Northern Archaeological Associates

DONCASTER A638 QBC

YORK ROAD PARK AND RIDE

SCAWTHORPE, DONCASTER, SOUTH YORKSHIRE

EVALUATION REPORT

prepared for

ARUP

on behalf of

SOUTH YORKSHIRE PASSENGER TRANSPORT EXECUTIVE

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EVALUATION REPORT

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EVALUATION REPORT

Summary

Following on from an archaeological desktop assessment, and in consultation with the South Yorkshire Archaeology Service, evaluation of the proposed York Road Park and Ride scheme (SE 5470 0640), to the north of Doncaster in South Yorkshire, was able to elucidate the results of a geophysical survey undertaken on the site and demonstrate the presence of a Romano-British period settlement.

The earliest detected activity on the site comprised a prehistoric pit alignment, of probable late Neolithic or early Bronze Age date, which ran obliquely across the northern end of the site on a north-west to south-east alignment.

Ditches bordering a north to south aligned trackway (with an east to west branch near its northern end) were confirmed by the trial trenching but could not be dated beyond noting that they pre-dated the Romano-British activity on the site and may represent a route replaced by the nearby Roman road.

Substantial Romano-British settlement was demonstrated on the highest ground by the evaluation at the southern end of the site, with a possible differentiation between the enclosure to the west and slightly later occupation to the east. The enclosures showed signs of domestic activity, producing coins, loom weights, and nails indicative of timber structures built in the Roman fashion, as well as hints at cereal processing on site. Industrial activity, in the form of kilns, was found in the former western ditch of the trackway, close to the western enclosure, whilst iron-smithing slag was found in the eastern enclosure. The trackway may have continued in use into the Roman period.

The design of the proposed development has been amended to avoid the Romano-British enclosures and their associated occupation evidence to the south of the site, but will impact upon the prehistoric trackway and post alignment. It is recommended that a watching brief with selective sampling of features should be undertaken, in accordance with a scheme of works agreed with the planning authority.

1.0 INTRODUCTION

1.1 This document presents a report on an archaeological evaluation by trial trenching on the site of a proposed park and ride scheme to the north of Doncaster (SE 5470 0640) in South Yorkshire (planning reference 03/6471/P/FUL). This follows on from an archaeological desktop assessment (NAA 2003), and was undertaken in consultation with South Yorkshire Archaeological Service. The proposed development, originally some 3.2ha in extent, after revision in the light of the results reported below now covers an area of some 2.2ha.

1.2 This document has been prepared by Northern Archaeological Associates (NAA) for Arup on behalf of the South Yorkshire Passenger Transport Executive (SYPTE), and is based upon an archaeological project design for evaluation of the proposed development area (NAA 2004). The project design was submitted to the South Yorkshire Archaeology Service (SYAS) in order that the evaluation would constitute a scheme of works that has been agreed with the planning authority.

1.3 The trial trenching consisted of the excavation of 10 trenches extending to some 540m². The trial trenches were principally located to target the areas of anticipated archaeology but also investigated areas within the site that appeared to be devoid of anomalies according to the geophysical survey and cropmark plotting. The trenching accordingly represented a sample of just under 2% of the original area of the proposed development (3.2ha). The work was undertaken in accordance with the relevant code of practice issued by the Institute of Field Archaeologists (IFA 1999).

1.4 Fieldwork was undertaken during September and October 2004.

2.0 BACKGROUND INFORMATION

Site location

2.1 The site lies on the north-western edge of Scawthorpe, which is some 4.5km to the north-west of Doncaster in South Yorkshire, and lies within Doncaster Metropolitan Borough and Doncaster civil parish. The proposed site lies immediately to the east of the A638 and to the north of the disused Long Edge Quarry (Figures 1 and 2).

Geology and soils

2.2 The underlying geology of the site is Magnesian Limestone of the Permian and Triassic period. Overlying this, the quaternary geology is one of alluvial sands, gravels and clays. From these deposits the soil that has developed is classified as the Wick 1 Association, a deep well drained coarse loamy and sandy soil often found over gravels (Jarvis *et al* 1984, 302).

Topography and land-use

2.3 The proposed site is in farmland, which gently slopes down to the north from an approximate height of 31m OD. The site is currently under arable cultivation and it was in stubble at the time of excavation.

3.0 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1 The trial trenching formed part of a staged approach to the archaeological remains within the area of the proposed development. A summary of these earlier stages of archaeological works and geophysical investigation is set out below.

Assessment

3.2 The assessment study (NAA 2003) of the area of the proposed development identified a total of 23 recorded and potential archaeological and historic sites within 1km of the proposed site. Three of the identified sites were Scheduled Monuments; there were no Listed Buildings.

3.3 Aerial photographs (SYAS 1267/3 and 1267/4, and SF 2362/1) show cropmarks representing elements of an extensive prehistoric landscape surviving below ground across a wide area both to the north and west of the proposed development area. These cropmark features include in-filled ditches forming enclosures and trackways representing settlements and field systems of probable Iron Age or Romano-British date. The results of the geophysical survey show that these features extend across the area of the proposed development.

3.4 There was little evidence previously recorded for extensive Roman activity within the area of the proposed development. The most significant nearby site of the period is the scheduled Roman road passing 0.8km to the west, known as Roman Ridge (SAM 1179b). Other evidence is in the form of find spots of Roman coins within fields both to the east and west of the proposed development (SMR 1072 and SMR 61 respectively).

3.5 Despite numerous nearby place-names of Anglo-Saxon and Viking origin, little archaeological evidence for this period has been identified in this part of South Yorkshire. However, the discovery of the burial of a Viking woman at Adwick-le-Street in 2001 has demonstrated the potential for such remains to be present (Speed and Walton Rogers 2004).

3.6 Recorded medieval activity is concentrated some 0.5km to the north-east of the proposed scheme and includes the extensive scheduled remains of the motte and bailey castle of Nigel Fozzard (SMR 392; SM 13211). The castle appears to be first recorded in 1086 and the extant remains show that it was once an extensive complex consisting not only of a motte and bailey but also an outer bailey and a possible external barbican. In the later medieval period the motte and bailey was superseded by Radcliffe moat (SMR 393; SM 13215) some 500m to the east. The house that stood within the moat was demolished in the later 17th century. Lying between the motte and Radcliffe moat is the recorded location of the deserted medieval village of Langthwaite or Hangthwaite (SMR 394). Some 0.75km to the north-west of the proposed development site, and lying on the course of Langthwaite Dike, is a fish pond which may have been associated with the medieval settlement around the motte and bailey.

3.7 The post-medieval landscape is dominated by a series of limestone quarries both to the north, the immediate south (High Quarry and Long Edge or Low Quarry) and west of the proposed site.

Geophysical survey

3.8 The results of the geophysical survey (ASWYAS 2003) showed that the area of the proposed development contains what appears to be a continuation of the cropmark features seen to the north-west of the site (Figure 2). These are a regular series of

infilled ditches and pits. The main feature runs north to south through the site slightly to the west of the centre of the proposed scheme and consists of two parallel linear features, probably ditches delineating a former trackway. The trackway can be seen to run from the northern edge of the site where it is joined from the west by a second trackway. The trackway then runs the length of the site to a point 20m from the southern limit where it turns to the east and continues out of the survey area. At the point where the trackway turns there is what appears to be an enclosure at its western side. The enclosure possibly contains a series of pits. The trackway terminates in a second, eastern, enclosure in the south-east corner of the site.

3.9 The survey also recorded evidence for ridge-and-furrow cultivation running approximately east to west across the whole area of the site.

4.0 METHODOLOGY

4.1 The main objectives of the programme of trial trenching were:

- to establish the date, nature, extent, degree of preservation and significance of archaeological deposits within the proposed development area
- to establish the potential for the preservation of environmental evidence associated with the probable site, and in particular the possibility of waterlogged remains
- to provide a means of assessing in detail the impacts of the archaeological resource of the area as a basis for future decisions about the preservation of deposits *in situ* or recording in advance of construction
- to undertake a scheme of works that meets with the professional standards for archaeological work both nationally and within the local authority within which the development is proposed

4.2 The location of each trench position was surveyed using a Leica TC 500 total station linked to a Fujitsu Stylistic 1200 pen computer using PenMap software. Information was transferred to AutoCAD 2000iLT software and reproduced for incorporation within this report.

4.3 The trial trenching included a metal detector survey of trench locations and adjacent areas in advance of topsoil stripping and detecting of the cleaned trench surfaces and spoil heaps after stripping. Only pre-modern metal finds were retained for specialist assessment.

4.4 The evaluation trenches were stripped of topsoil using a 360° wheeled excavator (‘rubber duck’) with a 2m-wide toothless ditching blade, down to a level at which significant archaeological deposits were first identified or down to naturally occurring deposits, whichever was first encountered. Wherever possible, topsoil was kept separate from subsoil and the trenches were backfilled (but not reinstated) upon the conclusion of the work.

4.5 Trench surfaces were cleaned by hand. Features were then planned. Hand excavation of selected archaeological features was undertaken to evaluate depth, dimension and preservation of archaeology, and to ensure recovery of sufficient artefactual and environmental evidence to enable the objectives of the assessment to be achieved. In some cases, where features were anticipated from the results of the geophysical survey but were not detected on the cleaned surface, sondages were employed in order to clarify the presence (or absence) of such features.

4.6 All features were photographed and recorded at an appropriate scale. Sections were drawn at a scale of either 1:10 or 1:20 and plans at a scale of 1:20 (or 1:50 in the case of trenches containing no archaeological features). Levels were tied in to Ordnance Datum. A photographic record of the site was made using monochrome prints and colour slides at a format of 35mm. A written description of features was recorded onto *pro forma* sheets using the NAA context recording system (a derivation of the MoLAS system).

4.7 Forty-litre bulk palaeoenvironmental samples were taken from appropriate deposits and submitted for assessment. Recovery and sampling of environmental remains was in accordance with guidelines prepared by English Heritage (2002).

4.8 Where they occurred, pottery and animal bone were collected as bulk samples whilst significant artefacts were three-dimensionally recorded prior to processing. Finds were recorded and processed using the NAA system and submitted for post-excavation assessment. All finds recovered were appropriately packaged and stored under optimum conditions. Finds recovery and storage strategies were in accordance with published guidelines (English Heritage 1995; Watkinson and Neal 1998).

5.0 TRIAL TRENCH RESULTS

5.1 The topsoil was a silty clay, generally 0.25–0.3m deep, and the field was in stubble and sprouting at the time of excavation. The natural material was very varied, with limestone bedrock and boulder clay at the southern end, near a former quarry, and mixed sands, gravels and clay over the rest of the site.

Trench 1 (Figure 3)

5.2 This trench was 20m long, 2m wide, and aligned north to south. The topsoil (100) was 0.3–0.45m deep and the subsoil (101) 0.3–0.6m in depth. Natural material (102) included areas of both gravel and clay. The geophysical survey indicated possible roadside ditches defining an east to west branch from the main trackway running north to south in the field.

5.3 Deposits containing archaeological features were encountered at a depth of between 0.75m and 0.85m. A pair of parallel V-sectioned ditches (103 and 105), 10m apart (measured from their centre lines), crossed the trench from east to west and corresponded with the roadside ditches anticipated by the geophysical survey. The northern ditch (103) was 1.65m wide and 0.6m deep and was filled with a light reddish brown sandy silt (104). The southern ditch (105) was 1.55m wide and 0.55m deep and

filled with a light brown sandy silt (106). Truncation by ploughing was evident and no surface (or even an indication of one, such as rutting) was associated with this trackway.

Trench 2 (Figure 3)

5.4 This trench was also 20m long, 2m wide, and similarly aligned north to south, with topsoil (200) 0.26m deep and subsoil (201) varying from non-existent up to 0.17m in depth. Natural material (202) included areas of both limestone gravel and sand. The geophysical survey indicated a linear 'trend' passing obliquely across the northern end of the trench from north-west to south-east. Deposits containing archaeological features were encountered at a depth of 0.45m.

5.5 Four pairs of probable large stakeholes (203–214) were found running north-west to south-east, one pair of which (203 and 205) was excavated. The southern stakehole (203) was 0.26–0.27m in diameter and survived to a depth of 0.26m, whilst its neighbour immediately to the north (205) was 0.33–0.34m in diameter and 0.285m deep. The former was filled with a brownish-red silty sand (204) and the latter contained similar material (206). Some 2m to the south, another parallel set of features (220–230) on the same alignment may represent further pairs of stakeholes, whilst a possible linear feature (234, filled with 233) may be an accompanying ditch. Truncation by ploughing seems likely, as no original surfaces survived. Given the depth at which the archaeology occurred, this may have been a result of pre-modern ploughing, suggested by the subsoil (201), which could well represent a possible relict ploughsoil.

