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STONEHENGE WORLD HERITAGE SITE LANDSCAPE PROJECT
THE AVENUE AND STONEHENGE BOTTOM

ARCHAEOLOGICAL SURVEY REPORT

David Field, Mark Bowden and Sharon Soutar

ASSESSMENT

ENGLISH HERITAGE

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ARCHAEOLOGICAL SURVEY REPORT

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SUMMARY

Analytical earthwork survey and investigation, by the former Archaeological Survey & Investigation team of EH, of the area to the north of Stonehenge revealed several zones of archaeological interest. Chief among these and well-known is the Avenue which, for the first part of its course, survives as an earthwork. When studied it is more substantial closer to Stonehenge than elsewhere. The lack of hollowing where the Avenue passes over a steep bluff at the 'elbow' is highlighted, raising the question of the degree to which the Avenue can ever have been a heavily used route, either for stone moving or processions. The degree of later damage to the Avenue through use as a trackway and by cultivation at various times in the past has become evident. Earthworks associated with an 18th-century road and a 20th-century group of agricultural buildings were recorded. In Stonehenge Bottom quarrying has disturbed earlier remains but on the western slopes a series of terraces and platforms may relate to buildings associated with agriculture in the area. On the eastern slopes of the valley a number of barrows, trackways and other features were surveyed, along with traces of a possible enclosure close to the valley floor.

CONTRIBUTORS

The survey was carried out by the authors with Deborah Cunliffe, Rachel Foster, Abby Hunt, Anna Komar, Matthew Reynolds, Trevor Pearson and Nicky Smith. Deborah Cunliffe prepared the hachured plans, Sharon Soutar the digital illustrations; Trevor Pearson prepared the computer modelling and the technical survey; David Field carried out the background research.

ACKNOWLEDGEMENTS

Thanks are due to the National Trust, in particular to Mike Dando and Lucy Evershed, for facilitating the survey. We are also grateful to Clément Nicolas for providing a report on the flint arrowhead.

ARCHIVE LOCATION

The survey archive is lodged at the National Monuments Record Centre, The Engine House, Fire Fly Avenue, Swindon SN2 2EH

DATE OF SURVEY

Survey took place between November 2009 and April 2010 with some subsequent field visits (the last in July 2012).

CONTACT DETAILS

English Heritage Archive (National Monuments Record), The Engine House, Fire Fly Avenue, Swindon SN2 2EH

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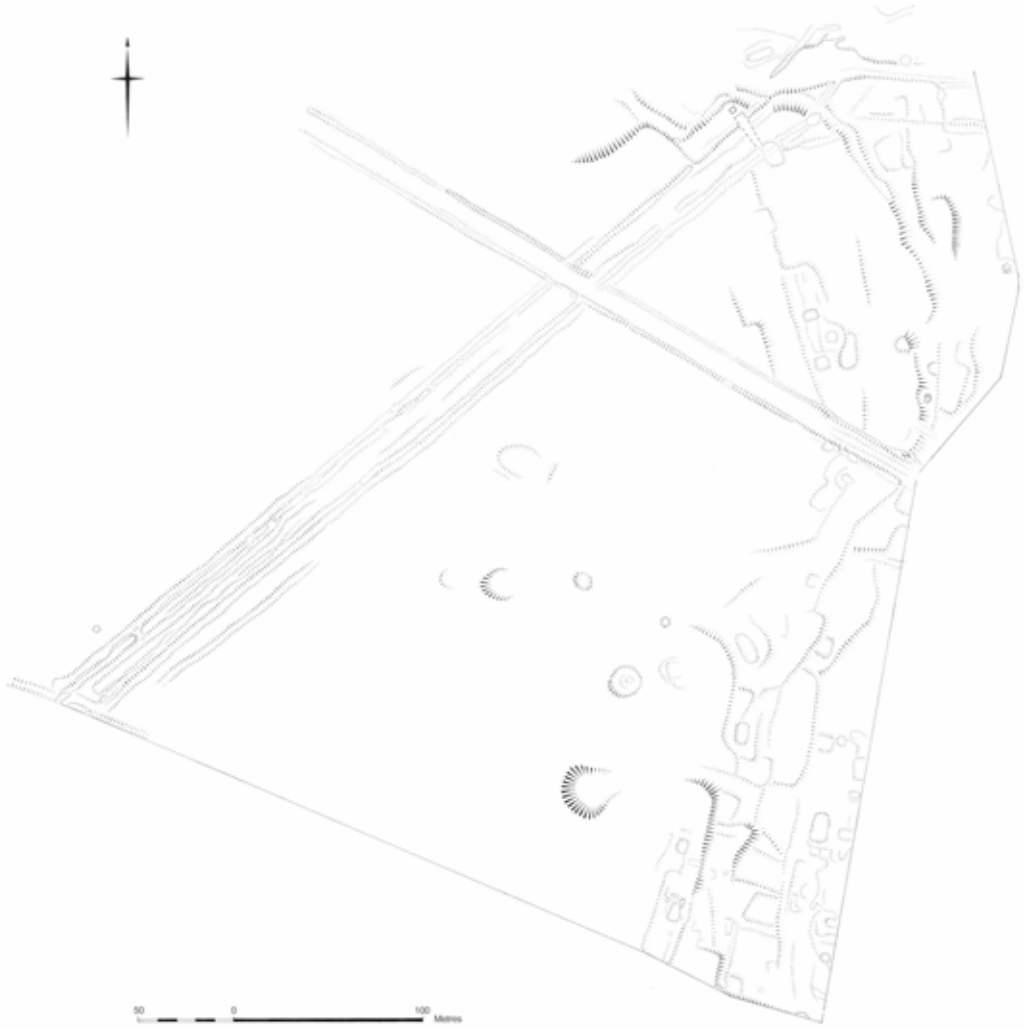

***Frontispiece**: Avenue Field and the western side of Stonehenge Bottom; plan reduced to 1:4000 from original survey scale of 1:1000.*

INTRODUCTION

In 2010 almost one million people passed through the English Heritage turnstiles at Stonehenge, testifying to the continued and increasing fascination with one of the best known prehistoric monuments in the world. Few of these visitors inspect the wider area to the north of the A344; the Avenue and other intriguing, sometimes subtle, archaeological remains associated with it are rarely visited.

The Avenue extends north-eastwards from the earthwork enclosure at Stonehenge but is separated from it by the A344 road. It has a prominent place in the literature and has witnessed a certain amount of archaeological activity, being observed and commented on by numerous antiquaries and, during the latter half of the 20th century, becoming a focus of excavation and geophysical survey. Recent work by the Stonehenge Riverside Project has re-focused archaeological attention on the feature and provided additional evidence regarding its structure and date (Parker Pearson *et al* 2008, 20-48; Parker Pearson 2012, 239-48). The present report introduces rarely considered evidence, that of the earthworks. Several complexes in the wider area help illustrate, at least in part, the development of the landscape around Stonehenge: round barrows on the western slopes of King Barrow Ridge; former roadways; an early 20th-century field barn complex; agricultural earthworks; traces of quarrying in Stonehenge Bottom; and other features immediately to the north of the henge. The earthworks of Stonehenge itself and of the Stonehenge Triangle to the south of the A344 were described in separate reports (Field and Pearson 2010; 2011); here Stonehenge is placed in a wider context.

The land to the north of Stonehenge, the subject of this survey, undulates considerably. The major feature is the dramatic and deeply incised Stonehenge Bottom. Now dry, this carves a narrow asymmetric-profiled valley from north to south through the area and is the major drainage feature between the two rivers, Till and Avon. The underlying geology (Geological Survey of Great Britain *Salisbury* sheet 1903, reprinted 1976) is uniformly deposited Upper Chalk, soft rock that is very easily weathered, resulting locally in rounded hills and a rolling landscape. This weathering can be quite severe; indeed Atkinson (1957) considered that up to 0.3m of the surface had been truncated at Stonehenge during 4000 years as a result of dissipation of the chalk sub-soil, although it is now thought that such decay is largely a product of, and was accelerated by, cultivation and the application of chemical fertilisers (Groube and Bowden 1982, 17). Seams of hard flint occur throughout the deposit at intervals and can retard weathering and provide temporary water tables and spring lines. The chalk here supports Andover 1 soils, light, well-drained and easily tilled but containing surface flint, although not in sufficient quantities to cause serious damage to ploughshares. It is noteworthy that according to the Soil Survey (1983) Andover soils tend to occur over striped peri-glacial soil patterns.

The area was surveyed mainly during winter 2009-10, with minor elements being added in April 2010, as part of the English Heritage Stonehenge World Heritage Site Landscape Project. The extent of the survey is defined by the A344 in the south and bounded in the

north by the Stonehenge Greater Cursus (see Pearson and Field 2011), in the west by a north to south by-way and in the east by a fence along the lip of King Barrow Ridge (Fig 1).

Fig 1: Location map showing the area of survey (blue) and the outline of the World Heritage Site in red. Height data: licensed to English Heritage for PGA through Next Perspectives™.

Further north lie the extensive military ranges where the extant archaeology has been recorded and analysed by earlier investigative work (McOmish *et al* 2002), while to the south as far as Salisbury, most of the land has been cultivated and many formerly upstanding archaeological remains levelled. The City of Salisbury lies some 12km to the south, though Stonehenge itself is situated in the parish of Amesbury just over 3km from the manorial core and beyond the reach of its former medieval arable fields.

The area forms part of a zone of recognised archaeological importance demarcated as a UNESCO World Heritage Site, which covers an area of some 6km by 5km in extent (Fig 1) and within which lie a large number of other important prehistoric monuments. Following an appeal launched in 1927 the land immediately around and to the north of Stonehenge was purchased and placed in the guardianship of the National Trust. In recent times the Avenue Field has been managed with the archaeology in mind as much as the visitor experience of Stonehenge; put down to pasture, cropped for hay and grazed by sheep, there is little interruption to this regime.

As might be expected with a notable World Heritage Site a number of concerned parties express an interest in the area – academic, conservation, management, the general public and overseas visitors – and servicing this is the ultimate purpose behind the present work. It provides basic data from which to inform management and conservation policies and to construct academic hypotheses. The Stonehenge Landscape Project aims to investigate and analytically survey the earthworks and landscape within the World Heritage Site in advance of anticipated requirements of the new Visitor Centre (Bowden and Field 2009). Many of the sites in the area have not been surveyed since the Ordnance Survey cartography in the earlier part of the 20th century and much archaeological knowledge of the area rested upon these earlier surveys which were executed for the purposes of land and topographic need rather than archaeological record. The Project also aims to complement, support and assist the recent university field archaeology projects at and around Stonehenge (e.g. Parker Pearson *et al* 2007; 2008; 2009; Darvill and Wainwright 2009; Gaffney *et al* 2012; Parker Pearson 2012) which will have considerable impact on the interpretation of the site; it should assist with discussion and re-interpretation.

Stonehenge is registered in the National Monuments Record as number SU 14 SW 1 and is Scheduled Monument number 10390, while the Avenue is SU 14 SW 275. The round barrows in the east, Amesbury 39 (Hoare no 26), 40 (Hoare no 25), 41 (Hoare no 27) and 126 (not noted by Hoare) are registered as NMR SU 14 SW 6, 108, 109 and 197 respectively. Also significant is the now levelled barrow Amesbury 39a (Hoare no 24) recorded in the NMR as SU 14 SW 202.

GEOLOGY, TOPOGRAPHICAL HISTORY AND ARCHAEOLOGICAL BACKGROUND

Geology

Stonehenge Bottom itself, now dry, is a former drainage feature that discharged into the River Avon at Lake some 4km to the south. Its form is likely to predate the last glaciation and result from a massive solifluction episode although peri-glacial weathering will have had an impact on subtleties of the topography. In the north, the valley bifurcates with shallow branches leading to the north-west and north-east respectively. To what extent it held water during the Holocene is unclear but the presence of a well house (wells are often synonymous with springs on the Wiltshire Downs) indicates that water is not far below the surface. It should be noted, however, that the Cursus bank does not appear to have been breached by water where it crossed the Bottom, although it is not possible to be certain of this as part of it lies within the area of the sewage works. Some 2km down the valley the well at Springbottom Farm is recorded as overflowing at the surface in winter at 75.9mOD (Ashbee *et al* 1989, 35-36, 144). Ground height at the sewage works is 80mOD.

The Stonehenge Bottom valley profile is asymmetric, the result of peri-glacial solifluction. Having received more sunlight, the rate of melting was faster on the west than the eastern slope. Indeed, the latter still retains frost and snow on its slopes for longer periods. The western slope is therefore shallow, easier to cultivate and more conducive to other activities. South of the Cursus the valley narrows, reaching just 140m in places and reducing to just over 50m wide 0.9km to the south where the A303 crosses it. In the west, beyond the initial bluff, the slope is not severe and the down reaches 95mOD, although a north-east oriented re-entrant valley divides the western landscape and provides more variable topography. To the east the land rises at first abruptly and then gradually to the King Barrow Ridge, although here also shallow re-entrants, one of which was utilised for the Avenue, provide an easier gradient. The ridge is a major and prominent eminence, at over 110mOD, which overlooks both the Stonehenge landscape to its west and the Avon Valley to the east.

