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PRE-CONSTRUCT
ARCHAEOLOGY
LINCOLN

ARCHAEOLOGICAL EXCAVATION REPORT:
ERMINE STREET / A1500 JUNCTION,
LINCOLNSHIRE

Site Code:	ESTL01
NGR:	within SK93787778, 97247811 a
Planning Ref.	N/A
Accession No.	2001.296

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EVENT: LI 5989

INTERVENTION: LI 10032

EXCAVATION: LI 10033

PRN: 50574 Roman (Ermine St.)

ARCHAEOLOGICAL EXCAVATION REPORT:
ERMINE STREET / A1500 JUNCTION,
LINCOLNSHIRE

Site Code:	ESTL01
NGR:	within SK93787778, 97247811 and 97347837
Planning Ref.	N/A
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Summary

A program of archaeological investigation took place in October 2001 and February 2002. It comprised a watching brief and the excavation of a trench across the line of the Roman road Ermine Street.

The watching brief revealed no features of archaeological significance, largely because of the shallow nature of most of the associated works.

The excavation was carried out in two phases in order for the A15 to remain open, and it was possible to draw a composite section across a full width of the Roman agger, as well as to record the majority of early road surfaces in plan.

The excavation revealed a succession of road surfaces, each made from limestone chippings bonded with limestone sand, both of local origin. The agger of the Roman road was examined, and although it was truncated to the west by modern services, the width can be estimated with some confidence to 6.5m.

Over the agger, some of the road surfaces showed evidence of wear and later repair. In the primary surface, a considerable wheel rut was exposed, and there were also pot-holes and larger patches of erosion.

The lower three surfaces were sealed by a layer which contained a large sherd of mid 2nd century Spanish 'Dressel 20' amphora. A possible surfaces which overlay this was of a similar construction, and this too has been tentatively dated to the Roman period.

Upper road surfaces appeared to have been truncated by large-scale road construction activity, probably from the early-modern period. This activity has presumably truncated any post-Roman road surfaces.

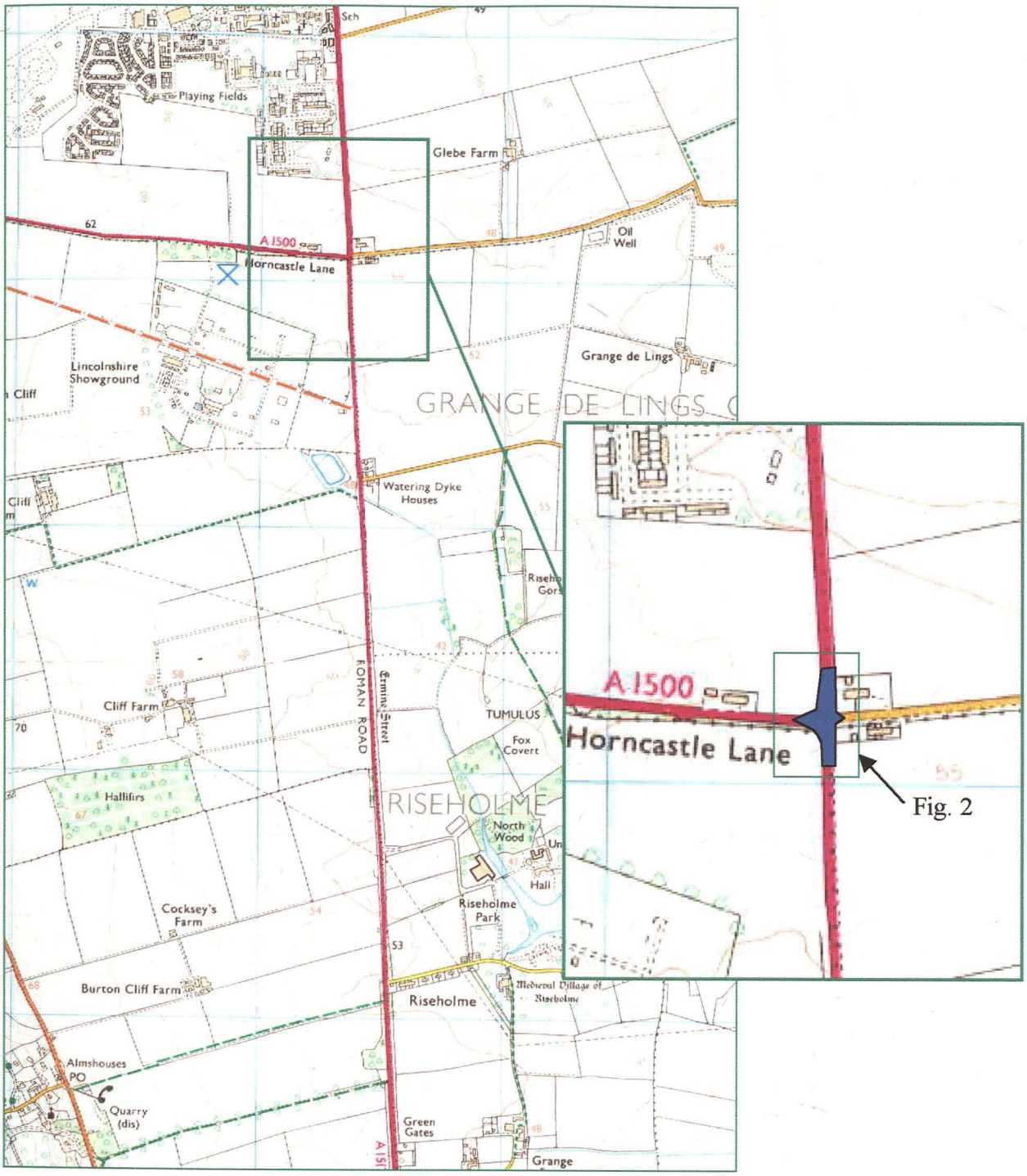


Fig. 1: Site location. Shows area covered by archaeological scheme (blue).
For trench location, see Fig. 2

Scale 1:25,000, insert at 1:10,000. O.S. Copyright No. AL 515 21 A 0001

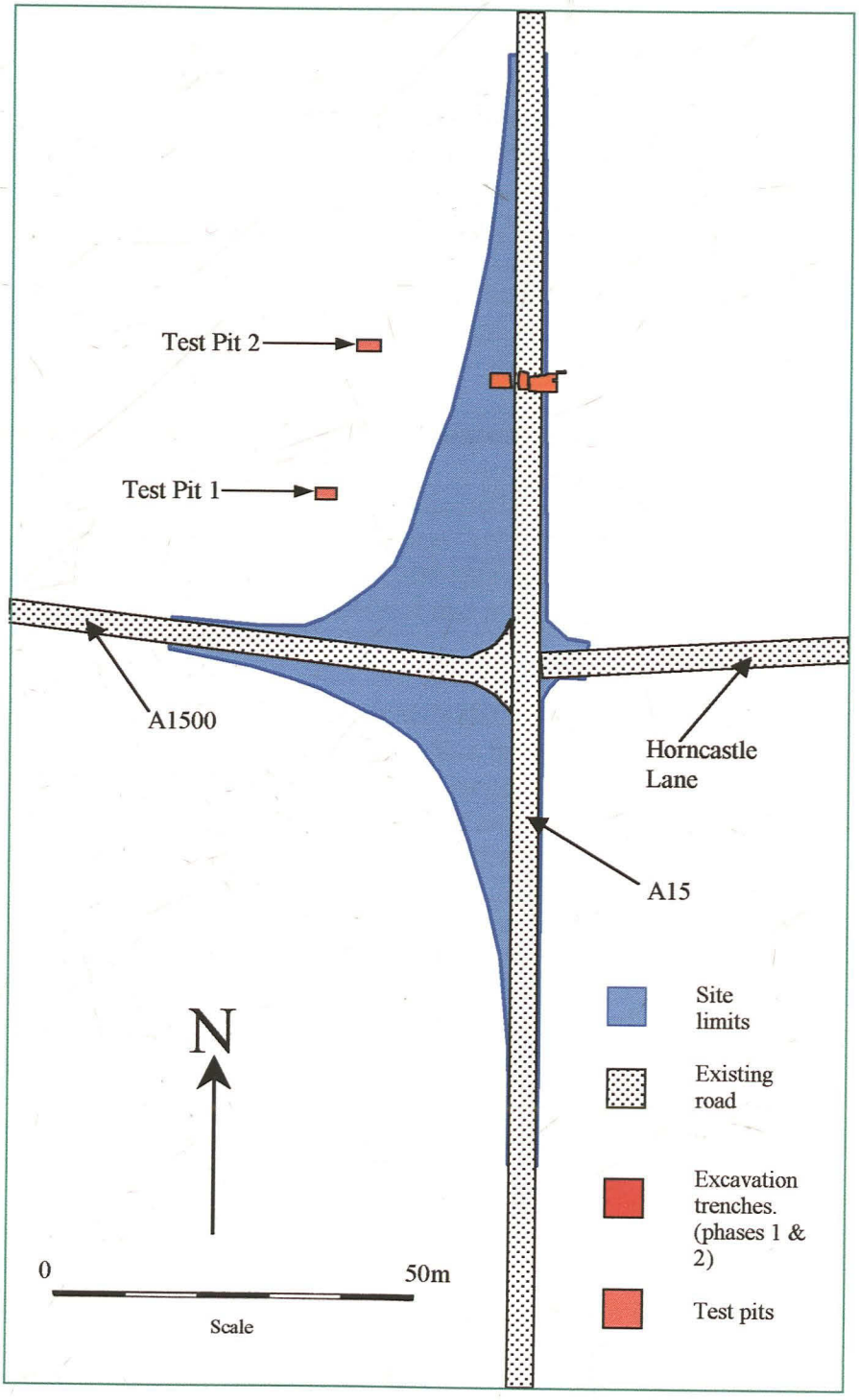


Fig. 2 Trench location (scale 1:1000)