Trench 3 (Figures 4 and 9)

5.6 At 20m long, 2m wide, this trench was aligned east to west. The topsoil (300) was 0.3m deep and the subsoil (301) 0.5m in depth. Natural material (302) included areas of sand, gravel, and clay. The geophysical survey indicated the likely position of the western roadside ditch of the main north to south trackway.

5.7 Deposits containing archaeological features were encountered at approximately 0.7m. The only certain archaeological feature encountered was a north to south V-sectioned ditch (303) corresponding to the ditch suggested by the geophysical survey, depression 306 probably representing a tree bole. The ditch proved to be 1m wide and 0.24m deep and filled with reddish-brown silty sand (304). Truncation by ploughing seems likely, as no original surfaces survived.

Trench 4

5.8 This trench was 20m long, 2m wide, and aligned north to south. The topsoil (400) was 0.3m deep and the subsoil (401) 0.28–0.35m in depth. The natural material (402) included sandy gravel and silty clay. The geophysical survey did not indicate any archaeological features beyond east to west alignments suggestive of ridge and furrow ploughing.

5.9 No archaeological features were identified by excavation and no clear trace of ridge and furrow was found. The degree of truncation could not be assessed, due to the absence of archaeological deposits.

Trench 5 (Figure 4)

5.10 Measuring 20m by 2m, this trench was aligned east to west. The topsoil (500) was 0.3m deep and the natural material (501) was sandy gravel. The geophysical survey indicated the likely location of both roadside ditches of the main north to south trackway.

5.11 Excavation confirmed the position of both the western (502) and eastern (504) ditches, but showed that the one to the west was substantially larger than its companion to the east. This western ditch was 1.7m wide and 0.75m deep and filled with a reddish brown sandy silt (503), which produced a small assemblage of shells of both open grassland and woodland snails. Its eastern companion was 1.4m wide, 0.25m deep, and also filled with a reddish-brown sandy silt (505). Truncation by ploughing seems likely, as no original surfaces, such as metalling for the trackway, survived.

Trench 6

5.12 This trench was 25m long, 2m wide, and aligned north to south. The topsoil (600) was 0.2–0.3m deep and the subsoil (601) 0.15m in depth. The natural material (602) included a mixture of sands, gravel, and clay. As with Trench 4, the geophysical survey did not indicate any archaeological features beyond possible ridge and furrow ploughing.

5.13 No archaeological features were identified by excavation and no clear trace of ridge and furrow was identified. The degree of truncation could not be assessed, due to the absence of archaeological deposits.

Trench 7 (Figures 5 and 9, Plate 1)

5.14 Trench 7 was 20m by 2m and aligned east to west. The topsoil (700) was 0.2m deep, the subsoil (701) 0.3m in depth, and the natural material (702) was sand and gravel. Like Trench 5, the geophysical survey indicated the likely location of both roadside ditches of the main north to south trackway, but with the addition of an area of magnetic enhancement near the western ditch.

5.15 Excavation confirmed the position of both the western (714) and eastern (721) ditches. As in Trench 5, the western ditch was much larger than the eastern, some 1.3m wide and 0.75m deep. It had at least two small kilns set into its sides, 703 to the west and 717 to the east. Kiln 703 measured 1.4m in length (east to west), 0.6m wide, and 0.35m in depth, whilst kiln 717 was 1.75m long, 0.7m wide, and 0.44m deep. These – which were the likely source of the area of magnetic enhancement identified by the geophysical survey – were filled with ash (712 and 718 respectively), and associated with charcoal-rich rakeout (719) within the ditch. Deposit 712 included carbonised cereal grains of barley and chaff from emmer wheat. In addition, there was material associated with what was likely to have been the collapse of their corbelled stone superstructures (707, 711, 713, and 716), since many of the stones were burnt on one face. These deposits also included evidence of rubbish disposal, with animal bone recovered from 707. Part of another western kiln (708), measuring 0.9m long by at least 0.44m wide, may have lain to the south of 714.

5.16 The eastern roadside ditch was cut by a possible posthole (723), 0.34–0.42m in diameter and 0.42m deep. Truncation by ploughing within this trench seems likely,

with no original surfaces surviving.

Trench 8 (Figure 6)

5.17 This trench measured 25m by 4m and was aligned north to south. The topsoil (800) was 0.3m deep and the subsoil (801) 0.26m in depth. The natural material (802) included sandy silt, boulder clay, and limestone bedrock. The geophysical survey indicated an east to west ditch defining the northern boundary of an enclosure and areas of magnetic enhancement.

5.18 Two east to west linear features (803 and 805) were excavated, either or both of which could have been responsible for the northern boundary. Feature 803 was 1.2m wide and 0.6m deep and had a secondary fill of reddish brown sandy silt (804) and a primary fill of similarly coloured clay silt (819). Feature 805, on the other hand, was 1m in width, 0.3m in depth, and was filled with a mid brown sandy silt (806), which produced pottery of the later 2nd and 3rd centuries AD and chaff from emmer wheat. Other east to west aligned linear features (807 and 813) contained fills with burnt material (808) and fire-cracked stones (814) respectively. Feature 807 was 0.5m wide, 0.2m deep, and traced for a length of 1.4m. Feature 813 was in turn 0.6m in width, 0.25m deep, and traced for a length of 1.7m. A deposit of burnt material (818) was identified nearby. These areas of burning were probably responsible for the detected magnetic enhancement in this trench. A possible postpad or posthole (809) was located, 0.3m in diameter, together with a larger (possibly natural) depression in the bedrock (811), measuring 1.6m by 2m and 0.35m deep. The former produced pottery of the 2nd to 4th centuries. Unstratified nails and a joiner's dog from this trench may be indicative of the proximity of Romano-British timber buildings. Truncation by ploughing within this trench seems certain and no original surfaces survived.

Trench 9 (Figure 7)

5.19 Trench 9 was 20m long by 2m wide and aligned east to west. The topsoil (900) was 0.3m deep and the subsoil (901) 0.2–0.3m in depth. The natural material (902) included sand, silty clay, and patches of sandy gravel. The geophysical survey indicated little besides an area of magnetic enhancement.

5.20 Excavation revealed a single archaeological feature, a posthole (904) 0.4m in diameter and surviving to a depth of 0.14m, and this was filled with burnt material (903). Truncation by ploughing within this trench seems likely, with no original surfaces surviving.

Trench 10 (Figures 8 and 9, Plate 2)

5.21 Trench 10 was 24m long by 4m wide and aligned north to south. The topsoil (1000) was 0.32m deep and the subsoil (1001) 0.15m in depth. The natural material (1002) included silty boulder clay. The geophysical survey indicated a northern boundary ditch to an enclosure and areas of magnetic enhancement.

5.22 The boundary ditch was equated with an excavated V-sectioned ditch (1014), 1.68m in width and 1.025m deep. There were three distinct sandy silt fills in this, primary (1017), secondary (1016), and tertiary (1015), the last of these incorporating a possible loomweight. It was accompanied by a 0.08m-deep and 0.72m-wide slot (1026, not

illustrated) along its northern edge, once again filled with a reddish brown sandy silt (1027), which produced 3rd-century AD pottery. A north-west to south-east aligned slot up to 1.03m wide, 0.33m deep, and 4.24m long, contained some burnt material (1010/1011) and pottery dating to the 2nd to 3rd centuries AD. At the southern end of the trench, a metalled surface (1007) – measuring at least 6m by 4m – overlay the natural boulder clay and was associated with a 1.34m by 1.87m area of rubble (1008) that produced both pottery and coins within and on it. A pit (1012) 0.82m in diameter and 0.25m deep was identified cut into the natural and this was filled with a primary fill of light pinkish red clay silt (1019) and a secondary fill of yellowish brown sandy clay silt (1013). Another pit (1024) was 1.09m by 0.99m width and contained a fill of sandy silt (1025), which included smithing slag. A third pit (1020), 0.45m by 0.52m and 0.22m deep, was filled with clayey silt (1021) and contained animal bone. Pits 1020 and 1024 were both sealed by rubble 1008. Truncation by ploughing within this trench seems likely, although there are some original surfaces surviving.

6.0 DISCUSSION

The present state of the archaeology

6.1 There were indications of truncation through ploughing across the site, some of which may be modern, whilst some may be attributable to medieval agricultural activity, as is suggested by the possible relict ploughsoil. Trenches 4 and 6 on the eastern side of the field produced no archaeological features. Evidence of bioturbations were found throughout the site and consisted mainly of root activity. Environmental preservation was variable and no waterlogging was detected. All surfaces and spoil heaps were checked with a metal detector during topsoil stripping.

Archaeological remains of relevant periods

Prehistoric

6.2 Trench 2 produced large stakeholes that could be associated with a double pit alignment, on a different orientation to the other landscape features detected and may be prehistoric in date (possibly late Neolithic or early Bronze Age). This may represent a prehistoric boundary feature which is interestingly not respected by the subsequent use of the landscape. Their size suggests some form of pile-driving technique was employed in their construction. A small assemblage of flint from Trench 8, almost certainly redeposited, may be contemporary with these features.

6.3 Trenches 1, 3, 5, and 7 contained features associated with the trackway delineated by the geophysical survey, but these were truncated and no surface could be identified for it. In the Romano-British period, the more westerly of the ditches was enlarged and cut by the series of kilns. Despite the absence of pottery earlier than the 2nd century AD, this might support the notion that this trackway represents a predecessor to the Roman road to the west (Margary 1967, 427 – 'Margary 28b') which was reduced in importance once the new highway was constructed. The trackway appears to pre-date the two enclosures, but nevertheless presumably continued in use to service them.

Romano-British

6.4 Trenches 7, 8, and 10 revealed evidence of occupation and readily apparent industrial activity, in the form of kilns and iron-smithing slag, from the Romano-British period (i.e. within and immediately adjacent to the enclosures visible on the geophysical survey), whilst Trench 9 contained just a single posthole. Nails and joiner's dogs hint at Roman-period timber buildings, whilst indications of cereal processing and possible loom weights reflect upon a domestic component to the site. Unfortunately, apart from the kilns, most of the Romano-British features were sparse and difficult to interpret from such a small excavated area. The pottery evidence ranged in date between the 2nd and 4th centuries AD, with the three coins from Trench 10 belonging in the latter part of this date range. The limited environmental evidence hints at both grassland and woodland amongst the snail assemblage, although this could equally reflect the local environment in the ditch where they were found.

6.5 Although the archaeological evidence is concentrated in the two enclosures defined by the geophysical survey at the southern (and higher) end of the site, the presence of the kilns outwith (and to the north of) the western enclosure shows it was not confined within them. Kilns set into the sides of ditches can be paralleled from the works compound at Longthorpe near Peterborough (Dannell and Wild 1987) and, although there is no conclusive proof of their function in this case, fragments of copper alloy from Trench 7 may hint at the recycling of scrap.

Geology and soils

6.6 The topsoil within the trenches examined is (at around 0.3m) of a fairly uniform depth but the underlying subsoil (a relict ploughsoil?) varies considerably from 0.3m to completely absent. It is evident that there has been truncation of the archaeology by ploughing over much of the site, although some surfaces and buried soils appear to have survived in the vicinity of Trench 10. Elsewhere, the archaeology is confined to negative features truncated by an unknown amount.

7.0 CONCLUSIONS

7.1 The evaluation trenches have demonstrated a close correlation between the results of the geophysical survey and the features that were actually detected by excavation.

7.2 A post alignment characteristic of the late Neolithic or early Bronze Age has been identified in the northern, lower, sector of the site and correlation with the results of the geophysical survey indicates that this runs obliquely across the site from its north-west corner to the eastern central portion.

7.3 The line and nature of the trackway has been confirmed, if not its date, although proximity to the nearby Roman road (Margary 28b) might be thought to suggest that the origins of this trackway lie in the pre-Roman period.

7.4 Crucially, the evaluation has demonstrated that the southern end of the site, the highest area and the most natural location for settlement, was the focus for archaeological activity on the site (Figure 10). The enclosures identified to east and west of this

northern plateau both produced clear evidence of Romano-British occupation within and immediately adjacent to them, including industrial activity, which may have ranged between the 2nd and 4th centuries AD.

7.5 The preservation of environmental evidence was found to be variable with no indication of waterlogging.

8.0 IMPACT OF THE PROPOSED DEVELOPMENT

8.1 Potential impacts to the site will be through topsoil stripping, ground reduction, and drainage and other services.

8.2 The development will impact upon the prehistoric pit alignment which runs across the north-eastern corner of the site for a length of *c.* 50m, recorded in Trench 2.

8.3 There will be an impact upon the trackway which runs from north to south for approximately 325m, investigated in Trenches 3, 5, and 7. There will be also be an impact upon the junction of that trackway with the south ditch of the western spur trackway, investigated in Trench 1, but most of that spur is now outwith the proposed development.