Traces of peri-glacial activity have been encountered in excavations – contorted involutions near the Avenue elbow above Stonehenge Bottom (Evans *et al* 1984, 22-4, 26) while peri-glacial stripes within the Avenue, first identified by Atkinson, appear to pre-determine the course of the Avenue (Parker Pearson *et al* 2008, 20-4, 31-3). These stripes do not show on the surface and should be distinguished from the wear caused by traffic on the earthworks. The geophysical plan of the lower apart of the Avenue depicts a series of almost parallel striations (Payne 1995, 509, fig 265). These may represent a continuation of the features encountered in Atkinson's trench (C48, re-opened by the Stonehenge Riverside Project in 2008) but the cutting placed across the Avenue adjacent

to Newall's Mound contained a feature interpreted as a plough furrow (Cleal *et al* 1995, 305, fig 176) and thus uncertainty is introduced. Post-glacial soil-filled hollows were thought to represent tree roots beneath Newall's Mound (Evans *et al* 1984, 24). While Atkinson's initial trenches into Newall's Mound revealed the underlying 'natural' as clay-with-flints, after re-excavation in the 1980s it was described as coombe Rock (Cleal *et al* 1995, 303); on both occasions it was distinguished clearly from bedded chalk. The Stonehenge Riverside Project's excavations in 2008 concluded that Newall's Mound is a natural feature (Parker Pearson *et al* 2008, 41-2; *but see* below).

According to the Soil Survey of England and Wales (1983), Icknield soils occur in a swathe along Stonehenge Bottom and its slopes. These are well-drained calcareous soils with deeper, flinty, calcareous, silty soils in the valleys. The rest of the area comprises Andover soils – shallow well-drained calcareous, silty soils over chalk on slopes and crests, and deep calcareous finer silty soils in valley bottoms. This is of interest as the Andover soils have a tendency to occur over 'striped soil patterns', as noted above.

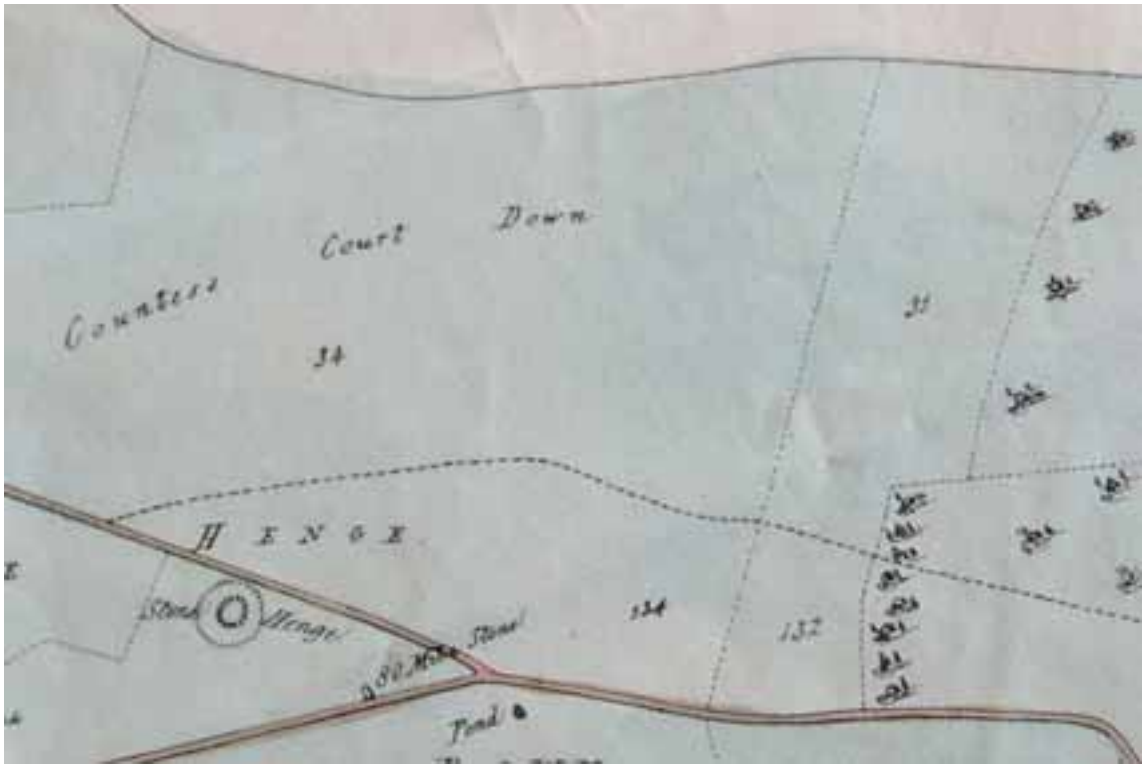

Fig 2: Sale map of the Amesbury Estate 1823 (WHC 283/202) showing the division between Countess Court Manor to the north of the broken line and West Amesbury Manor to the south. The boundary survives as an earthwork on King Barrow Ridge.

Topographical history

The land itself was formerly part of two manors, Countess Court and West Amesbury. A *Map of the Amesbury Estate* (WRO 283/202), prepared in 1823, appears to depict the division as bisecting the King Barrow Ridge between the New King Barrows and then

curving to a point to the west of Stonehenge on the Shrewton turnpike (Fig 2), forerunner of the A344, and in the east to the northern point of Vespasian's Camp. To the north of this, land is described as Countess Court Down and to the south Stonehenge Down.

As the name suggests, Countess Court Down was formerly administered from Countess Court (Countess Farm is almost certainly on the site). This is located to the north-west of the Countess roundabout on the A303 at Amesbury (Lane 2011, 60 *et passim*). The estate was referred to in documents from 1364 and was considered to be an independent manor from Amesbury; it is likely to have had separate open fields during the medieval period. During the early 14th century it held some 80-120ha arable in demesne with pasture for a large number of sheep. Certainly by 1726 'there were three fields, Lower, Middle and Upper', comprising some 121ha along with 179ha of downland (Crowley 1995, 17, 28, 36). The estate came under common ownership with that of Amesbury Manor in 1760 (ibid, 33) but, as noted above, a division is shown on the Andrews and Dury Map of 1773 (WANHS 1952) and on the estate map of 1823 which appears to fossilise the boundary (Fig 2). This boundary is still partly marked by an earthwork bank (*see* below). From 1860, the amalgamated estate was administered by the Antrobus family before being sold in 1917 to Wort & Way, builders, of Salisbury. The latter in turn sold the western part, some 262 hectares, to the National Trust in 1929 (Crowley 1995, 17, 28, 31, 36, 37).

Stukeley depicted pasture on the west side of the King Barrows (Stukeley 1740, 46, Tab XXIIII). The fenced enclosure of the area on the 1823 estate map and the 1846 Tithe map (WHC TA Amesbury) indicates that a change of use, probably cultivation, was effected from about that date. The Avenue was depicted as far east as the King Barrow Ridge by Philip Crocker at the beginning of the 19th century (Hoare 1812, facing page 170; *see* Fig 5, below); Hoare noted that it had been 'obliterated by tillage in its passage through Amesbury park' (ibid, 158). The western slope of King Barrow Ridge was evidently ploughed throughout much of the 20th century, as shown on aerial photographs from at least 1921(e.g. Cleal *et al* 1995, 313, fig 179). JFS Stone commented in 1923 that the presumed Avenue extension to the east of Stonehenge Bottom 'shows distinctly in the new plough as two dark lines' (quoted by Cleal *et al* 1995, 313).

Changes through the 19th and early 20th centuries included the construction of a building near the southern end of the King Barrows by 1846 (WHC TA Amesbury); by 1877 (OS 1st edition 25inch map) much of the down had been enclosed by fencing and a well-house had been built in Stonehenge Bottom within a small enclosure (*see* below); by 1901 (OS 2nd edition 25inch map) the enclosure around the well-house had been removed; by 1924 (OS 3rd edition 25inch map) more complex sub-division of the down is evident and agricultural buildings around a yard were located to the north of Stonehenge (*see* below).

A fair was held on Countess Court Down from at least 1683 and this is likely to be the same as that held at Stonehenge from 1680 (*see* Field and Pearson 2011, 31). There are indications that it continued until the late 18th century but not later (Crowley 1995, 46).

Fig 3: The park boundary alongside the King Barrows with an angle (marked by the ranging poles) where a former road and perhaps a parkland feature crossed the ridge. A large beech tree now occupies the corner. For details see Bishop 2011.

Amesbury Park

The park was not depicted or mentioned on Ogilby's road map of 1675 but it is shown to the east of the river immediately around Amesbury Abbey in a map of 1726 (Flitcroft Map WHC 944/1, 2). The Duke of Queensbury, then occupant of Amesbury Abbey, purchased West Amesbury Manor in 1735 (Crowley 1995, 33), allowing him to extend the park to include the slope up to Vespasian's Camp. Subsequently, in 1760, he purchased Countess Manor (ibid) and this allowed further imparking to take place between 1765 and 1770, when some 50 acres of the arable was included (RCHM 1979, xx: Crowley 1995, 33). At this time the western boundary incorporated the barrows on King Barrow Ridge and this maximum extent was depicted on Andrews' and Dury's Map of Wiltshire of 1773 (WANHS 1952); the low bank that may have supported the pale is still evident (Fig 3). However, it must have been disparked soon after, as there is reference to it being taken down in 1781 (RCHM 1979, xx; WHC 283/189) and by 1824 an estate map (WHC 283/219) depicted that the former parkland had been reduced to

the area of Vespasian's Camp and the slope to the east of it. This map depicts most of the formerly enclosed area as arable fields.

Roads and trackways

The course of the West Amesbury/Countess Court manorial boundary (Fig 2) is curious. Passing between the King Barrows at the point where a former roadway is known to exist, it is likely that the boundary was marked by the road. John Ogilby's road map of 1675 (Ogilby 1675, plate 32) depicts the London to Exeter road as passing through Amesbury town, cutting through Vespasian's Camp and along the Stonehenge Road. However, beyond the town the road is shown as dotted, presumably meaning that it was unfenced or not well-defined. Approaching the King Barrow Ridge the road bifurcated, with a secondary road (probably on the course of the A303) leading to (Winterbourne) Stoke. The main highway passed through the 'seven barrows' (the map shows eight) immediately after which it bifurcated again, with a secondary route leading north to Lavington. The latter route can be seen as cropmarks on some aerial photographs and was plotted for the National Mapping Programme (*see* Fig 6).The Exeter road continued past a crossroads, evidently in Stonehenge Bottom, and then passed some distance to the north of Stonehenge before encountering several further crossroads *en route* to Shrewton, presumably partly on the line of the A344.

Stukeley's sketches (Gough Maps, Bodleian Library, Oxford), prepared in the 1720s, do not show the road between the King Barrows but mark it at the south end of the group, although his sketch map of the area depicts the old route as a dotted feature with one arm crossing the Avenue in Stonehenge Bottom and then the Cursus before proceeding towards Lavington. The other arm continued southwards to join the Exeter Road. Stukeley pointed out that 'When the avenue first turns off in the valley, it is much obscur'd by the wheels of carriages going over it, for a great way together: for this is the road to *Lavington*' (Stukeley 1740, 36; RCHME 1979, 13 pl 15 & map 3). When the King Barrow Ridge was imparked in or soon after 1760 the roads to both Shrewton and Lavington were diverted to the south of the New King Barrows, from where they angled across the down from the corner of the park to join its former course.

However, the Amesbury turnpike was created in 1761 and according to Crowley, 'construction of a new straight road from the south of the Seven barrows towards Warminster via Shrewton was begun' (1995, 15). In 1770, the Amesbury turnpike was able to advertise the Exeter road as 'good for viewing Stonehenge' (ibid, 17) but the Shrewton road was not finished. Instead an alternative route to Warminster closer to the old route, and the precursor of the A344, was constructed (ibid, 15).

Andrews and Dury show a track from the south leading towards Netheravon. After 1824 this was forced closer to Stonehenge by the enclosure of land alongside the A344. The fenced enclosures on the open down increasingly restricted traffic routes and the latter were channelled into ever more confined areas. Tracks entered Stonehenge itself and

appear to have utilised the Avenue as a route across the down. These can be observed as earthworks within Stonehenge (Field and Pearson 2010) and along the Avenue (*see* below).

Fig 4: Remains of the well house in Spring Bottom south of Springbottom Farm, near Lake, built of cob and clunch with brick facings; the well house in Stonehenge Bottom to the south of the Cursus was probably similar.

Structures

Andrews' and Dury's map of 1773 marks the presence of 'Stonehenge Barn and Well' in Stonehenge Bottom (WANHS 1952). The well house (Fig 4) was present in 1877, as noted above, along with an unnamed structure, presumably the barn. On the 1st edition 6inch Ordnance Survey map of 1887 the well house is marked as an enclosure with a rectangular building in one corner. A few metres to the south was a square enclosure within which later editions depict a pond. The well house was present until at least 1901 when the 2nd edition 25inch OS map was prepared but had gone by the time of the 3rd edition 6inch map in 1926. The pond was present on the 4th edition 25inch map (1937) and a depression can still be seen (not surveyed).

