS, 1946 *Geological Survey of England and Wales. Sheet 268 Solid and Drift Edition*

Lobb, S J and Rose P G, 1996 *Archaeological Survey of the Lower Kennet Valley, Berkshire*

Moore, J and Jennings, D 1992 *Reading Business Park: A Bronze Age Landscape*

OA, forthcoming *Green Park, Reading, Berkshire. Post-excavation Assessment and Research Design, Phase 3*

OA, 2000a *Proposed New Sewage Treatment Works, Reading. Archaeological Desk Based Assessment*

OA, 2000b *Proposed New Reading Sewage Treatment Works. Environmental Impact Assessment*

OA, 2000c *Sewage Treatment Works, Reading, Berks. Archaeological Watching Brief*

OA, 2000d *Moore's Farm, Burghfield, Berkshire. Post-excavation Assessment and Research Design*

OAU, 1994 *Four Wentways (A11/A604), Little Abington, Cambridgeshire. Archaeological Evaluation*

OAU, 1992 *Fieldwork Manual* (1st edition, August 1992 ed. D Wilkinson)

Thames Water, 2000 *Reading Waste World Main Ground Investigation Draft Factual Report*

Appendix 5 Summary of Site Details

Site name: New Sewage Treatment Works, Reading Berkshire

Site code: RESTW 01

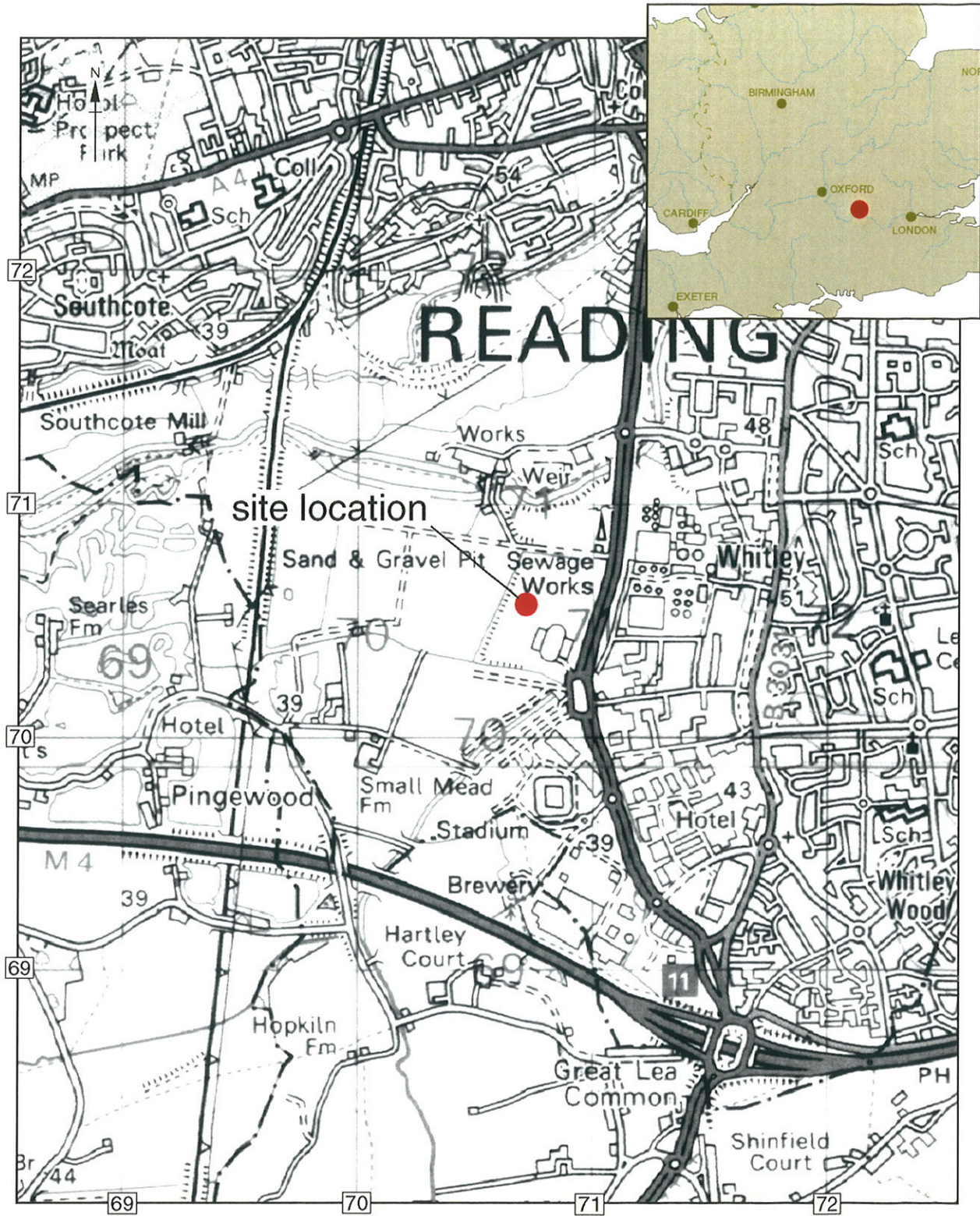
Grid reference: SU 706 705

Date and duration of project: July 2001 to February 2002

Area of site: 11 ha.

Summary of results: The watching brief uncovered a ring-ditch feature possibly a Bronze Age barrow. Post-medieval field systems were also identified.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Berkshire County Museums Service in due course, under the following accession number: 2001.265



Scale 1:25,000

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Figure 1: Site location



- Area of Excavation
- Evaluation Trenches
- Early Phase Ditches
- Later Phase Ditches & 'Slip of Willow'
- 272 Excavated Segments
- 272 Feature Numbers
- Tree Throw Hole
- Sections