8.4 The revised design of the proposed development will not impact upon the main concentration of Romano-British settlement at the southern end of the site, located by Trenches 7, 8, and 10 (and, to a lesser extent, in Trench 9), an area delineated in Figure 10.

8.5 In some areas, the archaeological features will be afforded some protection during topsoil stripping by the presence of the deposit of subsoil, but this would appear to be too unpredictable and variable to be relied upon to protect the underlying archaeology and nevertheless subject to penetration by drains and services.

9.0 RECOMMENDATIONS

9.1 On the basis of the results of the trial trenching, a potentially significant impact upon a Romano-British settlement site within the southern part of the proposed site of the York Road Park and Ride scheme has been mitigated by a revised design (Figure 10). The possibility of further occupation evidence outwith this area cannot be completely discounted, given the limited nature of the picture provided by the geophysical survey and trial trenches. However, the close correlation between the results of the geophysical survey and the trial trenches suggests this is unlikely.

9.2 In mitigation of the impact upon the trackway and post alignment, an archaeological watching brief of topsoil stripping operations is recommended, followed by sample excavations on known features and any others identified.

9.3 Where penetrative components of the development are to be constructed, for example drains and service trenches, such areas should also be subject to archaeological excavation.

9.4 A post-excavation assessment on the results of the archaeological work should be undertaken and, if these results are deemed to merit it, further analysis and publication in a regional or national archaeological journal (such as the *Yorkshire Archaeological Journal* or *Britannia*). This should include the results from the excavation of the trial trenches.

9.5 If no further work on the proposed development is undertaken, then consideration should be given to publication of the results from the excavation of the trial trenches.

9.6 All phases of archaeological work should be set out in a detailed methods statement (project design) that has been agreed with the South Yorkshire Archaeology Service (archaeological advisors to Doncaster MBC).

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Appendix A

CONTEXT AND FINDS CATALOGUE

Context	Group	Description	animal bone	cu alloy	fe	fired clay	flint	ind waste	pb	pottery	sample	stone	worked stone
100		Topsoil											
101		Subsoil											
102		Natural deposits											
103	150	Cut for north trackway ditch											
104	150	Fill of 103									4		
105	151	Cut for south trackway ditch											
106	151	Fill of 105											
200		Topsoil			1								
201		Subsoil											
202		Natural deposits											
203	250	Cut for large stakehole											
204	250	Fill of 203											
205	250	Cut for large stakehole											
206	250	Fill of 205											
207	250	Cut for possible stakehole											
208	250	Fill of 207											
209	250	Cut for possible stakehole											
210	250	Fill of 209											
211	250	Cut for possible stakehole											
212	250	Fill of 211											
213	250	Cut for possible stakehole											
214	250	Fill of 213											
215	250	Cut for possible stakehole											
216	250	Fill of 215											
217	250	Cut for possible stakehole											
218	250	Fill of 217											
219	251	Cut for possible stakehole											
220	251	Fill of 219											
221	251	Cut for possible stakehole											
222	251	Fill of 221											
223	251	Cut for possible stakehole											
224	251	Fill of 223											
225	251	Cut for possible stakehole											
226	251	Fill of 225											
227	251	Cut for possible stakehole											
228	251	Fill of 227											
229	251	Cut for possible											

Context	Group	Description	animal bone	cu alloy	fe	fired clay	flint	ind waste	pb	pottery	sample	stone	worked stone
		stakehole											
230	251	Fill of 229											
231	252	Cut for possible stakehole											
232	252	Fill of 231											
233	252	Cut for possible stakehole											
234	252	Fill of 233											
250		Group of stakeholes											
251		Group of stakeholes											
252		Group of stakeholes and possible linear feature											
300		Topsoil											
301		Subsoil											
302		Natural deposits											
303	350	Cut for west trackway ditch											
304	350	Fill of 303									4		
305		Tree bole											
306		Tree bole											
307		Fill of 306											
308		Tree bole											
309		Fill of 308											
400		Topsoil											
401		Subsoil											
402		Natural deposits											
403		Fill of 404											
404		Natural hollow											
405		Fill of 406											
406		Natural hollow											
500		Topsoil											
501		Natural deposits											
502		Cut for west trackway ditch											
503		Fill of 502				2					4		
504		Cut for east trackway ditch											
505		Fill of 504	13								4		
600		Topsoil											
601		Subsoil											
602		Natural deposits											
700		Topsoil											
701		Subsoil			1								
702		Natural deposits											
703		Cut for hearth 710											
704		Dark fill (=707)	266		2					46			
705		Top fill of 708 (=707)								2	1		
706		Brown fill over 704	20							9			
707		Dark grey brown fill	32	1		5				20	4		
708		Cut at west end of ditch, south of 703											
709		Mottled								9			

Context	Group	Description	animal bone	cu alloy	fe	fired clay	flint	ind waste	pb	pottery	sample	stone	worked stone
		lower fill of 708											
710		Hearth to west of ditch											
711		Brown fill under 707	6										
712		Black ashy silt under 711									4		
713		Collapse(?) in hearth 710	2								4		
714		Western ditch cut											
715		Hearth to east of ditch											
716		Collapse in oven 715									4	1	
717		Cut for oven 715											
718		Black ash fill of 715									2		
719		Soft dark silt at base of 714		1							2		
720		Fill of 721											
721		Eastern ditch cut											
722		Fill of 723											
723		Cut of posthole(?) in 721											
724		Slumped natural in 714											
800		Topsoil			4								
801		Subsoil	2		3		7			29			
802		Natural deposits											
803		Ditch cut											
804		Fill of 803					5						
805		Cut of butt-ended linear											
806		Fill of 805	3				1			12	4		
807		Cut of burnt linear feature											
808		Fill of 807								1	6		1
809		Cut of possible post pad											
810		Fill of 809								4			
811		Cut of sub-circular feature											
812		Fill of 811	6				1				4		
813		Cut of short linear											
814		Fill of 813								2	2		
815		Burnt clay fill of 807											
816		Primary fill of 811											
818		Deposit of burnt material											
819		Primary fill of ditch 803									4		
900		Topsoil											
901		Subsoil											
902		Natural deposits											
903		Fill of 904											
904		Cut for posthole											
1000		Topsoil		1						6			

Context	Group	Description	animal bone	cu alloy	fe	fired clay	flint	ind waste	pb	pottery	sample	stone	worked stone
1001		Subsoil	140	3	2				1	249		3	
1002		Natural deposits											
1003		Cut for posthole											
1004		Fill of 1003		1									
1005		Cut for beamslot											
1006		Fill of 1005											
1007		Stony layer											
1008		Larger stony layer											
1009		Brown deposit below 1001	2		1	1				12			1
1010		Cut for linear gully											
1011		Fill of 1010	63	1		3				65	4	3	
1012		Cut for burnt area											
1013		Fill of 1012											
1014		Cut for east to west ditch											
1015		Dark upper fill in 1014	8			2				2			
1016		Stony lens in 1015	10			1							
1017		Lower fill of 1014									4		
1018		Lower fill of 1010											
1019		Red clay fill in 1012											
1020		Cut for posthole											
1021		Fill of 1020	26							5			
1022		Cut for posthole											
1023		Fill of 1022											
1024		Cut for pit											
1025		Fill of 1024	1					11		2			
1026		Cut for cultivation furrow											
1027		Fill of 1026								8			
1100		Unstratified finds								1			
		Total	**600**	**8**	**14**	**14**	**14**	**11**	**1**	**484**	**65**	**7**	**2**

Appendix B
FLINT

P. Makey

INTRODUCTION

The 14 pieces (57.9g) recovered during the archaeological evaluation all come from the area of Trench 8; the pieces comprise 5 chunks, 6 chippings, 2 flakes and an unidentifiable core fragment.

None of the pieces have been intentionally retouched. Seven of the pieces (4 chunks, 2 chippings and 1 flake) come from subsoil context 801. Ditch 803, produced, 1 chunk, 3 chippings and a core fragment. Linear 805 produced a chipping and circular feature 811 produced a fine thinning flake.

Remnant cortex on pieces from subsoil (context 801) can be matched with that from the features. Three parent flint nodules are represented by the raw material. The source of the raw material is probably the local boulder clay. This material is of poor almost chert, like flaking quality, although 2 pieces (record 5, context 801 and record 14, context 812) are of a finer quality and these can almost be refitted (fitted together). Refits are also present in the subsoil material (context 801, records 1 and 2).

KNAPPING QUALITY AND STATE

The quality of the knapping is poor and was probably conducted by the application of hard hammers. Despite this one piece (flake 5, context 801) may have been heat pre-treated.

Most of the material shows traces of rolling to varying degrees. Very slight plough damage is present on 2 pieces (records 1 and 9). Patination is present on all but 2 of the pieces (records 5 and 14).

The state of the material is consistent with a totally residual nature for the assemblage. The assemblage looks like the partial residue from 3 isolated casual knapping events. The state of the material cannot be considered contemporary with the archaeological features.

DATE

The assemblage cannot be firmly dated, although possible heat treatment and the nature of the slight flaking on the core fragment are suggestive of an early Bronze Age date.

RECOMMENDATIONS

No further work is required on this material and none of the pieces warrant illustration.

Appendix C
POTTERY

Peter Didsbury

INTRODUCTION AND METHODOLOGY

A total of 501 sherds of pottery, weighing 7324g, and having an average sherd weight (hereafter ASW) of 14.6g, was recovered from the excavations.

Material was quantified by the two measures of sherd count and sherd weight, according to fabric type within archaeological context. The data is contained on an Access database, which is submitted as an integral part of this report and which should be consulted on matters of detail where appropriate. Fabric terminology, and the codes employed in the database, are set out in Appendix 2, below.

THE SITE ASSEMBLAGE

The fabric distribution of the whole site assemblage is presented in Table 1, below:

Table C1

Fabric	**% no. sherds**	**% wt sherds**
Fired clay/daub	0.2	0.1
Black-burnished ware	4	2.4
Colour-coated	1.4	0.7
Roman coarse fabrics	0.2	0.02
Dalesware	2.4	1.9
Greyware	70.7	79.8
Greyware (rusticated)	0.2	0.4
Mortaria	0.4	0.2
Roman oxidised	2.4	3.1
Samian	0.4	0.8
Roman shell-tempered	14	9.1
Roman vesicular	3.6	1.3
Unattributed gritty	0.2	0.2
Totals:	100.1	100

The largest component is greyware, with 70.9–80.2% of the assemblage, according to measure of quantification adopted. Although some early 2nd-century material is present, including the rusticated ware, the majority of the material displays close similarities with the products of such mid 2nd- to early 4th-century local kilns as Blaxton (Buckland and Dolby 1980) and Branton (Buckland 1976). Several cut feature appear to contain assemblages spanning the later 2nd to mid-3rd centuries (see further below). The second most important component is Dalesware. Although only 1.9–2.4% can be attributed to Dalesware on formal grounds (i.e. is represented by rim sherds), it is probable that most of the shell-tempered and vesicular wares are also of this type, bringing the possible Dalesware and Dales-type ware total to *c.* 12.3–20.0%. Dalesware is conventionally held to have a date-range from

the very late 2nd-century (perhaps *c.* AD 190) to the mid-4th, and it is probable that the latest elements of the site assemblage can be fitted into this chronological range, though it should be noted that much of the latest material comes from subsoil assemblages. The absence of Huntcliff ware and associated types, which displaced the Dalesware jar in the mid-4th century in this region, argues against continued activity resulting in ceramic deposition after this date. This is also supported by the apparent absence of Holme on Spalding Moor greywares, which should be increasingly represented in later 4th-century groups in South Yorkshire. A paucity of finewares and mortaria suggests that the settlement had little pretension to a fully Romanising lifestyle, in which respect it seems fairly typical of other late rural sites in the region (cf. Didsbury 2004).

THE TRENCH ASSEMBLAGES

Trench 7

There is some difficulty, in this trench, in relating the context descriptions provided in list form to the discussion in the interim report. Assemblages are therefore simply presented in numerical order.

Fill 704 contained a large assemblage of 56 sherds (ASW 19.3g). The largest component was South Yorkshire greyware, which included four Type H medium to large bowls, one with an incised shoulder scroll. Examples occur at both Blaxton and Branton, as well as at Thurnscoe (Didsbury 2004, fig. 23, no. 18), where it occurred in a mid-3rd- to mid-4th-century phase.

Fill 705 contained two fragments of a thin-walled vessel in South Yorkshire greyware (ASW 2.0g).

Fill 706 contained 9 sherds (ASW 4.8g) of South Yorkshire greyware.