1.0 Introduction

Pre-Construct Archaeology (Lincoln) were commissioned by Balfour Beatty Construction Ltd to implement an archaeological scheme of investigative in advance of, and during, the construction of a new roundabout at the junction of the A15 (Ermine Street) and the A1500 to the north of Lincoln. These works were undertaken to fulfill the objectives of an agreed archaeological mitigation strategy that was based on the recommendations of the Senior Built Environment Officer of Lincolnshire County Council. This approach complies with the requirements of *Archaeology and Planning: Planning Policy Guidance Note 16*, Dept. of Environment (1990); *Management of Archaeological Projects*, EH (1991); *Standard and Guidance for Archaeological Excavations*, IFA (1994) and the LCC document *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice*, 1998.

2.0 Site location and description

The road junction (hereafter 'the site') is approximately 2.25 km north of Lincoln in the parishes of Scampton and North Carlton. The parcel of land forming the development unit is triangular in shape, and approximately 0.225 hectares in extent. It is bordered by agricultural land to the east and north-west, and the Lincolnshire Showground to the south-west.

The topography of the area is predominantly flat, although, to the north of the A1500 is a wide shallow depression, presumed to be a former localised limestone quarry. Ermine Street, to the north of Lincoln, runs longitudinally along the 'Lincoln edge', a limestone ridge which bisects the county from north to south, and is here approximately 1km wide, and approximately 50m OD.

The modern tarmac road is raised on a bank some 2.0 to 2.5m above the surrounding landscape.

The underlying geology comprises Lincolnshire Limestone Formation with no overlying drift deposits.

The corners of the site are defined by NGR's SK 9378 7778, SK 9724 7811 and SK 9734 7837.

3.0 Planning background

Under the Highways Acts regulations 1988, the building or improvement of trunk roads requires an assessment of potential environmental effects to be carried out, but not a formal planning permission. As a part of this process, Opus International Consultants (UK) Ltd consulted Lincolnshire County Council, who issued a formal project brief; initially for an evaluation of the area in advance of works.

The program of works described in this document represent a final mitigation strategy for the site; the objective of which has been to obtain an acceptable level of archaeological information that is commensurate with the development impact.

4.0 Archaeological and historical background

As the project has been firmly focused on the important Roman road, Ermine Street, then it is appropriate that this background should be relatively target orientated towards the road itself; the date of its construction, its purpose, its character etc.

Ermine Street was a supply route, built not long after the Roman conquest of lowland Britain. Its purpose was to rapidly transport troops and provisions northwards to the front lines in the mid-1st century AD. This would have remained its primary function, as a high-speed artery for long distance transport (Frere 1987, 291). It extended from London (*Londinivm*) to York (*Ebvracvm*), crossing the Humber estuary at Winteringham / Brough (*Petvaria*). To the south of Ancaster, King Street extends south-westwards from Ermine Street, joining it again at Water Newton (*Dvrobrivae*), a short distance west of the important campaign fort at Longthorpe.

Approximately 4.8km to the north of Lincoln, Tillbridge Lane branches north-westwards from Ermine Street, providing an alternative route northwards. It crosses the Trent at Littleborough (*Segelocum*). It has been suggested that Tillbridge Lane took on more significance than Ermine Street to the north of Lincoln, as the Antonine Itinerary makes no record of settlements on Ermine Street to the north of the junction. It may be that the Trent crossing at Littleborough was safer than the Humber crossing at Winteringham / Brough (Whitwell 1992, 50).

Roman settlements to the north of Lincoln, at Owmby, Hibaldstow and Winteringham, are spaced at regular intervals on Ermine Street that would appear, superficially, to equate to 1 days march for the Roman army. However, Owmby was already a major settlement in the later Iron Age, as was Lincoln. The latter, together with Leicester (*Ratae*), is referenced by the ancient historian, Ptolemy, as one of the chief centres associated with the local tribe, the *Corieltauvi* (May 1984, 18). Moreover, Old Winteringham was also a major late Iron Age settlement (*ibid.*), and one wonders whether or not Hibaldstow also was a centre of population in pre-Roman times, where recent excavations have identified a settlement of late Bronze Age date (M Allen, pers. Com). Although Whitwell suggests that most of the settlements on Ermine Street owe their origin to military posts (Whitwell 1992, 45), closer attention to the pre-existing settlement structure may be worthy of closer attention. As May puts it (May 1984, 18), "most major centres of Romano-British population were also population centres in the later Iron Age." To some extent, Ermine Street (from the south bank of the Humber, at least as far south as Lincoln), must be viewed as a military formalisation of a much older, yet highly significant, prehistoric route, the so-called Jurassic Way, which followed a less formalised course of the Jurassic spine.

Previous fieldwork has been carried out on Ermine Street, at RAF Scampton, approximately 2.4 km north of the site. This exposed a Roman *agger* approximately 12.3m wide, and 0.75m thick, made up of brown and yellow sandy soil and limestone brash, all derived from local resources. No Romano-British road surface was found (Green and Rahtz, 1959, pp81-86).

A number of sections have also been examined to the south of Lincoln. At Navenby, 20km south of this project, a layer of water-rolled quartzite pebbles 50 to 60mm thick was recorded during a watching brief, and this was interpreted as the surface of

Ermine Street. There was a suggestion that the road there may have been up to 13m wide (Rylatt, 2000). Ermine Street was also sectioned at Coleby Heath, 17km south of the site, exposing a cambered surface *circa* 8.7m wide, and built of compacted limestone chippings (Snee and Palmer-Brown, 1999). 360m north of Coleby Heath, two phases of road construction were identified: a surface 7.5m wide overlay an 15m wide surface and agger. A roadside ditch to the west of the carriageway was also identified (Chowne, 1987).

Unlike many roads that were part of the Romano-British landscape, Ermine Street continued to be of significance beyond the removal of the Roman administration in the early 5th century AD. The Domesday Book records a line of settlements running parallel to Ermine Street approximately 2-3 km to the east (Roffe, 1993 p34), but the road frontage itself remained sparsely settled. Not surprisingly, therefore, there are relatively few entries within the County Sites and Monuments Record (SMR) within approximately 1500m of the site (see Appendix 2).

For the Romano-British period, there are three entries from the vicinity of the site, two of which comprise pottery scatters. The closest of these is some 1.5 km east of the site, the other 1.6 km south-south-west. The third entry is a large villa, approximately 1.9 km to the west, situated on the former Jurassic Way. It is described as a large building with 40 rooms and corridors as well as a series of tessellated pavements (Illingworth, 1808, 3-13). Fragments of Samian ware were recovered from the excavation, dating from the mid to late 2nd century, as well as coins of the emperor Constantine. Lying over it was a series of east-west aligned burials, probably from a later Christian period.

The medieval burials could possibly relate to the St Pancras well and chapel, situated 300m further west, where a sacred spring is located.

Approximately 1.6 km west of the site, along Tillbridge Lane, a poorly provenanced group of medieval metal finds was recovered; comprising a bronze cloak fastener, a lead seal, a belt chape and other miscellaneous finds.

There are three undated quarry pits in the area; two approximately 1.4 km east of the site, and a third approximately 600m south. Whether or not any of these were used for the construction of the *agger* has not been established.