Figure 2: Site plan

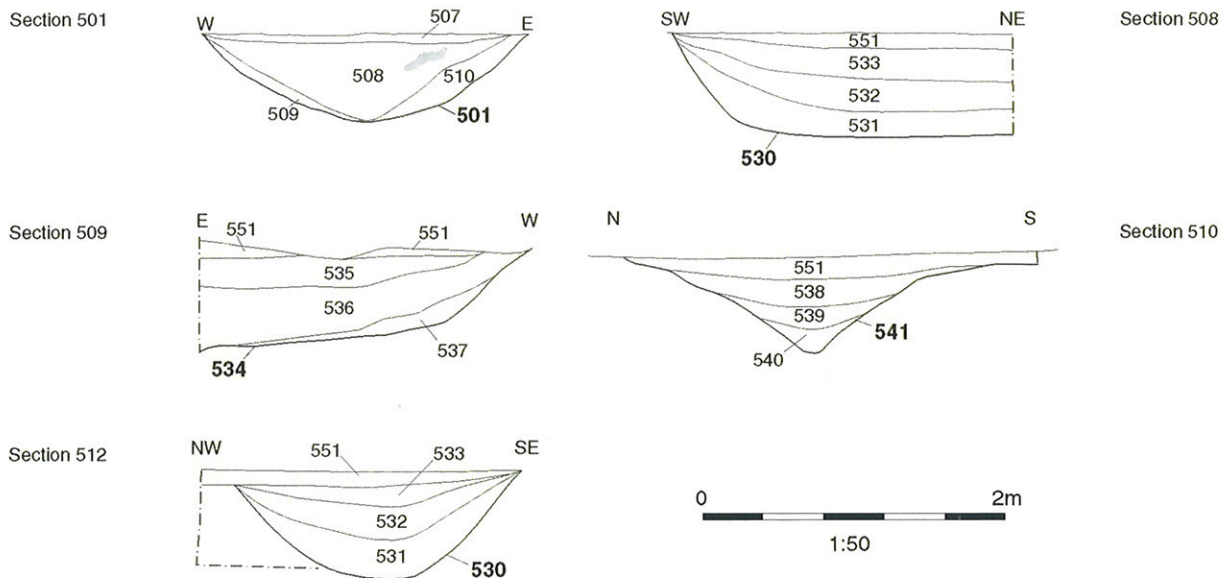