Fill 707 contained 21 sherds (ASW 31.4g) of Black-Burnished Ware, South Yorkshire greyware and shell-tempered ware, the latter probably Dalesware. The BB1 is probably a local (Rossington Bridge?) product. The greyware includes a lid-seated jar of Branton Type E(b), cf. Buckland 1976, fig. 5, no. 46. The type was also made earlier at Blaxton, though it is held to be commonest in the 3rd century. The earliest wares present in this context probably date to the late 2nd or first half of the 3rd century, though theoretically the assemblage could close in the early to mid-4th.

Fill 709 contained 9 sherds (ASW 9.6g) of Black-Burnished Ware and South Yorkshire Greyware. The BB1 is probably all the same vessel, a lipped dish equivalent to Type C(a) at Blaxton, a form which occurred in only small quantities at Branton, and then only in the earliest of the kilns. A date in the later 2nd or very early 3rd century would be appropriate for this vessel.

Fill 711 contained 6 sherds (ASW 10.5g) again comprising Black-Burnished Ware and South Yorkshire Greyware. The latter included a wire-cut jar base and a lid-seated jar, cf. Buckland 1976, fig. 5, no. 46. The form is long-lived, but is held to be most common in the 3rd century (*op. cit.*).

Trench 8

Subsoil 801 contained a fairly large assemblage (29 sherds, ASW 17.0g). The clearest chronological indicators are a sherd of a 3rd-century folded beaker; a small sherd of a mortarium with black trituration grit, suggesting a 3rd-century or later date; and South Yorkshire grey and oxidised wares with close parallels in the Branton kilns, for which production in the first half of the 4th century is the most likely. These include large sherds from the best of a probable shouldered bowl (cf. Buckland 1976, fig. 5, nos 72 and 74); and a large sherd from a hemispherical flanged bowl almost identical to a Branton example (*op. cit.* fig. 4, no 28, Type C(c)).

Fill 806 of linear feature 805 contained 12 sherds (ASW 13.8g). The base of a samian vessel, with part of stamp extant, is regarded as a form 31, subject to specialist confirmation. The form is available

from c. AD 150 until the end of samian importation. Small sherds of colour-coated ware would appear to include one of 3rd-century date, decorated with Rhenish-style white overslip en barbotine decoration. The only diagnostic forms among the greyware have parallels with Blaxton vessels, a jar cf. Buckland and Dolby 1986 Type E, and a shouldered bowl cf. op. cit. Type H(b), fig. 6, no. 155. Deposition into this feature must be given a terminus post quem (hereafter TPQ) in the 3rd century, though some of the material present may belong to the second half of the 2nd.

Fill 808 of linear feature 807 contained a single low-weight (5-gram) body sherd of greyware.

Fill 814 of linear feature 813 contained two sherds of greyware (84g). One is from a thin-walled jar, the other from a South Yorkshire Type H (d) large bowl, with double shoulder groove. Similar vessels were produced at both Blaxton and Branton, so that a TPQ for this feature can only be placed in the period from the mid-2nd to mid-4th century.

Fill 810 of posthole 809 contained only four body sherds (34g) of shell-tempered ware. All are probably Dalesware, with a production period from the very late 2nd to the mid-4th century.

It may be noted that the interim report provided states that pottery was recovered from fill 812 of depression 811, but that no such pottery was submitted.

Trench 10

A large assemblage came from topsoil 1000 and subsoil 1001, amounting to 256 sherds (ASW 13.6g). This is equivalent to 51.1% of the site assemblage by number of sherds or 47.5% by weight. The assemblages are dominated by South Yorkshire greywares of Blaxton and Branton types, several vessels appearing closer to the (later) Branton products than to Blaxton forms. The latest Roman material present is therefore probably of early 4th-century date, though a *possible* medieval grit-tempered sherd occurs in 1001. Full details are given in the database and in Appendix 1 (below).

A further 12 sherds (ASW 10.8g) come from deposit 1009, described as lying beneath the subsoil. Once again, these comprise late 3rd- or 4th-century greywares, shell-tempered wares and colour-coated ware. The database may be consulted for details.

Fill 1011 of slot/gully 1010 contained a large assemblage of 64 sherds (ASW 10.8g). The earliest material in this context is a sherd of rusticated ware, commonly held to be in production *c.* AD 70–130/50, and a roughcast indented beaker is also of 2nd century date. The South Yorkshire greywares resemble Blaxton, rather than Branton, types and include a shouldered bowl with lattice decoration, and lipped dishes of Type C(a). Body sherds of Dalesware may be present, and there is the rim of a samian form 37, with characteristics suggesting (subject to specialist confirmation) a late 2nd- to early 3rd-century date. It would appear that this feature may have been open from the early to mid-2nd century, perhaps until the mid-3rd. There is certainly nothing that need postdate the mid-3rd.

Upper fill 1015 of ditch 1014 contained two sherds (22g) of South Yorkshire greyware, not closely datable.

Fill 1021 of posthole 1020 contained 5 sherds (37g) comprising a Dalesware jar rim and four South Yorkshire greywares. A TPQ in the period *c.* AD 190–350 is suggested.

Fill 1025 of pit 1024 contained single body sherds (ASW 11.0g) of shell-tempered ware (probably Dalesware) and South Yorkshire greyware. It cannot be chronologically differentiated from posthole 1020.

Fill 1027 of furrow cut 1026 contained 8 sherds (ASW 30.4g). These comprised sherds of a Dalesware jar and greywares including a Type H(c)–(d) bowl rim, cf. Buckland and Dolby 1980, fig.

7, no. 172, from Blaxton. Branton examples of this form are much less similar. This material may form a closely contemporary group of the first half of the 3rd century, though a later date cannot be ruled out.

It may be noted that the last two features are not alluded to in the interim report. The report also states that pottery was retrieved from stony layer 1008, though no such pottery was submitted.

Unstratified (designated 1100)

A single body sherd of shell-tempered material, almost certainly Dalesware, was submitted.

CONCLUSIONS AND RECOMMENDATIONS

Close dating of some of these features is constrained by the long life enjoyed by many South Yorkshire greyware forms, as well as by the Dalesware jar. Activity in Trench 7 is perhaps concentrated in the (earlier?) 3rd century. The other principal 'early' features on the site are Ditch 805 which appears to contain later 2nd- and 3rd-century material; gully 1010, which contains material which may date from the earlier 2nd to the mid-3rd century; and furrow 1026, which may also date to the earlier 3rd century. Much of the undoubtedly later material (later 3rd- and earlier 4th-century) is concentrated in the topsoil and subsoil layers of Trench 10. As already noted, there is no evidence that ceramic activity continued after the mid-4th century.

No further work is thought to be necessary on this material, though it should all be retained in an appropriate museum in the interests of further ceramic research. If the site is to be brought to full publication, any report should contain a short discursive treatment of the pottery, accompanied by a small number of representative illustrations. If this were to be done, then specialist identification of the samian and mortaria would be necessary, as well as a small amount of further research on the coarsewares.

Appendix C1. Principal types present among the South Yorkshire greywares in subsoil 1001

Blaxton Type H(b)–(c) bowls (Buckland and Dolby 1980)

fig. 7, no. 176 (x 2)

fig. 7, no 173 (x 1)

fig. 6, no. 150 and fig. 6, no. 158 (x 4)

Blaxton jar Type E(a)

2 examples.

Blaxton Type F jars

3 examples, cf. fig. 6, nos 135–137.

Branton Type H bowls (Buckland 1976)

Fig. 6, no. 91 (x1). Closer to Branton than Blaxton rim form.

Branton Type C (c) hemispherical flanged bowl

One example. Also at Blaxton as Type C(d).

Branton Type E(b) lid-seated jar

Fig. 5, no. 46 (also at Blaxton)

Jar handle

Cf. Blaxton fig. 8, no. 224; Branton fig. 5, no. 50.

Appendix C2. Fabric codes employed in the pottery database

The following fabric names are in common use, are self-explanatory, or are annotated in the list. In order to facilitate cross-reference and inter-site comparison, the codes are identical to those used in the database prepared for Billingley Drive, Thurnscoe (Didsbury 2004).

DAUB	Daub
RDW	Dalesware
RDWT	Dalesware-type
FC	Fired clay
RBB	Black-burnished ware
RCC	Colour-coated ware
RCO	Roman coarse fabrics
RG	Roman greyware
RG(RUS)	Roman rusticated ware
RM	Mortaria
ROX	Roman oxidised wares
RS	Samian
RSH	Roman shell-tempered
RV	Roman vesicular ware
UGRIT	Gritty ware, unattributed to named fabric or period

[Some shortened bibliographic references are employed in the database. Thus, Buckland 1976 and Buckland and Dolby 1986 are referred to as 'Branton' and 'Blaxton', respectively; Buckland 1986 as 'RPISY'; and Neal and Fraser 2004 as 'Thurnscoe'.]

Appendix D
COINS

R.J. Brickstock

(Department of Archaeology, University of Durham)

The following assessment is based on a visual examination (undertaken on 1/11/04). Reference is made to x-ray 5255 of the University of Durham's EH conservation laboratory.

1) CONTEXT 1001, FINDS CODE AA

Numismatic assessment: Small ae coin. Surface completely obscured by corrosion products Minimal detail visible on x-ray. Should be at least partially legible if thoroughly cleaned.

Provisional identification: probably late 3rd or 4th century.

2) CONTEXT 1001, FINDS CODE AE

Numismatic assessment: Small ae coin. Considerable amounts of loose material adhering to both sides. Partially legible as it stands; should be fully legible after cleaning.

Provisional identification: probably mid-4th century; perhaps Constantius II/Constans "2 victories" type of AD 346–48.

3) CONTEXT 1001, FINDS CODE AB

Numismatic assessment: Small ae coin. Again, considerable amounts of loose material adhering to both sides. Again, partially legible as it stands; and should be fully legible after cleaning.

Provisional identification: probably Constantine I, Constantinopolis type, of the AD 330s.

SUMMARY

All three coins require cleaning before identification, though coins 2 and 3 are already partially legible. Once cleaned, coins 2 and 3 should be fully identifiable; and coin 1 should be at least partially identifiable, perhaps fully so.

Appendix E
CONSERVATION ASSESSMENT

Jennifer Jones

(Department of Archaeology, University of Durham)

QUANTIFICATION AND CONDITION

Twenty-three objects were received for conservation assessment and X-radiography, including 8 CuA, 1 Pb and 14 Fe. The objects were briefly visually examined to assess their condition, to determine the material from which they were made, and to look for surface and technological detail.

Almost all the objects were found to be stable when examined. Only a few pieces were possibly unstable or showed signs of cracking of the surface corrosion (801AC and 1011AB). The material was mainly moderately corroded, with a few pieces found to be lightly or highly corroded (eg 1000AA, 1001AE).

Lightly corroded metallic material is defined as having a thin, often compact corrosion surface, sometimes with good patination, which obscures little of the object's form or surface detail. There is significant metal remaining below the corrosion surface.

Moderately corroded metallic material is defined as having the surface detail, but not usually the general form of the object, obscured by corrosion products, and has some metal remaining below the corrosion.

Highly corroded metallic material is defined as either having both the form and the surface detail of the object obscured by corrosion, and/or having little or no metal remaining in its core.

X-RADIOGRAPHY

The objects were sorted into groups of a similar density, which were X-rayed together. Four XR plates were used.

Many of the objects had already been provisionally identified as nails or nail fragments, and this was largely confirmed by X-radiography. Some objects may need extra conservation work to further define or identify them (eg 719AA, 200AA, 1001AA, AB, and AE).

DATABASE

Details of all the artefacts examined have been added to the site database, which includes the context and small finds number, an identification of the material and of the object, where possible, the condition of the object when examined, its XR plate number, and any technological or other observations.

STORAGE

The material was received well packed for medium to long term storage. It should be continue to be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

Appendix F
THE SMALL FINDS

M.C. Bishop

The following brief catalogue, grouped by material, includes a short description, principal dimensions, and the context number and finds code for each item. Unless otherwise stated, all artefacts are Romano-British in date.