A field barn or animal shelter in the west of the survey area, adjacent to the Larkhill by-way, is poorly documented. It is not present on an aerial photograph taken in 1922 (SU 1242/14 CCC 8561/73), but appears to be under construction in 1923 (SU 1242/16 1923) and is firmly marked on the 3rd edition Ordnance Survey map of 1924, where it is depicted as buildings on three sides of a courtyard opening in the east onto the trackway (also SU 1242/91 taken in 1930). The buildings had changed in form by the 4th edition 25inch map and a number of single structures were present around the yard. Aerial photographs (e.g. NMR SU 1242/127) indicate that, although the footprint was visible (and remains visible – *see* below), it had been dismantled by 1977.

Sewage disposal

The National Mapping Programme plot (*see* Fig 6) shows trenches spread around the hillslopes either side of Stonehenge Bottom immediately to the south of the Cursus. This represents an early method of disposal of treated sewage for the military at Larkhill and is depicted on a number of aerial photographs. The treated sewage was disposed of in a catchwork system-like arrangement. The system was clearly in operation by 1921, as an aerial photograph (SU 1242/32 11-7) depicts it on both sides of Stonehenge Bottom. The hollow way leading to the well house is visible but features on the valley floor appear to be partly levelled at this time, perhaps in preparation for use of the area for sewage settling tanks on the valley floor. (It is noteworthy, however, that the southern bank of the Cursus survives as an earthwork within the sewage works area (Pearson and Field 2011, fig 19).) An aerial photograph of 1922 (SU 1242/14 CCC 8561/73) shows trenches with a dark substance, possibly treated effluent, spilling downhill from them. There is much disturbance at the Avenue 'elbow', apparently related to the catchworks, and it is feasible that the 'oblique' ditches (*see* Parker Pearson *et al* 2008, 38-40) are related. The trenches are clearly depicted in a photograph taken in 1923 (SU 1242/16) but by 1935 they were partly ploughed over (SU 1242/74). It is unclear when the sewage beds on the valley floor were fully installed and they are not mentioned by James (1987).

Archaeological background

Aside from Stonehenge itself, the focus of archaeological investigation in the area has been on the Avenue. While John Aubrey was aware of 'the Walke, or Avenue' (Fowles and Legg 1980, 97) and was probably the first to mention it, he does not appear to have described it. Instead it fell to Stukeley to provide an account. His description is astute and prescribed the appropriate manner in which to approach the stones: 'At half a mile distance, the appearance of it is stately and awful, really august. As you advance nearer, especially up the avenue, which is to the north-east of it, (which side is now most perfect) the greatness of its contour fills the eye in an astonishing manner' (Stukeley 1740, 11). He also described the form of the earthwork: 'I observe the earth of the ditches thrown inward, and seemingly some turf on both sides, thrown upon the avenue: to raise it a little above the level of the downs' (ibid, 35).

Stukeley's observations and illustrations are important for describing the course of the Avenue and what, until the advent of air photography, might otherwise have been an unknown and unsuspected change of angle: 'In the valley on this side of it [the Cursus], the strait part of the avenue terminates in two branches; that on the left hand, leads to the *Cursus*; that on the right goes directly up the hill, between two famous groups of barrows, each consisting of seven in number. The farthest, or those northward, I call the oldest king's barrows; the hithermost are vulgarly called the seven king's graves' (Stukeley 1740, 13).

Stukeley observed that the Avenue was oriented to the north-east, the direction of midsummer sunrise, extending in a 'delicate descent' to Stonehenge Bottom, disturbed midway by a 'pretty depressure, natural, which diversifies it agreeably' (1740, 35). This mid-way point is described further: 'Just about half way there is a depressure, as a pause or foot pace, showing one half of the avenue ascending, the other descending, both magnificent' (ibid, 39). Quite what Stukeley meant by this is unclear but from the point where the 18th-century road cuts the Avenue southwards for about 60-70m the ground is almost flat; at this point it begins to rise again towards Stonehenge. This break of slope is where the head of a side valley of Stonehenge Bottom lies close to the Avenue. The supposed western arm of the Avenue curved around the base of the adjacent hill towards the Cursus and was further surveyed by Philip Crocker in preparation for *Ancient Wiltshire* (Hoare 1812, facing 170; Fig 5). Like Stukeley, Crocker considered that it bifurcated in Stonehenge Bottom with one arm turning north towards the Cursus and a second branch to the east. Excavations by Atkinson in 1953 demonstrated that the western arm was not connected with the Avenue but was much later (Atkinson 1956, 56) and it was subsequently recognised as part of a former route to Lavington.

Stukeley traced the eastern branch across the King Barrow Ridge to where it had been ploughed out in the arable fields. 'It still continues in the very same direction eastward, till unfortunately broke off by the plow'd ground, 300 feet from hence. This plow'd ground continues for a mile together, as far as the river's side at *Ambersbury*. So that 'tis impossible to trace it any farther. The first plow'd field, that southward, is Mr. *Hayward*'s; the other is of a different estate, call'd *Countess-farm*. And the plowing of these two go on at right angles one of another. That piece on the north side of the avenue, of the latter tenure, goes along the line of the avenue, is long and narrow, and has (as usual with greedy farmers) encroach'd upon and swallow'd up so much of the length of the avenue. And that amounts to 750 feet more in length, which must certainly be added to the avenue. This is all along the eastern declivity of the hill we are upon, *that* of the twice seven kings graves, and reaches near the bottom of the valley, between it and the hill whereon stands *Vespasian*'s camp' (1740, 36). He depicted it as skirting the north end of Vespasian's Camp on his sketch map (Gough Maps, Bodleian Library, Oxford) to encounter the river south of Ratfyn Farm and close to Countess Farm; however, he shows it terminating to the north-east of Vespasian's Camp in the sketch published by Burl and Mortimer (2005, pl 1). It seems likely that Stukeley had encountered earthworks

related to the old London to Exeter Road which mislead him about the true destination of the Avenue.

Fig 5: Extract from plan by Philip Crocker incorporated in Ancient Wiltshire *(Hoare 1812, facing 170).*

Philip Crocker's 'Map of Stonehenge and its Environs' (Fig 5) depicts the course of the Avenue to the north-east of Stonehenge extending as far as Stonehenge Bottom then up to King Barrow Ridge, where he depicted it as fading out. Hoare described the Avenue as a 'narrow strip of land, bounded on each side by a slight *agger* of earth' (1812, 157).

Aerial photographs taken in 1921 led OGS Crawford to plot the precise course of the levelled portion from the King Barrow Ridge, curving south-east and passing to the west of Vespasian's Camp and south to the River Avon at West Amesbury House. With the assistance of AD Passmore, he cut three trenches along the course in 1923 and confirmed the identification (Crawford 1924a, 13-15: 1924b, 57-9).

Atkinson cut further trenches across the earthworks in 1953 as well as investigating the 'Oblique' ditch and Newall's Mound. A further trench was cut across the width of the Avenue just north-east of the A344 in 1956. None of these satisfactorily revealed the date of the Avenue and he returned with J G Evans to reinvestigate Newall's Mound and the north and south ditches at the 'elbow' in 1978 (Evans *et al* 1984). Details of these and other cuttings elsewhere along the Avenue by Clay 1923, Hawley 1923, the Vatchers 1967 and 1968, Smith 1973 and Pitts 1979-80 are given in Cleal *et al* (1995, 295-329),

who brought together the excavation evidence, pointing out that twenty investigations have taken place between 1919 and 1980. A number of geophysical surveys have also taken place (Bartlett and David 1982; Payne 1995, 506-10). More recently further trenches were cut by Mike Parker Pearson as part of the Stonehenge Riverside Project (Parker Pearson *et al* 2008, 20-48).

In terms of its purpose, little evidence of use has been recovered and its road-like form has encouraged a view of processions of one kind or another. Stukeley considered that, 'We must suppose the intent of the avenue was to direct the religious procession to the temple…Thus much is sufficient to give the reader an idea of the ancient manner of sacrificing, such, no doubt as was practis'd at this very place entirely the *Hebrew* rite. I suppose only the priests and chief personages came within the *area*, who made the procession with the sacrifices along the avenue. The multitude kept without, on foot or in their chariots' (1740, 34). Little has changed except perhaps on the emphasis – Atkinson believed that the route was a processional one but also one along which the bluestones were carried (1956, 57, 65-6), while Parker Pearson considers that the Avenue commemorates the route along which the bluestones had formerly been transported (2012, 225-6).

Barrows, pits and other finds

On the western slopes of King Barrow Ridge, Crocker's map depicts four barrows, Hoare's number 27 to the north of the Avenue and 24, 25 and 26 between it and the A344. These were excavated by Hoare and colleagues. Amesbury **39a** (Hoare's no 24) he described as 'a very flat barrow, in which were the skeletons of an adult and a child, deposited in a very shallow cist and which had been disturbed by a prior opening' (1812, 159). Amesbury **40** (Hoare's no 25) 'is a wide bowl-shaped barrow, in which we found, within a shallow cist, a skeleton with its head towards the north, and a drinking cup by its right side, and near it a neatly formed pin or needle of bone' (ibid). The 'drinking cup' was Hoare's term for a Beaker. Cultivation here may have masked hidden ditches, for an aerial photograph (SU 1242/76) shows the mound with a second large-diameter ditch within the cultivated area. Amesbury **39** (Hoare's no 26) 'is situated on the borders of the turnpike road, and produced a large interment of burned bones on the floor, with a cone of jet, two oblong beads of the same substance, eighteen of amber, and a very small cone of the same' (ibid). These were later recorded as a conical amber bead, thirteen oblate amber beads, five further beads now lost, two shale or jet beads and a shale or jet V-perforated button (Annable and Simpson 1964, 60 nos 467-72, 116). Amesbury **41** (Hoare's no 27) 'appeared to have had a prior opening, and to have contained originally, the skeletons of two adults, and two children. Round the arm of one of the former was an ornamented bracelet of brass, which the labourers unfortunately trod upon, before they perceived it, and broke it into three pieces, but it has been repaired and preserved in our Museum' (Hoare 1812, 160; *see* Annable and Simpson 1964, 42 no 117 for the decorated bronze bracelet).

Ashbee reinvestigated Amesbury 39 in advance of road widening (Ashbee 1980). His excavations revealed an oval area covered with fine charcoal and some areas of intense burning above the old ground surface, on the northern fringe of which were the carbonised remains of two planks. These provided a C14 date of 1670±90bc (2270-1742calBC (OxCal4.1)). To one side were the cremated remains of a young adult male. This was surrounded by a broad and shallow ditch that contained evidence that posts had been set within it. The mound itself comprised loam and 'occupation earth' or midden material that contained early Neolithic pottery, Peterborough ware and Grooved ware along with flint and animal bone (Ashbee 1980, 7-28). This could have been scraped up with soil from the immediate vicinity but alternatively may have been deliberately curated. The mound was capped with chalk, presumably derived from the surrounding ditch.

A Southern Electricity Board cable trench cut alongside the road in 1968 encountered two large post-holes set 100m apart which contained Neolithic pottery in the post packing (*Wiltshire Archaeol Natur Hist Mag* 64 1969, 123); road widening cut through a pit about 190m west of the King Barrows (at SU 1312 4206) that contained Grooved Ware, flint, animal bone and two decorated chalk plaques (Vatcher 1969; Harding 1988) on one of which the design could have been inspired by the uprights and lintels at Stonehenge.

A ground discoidal flint knife dateable to the later Neolithic period was found between the east end of the Cursus and the King Barrows in 1926 (Clay 1928) and other flint material – scrapers, chisel and oblique arrowheads, re-used ground axes and other pieces – indicates a degree of settlement on the King Barrow Ridge in the Middle and Later Neolithic (Laidler and Young 1938). Further work here by Julian Richards demonstrated the density of struck flint that is scattered along the King Barrow ridge, and sample excavation encountered pits and other features (Richards 1990, 109-123).

Gate Ditch

Atkinson considered his Gate Ditch to be a continuation of the timber palisade excavated by F and L Vatcher during construction of the Stonehenge pedestrian underpass. He had named it the Gate Ditch in 1953 when excavating at the Avenue elbow, as it led to a gate in the field boundary. Excavation at the Stonehenge underpass site in 1967 revealed the terminal end of a V-profiled bedding trench with post-pipes, sealed by a turf line containing Late Bronze Age sherds (Cleal *et al* 1995, 155-61). A section across the Gate Ditch near the Avenue elbow was re-excavated in 1978. However, while no evidence of posts was encountered either within or on the bottom of the Gate Ditch, the excavators did consider the possibility that it could have held a palisade (Evans *et al* 1984, 25-6). Re-excavation by the Stonehenge Riverside Project apparently confirmed the presence of evidence for posts (Parker Pearson 2012, 238). No dating evidence was recovered and Atkinson considered the Gate Ditch to be probably much later in date than the Avenue (1979, 67). The RCHM accepted Atkinson's view that the Gate Ditch was the same as the Palisade Ditch (perhaps unsurprisingly as Atkinson was a Commissioner at the time)

and transcribed aerial photographs of the Gate Ditch as a continuation of the Palisade Ditch, although they referred to the excavation at the underpass which revealed that the Palisade Ditch was of much larger proportions (RCHM 1979, 25 and map 1). Cleal *et al* also accepted the aerial photographic evidence that the Palisade Ditch and Gate Ditch were part of the same feature (1995, 155; Fig 6). Recent geophysical survey has indicated a possible northern extension of the Gate Ditch as far as the Cursus but also suggests that it terminates well short of the Palisade Ditch, leaving a gap of about 250m (Stonehenge Hidden Landscapes 2012, 16, figs 7a and 7b).