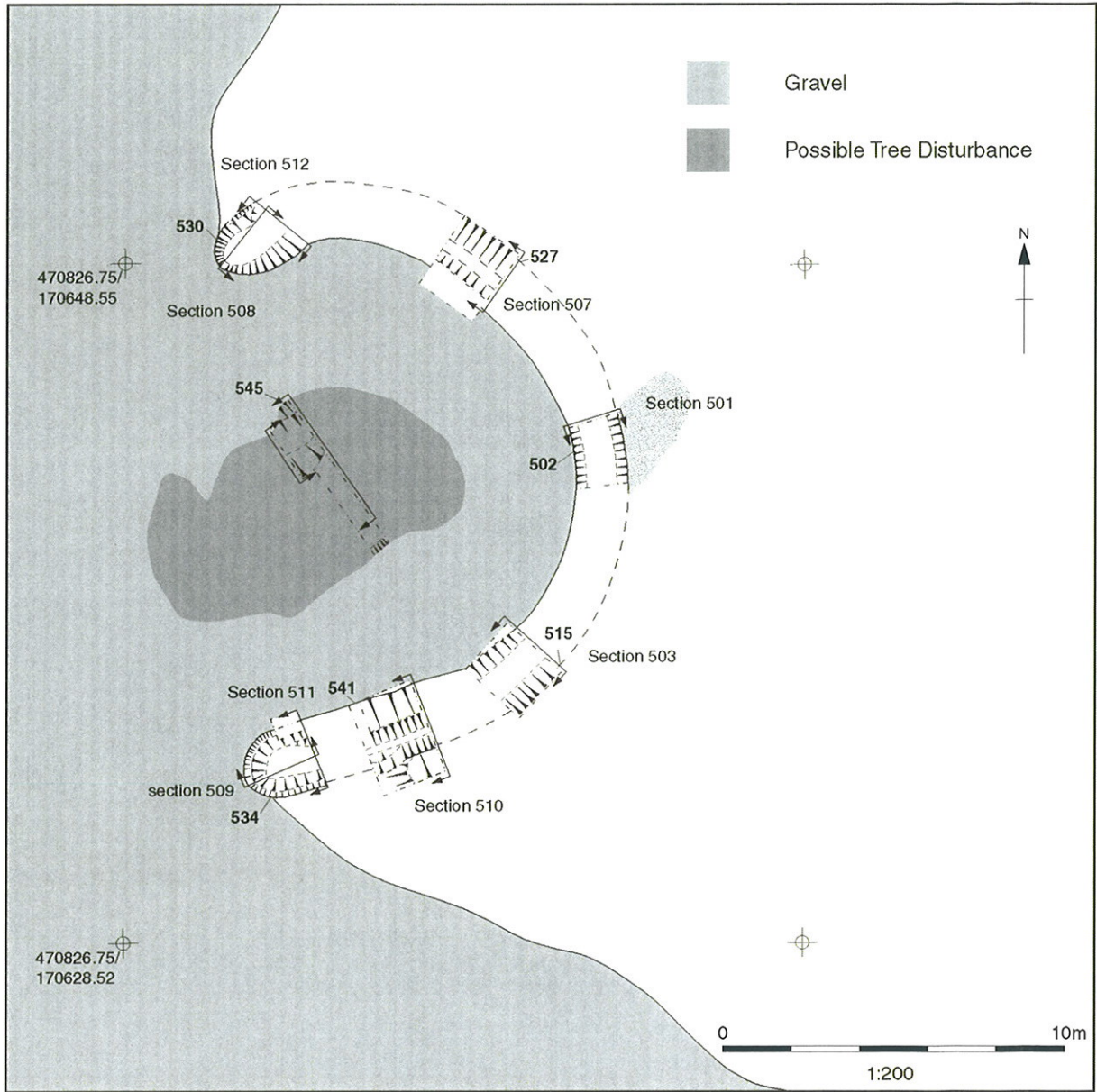