COPPER ALLOY

1. Strip, folded over, possibly waste or an offcut from trimming sheet. L: 17mm. Context 707AB.

2. Disc-headed stud with the stump of a shank beneath. D: 20mm. Context 719AA.

3. Circular-sectioned wire bent in an arc. D: 11mm. Context 1011AA.

4. Button (modern). D: 19mm. Context 1000AA.

5. Fragment. L: 5mm. Context 1004AA.

IRON

6. Rod with a curving extension at one end. Latch-lifter? L: 160m. Context 1001AD.

7. Joiner's dog. L: 78mm; W: 31mm. Context 800AA.

8. Joiner's dog. L: 40mm; W: 32mm. Context 1009AA.

9. Possible circular-sectioned handle fragment (from bucket?) L: 92mm. Context 200AA.

10. Ring. D: 63mm; Th: 9mm. Context 801AB.

11. Rectangular fragment. Knife blade? L: 30mm; W: 25mm. Context 800AC.

12. Rectangular fragment. Knife blade? L: 50mm; W: 27mm. Context 801AC.

13. Rectangular fragment. Knife blade? L: 27mm; W: 25mm. Context 800AD.

14. Massive rectangular fragment. L: 55mm; W: 35mm; Th: 15mm. Context 701AA.

15. Nail. L: 43mm. Context 704AA.

16. Nail. L: 63mm. Context 801AA.

17. Nail. L: 63mm. Context 800AA.

18. Nail. L: 45mm. Context 800AB.

19. Nail. L: 32mm. Context 1001AF.

LEAD ALLOY

20. Fragment, possibly waste or offcut. L: 54mm; W: 24mm; Max Th: 9mm. 1001AC.

STONE

21. Sub-rectangular fragment of red jasper. This is one of the raw materials used for intaglios during the Romano-British period. L: 42mm; W: 36mm; Th: 20mm. Context 1011.

22. Two joining pieces of limestone, discoloured by heat and showing traces of burning on one edge. L: 130mm; W: 95mm; Th: 20mm. Context 1011.

23. Possible fragment of saddle quern, showing signs of wear on one face. L: 255mm; W: 185mm; Max Th: 50mm. Context 808AC.

24. Stone hone. L: 55mm; W: 22mm; Th: 11mm. Context 1009AB.

DISCUSSION

The nails and joiner's dogs are indicative of the presence of structural timbers of the Romano-British period. Possible offcuts and scrap may derive from metalworking of the same date in the vicinity but none of the finds are conclusive in this respect.

RECOMMENDATIONS

No further action need be taken with these finds, although inclusion of some items (the hone, joiner's dogs, and the stud) in the final publication report should be considered.

Appendix G

THE METAL-WORKING DEBRIS AND FIRED CLAY

Jane Cowgill

RECORDING METHODOLOGY

A total of 536g (25 pieces) of slag and fired clay were submitted for recording. The finds were identified solely on morphological grounds by visual examination, sometimes with the aid of a x10 binocular microscope. It was recorded on *pro forma* recording sheets and this information was entered directly into Table 1 below. A note of probable fuel type has been recorded when fragments or imprints were incorporated within the slag.

Table G1. Catalogue of the slag and fired clays recovered from the site.

Cont.	Type	Count	Weight	Comments
Evidence for iron smithing				
1025	hearth bottom	1	62g	Fresh condition, 50 x 55 x 35mm. Coal fuel.
1025	proto-hearth bottom	1	18g	Encrusted. Coal fuel.
1025	coal	1	2g	Slagged.
1025	smithing-slag lump	7	24g	Fresh condition. Coal fuel.
1025	slag	1	17g	Very magnetic and heavy flat plate, contains ferritic iron or magnetite (Fe_3O_4).
1025	prill			Few very small fragments of magnetic prill.
Fired clays				
503	fired clay	1	5g	Oxidised, slight depression on one side, low fired.
1011	fired clay	1	1g	Oxidised, sandy, low fired.
Possible loomweights				
707	fired clay	4	33g	Dense fabric, large grog temper, shaped surfaces.
1009	fired clay	1	28g	Same fabric as (707), shaped surfaces.
1015	fired clay	2	249g	Occasional organic + ?grog temper, smooth surfaces, large wattle imprint or loomweight perforation.
1016	fired clay	1	38g	Joins piece from (1015).
Miscellaneous				
716	iron stone	1	27g	Natural.
1001	iron stone	2	31g	Natural.
1011	fired clay	1	1g	Probably pot sherd, 1 very smooth surface.

DISCUSSION

A very small assemblage of iron-smithing slag was recovered from context 1025 in Trench 10. The ten pieces of slag (plus a few of magnetic prill) are in a fresh condition indicating that they have not been subjected to weathering by the elements or frequently redeposited, by for example ploughing. They are light and cindery because coal was the sole fuel used, this also means that they were not used for surfacing a path or road because they would have been crushed if trampled. One piece is very magnetic and heavy (weight 17g) suggesting it contains a high proportion of either ferritic iron or magnetite (Fe_3O_4).

There are just two pieces of low fired, oxidised, sandy fired clay. One piece has a slight depression on one side that, if it was complete, might be circular in shape. It was postulated that it may be a crucible fragment but it is an oxidised fabric and too low fired for it to have functioned as such. There are, however, eight pieces of fired clay that could be fragments of triangular loomweights from Trenches 7 and 10. All are made from a dense clay fabric with occasional to rare sand, ironstone and organic inclusions. The piece from context 707 also has large pieces of grog in the fabric. Most have more than one shaped smoothish surface that is oxidised fired, although all the cores are reduced fired. There is only evidence for one large wattle imprint or loomweight perforation (context 1015 although the piece from 1016 joins this fragment). Triangular loomweights are generally thought to be of late Iron Age date but they are occasionally found in Romano-British contexts. There are no definite corners or perforations to allow this suggestion to be confirmed.

RECOMMENDATIONS

The iron-smithing slag is generally in a very fresh condition suggesting that it has not been disturbed since deposition and that if there is a smithy it is unlikely to be far away. It may be worth exploring further the area within the possible enclosure around Trench 10.

Appendix H
BIOLOGICAL REMAINS

Örni Akeret, John Carrott, Juliet Mant, Deborah Jaques and Stewart Gardner

(Palaeoecology Research Services)

INTRODUCTION

Five sediment samples ('GBA'/'BS' *sensu* Dobney *et al*. 1992) and one box of hand-collected bone were submitted to Palaeoecology Research Services Limited (PRS), County Durham, for an evaluation of their bioarchaeological potential.

METHODS

The sediment samples were inspected in the laboratory. Five were selected (by the excavator) for the evaluation and their lithologies were recorded using a standard *pro forma*. Subsamples were processed, broadly following the procedures of Kenward *et al*. (1980; 1986), for the recovery of plant and invertebrate macrofossils. Before sieving the subsamples were disaggregated in water for 24 hours or more. Their volume was measured in waterlogged state.

Plant remains (and the general nature of the residues, flots and washovers) were recorded briefly by 'scanning', identifiable plant taxa and other components being listed on paper. Notes on the quantity and quality of preservation were made for each fraction. The washovers that contained no uncharred material (with the exception of obviously modern plant remains) were dried before examination. Where the residues were primarily mineral in nature they too were dried, weighed and their components recorded. Nomenclatures for plant and snail taxa follow Stace 1997 and Kerney and Cameron 1979, respectively.

For the hand-collected vertebrate remains, data were entered directly into a series of tables using a purpose-built input system and *Paradox* software. Subjective records were made of the state of preservation, colour of the fragments and appearance of broken surfaces ('angularity'). Additional records, such as dog gnawing, burning, butchery and fresh breaks, were made, where applicable.

Fragments were identified to species or species group using the PRS modern comparative reference collection. Fragments not identifiable to species were described as the 'unidentified' fraction. Within this fraction, fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid) and totally unidentifiable. These are shown as 'Unidentified' in Table H1.

Table H1: Hand-collected vertebrate remains from excavations at York Road, Doncaster (YRD04) by phase.

Species		**Trench 5**	**Trench 7**	**Trench 8**	**Trench 10**	**Total**
Canis f. domestic	dog	–	–	–	1	1
Bos f. domestic	cattle	–	25	1	4	30
Caprovid	sheep/goat	–	1	1	15	17
Unidentified		13	297	7	218	535
Total		**13**	**323**	**9**	**238**	**583**

RESULTS

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample number.

Sample numbers were derived from the context numbers for PRS internal recording keeping purposes. All of the samples evaluated were originally designated as sample 'AA' by NAA.

Context 503 [fill of cut for west trackway ditch 502]

Sample 50301/T (3kg/2.3 litres sieved to 300 microns with washover; approximately 36 litres of unprocessed sediment remain)

Moist, mid grey brown, unconsolidated to crumbly (working soft), moderately stony (stones 6 to 20mm were common and larger stones of 20 to over 60mm were present), slightly clay silt (more clay and somewhat sticky in places). Rotted ?charcoal or black ash, land snails (including ?modern *Cepaea/Arianta* sp.) and modern rootlets and seedlings were present.

The rather small washover (~60ml) consisted mostly of numerous small charcoal fragments, but no charred seeds or fruits were seen. Uncharred fruits of goosefoot (*Chenopodium*) were probably modern contaminants as no other uncharred material survived in the sediment. (Goosefoot grows in places with frequent human disturbance, hence it often occurs on excavation sites, and produces decay-resistant fruits in great number). There was also a small snail assemblage which included very many (100+) *Carychium* ?*tridentatum* (Risso), some *Cochlicopa* ?*lubrica* (Müller), *Vitrea* ?*crystallina* (Müller) and *Vallonia* ?*excentrica* Sterki and a few *Pupilla muscorum* L./*Lauria cylindracea* (da Costa) and *Clausilia* ?*bidentata* (Ström). There were also many *Cecilioides acicula* (Müller), a burrowing snail, some at least of which were recent intrusions to the deposit as the shells were still translucent and 'glassy' as in life.

The medium-sized residue (dry weight 1.1kg) was mostly of stones (to 60mm) and sand, with a trace of charcoal (to 1mm, <1g). There were also many small fragments of snail shell (total weight ~5g). Most (if not all) of the shell fragments were of *Cepaea/Arianta* sp. (probably *Cepaea nemoralis* L.) and at least five individuals were represented (on a count of apices). These are very common snails and may well be of modern origin.

Context 712 [black ashy silt underlying Context 711]

Sample 71201/T (3kg/2.9 litres sieved to 300 microns with washover; approximately 35 litres of unprocessed sediment remain)

Just moist, dark grey-brown, crumbly (working soft), clay silt (more clay in places), with some fine ?charcoal, ?brick/tile and modern rootlets present.

There was a small washover (of about 50ml) mostly of plant remains. Most of the plant material was charred, with the exception of rootlets, some straw and one seed of fumitory (*Fumaria*), all of these were most likely of modern origin. Many of the charcoal fragments present were from smaller branches or twigs. Cereal remains were numerous in this sample, but the grains were often too fragmented to be identified; a few of the more intact grains were of barley (*Hordeum distichon/vulgare*). All identifiable chaff was of emmer wheat (*Triticum dicoccum* Schübl.), their characteristic glume bases being identifiable despite heavy fragmentation. Caryopses of brome (*Bromus*) were rather frequent, probably representing weed species harvested accidentally together with the cereals. In addition, there was a seed of pea or vetch (*Lathyrus/Vicia*) and a prickle of rose/bramble (*Rosa/Rubus*).

The small residue (dry weight 0.35kg) was mostly sand, with some stones (mainly to 15mm but occasionally to 50mm) and a very little charcoal (to 15mm, 1g). Seven small unidentified fragments of bone (1g) were also recorded.

Context 716 [collapsed fill in oven/hearth 715]

Sample 71601/T (3kg/3.8 litres litres sieved to 300 microns with washover; approximately 36 litres of unprocessed sediment remain)

Just moist, mid orange-brown to mid to dark grey-brown, stiff to crumbly (working plastic), clay. Stones (6 to 20mm, including rotted sandstone), charcoal and modern rootlets were present.

The small washover from this sample (~30ml) was mostly of modern rootlets. All of the other, probably ancient, plant material was charred. Most of it was small charcoal fragments, with a few unidentified cereal grains present (these were too fragmented to be identified more closely).

The small residue (dry weight 0.18kg) was of sand, with some stones (to 13mm), a little brick/tile (to 32mm, 18 g) and around ten fragments of unidentified land snail shell (to 4mm, <<1 g).

Context 806 [fill of butt-ended linear cut 805]

Sample 80601/T (3kg/3 litres sieved to 300 microns with washover; approximately 34 litres of unprocessed sediment remain)

Just moist, mid brown to mid grey-brown, crumbly (working soft), sandy clay silt, with stones (20 to 60mm) and modern rootlets present.

There was a tiny washover (~8ml) of modern rootlets and some charred plant remains. The last were primarily cereal remains. The cereal grains were too fragmented for a reliable identification, but the chaff was rather well preserved. All of it proved to be glume bases of emmer wheat (*Triticum dicoccum* Schübl.). Some fruits of brome (*Bromus*) were present, and one achene of stinking chamomile (*Anthemis cotula* L.), a species that occurs as a weed on arable land, on waste places and rough ground.

The small residue (dry weight 0.28kg) was of sand, with some stones (to 40mm), a little coal (1 piece to 7mm, <1g) and four unidentified fragments of bone (1g).