Fig 6: National Mapping Programme plot of features in the survey area, mapped from aerial photographs. Note in particular the areas of trenching either side of Stonehenge Bottom and immediately south of the Cursus, where treated sewage was deposited on the land, and traces of former roads at bottom right.

Other possible circular features

A photograph taken on or soon after 15th September 1906 by 2nd-Lt Philip Henry Sharpe, RE (Capper 1907; Fig 7) from an air balloon tethered over Stonehenge, revealed a large curvilinear feature immediately west of the Avenue and north of the A344. Caution must be exercised regarding this, as the area is much given to fungus rings (as seen on many aerial photographs), but the feature does appear to have some coherent form (NMR SU 14 SW 176). It may have military origins or is perhaps related to the movement of machinery during Gowland's excavations at Stonehenge.

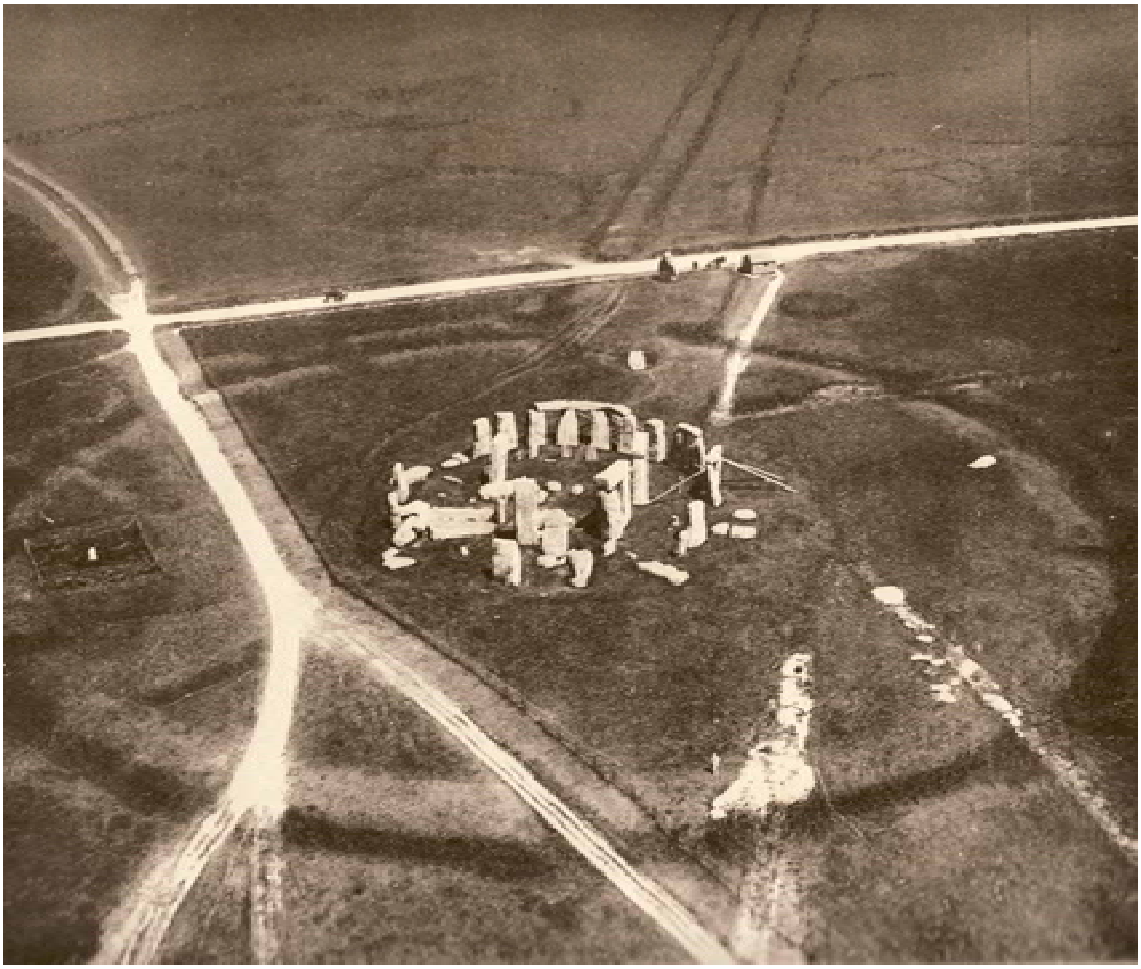

Fig 7: Photograph taken by 2nd-Lt Sharpe in 1906. Note the enclosure-like mark to the west of the Avenue on the far side of the road. Fungus rings are frequent in the vicinity of Stonehenge but the feature appears to have some definable form. From the original print as reproduced in Archaeologia *(Capper1907; courtesy Society of Antiquaries).*

A further dark ring, faint but almost perfectly circular, is present a little further north on an aerial photograph taken in 1922 (SU 1242/14: CCC 8561/73). This is of similar diameter to the Y-holes and has an indistinct internal horseshoe-shaped arrangement of pit-like features, all cutting and/or crossed by the Gate Ditch. (Neither of these features has been identified on other aerial photographs or in recent geophysical surveys.)

THE EARTHWORKS

The survey covered a large part of Countess Court Down and Stonehenge Down (Frontispiece and Figs 8 and 15), including the area known as Avenue Field and Stonehenge Bottom. It has been sub-divided into six convenient units (shown on Fig 8): earthworks of a small 20th-century agricultural complex against the western boundary (1); the Stonehenge Avenue that stretches north-eastwards across the down can be divided into southern and northern units (2 and 3); a series of settlement, cultivation and potentially natural features that stretch along the slopes leading down to Stonehenge Bottom (4); an unfinished road (5); the eastern side of the Down between Stonehenge Bottom and the King Barrow Ridge (6).

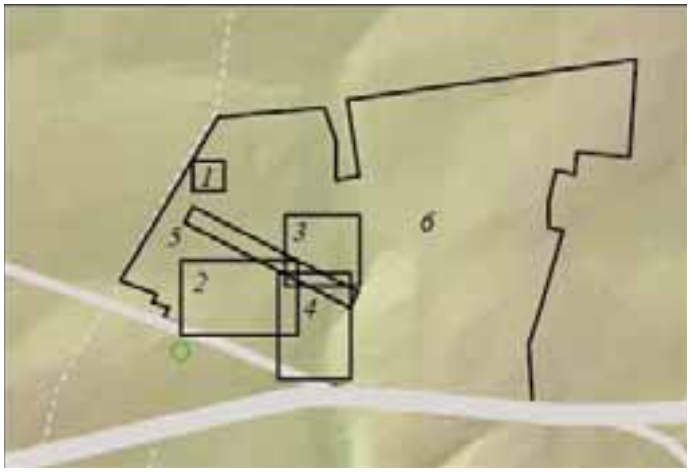

Fig 8: location of surveyed components; for area 6 see Figs 15 and 16.

Field barn or animal shelter earthworks (1)

In the north-west of the area, some 0.5km north of Stonehenge and hard against the by-way to Larkhill are a series of shallow amorphous earthworks (Fig 9) that form part of a small almost levelled complex that appears to be related to the agricultural buildings that once existed at this place. Shallow linear scarps provide an outline of the complex; one oriented east-south-east and no more than 0.1m in height marks the northern edge and can be traced for 25m, another at right angles to it for 17m; a shallow gulley marks the southern edge. It is likely that these bracket the courtyard around which the buildings were set. A shallow oval depression 14m by 10m and of unexplained purpose is bisected by the fence alongside the by-way. A little to the south of the main group is an oval mound measuring 12m by 9m and *c*0.2m in height. While it probably forms part of the barn complex there is a possibility that it is a small round barrow, an outlier of the Cursus Group that occupies the same ridge (Amadio and Bishop 2010, 13-14).

The complex formerly abutted the west side of the by-way (since moved to the west). This by-way cut through the Stonehenge enclosure and has been moved westwards on two occasions. Traces of it are present to the south where it crossed the re-entrant valley

on a shallow causeway (not depicted here but survey in archive) and it can be seen with care as far south as the A344.

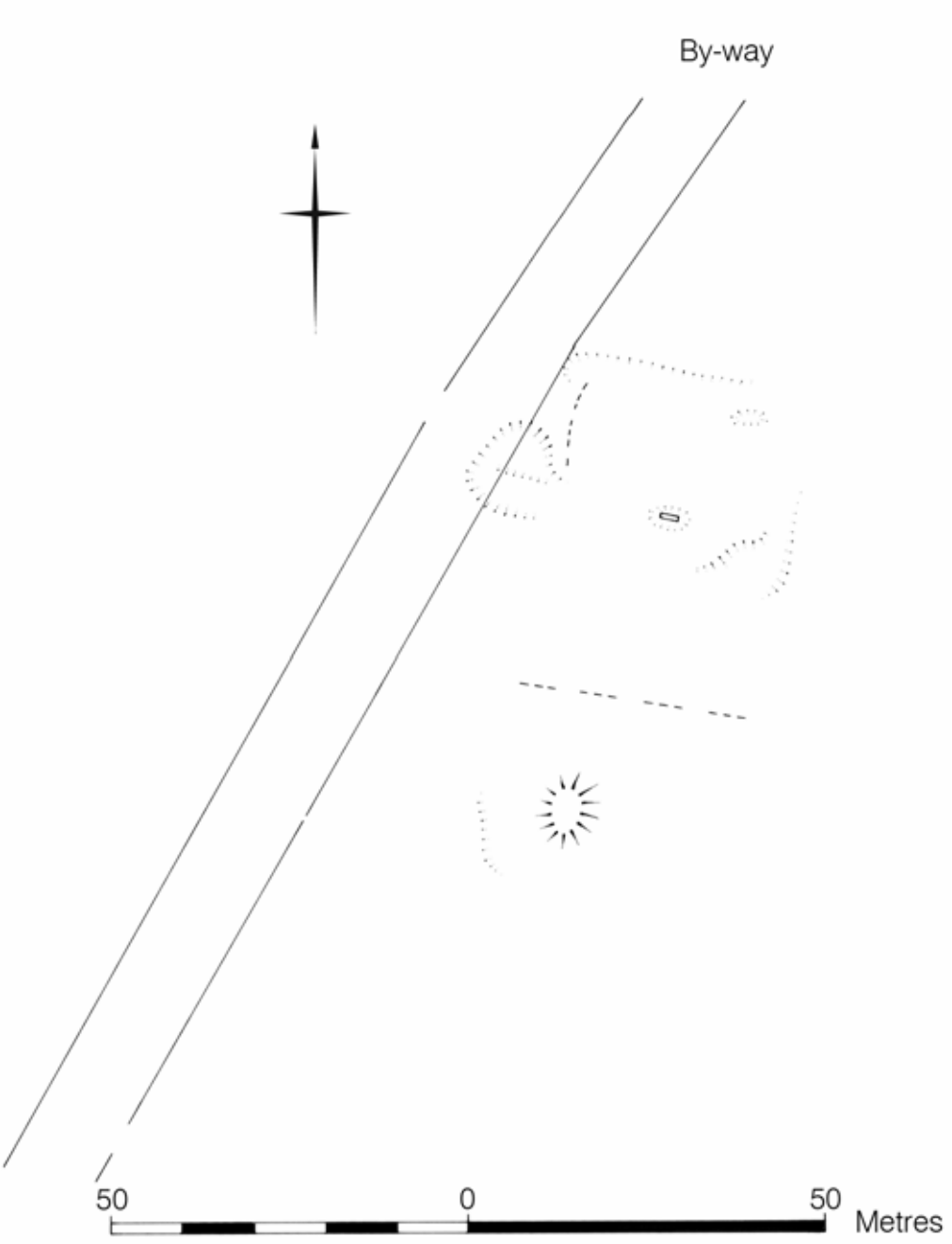

Fig 9 (Inset 1): Earthworks of a levelled 20th-century agricultural complex adjacent to the by-way to the north of Stonehenge; plan at the original survey scale of 1:1000. The small rectangular feature amid the earthworks is a stock drinking trough.

The Avenue (2 and 3)

In order to avoid confusion, the terminology used by Cleal *et al* (1995, 291) for referring to the respective Avenue earthworks is adopted here. This refers to the respective banks and ditches where they cross the King Barrow Ridge at which point, although ploughed out and known only from air photographs, they are the 'northern' bank/ditch and 'southern' bank/ditch; they are referred to as such wherever they lie on the overall course of the Avenue.