5.0 Archaeological mitigation strategy

The scheme, as defined in advance of works, was to involve ground reduction in the northern development section, resulting in the potential removal/destruction of 1.5 – 2m of make-up and related deposits; damaging or destroying a section through Ermine Street. To mitigate against the effects of this, the Senior Built Environment Officer of Lincolnshire County Council proposed an archaeological strategy that would seek to:-

- record and analyse evidence for the construction and development of Ermine Street
- recover finds and other evidence to date the construction and development of the Roman road
- expose and record evidence of traffic movement (ie cart ruts)
- examine for evidence of roadside ditches or associated activity
- identify and sample pre-road deposits, if present.

The programme of works was to comprise the following elements:

Phase 1. A watching brief on all stages of stripping, including works not centred on the road line, and in the vicinity of any associated compounds.

Phase 2. An open, supported, excavation across the A15/Ermine Street, 17m x 3m in area, extending to a depth possibly exceeding 2.0m.

Phase 3. Observation and recording of drainage sections cut across the roadway.

In the event, this methodology was altered (in full consultation with the Senior Built Environment Officer). The excavation area was widened and was not supported, and the watching brief was limited due to the demonstrably lower impact of the scheme. Earth stripping for a site compound, set in the angle of the A15 and Horncastle Lane, was not monitored.

6.0 Watching brief methodology

For the most part, the watching brief was extremely limited, due to the low impact resulting from the development: although relatively extensive (see fig. 2, blue), overall soil stripping was restricted to removing a vegetation layer and upper topsoil deposits. These stripped areas were monitored, but were not deep enough to expose/identify earth-cut archaeological features; a situation compounded by the intermittent use of a bulldozer.

Two access pits were monitored to the east of Ermine Street, and to the north of the A1500. These pits were excavated to assess the stability and compaction of deposits. The pits were excavated to approximately 1m using a mechanical excavator fitted with a 1.6m wide trenching bucket.

The watching brief involved monitoring on only two occasions; on the 26th and 31st October, 2001.

6.1 Excavation methodology

Due to the fact that the development scheme required one lane of the existing carriageway to remain open at any given time, it was necessary to excavate in two sections (Phases 1 and 2). Phase 1 consisted of an 8x5m trench, taking up the western section of the carriageway, approximately 45% of the total. The remainder was excavated as Phase 2. At the request of the Senior Built Environment Officer, the trench representing Phase 1 was extended westwards in an attempt to locate any roadside ditch, and its final dimension was 11m east-west, including a 2m wide baulk that incorporated a series of modern services at the edge of the carriageway (see fig. 3). Work on Phase 1 commenced on Monday 29th October and continued until Tuesday 6th November.

The modern road surface was removed mechanically, as were a series of underlying (make-up) deposits; after which, most of the deposit sequence was recorded in a controlled manner (some of the thicker and more resilient surfaces were removed, following recording, by machine under strict archaeological supervision).

The site record was based on standard pro-forma context record sheets, supplemented with scale drawings and photography. All deposits that were deemed to be of potential Romano-British origin were excavated by hand and, following the completion of each phase of excavation, a total section through the deposit sequence was prepared, and this section was also photographed. After consultation with the Senior Built Environment Officer it was decided that a full stone-for-stone plan of each of the surfaces would be unnecessary, and a sample plan was drawn of each layer.

Levels were calculated from a Balfour Beatty temporary benchmark at 50.00m OD.

Work on Phase 2 commenced on Monday 11th February and was completed on Friday 15th February. The methodology employed was the same as that used for Phase 1.

This second area was aligned with the Phase 1 trench (see fig. 3). To maximise the possibility of detecting roadside features, it was extended as far east as possible (the limit being determined by live electricity mains cables). In total the area examined (Phases 1 and 2) was 19m east to west, with a further 2m from a contractors trial trench examined in section.

7.0 Watching brief results

Topsoil stripping along the western edge of Ermine Street exposed no features of archaeological origin. Two test pits (shown on Fig. 2) were also monitored, revealing a 0.45m deep top/plough soil, over a deposit of mixed limestone rubble and limestone sand, of which 0.75m was removed without reaching the bottom. This lower deposit was encountered during the excavation, and interpreted as backfilling (021) of a large stone quarry pit [020].

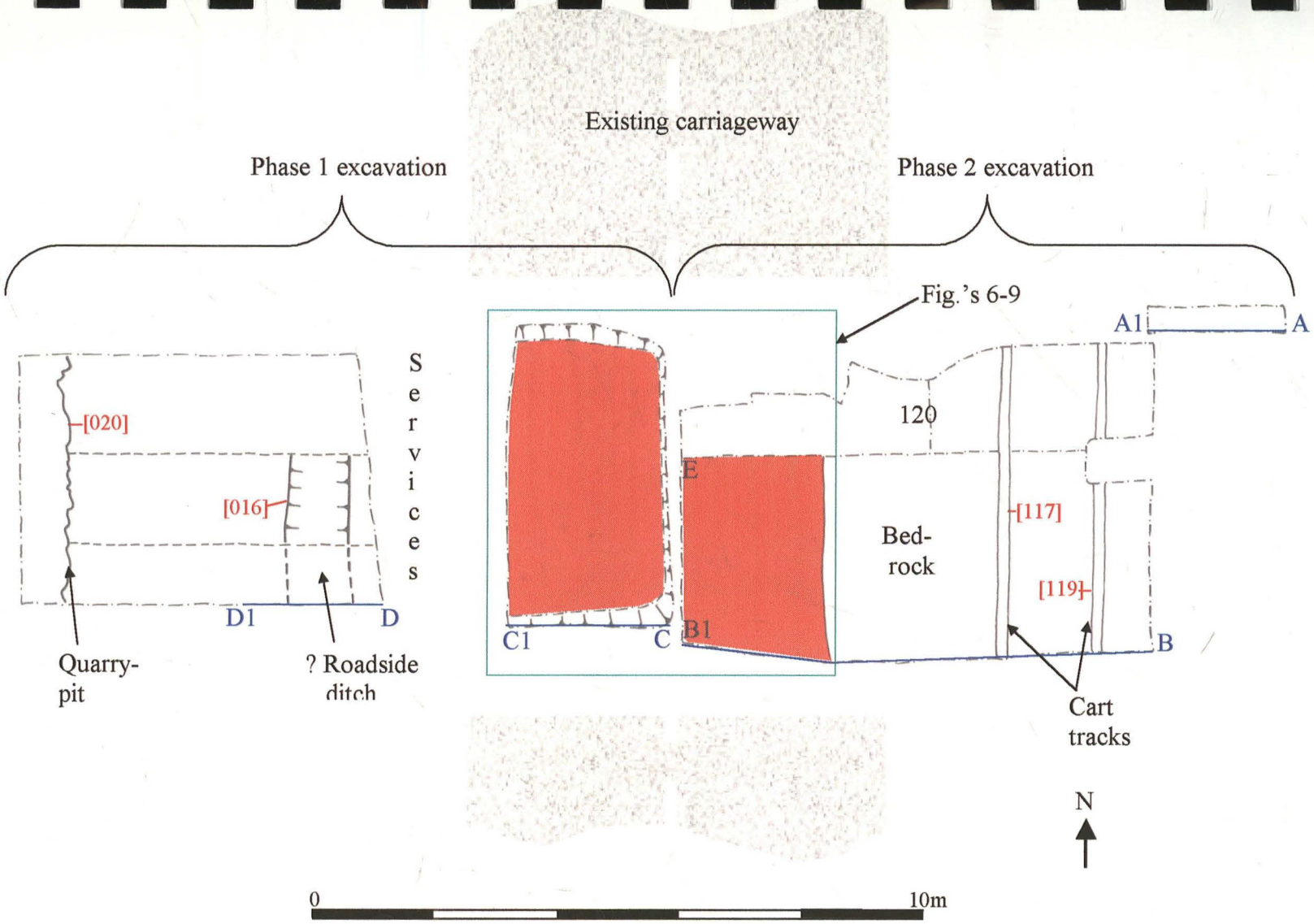


Fig. 3: Site plan showing location of illustrated sections (A – D1: Fig. 4 and B1 – E: Fig. 5). The area of the Roman road itself is highlighted in red and the green rectangle represents the area illustrated in Figs 6 – 9. Scale 1:100