Context 1017 [lower fill of cut for east to west aligned ditch 1014]

Sample 101701/T (3kg/3.3 litres sieved to 300 microns with washover; approximately 36 litres of unprocessed sediment remain).

Moist, light to mid brown to light to mid grey-brown, crumbly to unconsolidated (working soft and slightly plastic), clay silt (more clay in places, these areas working plastic and slightly sticky), with stones (20 to over 60mm) and modern rootlets present.

The very small washover (~10ml) was almost entirely of charcoal and modern rootlets; one charred cereal grain fragment was also noted, but this could not be identified precisely. There were also some modern invertebrate remains including fragments of the burrowing land snail *Cecilioides acicula* and a complete centipede.

The small residue (dry weight 0.26kg) was mostly sand, with some stones (to 20mm) and a trace of charcoal (to 5mm, <1g). Three bone fragments (<1g), including amphibian were noted.

Hand-collected vertebrate material

A single box of animal bone (approximately 20 litres) was recovered from four (Trenches 5, 7, 8 and 10) of the ten trial trenches, although most came from Trenches 7 and 10. In total, the vertebrate remains amounted to 583 fragments recovered from 16 deposits, which mostly represented the fills of ditches, and also pits and postholes.

There was one mandible with teeth *in situ* and one measurable fragment, of use for providing age-at-death and biometrical data.

Preservation of the remains was fair to poor, with few deposits (contexts 707 and 1021) producing well-preserved material. Material from Trenches 5 and 8 was particularly poorly preserved, whilst that from Trenches 7 and 10 was rather variable. Evidence of dog gnawing and butchery was scarce. Most deposits, however, included fragments that had been damaged by fresh breakage and erosion of the bone surfaces was widespread and noted throughout. Burnt material was recovered from seven deposits, including one (context 1011) in which many fragments were scorched/burnt.

Cattle and caprovid remains were identified, together with a single dog canine tooth. Trench 7 produced 25 cattle bones, one caprovid fragment, and many small fragments of large mammal bones. Most of these deposits were from the fills of a single ditch cut. Trench 10 produced mostly caprovid remains, with only a few cattle bones and also many medium-sized mammal fragments, some of which had been burnt. Given that proportions of the main species varied by trench, this may be an indication of different disposal practices for different animals or for different types of waste.

DISCUSSION AND STATEMENT OF POTENTIAL

Ancient biological remains from contexts 716 and 1017 were restricted to very few or no plant remains and a few fragments of unidentified land snail shell. No further work on these deposits is warranted.

Contexts 712 and 806 each gave relatively large amounts of plant remains (compared with other sites where only charred material is preserved). The plant macrofossils from these contexts were primarily of cereals (presumably from food crops) and associated weeds and should be studied in detail – secure dating of the deposits would be required and could be attempted via radiocarbon dating (via accelerator mass spectrometry) of some of the charred plant material if necessary. The frequency of emmer wheat points to an early, possibly prehistoric date (see, for example, Greig 1991).

The snail assemblage recovered from context 503 was of a mixed character. There were taxa of open calcareous short-turfed grassland (*Vallonia*), those preferring damper and/or more heavily vegetated conditions (*Carychium*, *Vitrea*, *Cochlicopa*) and a few perhaps suggesting woodland, hedgebanks or loose rocks (*Clausilia*). All might well have lived in or around the ditch if it were somewhat overgrown – those preferring damp/shaded conditions living amongst the vegetation and the open landscape taxa on the ditch sides or in the surroundings. Closer identification and quantification of the remains than has been possible for this evaluation would allow a more detailed interpretation of the environment within and around this feature. Snail and other invertebrate remains seen in the other four samples evaluated were either unidentified fragments or either definitely or probably of modern origin.

Excavations at York Road, Doncaster produced a small and rather poorly preserved assemblage of vertebrate remains, most of which could not be identified to species. Those which could hinted at some possible differences in the disposal of waste across the site. A ditch cut (within Trench 7) seemed to have been a convenient place for the disposal of refuse from the butchery of larger animals, whilst the bones of medium-sized mammals appeared to have been more commonly deposited in pit and gully fills in Trench 10. However, the meagre dating information cannot confirm that these

deposits are contemporaneous, whilst the poor preservational conditions may have restricted the survival of smaller more delicate bones. Differences seen, therefore, could have alternative explanations relating to taphonomy and/or chronology.

RECOMMENDATIONS

Further study of the remains from contexts 712 and 806 is highly desirable. The snail assemblage recovered from context 503 should be fully recorded. The remains were rather well-preserved and further study would allow closer identification of many of the fossils which, in turn, would provide additional information on the local environment.

Further analysis of the current vertebrate assemblage is not warranted because of its small size, poor condition and lack of dating. However, there is the potential in certain areas of the site for the recovery of larger assemblages of vertebrate material and, although this is unlikely to be well preserved, it may provide useful information for the interpretation of archaeological features. Dating of remains, however, is crucial and further assemblages would only be of value if a tight chronological framework could be achieved.

Any further work on the current material should include a review of those samples not considered in this evaluation report. Where deposits with similar concentrations of charred plant remains to those seen in Contexts 712 and 806, or snail assemblages comparable with that from Context 503, are identified, these should be included in any future studies. In the event of further excavation, other similar deposits not thus far encountered should be systematically sampled for the recovery of plant and invertebrate macrofossils, subject to assessment and, where appropriate, included in any further bioarchaeological study of the site.

RETENTION AND DISPOSAL

All material from this excavation and the fossils extracted from the processed subsamples should be retained for the present.

ARCHIVE

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

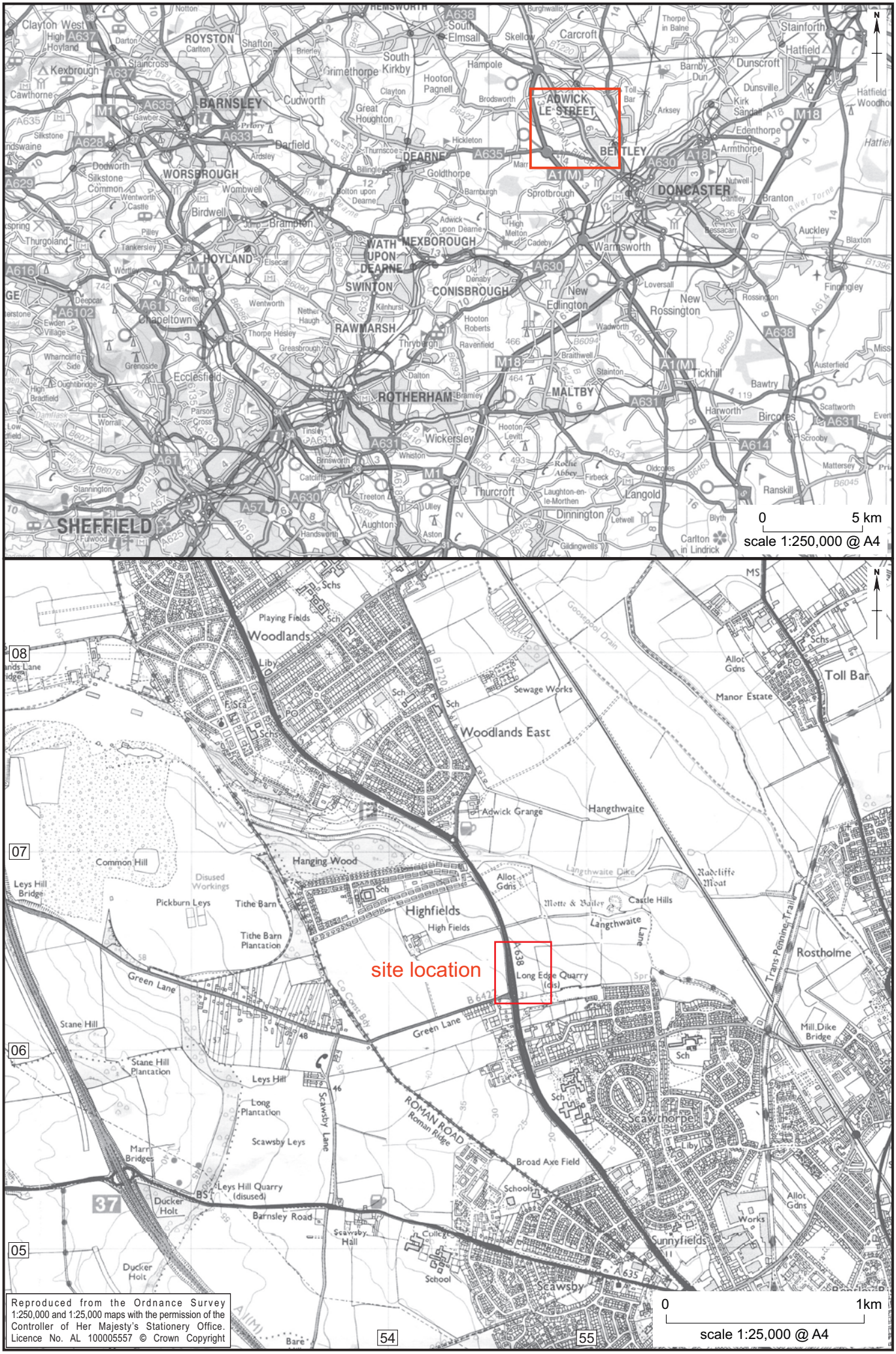


Figure 1 Doncaster Park and Ride, York Road: site location

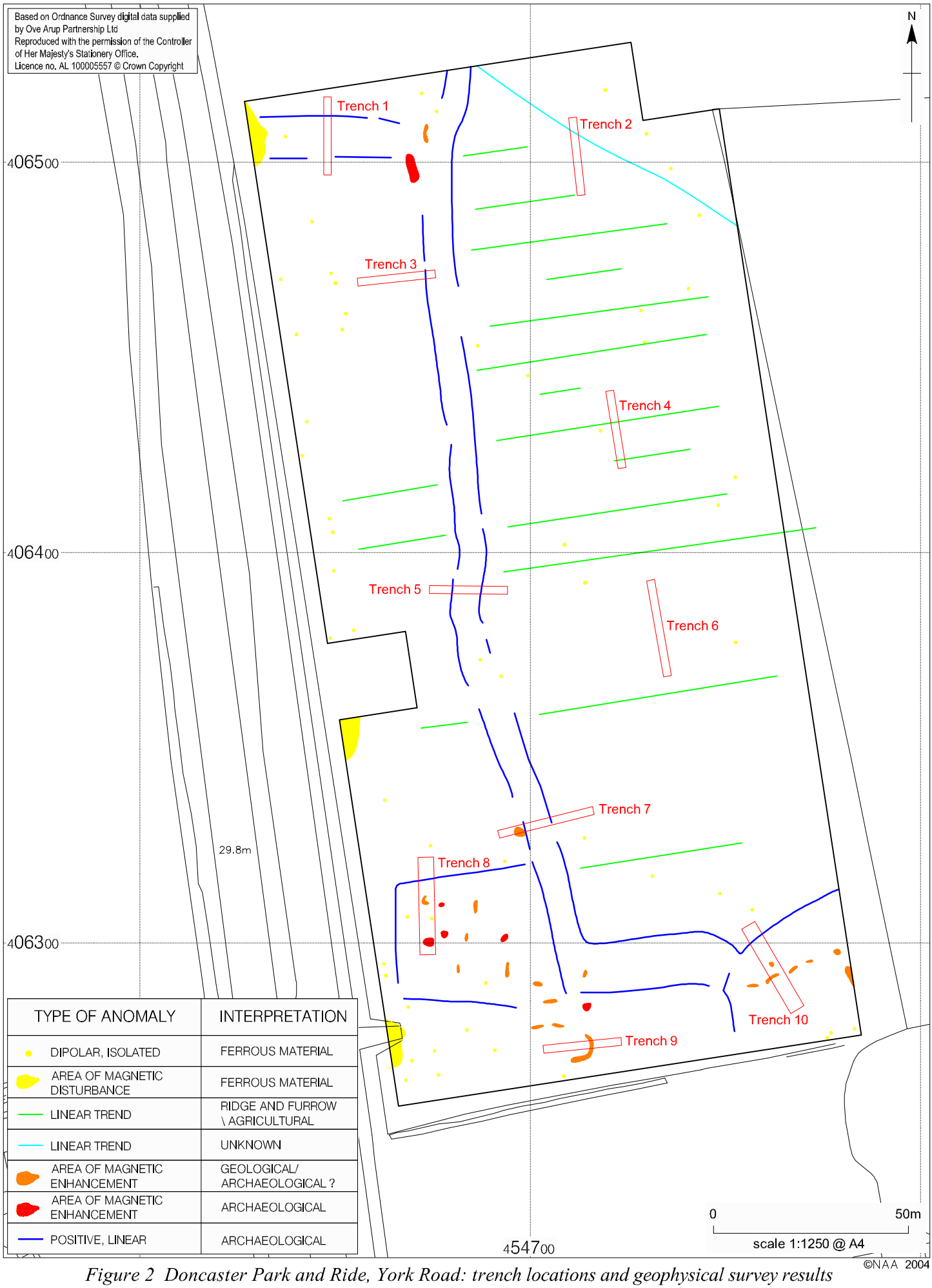


Figure 2 Doncaster Park and Ride, York Road: trench locations and geophysical survey results