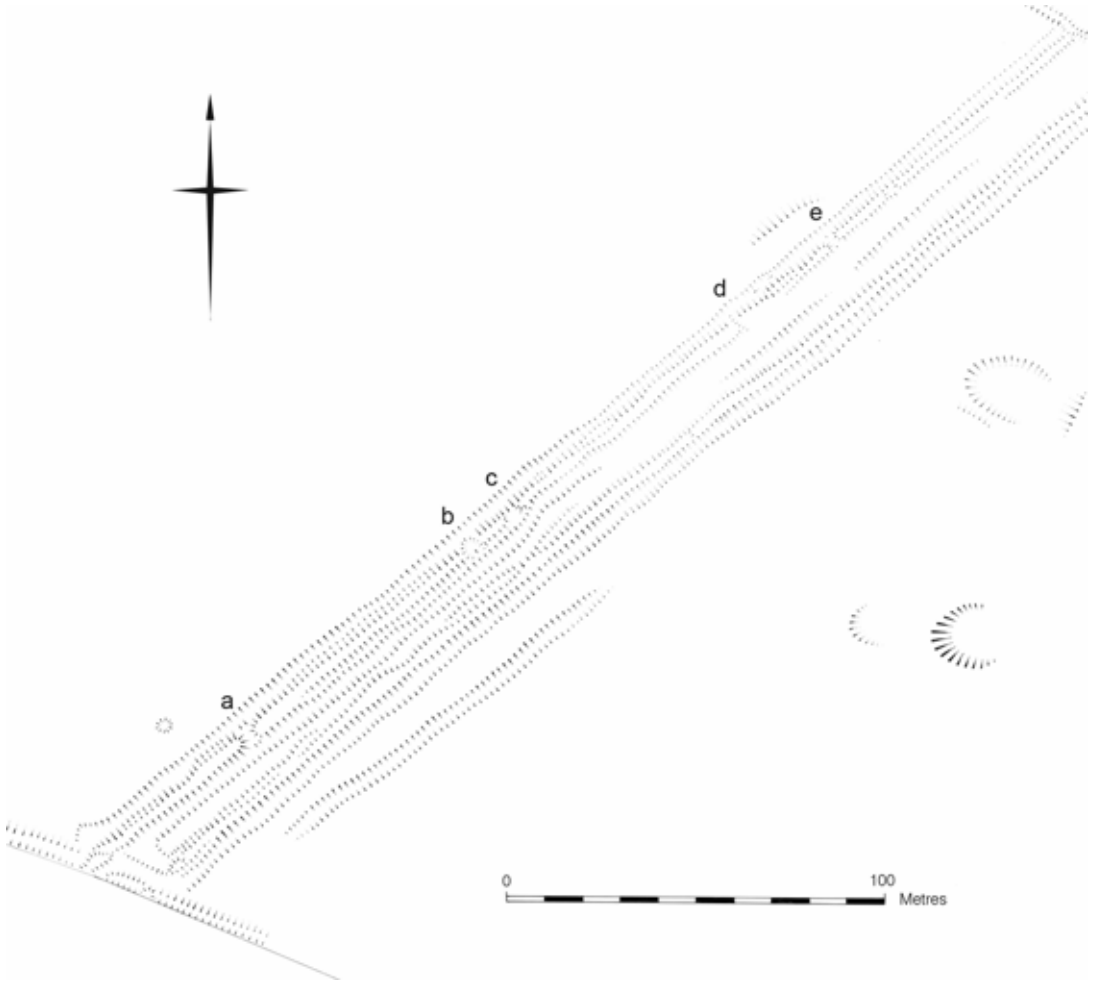

Fig 10 (Inset 2): Plan of the earthworks of the southern length of the Avenue reduced to 1:2000 from original survey at 1:1000 scale. The hollow to the west of ***a*** *contains an inscribed stone: 'A portion of this down was given to the nation in memory of W Heward Bell of Cleeve House Seend by his family 1928' (see Fig 11).*

Generally in the section north of the A344, the Avenue comprises parallel ditches set 18m apart with internal banks. Precise details of the original earthwork are obscured over a wide area, as the alignment was formerly used as a trackway and considerable wear has altered the profile of the ditches as well as the internal area. The ditches vary between 4 and 5m in width and are up to 0.2m deep according to localised wear from traffic. The internal banks similarly vary between 4 and 5m wide and generally reach approximately

0.2m in height. The general raising of the ground level within the Avenue noted by Stukeley (*see* above) is not now particularly noticeable.

It is, however, notable that the stretch of Avenue closest to Stonehenge and reaching some 150m from the roadside fence, immediately north of the A344, is more substantial than elsewhere. Here, the northern bank is, invariably, 6m wide and in places reaches 0.4m in height. It is broken just over 50m from the road (Fig 10, **a**) by a gap some 4m wide. There is no corresponding causeway in the ditch and it is likely to represent a later break through the bank rather than an original access point. Within the Avenue, parallel to and matching the bank for the length of this 150m stretch is a 4m wide linear hollow offset some 7m east of the northern ditch. This is relatively shallow, just 0.1m deep, and appears to be the result of wear from traffic. It may be this that gives the impression of bulk in the adjacent bank but it cannot be ruled out that it was a ditch that provided material for bank enhancement. Further localised damage has occurred to the bank 130m and 140m from the A344, presumably as a result of traffic crossing the Avenue en route to Shrewton (Fig 10, **b** and **c**). The southern bank is rather more sinuous for this stretch, again apparently the result of considerable wear from traffic.

Fig 11: the inscribed stone.

The Avenue earthworks are accompanied to the south-east by another slight ditch for a distance of a little over 100m (opposite **a**-**c** on Fig 10). The origins of this feature are uncertain but it is probably due to traffic wear.

Beyond this, anomalies appear to be fewer. There are further breaks in the bank (Fig 10, **d** and **e**) again probably due to traffic crossing the Avenue. Traffic wear within and along the interior is reduced to a single scarp. At 330m from the A344 the Avenue is cut by the earthworks of an unfinished road (*see* below) and 15m of the Avenue earthwork is missing before it resumes its course.

Beyond the unfinished road the northern ditch has suffered from the effects of cultivation and cannot be traced for more than *c*20m. The bank, however, is in relatively good condition and can be followed for 77m until it is also disrupted by significant agricultural activity (Fig 12, **a**). Its southern counterpart has been erased for a 10m stretch (Fig 12, **b**) some 40m from the unfinished road, while internal scarping is evidence of increased use of the internal area by traffic. The Avenue earthworks meet the bluff of a re-entrant leading into Stonehenge Bottom some 475m from the A344. They cannot with certainty be traced down the bluff slope, although the northern earthwork is visible as a single scarp, but at the base they emerge and change direction markedly before continuing towards the east. Beyond this 'elbow' the ditches are set slightly further apart, at 20m.

Here the banks are largely missing, though both re-emerge and can be traced for 20m to the fence in Stonehenge Bottom and beyond for some 100m. The Avenue crosses Stonehenge Bottom as two earthwork banks each *c*5m across and set 15m apart, with traces of an outer ditch in places (*see* Fig 15, **c**). The earthworks are curtailed by a north – south oriented plough lynchet resulting from 19th-century cultivation and to the east of this they are effectively ploughed out, although they can be traced as vegetation marks further up the hillside.

At the 'elbow', a crucial location since the Avenue changes both direction and width, the bluff slope and the area around it exhibit a complex sequence of earthworks that obscure the broader outline. Some of these are quite subtle and in addition there is a problem of distinguishing between earthworks marking cultural activity and features of the natural landform.

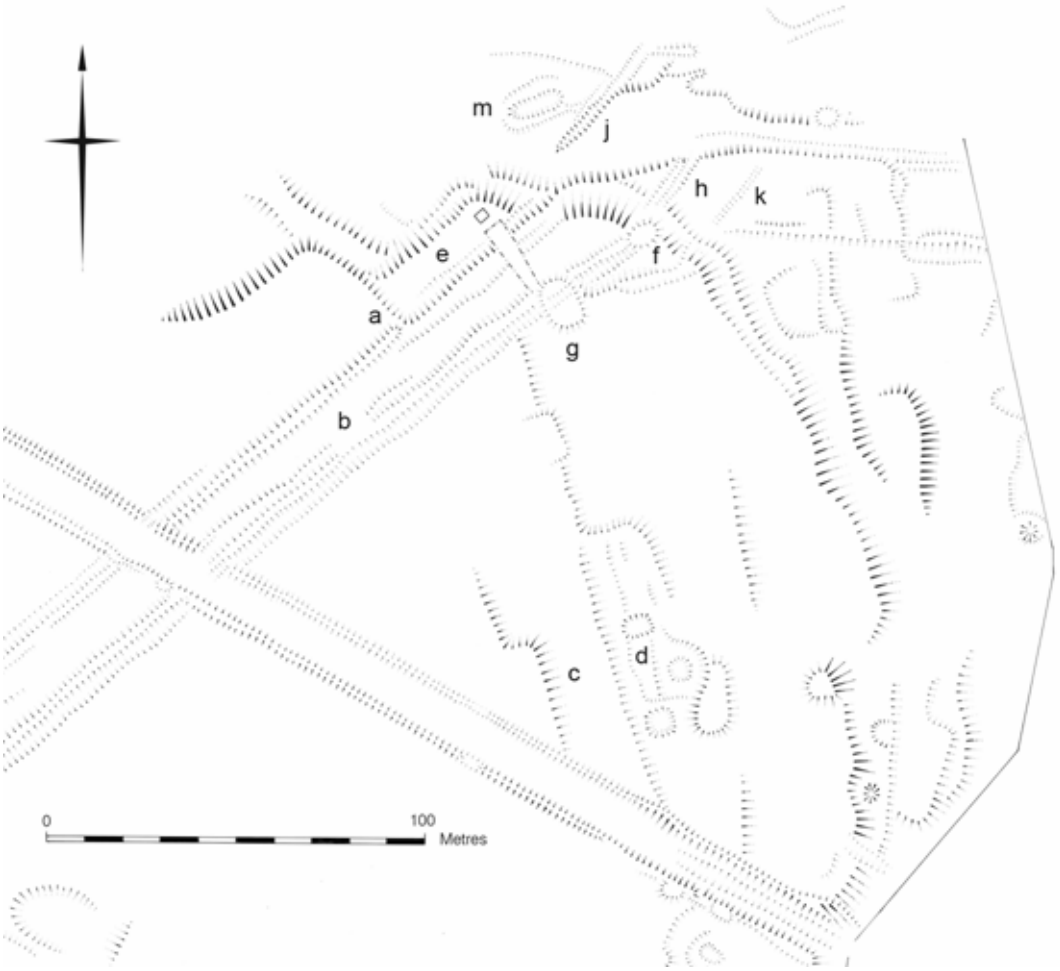

Fig 12 (Inset 3): Plan of the Avenue near Stonehenge Bottom, reduced to 1:2000 from original survey at 1:1000 scale.

To the east of the Avenue at this point at least one phase of cultivation can be recognised and, although slight, this appears to be more than an intermittent episode, as lynchets have formed to a height of *c*0.3m (Fig 12, **c**). These produce a series of narrow, parallel

field boundaries aligned south-south-east, the lyncheted fields thus facing the early morning sun. Where relationships can be observed at the junction with the unfinished road, the road cuts through the lynchets, although they do not continue south of the road. Immediately east of the Avenue 'elbow' the 'natural' bluff appears to be of sharpened profile and typical of a positive lynchet that has accumulated at the lip of a natural slope and it is likely that it marks a field edge. Associated with the fields, at least spatially (Fig 12, **d**), are several rectangular depressions, *c*0.2m deep, which may be the sites of structures, perhaps barns. However, no pottery or other cultural material was noted in local mole-hills or rabbit holes and it may alternatively be that these represent the site of stock feeding troughs. Two scarps, apparently field boundaries on the same alignment, cross the Avenue immediately west of the 'elbow', obscuring all but the strongest of its earthworks.

The right-angled nature of some of the other scarps to the west of the 'elbow' indicates that cultivation took place there as well. These are essentially natural slopes but appear to have been sharpened and modified by a phase of cultivation. In this case the alignment is different, with north-easterly oriented lynchets that were probably influenced by the orientation of the Avenue. Indeed, one small plot, measuring 35m by 10m, has cut across the Avenue ditch (Fig 12, **e**), leaving only vestiges of its presence. The Avenue bank at this point is also missing, possibly due to cultivation within the Avenue.

Two mounds are situated on the southern Avenue bank towards the end of its straight western course and before it descends the bluff. One lies on the lip of the bluff itself (Fig 12, **f**). It measures 10m by 7m and is 0.2m in height, and obscures the Avenue bank and ditch. The second, some 20m uphill of the bluff edge, is sub-rectangular, measuring 20m by 10m and 0.3m in height, and extends across the bank and ditch (Fig 12, **g**). Its depiction here differs from its mapping by the RCHM (1979, fig 5). This is now referred to in the literature as Newall's Mound (*see* below) and it also obscures the Avenue bank, although wear from traffic following the course of the ditch cuts across it and it has been disturbed by excavation. Both mounds may be associated with the cultivation episode(s).