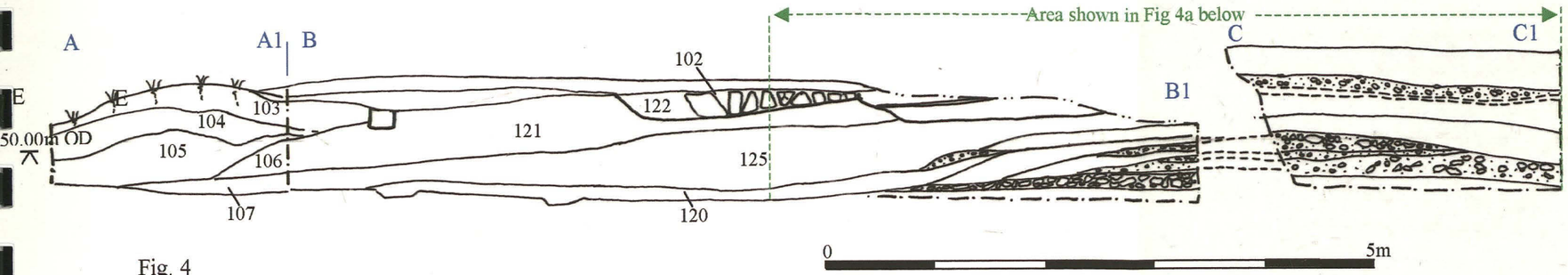
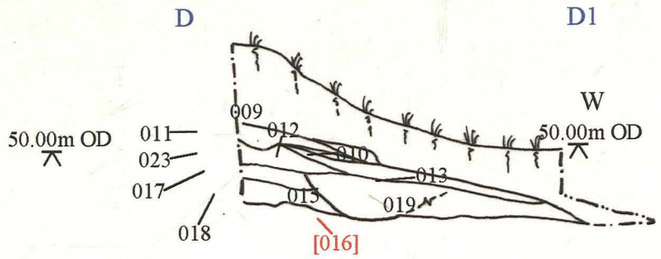


Fig. 4



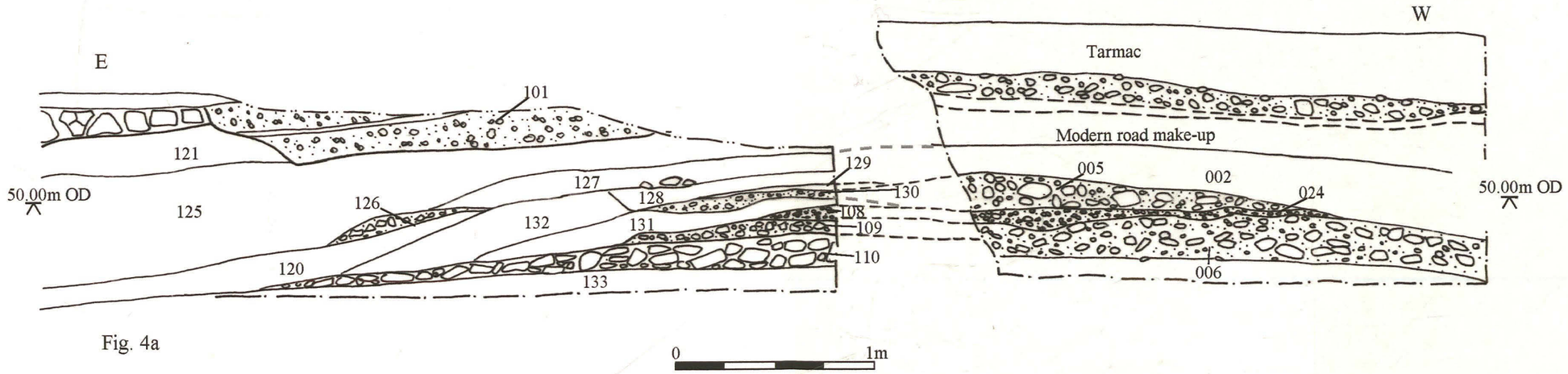


Fig. 4a

Fig. 4: North facing composite section across the deposit sequence. Scale 1:50
Fig. 4a: Detail from fig. 4 showing deposits of Roman road. Scale 1:25

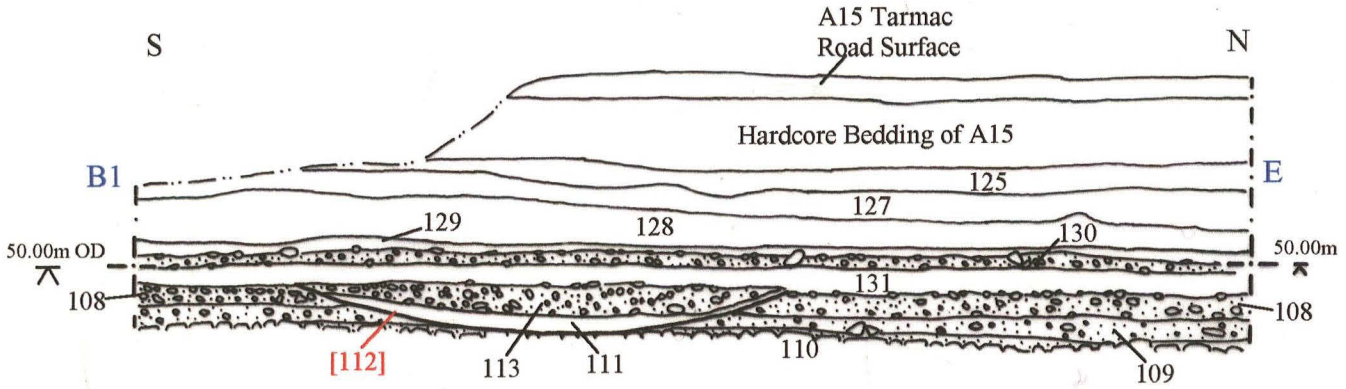


Fig. 5: East facing section through Roman road. Scale 1:20

7.1 Excavation results

Although the excavation was carried out in two phases, these will be described and discussed as one. Where a deposit was recorded in both trenches using different context numbers, those used in Phase 1 have been used in this report.

The Roman Road Surfaces

A number of limestone gravel and coarser surfaces were exposed beneath existing road levels, including repair phases to some of these.

The earliest archaeological deposit in each area was a layer of roughly laid limestones, bonded with coarse reddish-brown sand (006)/(110). This was 0.18m thick in the centre, and 5.40m+ wide, truncated by modern services to the east (see fig. 4/4a and 6). This deposit was directly over limestone bedrock, (133), suggesting that any top/subsoil was removed to create a stable surface on which to build the road. A similar truncation was noted at Scampton (Green and Rahtz, 1959).

Laid over the rubble *agger* was the earliest road surface; recorded as context (109) during Phase 2, but as the upper part of (006) in Phase 1. It comprised well compacted small limestone fragments set in coarse sand. It was 60 to 80mm thick and covered the central 4.40m of the *agger*.

Features in (006)/(109) demonstrated that this surface had been exposed to the movement of wheeled traffic. These took the form of a pot-hole [115] 0.50 x 0.36m and 0.10m deep, and a wheel rut, 2.50m long, 0.10 to 0.15m wide and 20 to 30mm deep. The pot-hole had been filled with a deposit of rammed limestone chippings, into which a number of larger limestone pieces were set (114) (see fig. 6).

There was a large area of damage to (006) exposed during phase 1. The upper part was missing from an area 2.60 x 2.50m in the northern part of the trench, revealing the coarser foundation material of the *agger* beneath it, (see fig. 6) This large hole had then been repaired with a patch of large platey limestone pieces up to 120mm across, (007), which were set into a bonding material of coarse reddish sand. Repairs to both the pot-hole [115] and the erosion in the top of (006) can be seen in fig. 7.

A second surface was laid directly over the above, recorded as contexts (024)/(108) – see fig. 8. This was made up of limestone gravel, 15 to 50mm in diameter, bonded with compact yellow-brown sand, and was up to 60mm thick. This surface did not extend to the entire width of the road, and it may be that only the central portion required replacement. This surface also displayed evidence of repair, and a large (1m diameter) pot-hole [112] had been filled with limestone gravel (113), but not before a deposit of sand (111) had accumulated in the base of it. This layer was only recognised in section during Phase 1, and so the exact line of the western edge is conjectured.

Surface (024)/(108) also became obsolete, and new surfaces were constructed over the top of it (see fig. 9). In the trench to the west, this replacement surface ((005) and

(008)) was much coarser than its predecessors; it was made up from limestone fragments that were 0.05 to 0.20m across, bonded with limestone sand and gravel. It was 0.18m thick. The eastern (Phase 2) equivalent was bedded over a layer of indurated limestone chips and sand (131), but this did not extend as far as the Phase 1 area. The surface itself (130) was made up of limestone chippings, up to 40mm across, bonded with pale yellow crushed limestone sand. Together, (130) and its make up layer were 0.14m thick. Over this surface was a thin deposit of loose dark orange sand and chippings (129), which appeared to represent material formed when the road was functional; a mixture of eroded road surfacing and trampled mud.

(005), (008) and (130) were the latest deposits that could be diagnosed as definite road surfaces, however a number of possible makeup deposits and part of a possible surface were observed. These will be described in the following section.