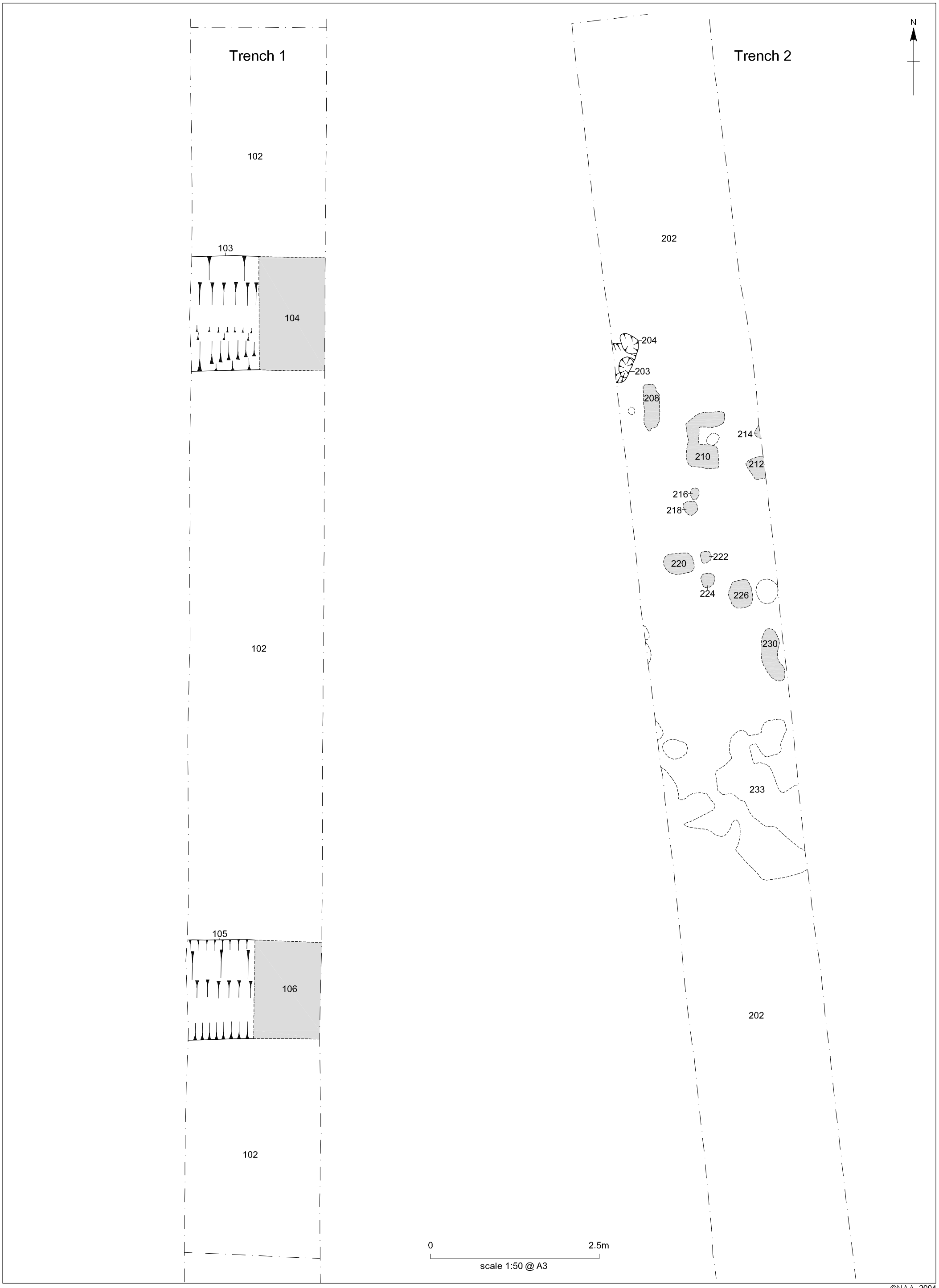
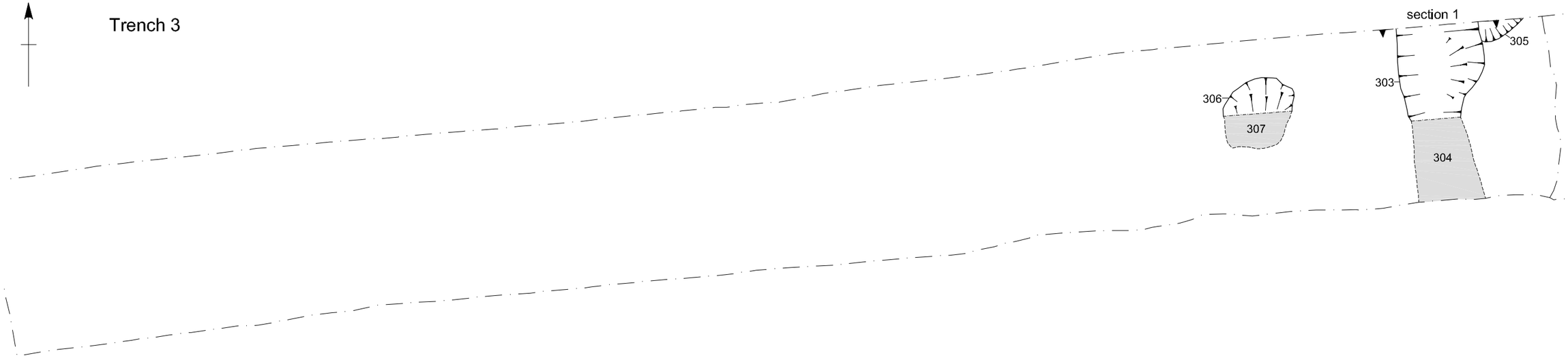


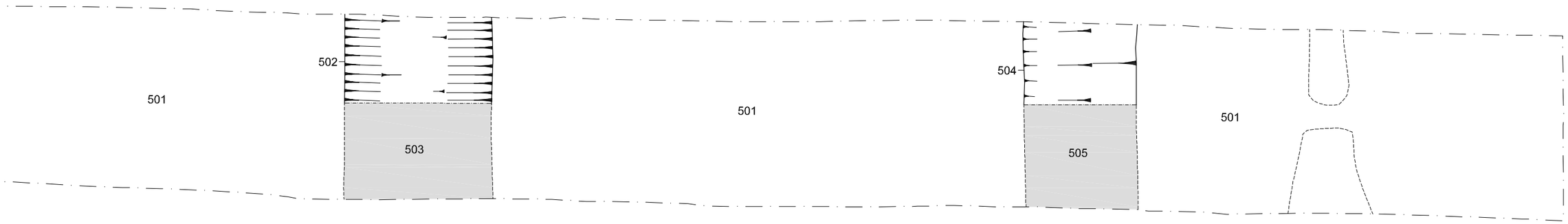
Figure 3 Doncaster Park and Ride, York Road: Trenches 1 and 2

N

Trench 3



Trench 5



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scale 1:50 @ A3

Figure 4 Doncaster Park and Ride, York Road: Trenches 3 and 5

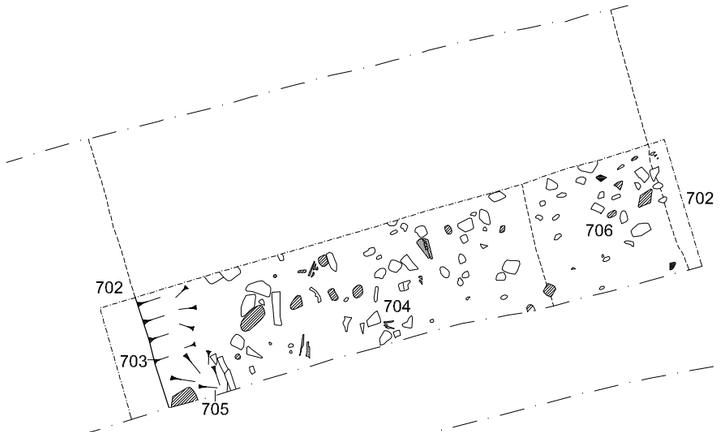
Trench 7

KEY

- pot
- bone
- burnt stone
- burnt red clay or silt
- black ash

N

plan 1



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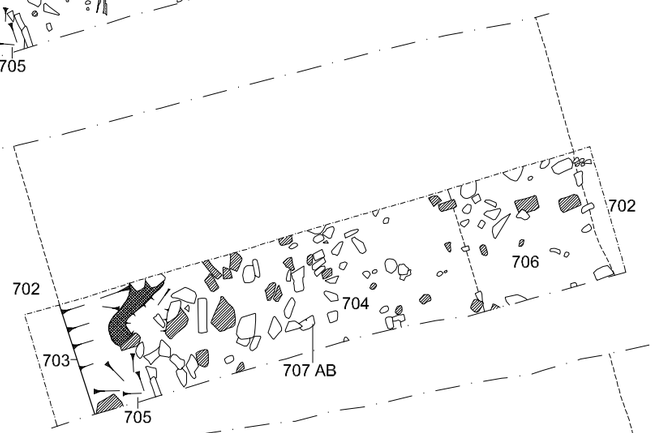

plan 3

plan 4

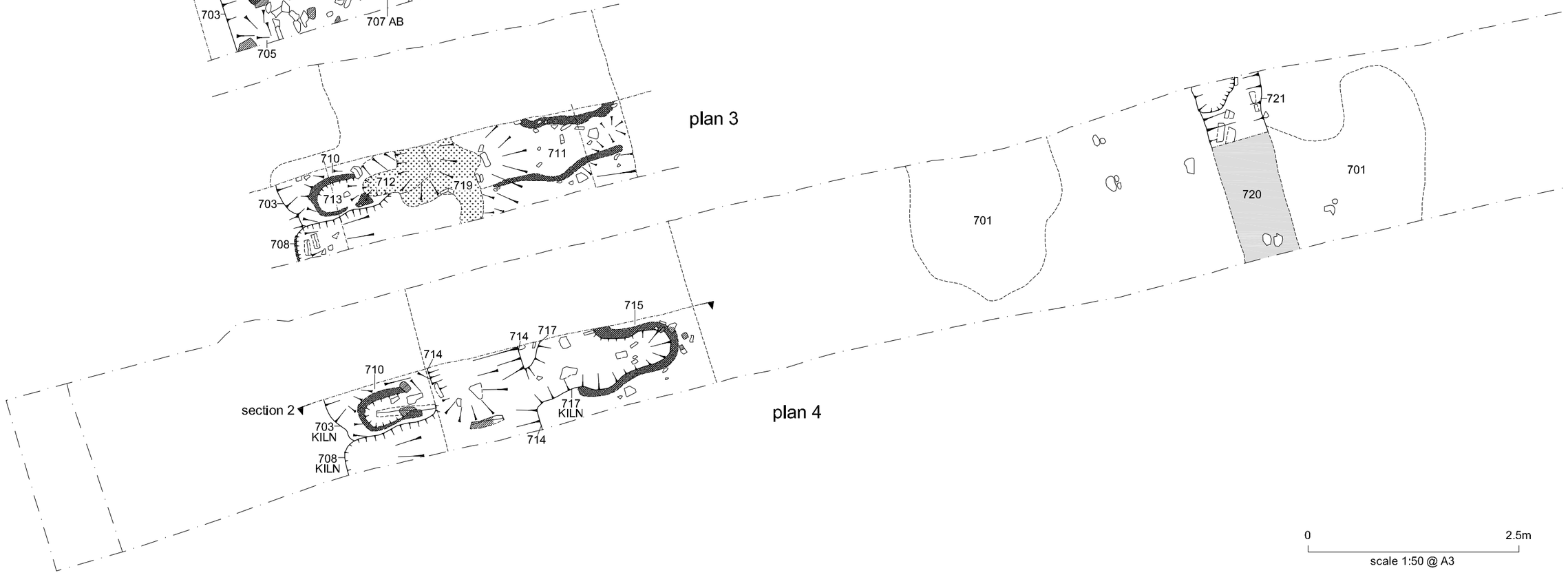

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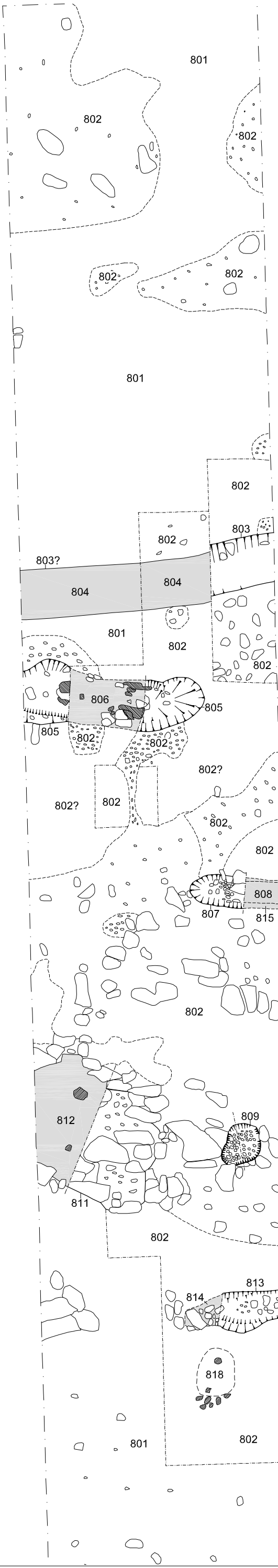
Figure 5 Doncaster Park and Ride, York Road: Trench 7