Immediately north of the former mound on the upper part of the slope is a narrow ditch of pronounced profile, *c*2m wide by 0.2m deep, with bank to the west, that can be traced for *c*15m in a north-north-easterly direction a little beyond to the base of the slope where it intercuts the course of the curving Avenue (Fig 12, **h**) – the 'Oblique Ditch'. Two other features occur on a similar alignment; 25m to the west is a second ditch of comparable proportions that commences on the valley floor and can be traced for some 35m (Fig 12, **j**) – part of the 'Gate Ditch', while to the east a narrow bank, perhaps a former fence line, can be traced for no more than 20m (Fig 12, **k**). On the valley floor, to the west of the westernmost of these ditches, is an elongated oval depression, no more than 0.3m deep, with spoil evidently placed to its south to form a 4m wide bank (Fig 12, **m**); its purpose remains unclear although the clarity of its profile suggests that it is of recent origin.

The outlines of backfilled excavation trenches were noted on the course of the Avenue just above the bluff during initial survey, and are shown on the plan (broken lines), but were not detectable during a subsequent visit.

Features to the east of the Avenue (4)

To the south of the unfinished road a number of features occur on the western slope of Stonehenge Bottom. Some of these may be of natural origin, although the degree to which they might have been modified by agricultural activities is unclear.

Several large and relatively deep hollows occur on the upper slopes of the valley. Their regular outline and the lack of spoil tips suggest that they are unlikely to be quarries from which chalk was obtained although there is apparently an entry into at least one of them. Instead, they may have originated as swallow holes and the scarring within them the result of their being used for stock shelter or some other agricultural purpose. The largest (Fig 13, **a**) measures some 28m by 25m and is about 1m deep, but is open to the north-east, i.e. facing the morning sun, and is approached from the lynchets further east by a shallow hollow, *c*0.2 deep. Others examples (Fig 13, **b** and **c**) are also open to the morning sun, but two others, of similar maximum depth (Fig 13, **d** and **e**) have no such entry.

There are a number of other shallow sub-rectangular or oval depressions often with spoil placed in front to form an apron (Fig 13, **f**, **g**, **h**, **j**, **k** and possibly **m**). These measure between 7m by 6m, and 11m by 7m and are rarely more than 0.2m deep. They have the appearance of building stances and some are associated with lynchet-like banks, in one case with right angled-corners that appear to enclose the stance. However, no cultural material was recovered from the numerous minor animal disturbances in these areas and it is likely that they represent the location of barns or other agricultural buildings or shelters, rather than dwellings.

A further stance, 12m by 7m, beside the A344 (Fig 13, **n**) is cut 1m into the slope in a similar manner to the others. However, there is much greater certainty here, for the profile is proud and the presence of concrete, bricks and other modern paraphernalia betray the site of the short-lived Stonehenge Café with a levelled and squared off platform to the south-west reaching 1.3m high above the original ground surface, that served as its car-park (Fig 13, **p**).

Other features on the slopes of Stonehenge Bottom are more amorphous and, while there is a certain regularity to many, it is difficult to be clear about their origin and purpose. On the valley floor there is evidence of quarrying (Fig 13, **q**). A variety of depressions and spoil heaps occur, some curvilinear, others linear and most well-weathered and rarely over 0.2m in depth. There are also a number of pits of varying shapes and sizes to the east of the fence. One, more regular and rectilinear than the others stands out. Very shallow and 15m by 9m by 0.3m deep, it has the appearance of

turf digging which may have provided material for some temporary structure in the vicinity.

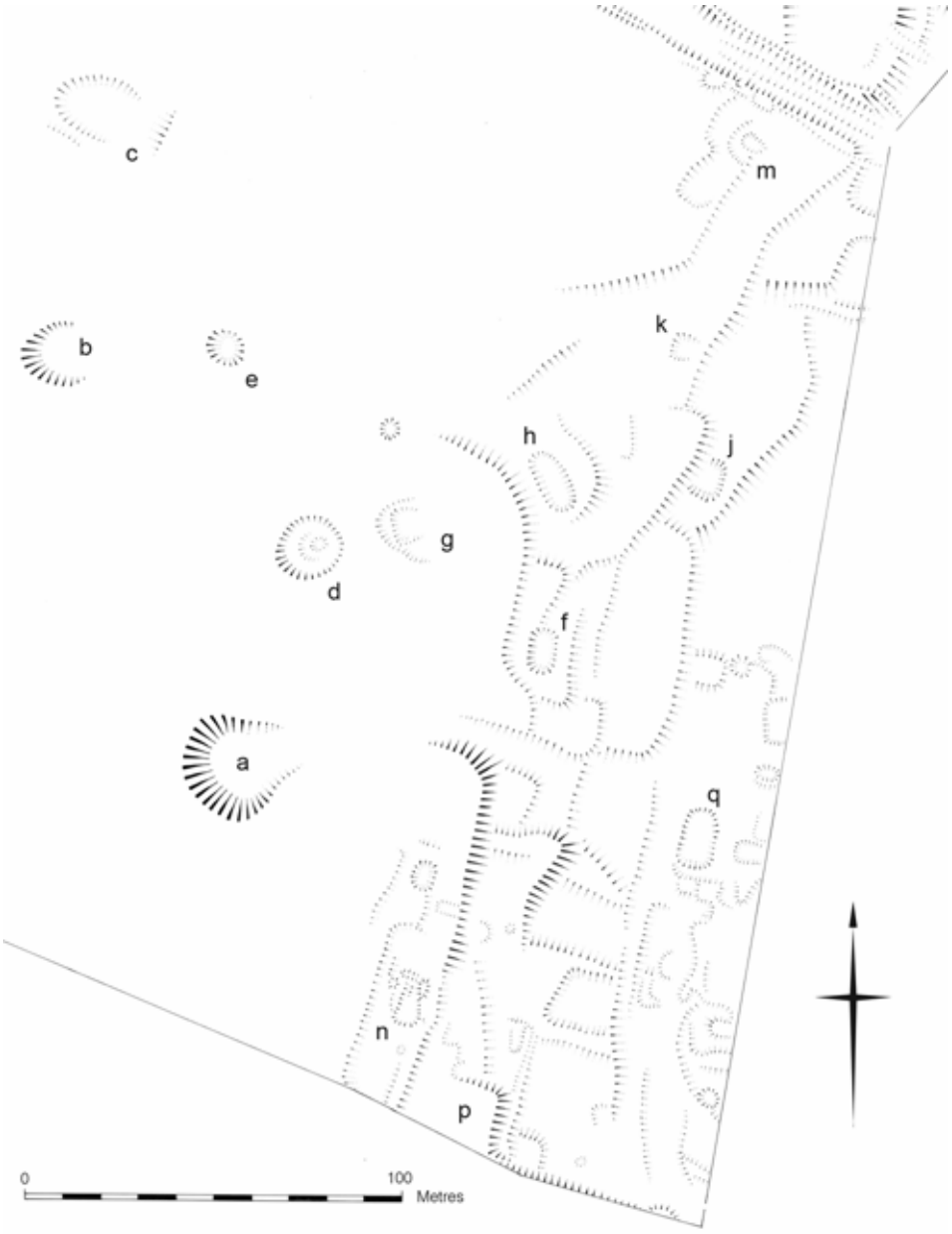

Fig 13 (Inset 4): Earthworks on the western slopes of Stonehenge Bottom, plan reduced to 1:2000 from original survey at 1:1000 scale.

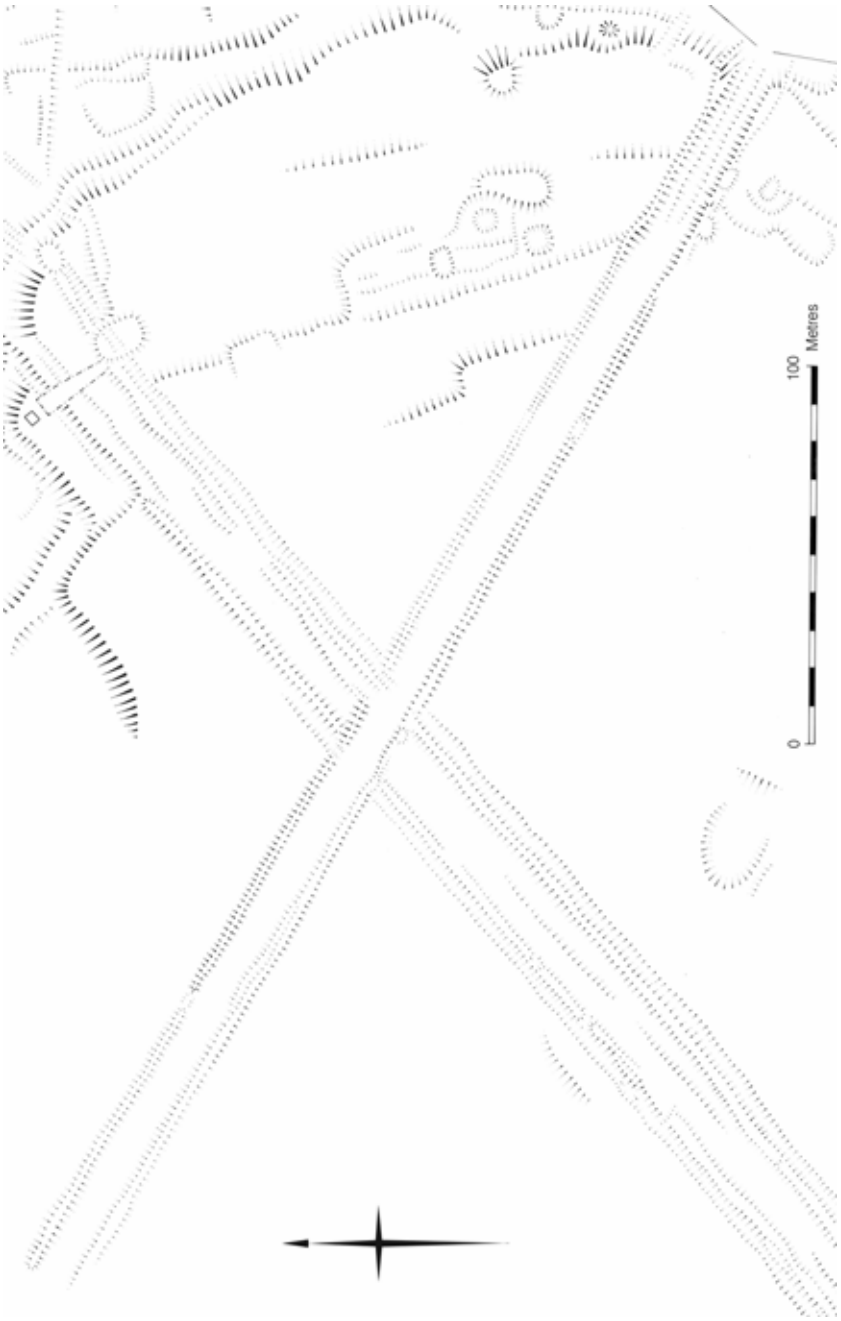

Fig 14 (Inset 5): Earthworks of the unfinished road to the west of Stonehenge Bottom, crossing the Avenue, plan reduced to 1:2000 from original survey at 1:1000 scale.

The unfinished road (5)

A straight linear feature, 9m wide, defined by 4m wide banks, about 0.3m high, on either side (Figs 14, 15), is the unfinished road identified by the RCHME and dated by them to the later 18th century on documentary, map and field evidence; it seems to belong to a brief period between about 1765 and 1823 (RCHM 1979, 31-2). It is possibly an

abortive attempt at a toll road before the present line (the A344) was adopted. It can be traced for 1.14km across the down in a north-westerly direction, in part as a parchmark only and interrupted by the Larkhill by-way. It was partly constructed across the ditch and berm of one of the Cursus barrows (Amesbury 43) but can only be traced for a few metres beyond that – it does not cross the Cursus (Amadio and Bishop 2010, 12, fig 6). To the south-east it has been placed on a substantial causeway across Stonehenge Bottom before ascending the lower slopes of King Barrow Ridge by way of a cutting (*see* Fig 15, **e**), evidently to ease the gradient for wheeled traffic. The causeway measures 15m across the base and 4m at the top and is up to 1.7m high. Material from the road surface has been robbed out, leaving a shallow depression along the causeway. The material from the cutting, which is up to 2m deep, has been dumped in irregular mounds, some 5m wide and up to 0.8m high externally, on either side. As the road accesses the lip of the bluff, the cutting appears to splay out; beyond that it is obscured by the slight north – south oriented field lynchet which defines the limit of 19th-century cultivation.