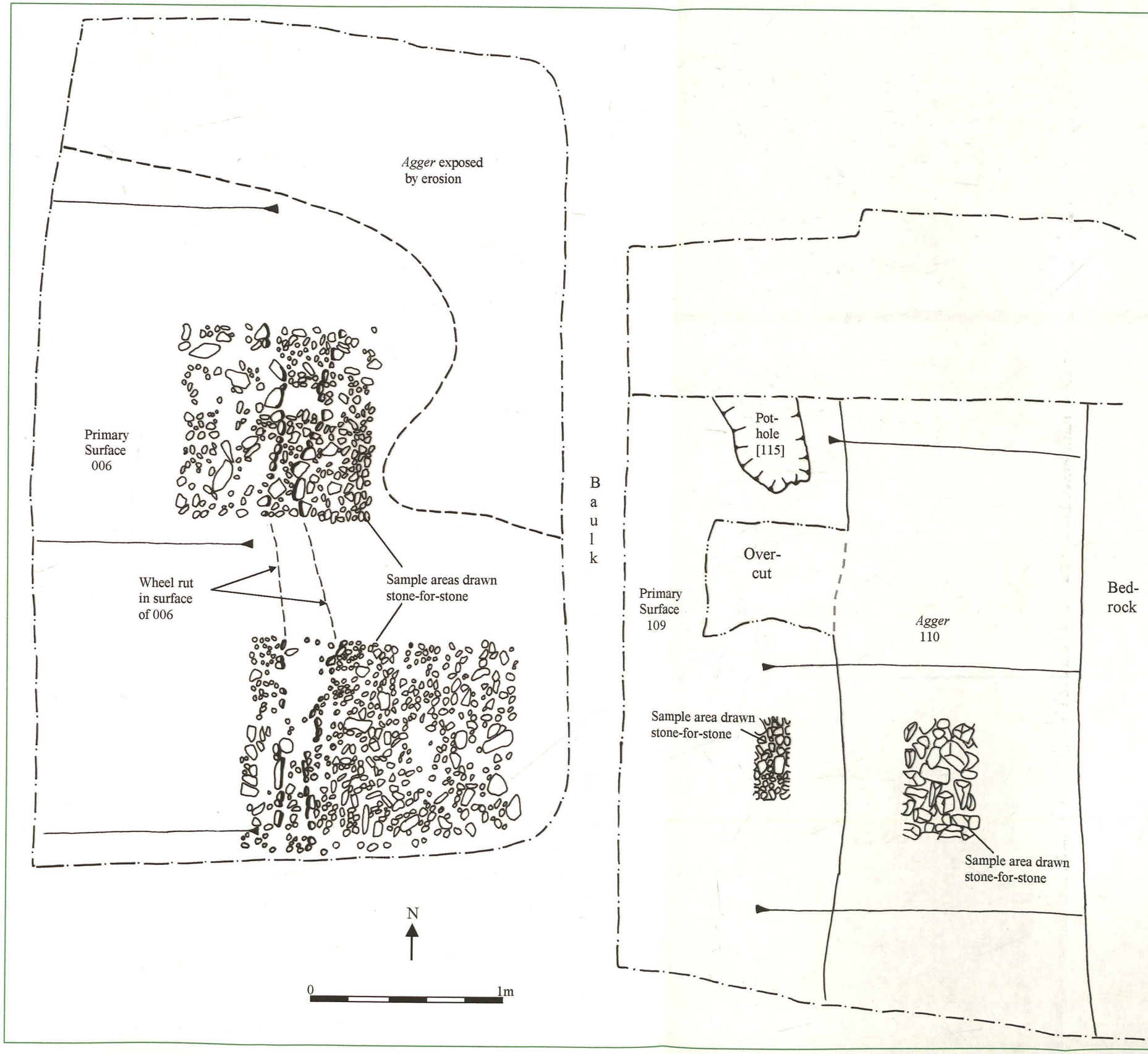


Fig. 6: Plan of primary road surface 109/006 and exposed *agger*. For location see fig. 3 Scale 1:20

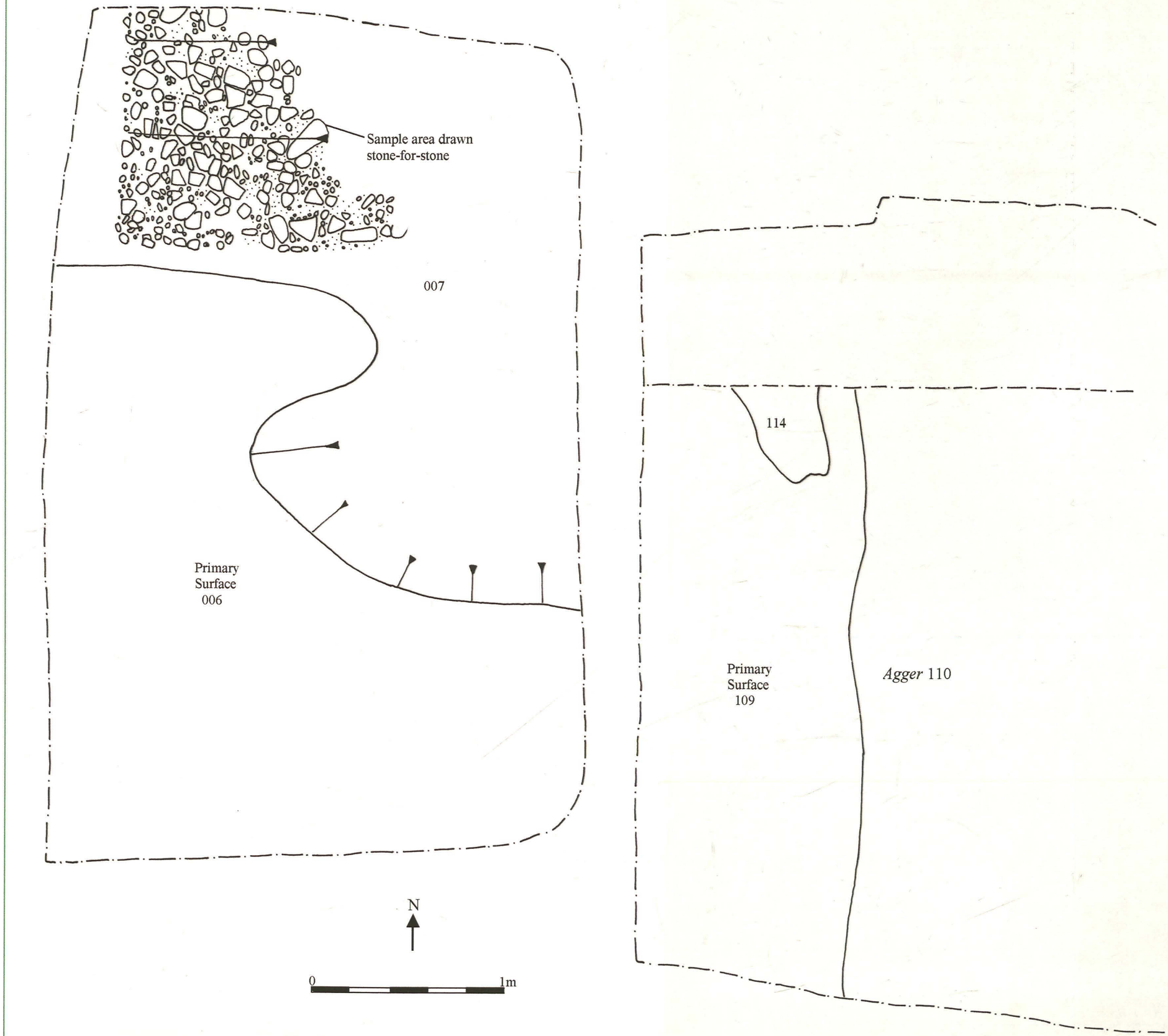


Fig. 7: Plan of primary road surface 109/006 showing repairs 114 and 007.
Scale 1:20