Trench 8



N

KEY

burnt stone

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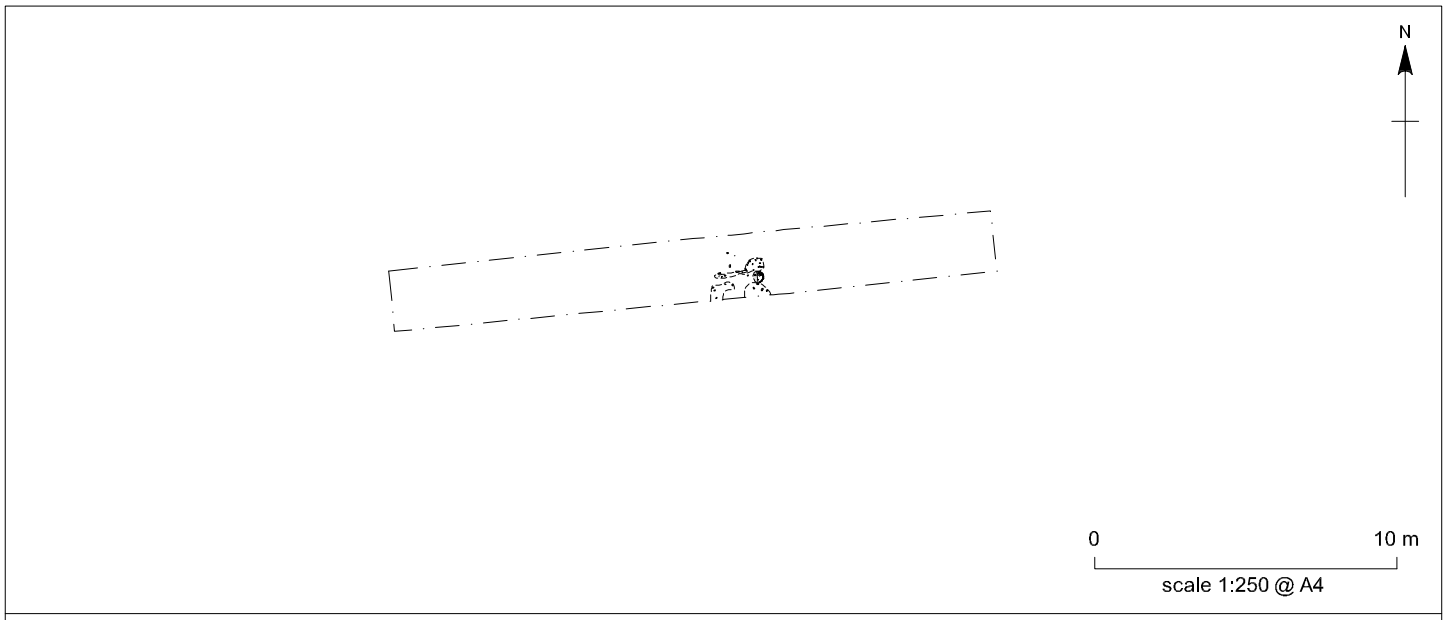
scale 1:62.5 @ A3

Figure 6 Doncaster Park and Ride, York Road: Trench 8



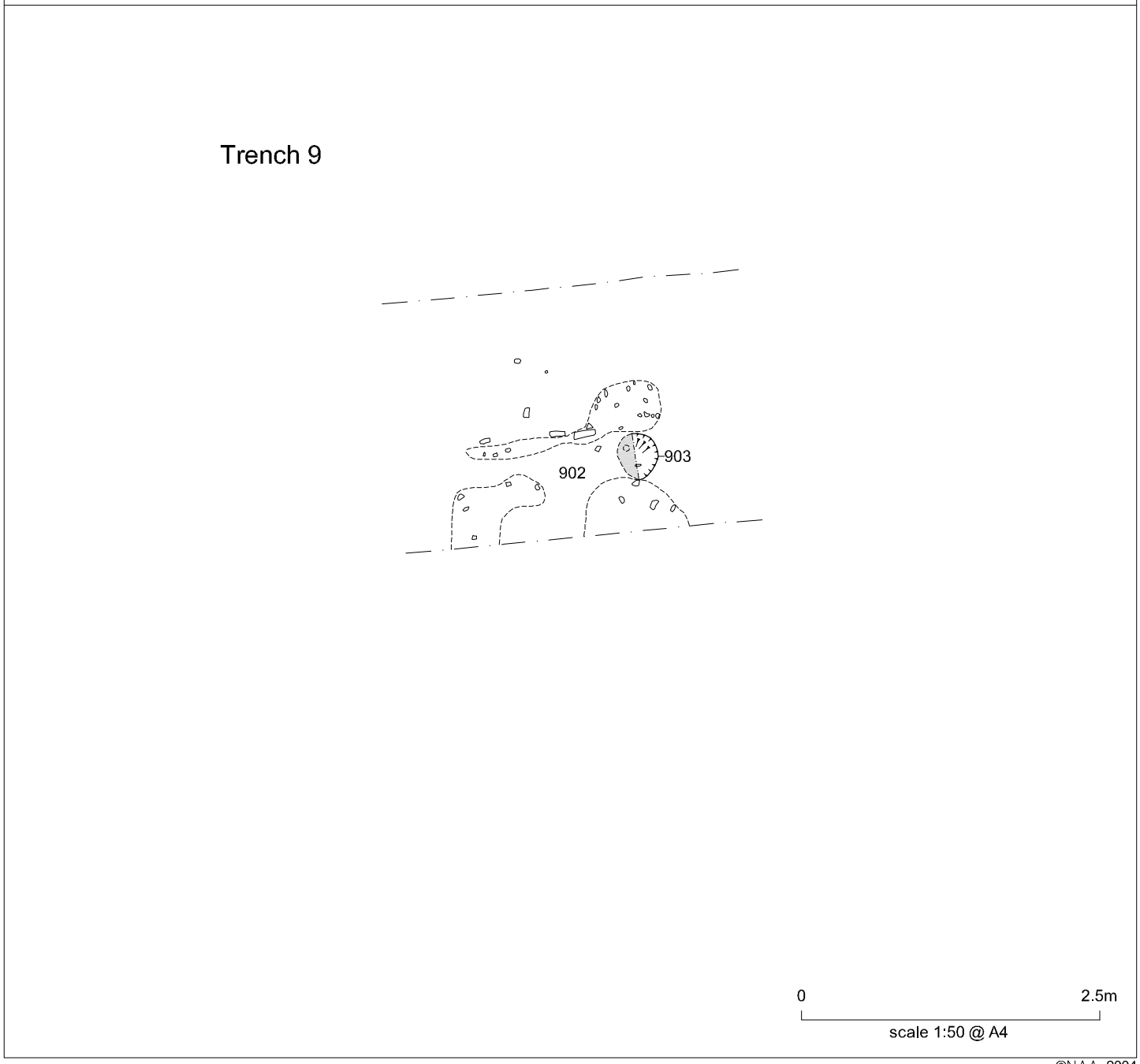


Figure 7 Doncaster Park and Ride, York Road: Trench 9

Figure 8 Doncaster Park and Ride, York Road: Trench 10

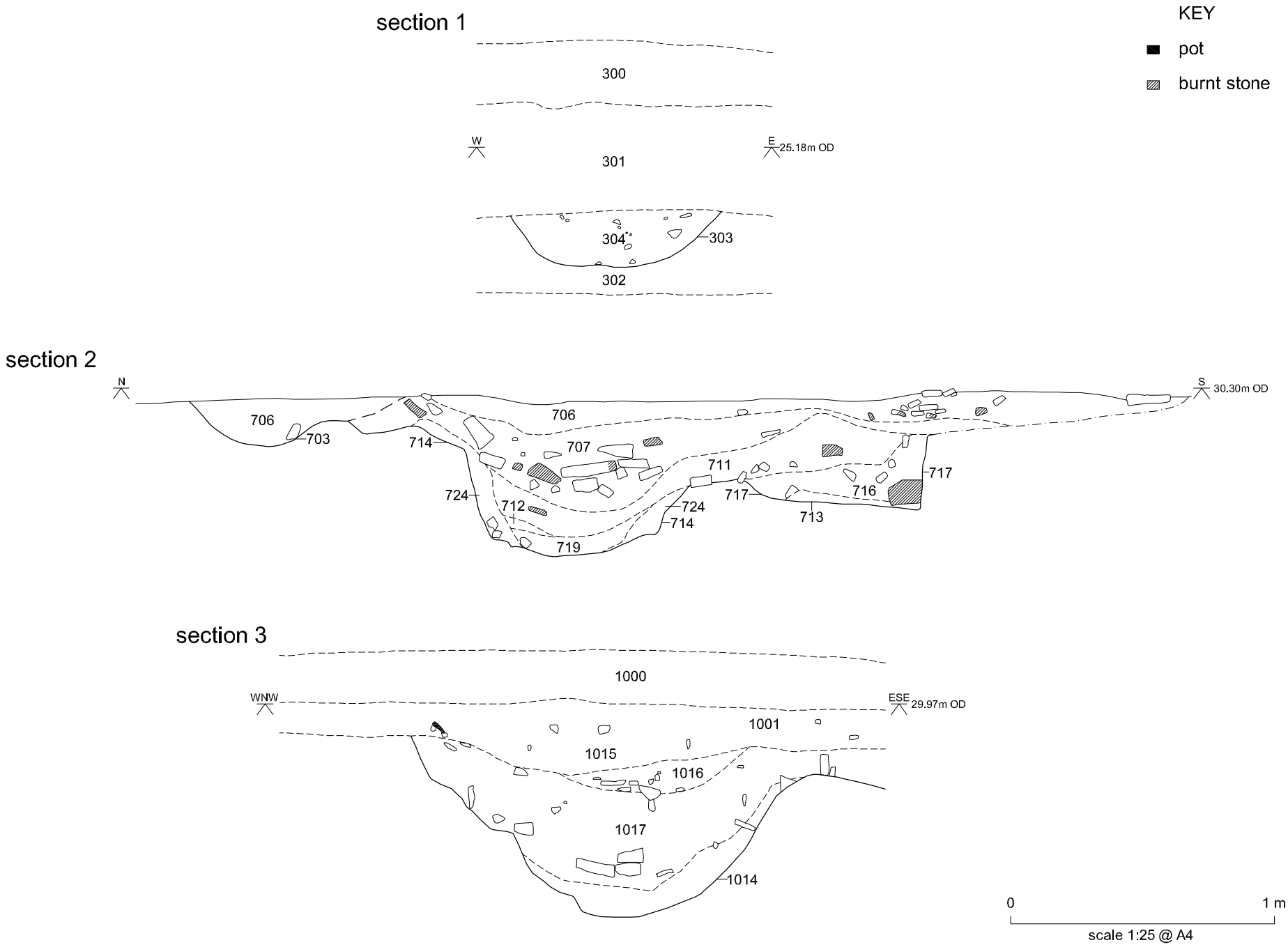


Figure 9 Doncaster Park and Ride, York Road: sections

Figure 10 Doncaster Park and Ride, York Road: extent of occupation evidence at southern end of site (shown in red) and proposed development (shown in green)

Plate 1 Doncaster Park and Ride, York Road: Trench 7, Kilns 703 (bottom centre) and 717 (top right) looking north-east. Scales 2m and 0.5m

Plate 2 Doncaster Park and Ride, York Road: Trench 10, surface 1007 (foreground), with rubble (1008) immediately left of the scales looking north-west. Scales 2m