Stonehenge Bottom and the western side of the King Barrow Ridge (6)

Earthworks in Stonehenge Bottom and on the slopes up to the King Barrow Ridge are depicted in Fig 15. For the most part those on the slopes have been severely plough-levelled and little remains on the surface although, aside from the creation of the military sewage works, the valley floor appears to have been little effected during the last century. The lynchet that marks the western limit of cultivation is intermittently visible across the down but is particularly strong in the southern area; it can be seen on Fig 15 cutting across features (**a**, **c**, **e** and **g**)

Earthworks apparently associated with the well house in Stonehenge Bottom

A number of trackways lead down the steep bluff slope in the northern part of the area immediately adjacent to the sewage farm (Fig 15, **a**). A narrowing, 0.3m deep, hollow way, 5m wide flanked by banks 0.1m in height at the upper end, is situated at 90° to the bluff and leads towards a large ovoid hollow, measuring 20m by 18m and 1m deep, on the valley floor. The upper limit of the hollow way is blocked by a crescentic scarp, indicating that access further upslope was restricted presumably by the cultivated field on the slope above. Two further narrow ways converge on the same point from shallow angles; the one from the north is a terrace way, 3m wide; that from the south, again *c*3m wide, is more incised. These converging ways may be related to the well house and pond that formerly existed close to this point in Stonehenge Bottom. The depression noted above within the area of the sewage works is probably a pond (though perhaps not that depicted on the early OS editions) which is part enclosed by a bank *c*7m wide and 0.2 high on the west and south sides (not depicted) which may be that present on the OS 25inch 1st edition map of 1877. To the north-west of the pond a mounded area (not depicted) may be the site of the well house. A small hollow, 0.6m deep, to the south of these earthworks, close to the point where the steep natural slope ends, is unexplained.

'Desmond's Enclosure'

Some 100m to the south of these features on the lower slopes and situated on a spur between shallow re-entrants is a very slight amorphous plough-levelled platform or enclosure that fronts Stonehenge Bottom (Fig 15, **b**; Fig 16). It is evidently curvilinear, measuring some 65m across and defined by a low bank between 10m and 11m wide and 0.2m in height. In part of the interior is a shallow oval depression measuring some 27m by 23m. A field lynchet, marking the extent of recent cultivation of the down, lies across the eastern side of the feature. The shallow earthworks are difficult to interpret and it is conceivable that they represent an early phase of agricultural activity; there are other shallow depressions on the hillslope which could be the result of stock feeding troughs (see also aerial photographs in Crawford 1929, 38; Crawford & Keiller 1928, 222). However, the form of this feature is reminiscent of Bronze Age and Iron Age enclosed settlements and it deserves further investigation. The feature was first noted by Desmond Bonney in his work for *Stonehenge and its Environs* (RCHM 1979), though it is not included in that publication, possibly because of doubts over its antiquity; it became known amongst Royal Commission staff as 'Desmond's Enclosure'.

The Avenue

The Avenue is described above. It is depicted where it crosses Stonehenge Bottom (Fig 15, **c**; Fig 16). As noted, it is often visible as vegetation marks on the slope towards the King Barrows but this is not depicted here.

Quarries

Set on the valley floor between the southern Avenue ditch and the unfinished road, a distance of some 100m, is a complex of shallow quarries (Fig 15, **d**; Fig 16). Most of these appear as amorphous hollows and mounds although some, particularly towards the north of the complex, appear almost circular.

The diggings appear to be small scale, rarely more than 5m or 6m across and no more than 0.3m deep, and they are of shallow profile suggesting that they may be of some antiquity. There is, however, no indication of date or indeed of the quarried material that was being targeted. Test pits sunk elsewhere in Stonehenge Bottom as part of the Stonehenge Environs Project indicated that chalk lay immediately below the surface (Richards 1990, 210-11, fig 8); the absence of colluvial deposits was put down to the scouring effect of winterbourne streams . The bluff here, however, is steep and flint nodules collect at the base. It would be surprising if there were no gravel deposit here.

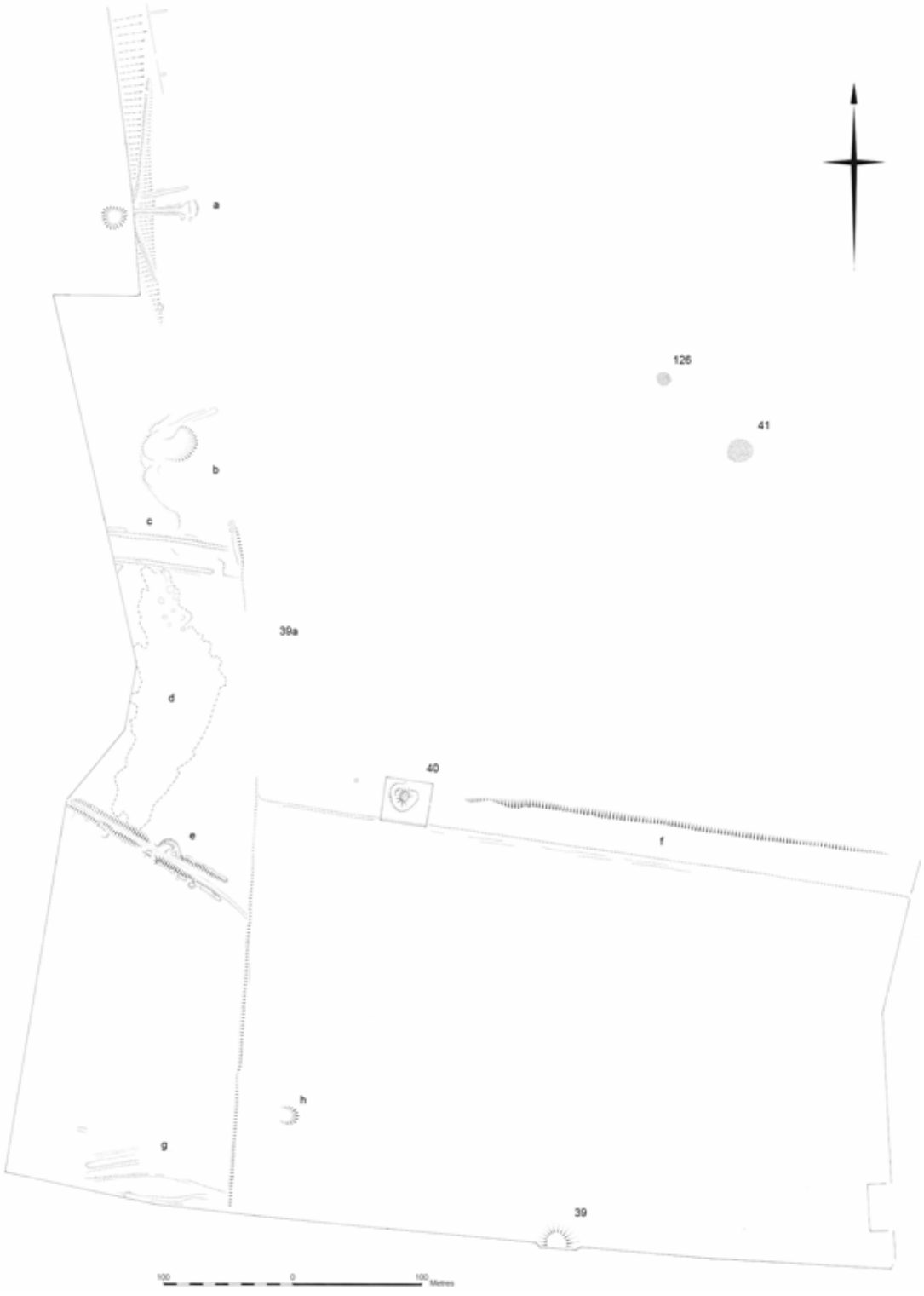

Fig 15: Earthworks in Stonehenge Bottom and on the slope below King Barrow Ridge, plan reduced to 1:5000 from original survey at 1:1000 scale. The approximate position of Barrow Amesbury ***39a*** *is also indicated.*

That the quarries do not impinge on the Avenue is curious, although in two cases they clip the edge of the ditch; equally to the south few quarries can be traced beyond the unfinished road. It is tempting therefore to suggest that that they postdate the latter and of course it is conceivable that they were related in some way to its construction. The eastern side of the quarried area immediately below and alongside the bluff is more hollowed than elsewhere and it may represent the wear of traffic, or perhaps water. Like the quarries themselves, this, however, cannot be traced north across the Avenue or south beyond the unfinished road. Close to the eastern extremity of (d) on Fig 15 (but not surveyed) is a platform cut into the bluff , measuring 10m by 9m and set just above the valley floor. This could have held a building, perhaps a barn or shelter, but it is also conceivable that it bears some relationship to the quarrying.

The unfinished road

The causeway and cutting of the 18th-century road crossing Stonehenge Bottom (Fig 15, e; Fig 16) has been described above. The road would have met the turnpike (the current A303) and the old Amesbury road at the corner of the parkland on King Barrow Ridge but any trace of it to the east of Stonehenge Bottom has been ploughed-out.

Linear banks

Above the bluff, parallel linear features can be traced in an easterly direction as far as King Barrow Ridge and heading for a gap between the barrows (Fig 15, f). They appear to focus on or lead to a round barrow, Amesbury 40, though the southern element can be traced beyond it. The latter comprises a shallow and narrow bank no more than 4m wide and 0.2 in height with, in places, a ditch little more than 0.1m deep to the south. Parallel, and 25m to the north, is a more substantial lynchet *c*6m wide and 0.4m in height; it is studded with what appear to be tree-throw holes at irregular intervals (varying between 3.0m and 28.5m but generally about 10m). A shallow back is intermittently visible, giving an overall width of 10m.

It is possible that the two features were laid out as matching banks, the northernmost bounding an area of cultivation on thee break of a slope to the north and thus becoming lyncheted. The two have the superficial appearance of a formal trackway but as noted are aligned on and appear to incorporate barrow Amesbury 40 which would form an impediment to access. It is therefore difficult to envisage them as forming a route way, although they could form an extension of the designed landscape beyond the Amesbury park boundary in the form of a walk or ride. Indeed, the round barrow, Amesbury 40, provides a perfect viewing platform for the Stonehenge Landscape.

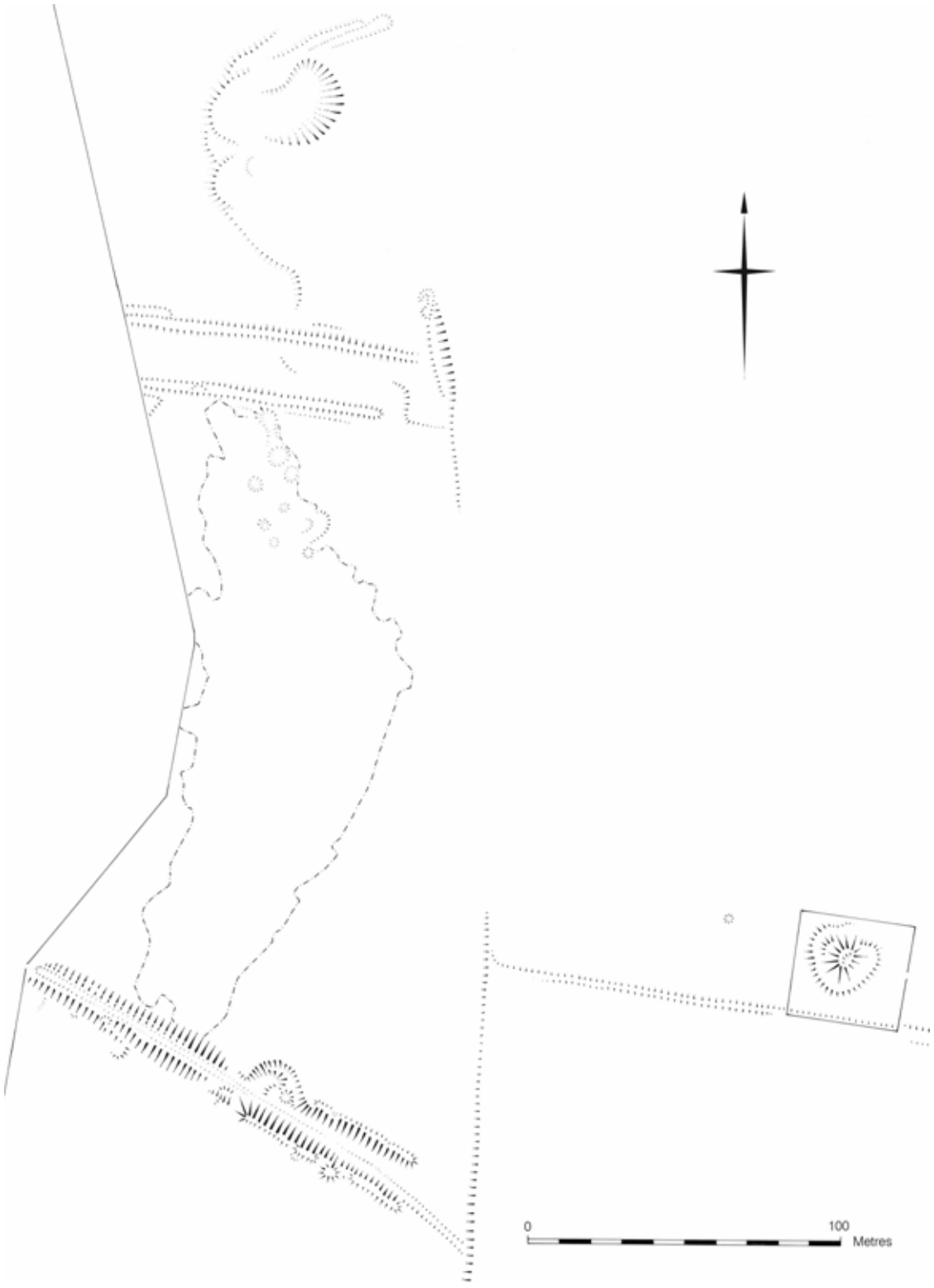

*Fig 16: Earthworks in Stonehenge Bottom. From top to bottom: 'Desmond's Enclosure'; the Avenue; quarries; the 18th-century road. Barrow Amesbury **40** to the right. Plan reduced to 1:2000 from original survey scale of 1:1000.*

What also seems to be clear, however, is that the northern lynchet is a continuation of a feature seen on the east side of the King Barrow Ridge and that it is on the line of the boundary between Countess Manor and West Amesbury Manor, as shown on the map of 1823 (*see* Fig 2). The southern element is probably part of the later 19th-century field pattern.