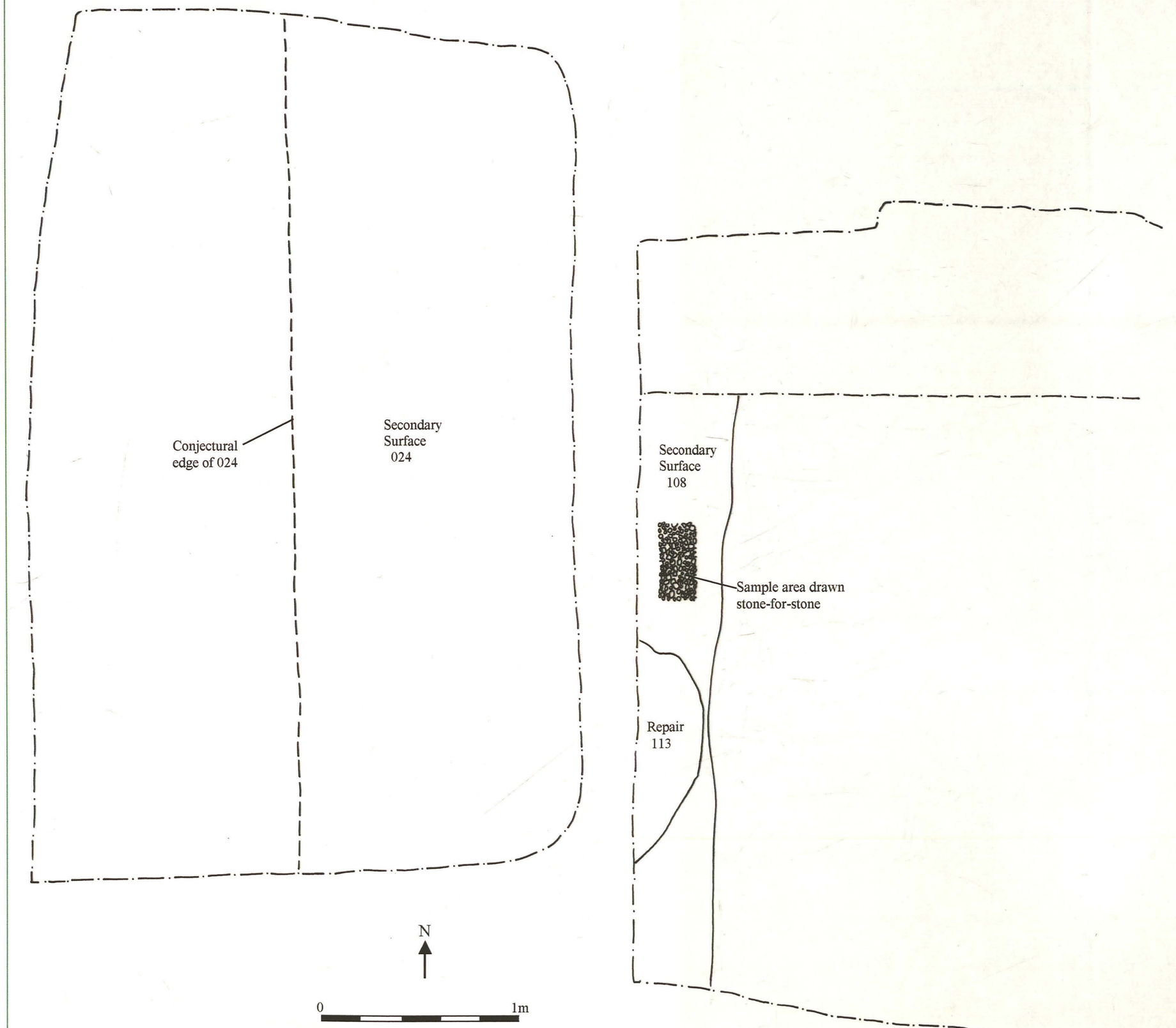


Fig. 8: Plan of secondary road surface 108/024 showing repair 113. Scale 1:20

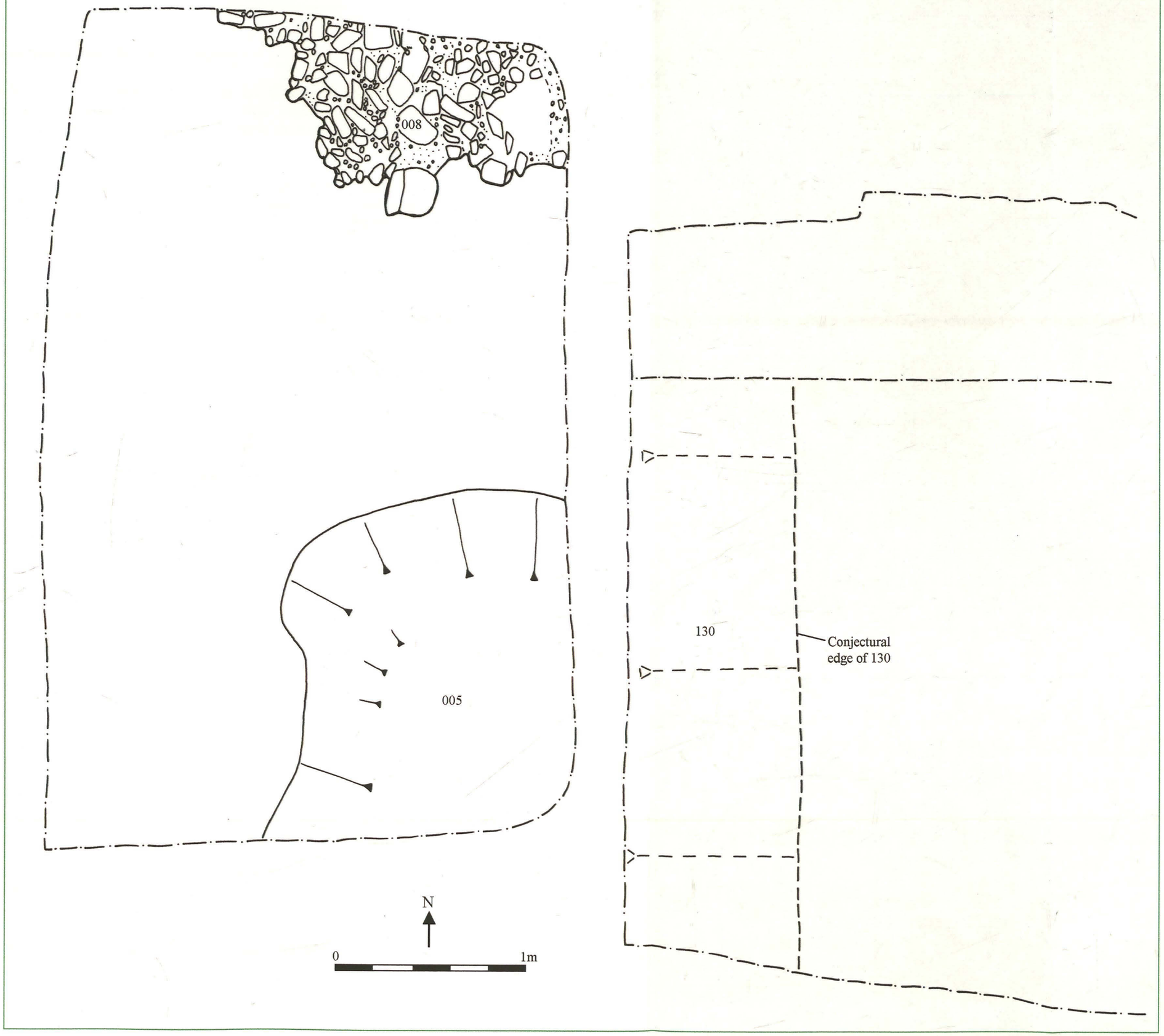


Fig. 9: Plan of final road surfaces.
Scale 1:20

Deposits post-dating the road surfaces.

A number of deposits were identified over the road levels described above. Some of these appeared to have been deposited by wind, while others were make-up deposits for later road surfaces that appear not to have survived. Some may have been modern dump deposits.

Due to the larger size of the area excavated during Phase 2, a greater number of distinct layers were identified, therefore this section will be based largely on the results from Phase 2. Most of these deposits could only be identified in section, see figs. 4, 4a and 5 unless otherwise noted.

Overlying layer (129), described above, was a deposit of friable, slightly silty, yellow sand (132) – see fig. 4a. It was 1.20m wide and 0.20m thick and appeared to extend along the east side of the road. The loose and uniform nature of this material suggested that that it was aeolian (ie a wind blown natural deposit). It may represent a period of disuse of the road. Examination of the section (fig. 4a) suggests that (128) was actually cut into it, and that (132) may originally have extended westwards across the carriageway. This deposit was similar to deposits (010), (011), (012), (013), (014) and (023) recorded during Phase 1.

The east side of (132) was overlain by a shallow layer of yellow sand with occasional brown mottling; of a uniform particle size, with no coarse inclusions, (120). This deposit was also interpreted as wind-blown material, which was deposited in the lee of the road *agger*. A large sherd of mid 2nd Century Spanish, Dressel 20 type amphora rim was recovered from this deposit. This provides a *terminus ante quem* for the road layers sealed beneath (120)/(132).

Visible in the top of (120) were two parallel linear 'cuts' [117] and [119] (see fig. 3). The features themselves were almost identical: 150mm wide and 50 mm deep, they extended in a north-south direction, parallel with Ermine Street itself. The distance between the two was constant at 1.60m, centre to centre. The base of the features was directly on the bedrock. It seems likely that these features represent the track marks left by one or more wheeled vehicles, and that they formed as a result of re-working of 120.