Figure 3: Plan and sections of feature 500

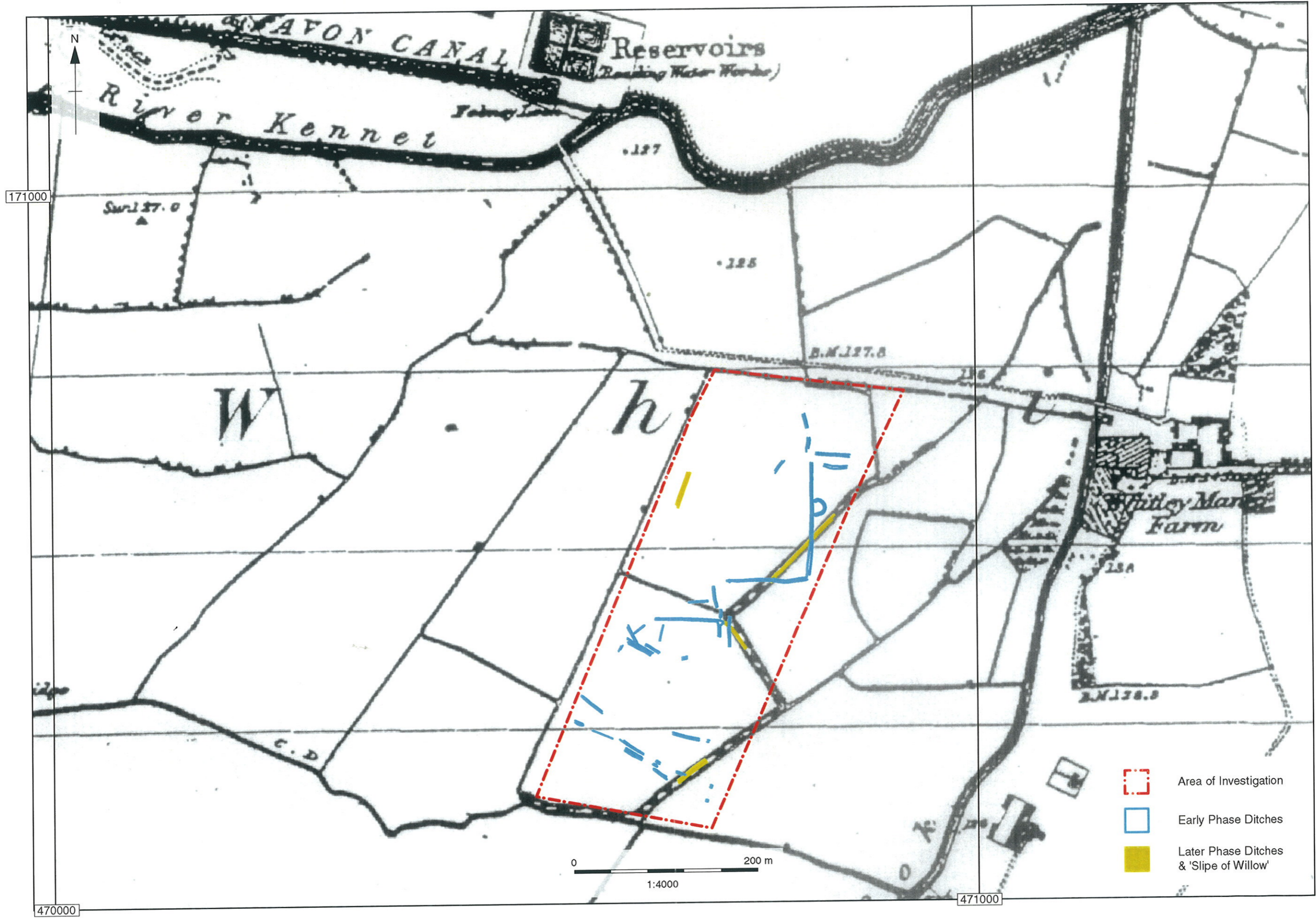
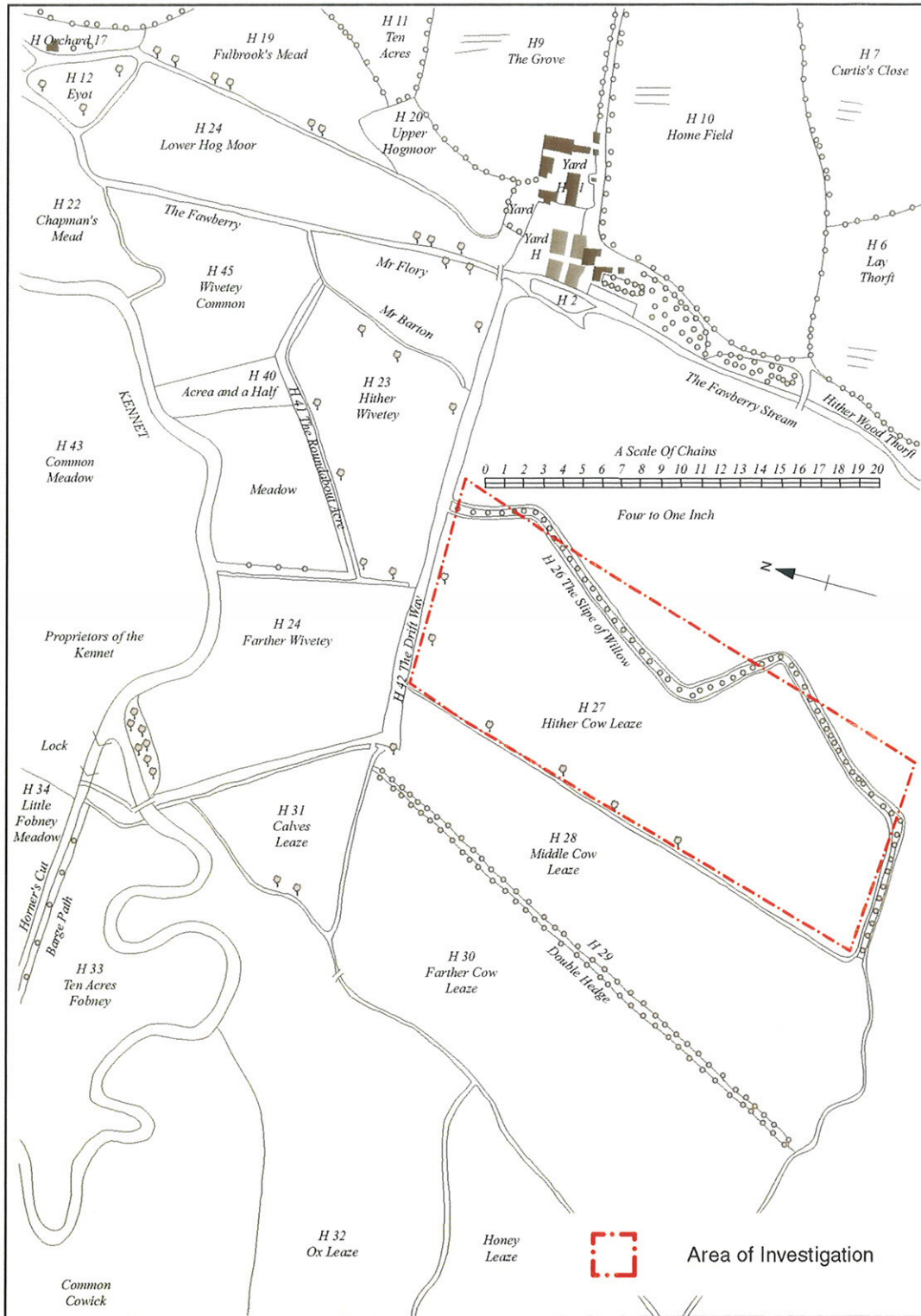


Figure 4:1st edition 6" map 1883 - showing the relative locations of the ditches from the excavation

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Not to Scale

Figure 5: 1792 Survey of Coley Estate and Whitley Farm by Lewknor



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