(128), overlying or cut into (132), was a much firmer deposit, made of compacted limestone, 0.10m thick. It appeared to represent a make-up deposit for a road surface that does not survive (presumably truncated by later road building activity).

Visible in the section to the east of (128) were the remains of a stone surface (126) (see fig. 4a). The surface was 80mm thick, made up of angular limestone chips up to 65mm across. As this was only 0.80m wide, it seems possible that it too was truncated, although this was not established. (126) was overlain by a compact deposit of limestone sand and chippings 0.10m thick and covering the entire road, (127). This too was interpreted as a make-up layer for a road surface.

Layers (127) and (128) were recorded in Phase 1 as (002).

Above these layers, there was a marked difference between deposits to the east and west sides of the road. To the east were substantial homogenous deposits that appeared to represent large scale dumps of ground raising material to widen the carriageway; (121)/(106) and (125)/(107). The base of (125) appeared to cut through underlying deposits to the west, and this has been taken to be a truncation horizon. The overlying deposit (121) was composed of uniform coarse clayey sand, probably crushed limestone quarry waste. The large size and uniformity of these deposits indicates they were dumped on an industrial scale, which possibly suggests a relatively modern date. Over these layers were a series of dumps and a top-soil, all of which were clearly associated with modern activity. From the dumped layer (105), a few sherds of early to middle Anglo-Saxon pottery were recovered, but in association with a Victorian bottle neck.

To the west of the early road deposits, there does not appear to have been the same large-scale dumping and truncation activity: instead, a series of presumed aeolian layers were exposed. The earliest deposits, (018) and (019), were directly over the bedrock and comprised orange or reddish brown sandy silt. Collectively, with (017), these deposits appeared to constitute subsoils over the parent bedrock. Cut through them was a north-south aligned 'U' shaped ditch, [016], which may be the truncated remains of a roadside ditch (see fig. 3). This feature could only be detected in the southern section and the central, hand excavated, portion of the trench. The ditch was filled with reddish brown silty soil (015), devoid of artefacts, and similar to the natural-looking deposits through which it was cut. Over the filled ditch was a series of clean deposits, (010), (011), (012), (013), (014) and (023). These were possibly all wind deposited, although over how long this process took place is very difficult to establish. Experience of modern roads in the area indicates that accumulation can be relatively rapid during periods of high wind. It is perhaps worth noting that, of the deposits examined in the western section, those closest to the road and east of the ditch were notably firmer. This may be due to the later build-up of the road causeway, protecting them from the action of water and bio-turbation, while at the same time compacting them. Unfortunately, a modern trench separated this sequence of road deposits from the road layers to the east, and so exact stratigraphic relationships could not be established.

A further feature not directly associated with the road was located to the west of it during phase 1. At the western extent of the trench the bedrock was truncated by vertical cut [020] running parallel with the road (see fig. 3). This was interpreted as a quarry pit for limestone extraction, that was backfilled with quarry waste (020). This activity would certainly have truncated any roadside features in this area.

These deposit sequences were sealed beneath modern topsoil and the A15 verge.

8.0 Discussion and conclusions

The information recovered during this project has provided an almost complete section through the early surfaces of Ermine Street, and it allows comparisons to be made with other sections in the vicinity.

Work has taken place at a number of locations, for instance to the south at Coleby Heath, Navenby and Stamford, and to the north at Scampton.

The point of note is the difference in the size of the road at each of these locations: at Stamford it was 6.6m wide and 0.75m thick (Green and Rahtz, 1959), at Navenby the layer interpreted as the road was only 60mm thick (Rylatt, 2000), and at Coleby Heath it was either 8.7 or 15m wide (Snee and Palmer-brown, 1999, Chowne, 1987). At Scampton, which is only 2.4km north of this project, Roman Ermine Street was 12.3m wide and 0.75m thick. At the Ermine Street/A1500 junction, it was found to be at least 0.4m thick, and approximately 6.5m wide (the western edge was truncated, although a reasonable estimate can be made from the surviving portion). These variations may reflect differential gang workmanship, although other factors may also have been significant. It is quite conceivable, for example, that in the vicinity of a major settlement the road may have widened to accommodate an increase in local traffic and pedestrian movement. At Navenby, in the vicinity of the ribbon development, there is some evidence of localised widening (and encroachment of stone buildings over former Roman road deposits).

There is some noteworthy variation in the materials from which the road was built. At Coleby Heath it was constructed of limestone rubble, as it was at Scampton and at the present site. At Stamford it was built using clay with inset limestone rubble, and at Navenby quartzite pebbles were used for surfacing; presumably imported from a distant source. With the exception of Navenby these are all local materials, derived from the immediate road catchment area.

The examined section of road can therefore be seen to fall within a broad pattern of construction methods for the area. It is of similar width and thickness to the road sampled at Stamford, and its thickness is also similar to the example at Scampton. Its profile is similar to all other examples - it was substantially cambered to improve drainage and, like all other examples, excluding Navenby, it was made from local materials.

A series of individual surfaces/repairs were exposed during this project. Three largely intact surfaces were examined, as well as possibly of a fourth, and what may have been the make-up layer for a fifth. At least three of the surfaces appear to pre-date the 2nd century, and yet the course of this road is still maintained today. This begs the question of what happened in the intervening period.

A partial explanation is that some of the later phases of road building have truncated earlier remains, although one must also accept that Ermine Street, like so many other Roman roads, fell into a state of disrepair during the early post-Roman period, even though it appears never to have fallen out of use. It should be remembered that road

building was almost completely abandoned at the end of the Roman period, and it is possible that this road was not significantly resurfaced until the creation of a turnpike trust in 1765 (Wright, 1993).

To the east of the road alignment, a set of cart tracks were observed. The fact that these did not run on the road itself (like the rut in the surface of (006)) is problematic, unless of course the roadway was temporarily unavailable at the time they were made. In a comparison with modern road-building methodology could they represent a 'haul road' used during one of the many phases of repair that the road underwent to move the large quantities of ballast involved.

9.0 Effectiveness of methodology

Despite the difficulties resulting from having to excavate the road in two sections, it was possible to examine a more or less full profile across the Roman *agger*. A section could be drawn which identified a number of road surfaces. Most of these surfaces were also detected and recorded in plan. Unfortunately only limited dating evidence was recovered.

10.0 Acknowledgements

The authors would like to thank Balfour Beatty Construction Limited for commissioning this report and for assistance and accommodation on site. Thanks also to Mike Fish and George Goodair for advice concerning the construction of early-modern road surfaces, and to Dave Marsden for providing a T.B.M. and use of surveying equipment.

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12.0 Site archive

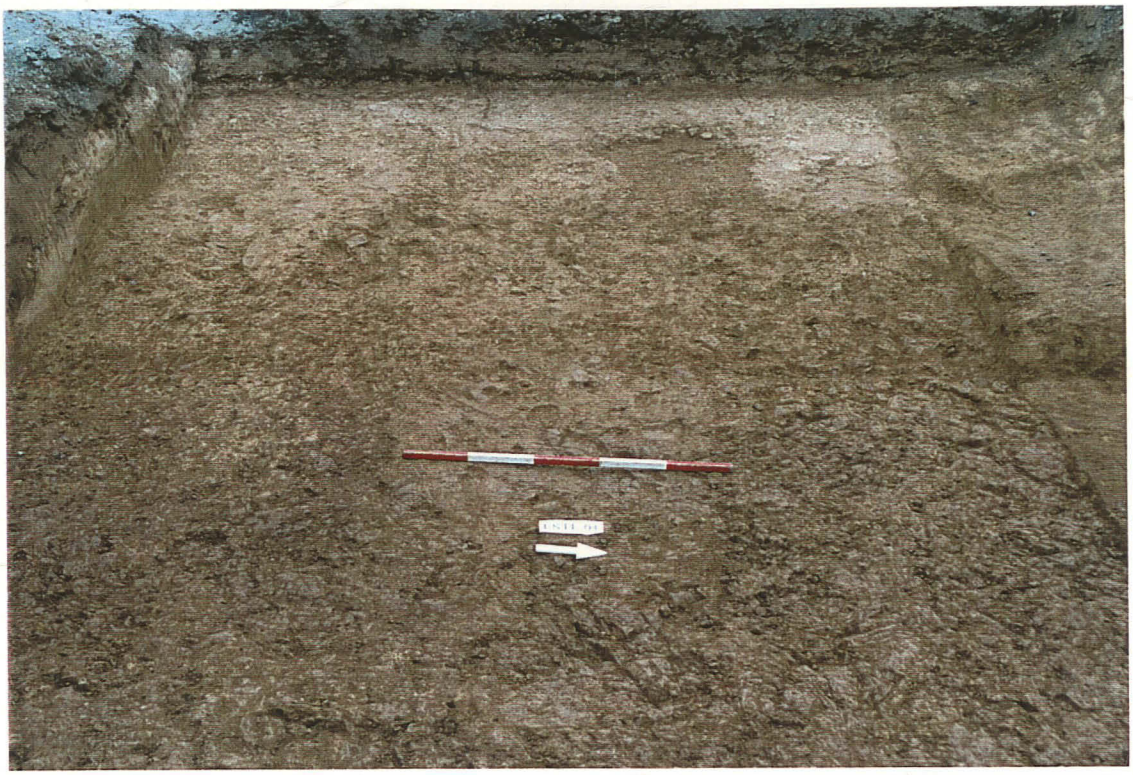
An archive consisting of written, drawn, photographic and object elements is in preparation and will be deposited at the Lincoln City and County museum within six months of the completion of this report.

Access can be gained to it by quoting the L.C.C. Museum accession number 2001.296.

APPENDIX 1: Colour Plates

Pl. 1 Road surface (006) after top, finer component removed. A wheel rut can be seen to the right of the ranging rod.

Pl. 2 Section through road layers from phase 1.



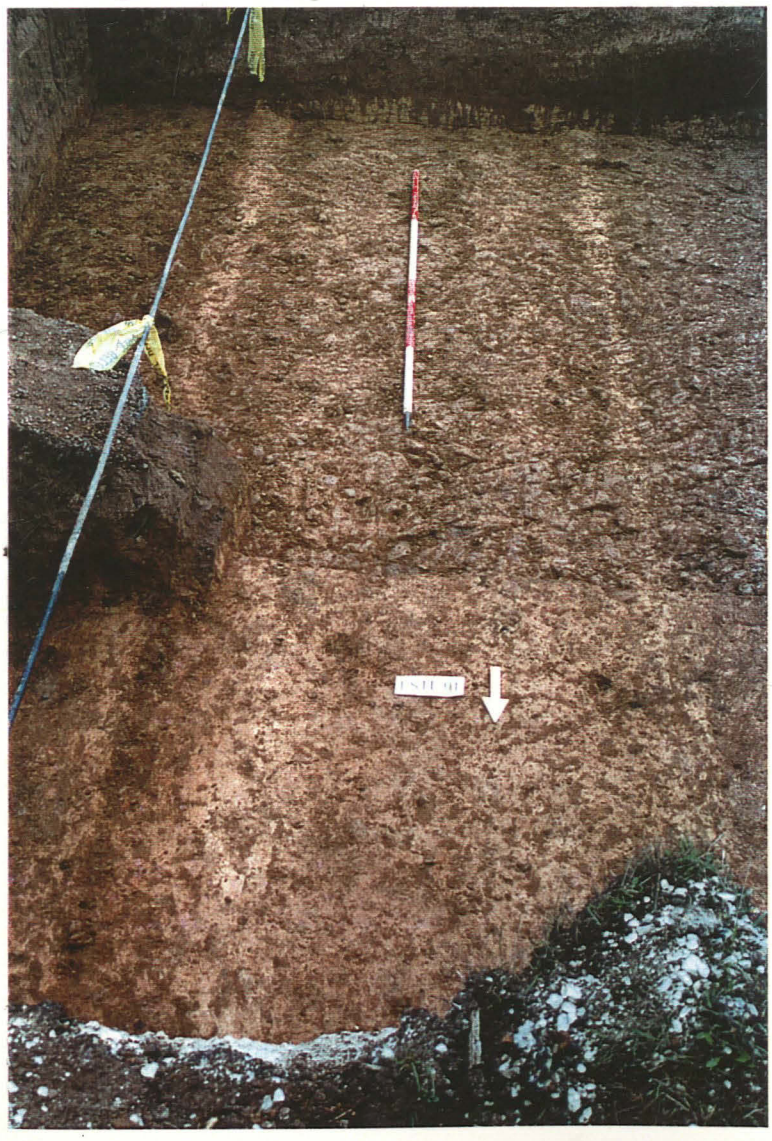
Pl. 3 Road make-up. Agger starts just beyond scale, the light layers over it are surfaces (109) and (108). A portion of (109) has been removed.

Pl. 4 Pot-hole [112]. It has partially filled with sand before being repaired with gravel.

Pl. 5 Close-up of north facing section. Shows agger, overlying road surfaces, make-up layers and other deposits.

Pl. 6 North facing section from phase 2.

Pl. 7 North facing section through deposits to the east of the road. Note ditch above number board.



Pl. 8 Tracks running along the western edge of the road.

Appendix 2. SMR Summary.

A summary of the entries in the LCC SMR from within 1500m of the site:

SMR. No.	Grid Ref.	Date	Description
50248	SK 9549 7851 SK 9541 7853	Med.	St Pancras' Well and Chapel
52289	Un-located	Med.	3 metal finds
50575	SK 9738 7747 SK 8265 8247	R.B.	Road
52182	SK 9750 7820	R.B.	Pottery scatter
52304	SK 9720 7750	R.B.	Pottery scatter
54197	SK 9550 7850	R.B.	Villa
52178	SK 9590 7830	Un-dated	Quarry
52242	SK 9570 7802	Un-dated	Quarry
52301	SK 9745 7755	Un-dated	Quarry

Appendix 3. Roman Pottery Report

by Margaret J. Darling, M.Phil., F.S.A., M.I.F.A.

25 February 2002

QUANTITY AND CONDITION

The Roman pottery came from a single context, 120, and amounted to a single rim sherd. The condition is average, with some abrasion. No problems are anticipated for long term storage. The pottery has been archived using count as measure according to the guidelines laid down for the minimum archive by *The Study Group for Roman Pottery*.

DETAILS

This is a rim from a Dressel 20 amphora from Baetica in southern Spain, used to import olive oil, and is one of the commonest amphora types in Britain, imported from before the Roman conquest until the mid 3rd century. The fabric and rim type of this example suggests a date within the 2nd century, the rim type fitting into the dated series established by Martin-Kilcher (1983), being close to a type dated to mid 2nd century. Since the rim comes from sand overlying the Roman road, it is merely indicative of occupation within the area.

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Appendix 4. List of archaeological contexts.

Contexts recorded during phase 1.

CONTEXT NUMBER	CONTEXT DESCRIPTION	
001	Modern road and its make-up layers	
002	Compact limestone sand and rubble road make-up. ?Roman	
003	Fill of [004]	
[004]	Modern service trench	
005	Road repair layer. Roman	
006	Primary road surface and *agger*	
007	Road repair layer. Roman	
008	Road repair layer. Roman	
009	Top soil	Make up of bank to west of existing roadway
010	Wind blown deposit. Roadside accumulation	
011	Wind blown deposit. Roadside accumulation	
012	Wind blown deposit. Roadside accumulation	
013	Wind blown deposit. Roadside accumulation	
014	Wind blown deposit. Roadside accumulation	
015	Fill of [016]	
[016]	Roadside ditch. ?Roman	
017	Sub soil. ?pre-dates road	
018	Sub soil. ?pre-dates road	
019	Sub soil. ?pre-dates road	
[020]	Quarry pit. Un-dated	
021	Fill of [020]	
022	Natural. Limestone bedrock	
023	Wind blown deposit. Roadside accumulation	
024	Road surface. Roman	

Contexts recorded during phase 2

CONTEXT NUMBER	CONTEXT DESCRIPTION
101	Modern road surface.
102	'Hand pitched' road surface. Early modern.
103	Top soil
104	Limestone chippings. Modern hardcore
105	Roadside bank. Early modern.
106	Grey crushed limestone. Quarry waste used as road make-up.
107	Brown limestone sand. Road make-up. Same as 125.
108	Rammed gravel road surface. Roman.
109	Coarse rammed gravel road surface. Roman.
110	Roman road *agger*.
111	Fill of [112]. Accumulated sand.
[112]	Pot-hole in Roman surface.
113	Repair to [113]
114	Repair to [115]
[115]	Pot-hole in Roman surface.
116	Fill of [117]
[117]	Wheel rut
118	Fill of [119]
[119]	Wheel rut
120	Sandy accumulation to east of road. Roman.
121	Limestone quarry waste. Modern
122	Bedding material for modern road 102
[123]	Construction cut for modern road 102
[124]	Construction cut for modern road 101
125	Limestone sand road make-up. Same as 107
126	Remains of stone surface. ?Roman
127	Rammed limestone, road make-up layer. ?Roman
128	Rammed limestone, road make-up layer. Roman
129	Trample on road surface 130
130	Road surface. Roman
131	Rammed limestone, road make-up layer for 130. Roman
132	Sandy accumulation to east of road. Roman.
133	Natural. Limestone bedrock.