Hollow ways by the A303

Traces of a very shallow hollow way (not surveyed), 15m wide by 0.2m deep, apparently emanating from the same gap through the New King Barrows, can be traced to the south of the linear features noted above. It is cut into by the upper end of the unfinished road and descends into the valley about 40m to the south of it, crossing the valley floor on a low causeway 12m wide by 0.2m high. It is difficult to trace on the western slopes but appears to utilise the shallow re-entrant almost 200m north of the A344 and crossing the Avenue where it is denuded some 150m from the A344. It appears to mark a former course of the Shrewton Road.

Several more crisply incised hollow ways ascend the bluff from Stonehenge Bottom immediately north of the A303 (Fig 15, **g**). These are quite narrow and appear to be ruts scored by pedestrians and horses or other animals, rather than wheeled vehicles, as they took alternative courses to negotiate the slope. Others appear to the south of the A303 (*see* Fig 6). It can be inferred that they date to a period prior to use of the metalled turnpike road.

Swallow hole or chalk pit

A small hollow (Fig 15, **h**), about 0.3m deep, similar to those on the western flank of Stonehenge Bottom (*see* Fig 13, **a**, **b**, **c**, **d**, **e**), might be a small chalk pit or a natural hollow. It is open to the west but there is no sign of upcast.

Barrows and related features

The barrows are listed according to their Grinsell numbers (1957, 151) or RCHM numbers (1979, 2).

*Amesbury **39***

This is a plain bowl barrow of rounded profile (Fig 15) excavated by Ashbee (*see* above). Only part of it survives, having been cut by the widening of the A303 road. The mound currently measures 33m in diameter by 1m in height and there is no sign of the surrounding ditch.

*Amesbury **40***

This barrow survives as an irregular mound, *c*17m across and 0.8m in height, damaged on the south-east side, placed on a platform or earlier phase mound measuring 25m in diameter and 0.7 high, leaving a 2m berm (Figs 15 and 16). There is no sign of a ditch. It has been, and is being, extensively damaged by rabbits.

*Amesbury **41***

This barrow is a 1.2m high mound of rounded profile, reaching 24m in diameter and with traces of a *c*6m wide ploughed-out ditch. It has been partly disfigured by a (now removed) stock fence. (This barrow was not surveyed during the current project, hence its depiction by stippling only on Fig 15).

*Amesbury **126***

A ring ditch identified from aerial photographs (NMR SU 1043/1/7-8: SU 1342/34; RCHM 1979, 2, map 2) on the slope about 80m north-west of Amesbury **41**, it showed as soil- and cropmarks but is not visible as an earthwork (position stippled on Fig 15). Geophysical survey has revealed that its ditch consists of three asymmetrical segments and identified a possible internal feature (Stonehenge Hidden Landscapes 2012, 15, 19, figs 24-28).

Other levelled barrows, ring ditches and related monuments

Grinsell recorded Barrow Amesbury **39a**, on the edge of Stonehenge Bottom immediately south of the Avenue, as a destroyed monument; it had been excavated by an unknown antiquary and by Hoare who described it as a 'very flat barrow' (his No 24; 1812, 159), yielding primary burials of an adult and a child in a shallow grave. This barrow seems to have been located by magnetometer survey but its signature is unclear (Stonehenge Hidden Landscapes 2012, 14).

The RCHM identified several other possible levelled barrows on this part of the down between Stonehenge Bottom and the King Barrows, all seen as soilmarks (1979, 2, map 2). There are four to the south of the Avenue near the top of the ridge (Amesbury 120-123) and three (excluding **126**) north of the Avenue and lower on the slope (Amesbury 125, 127 and 128). However, these have all been discounted by the National Mapping Programme.

There are few other earthworks surviving on the higher slopes of the King Barrow Ridge. However, recent geophysical survey has revealed several interesting features, including: a penannular ring ditch, possibly a small hengiform monument, with a central internal feature (Stonehenge Hidden Landscapes 2012, 15, 19, fig 30), lying immediately west of

barrow Amesbury 34; further north, a horseshoe-shaped arrangement of pits on the site previously recorded as ring-ditch Amesbury 129 (ibid, 15, 19-20, figs, 35, 37-38). A further anomaly (RF2 – ibid, fig 7b) to the north of Amesbury 34, is coincident with a slight earthwork hollow (not surveyed) measuring approximately 15m in diameter and 0.3-0.4m deep.

The sewage works

Not surveyed, but forming an important component of the built landscape in Stonehenge Bottom, are the concrete bases and pipe casings of the military sewage works in the area north-west of **a** on Fig 15. Two lengths of these pipes are present (Fig 17), situated either side of a fenced area that incorporates a sizeable portion of the width of Stonehenge Bottom and which piped effluent into the area. In doing so they cut across the Stonehenge Greater Cursus and obscure traces of the former well house and pond.

Fig 17: Concrete box and section of pipe casing, part of the military sewage works in Stonehenge Bottom.

DISCUSSION

Circular hollows

The circular or oval hollows on either side of Stonehenge Bottom are possibly chalk pits but might be swallow holes or solution hollows, or otherwise connected with the natural drainage of the down. The largest one (**a** on Fig 13) is somewhat reminiscent of a spring head; the hollow that leads downhill from it could be seen as a small valley rather than a hollow way.

The Avenue

The Avenue itself has been comprehensively discussed by Cleal *et al* (1995, 291-329; also Payne 1995, 506-10) and fresh evidence from the Stonehenge Riverside Project has been published in interim form (Parker Pearson *et al* 2008, 20-48; Parker Pearson 2012, 239-48). Several points can be added to the debate however; the survey has highlighted a number of features relating to the Avenue and its later land use, the agricultural complex to the west and other features on the slopes of the King Barrow Ridge. The Avenue is the earliest visible feature within the surveyed area. Its relationship with Stonehenge south of the A344 has been discussed before (Atkinson 1956, 63, 148: Cleal *et al* 1995, 319ff) and the change in angle in the southern bank adjacent to the Heelstone noted in the earthwork survey (Field and Pearson 2010, 15). That the Avenue changes angle to avoid the Heelstone ditch suggests that it is the later feature and this concurs with the view presented by Atkinson (Cleal *et al* 1995, 317). Detail relevant to this may lie beneath the A344 road. North of the road, there is some indication in the earthworks that the Avenue may have been enhanced or more 'monumental' in its final approach to Stonehenge, though the Stonehenge Riverside Project now ascribes much of this to natural chalk ridges (Parker Pearson *et al* 2008, 24). This is something that needs to be tested by more detailed geophysical survey or by further excavation. The length of slight ditch offset to the south-east, for instance, should be examined in light of the third natural ridge mentioned by Parker Pearson (2012, 246).

As noted above, current theories on the purpose of the Avenue see it as a route for the transport of the bluestones from the River Avon or as a commemoration of that route, the argument being that the Avenue follows the easiest gradients from the river. This may be true for most of the route but at one crucial point, the 'elbow', it is not. A route a hundred metres or so further west here, utilising the dry valley which runs down from the current car park, would have avoided the steepest part of the low bluff; this, however, would not bring Stonehenge into view on the solstice alignment – it could be argued that the extra effort of bringing the stones up the bluff on that crucial alignment was part of the purpose. Another curiosity of the Avenue's route up the bluff, however, is the lack of hollowing which we would expect at this point if it had been subjected to heavy traffic for any length of time (this lack of hollowing is clear both from surface observation for the

current project and from the excavations); it is precisely on shoulders such as this that hollow ways first develop. This argues somewhat against the 'elbow' either as a route for the stones or as a well used processional route over any length of time. If processions did take place up this slope they either did not happen very often or did not involve many people, as Stukeley surmised (*see* above).

Fig 18: Earlier (Neolithic and Bronze Age) features shown against a lidar image lit from the north. ©Environment Agency (December 2001).

When excavated in 1978, Newall's Mound provided no evidence of date, but simply comprised large flint nodules mixed with clay-loam, sealed by flinty clay-loam considered to represent a 'combination of old plough soil and worm sorted horizon' (Evans *et al* 1984, 24). There was further evidence of cultivation. Any original soils associated with the Avenue had been 'destroyed by ploughing', while the modern soil displayed evidence of 'ploughing in the presence of deep furrows' (Evans *et al* 1984, 24). These were described as being placed along the Avenue and could therefore be the striations noted in the geophysical survey plan (Payne 1995, figs 264 and 265). Additionally, a trench across the Gate Ditch revealed a deep groove thought to be a plough furrow (Evans *et al* 1984, 25). All this concurs nicely with the earthwork evidence, which indicates that at least one plough regime of sufficient rigour to create lynchets occurred here and that Newall's Mound could be an artefact of agriculture. It is difficult to see how it can be an entirely natural feature, as suggested by the Stonehenge Riverside Project (Parker Pearson *et al* 2008, 41-2) but if it had a substantial tree on top, as they further suggest (Parker Pearson 2012, 242-3), this might account for the feature. However, as we have mapped it, it

appears to be part of a field boundary lynchet that turns at right angles and can be traced to the foot of the bluff; furthermore the large flints recorded by the 1978 excavation (above) are precisely what one would expect from field edge or corner clearance.

Barrows

A number of barrows identified by the Royal Commission on the Historical Monuments of England from soil marks on aerial photographs as part of the *Stonehenge and its Environs* survey (RCHM 1979) were reassessed for the National Mapping Programme and subsequently reinterpreted as agricultural patterns – Amesbury 120, Amesbury 121, Amesbury 122, Amesbury 123, Amesbury 125, Amesbury 127 and Amesbury 128. Amesbury 39a was evidently also dismissed but was clearly a barrow as Hoare had excavated it (1812, 159) and it seems to be visible as a magnetic anomaly (Stonehenge Hidden Landscapes 2012, 14).

There is little that can be deduced from the surviving earthworks of barrows in this area. The mound of Amesbury 39 has clearly been rebuilt following extensive excavation. Barrow 40 is severely damaged by burrowing animals but its battered mound still retains hints of some sophistication or phasing, indicated by a berm separating two levels of the mound, though Hoare referred to it only as 'a wide bowl-shaped barrow' (1812, 159); his discovery of a beaker burial beneath the mound does suggest that there is more than one phase to the monument, as it is unusually large for a beaker barrow.

Prehistoric settlement

The density and nature of the flint industry on the King Barrow Ridge (Laidler and Young 1938) and the material from the mound of Barrow 39 (Ashbee 1980) suggests that the area was repeatedly visited. Several isolated pits and postholes have been recorded, as noted above (Cleal *et al* 1995, 59; Vatcher 1969; Harding 1988). A programme of fieldwalking and test excavation was carried out by Julian Richards as part of the Stonehenge Environs Project (Richards 1990, 109-123) revealing further pits and other features. A number of pit-like anomalies have been recorded during geophysical surveys along the Avenue and around the 'elbow', although there is no indication that these are of any antiquity. A barbed-and-tanged arrowhead found during the course of the current project is reported below (Appendix).

Agricultural activities and structures

The nature of the earthworks on the western slopes of Stonehenge Bottom remains unclear. Lack of artefactual evidence suggests that the platforms are more likely to represent agricultural buildings, perhaps barns or shelters, rather than settlement *per se*,

though it is possible that they represent settlement during an aceramic period, such as the early medieval.

Fig 19: Selected later (post-medieval) features shown against a lidar image. Note also the features along Stonehenge Bottom and its flanks highlighted by the lidar.

The complete agricultural regime is unclear. There are hints of early fields in the re-entrant at the end of the Avenue and on the bluff as well as on the slopes down to Stonehenge Bottom. These have impinged on the Avenue itself and obscured its form. As noted above, Newall's Mound is possibly in part a result of the agricultural process. Further cultivation can be seen on aerial photographs in the 20th century, although it is difficult on some to distinguish between cultivation and hay making.

To the west a small complex of earthworks has highlighted the presence of a group of agricultural buildings. These seem to have been present for much of the 20th century but were finally cleared away in the 1970s. Like field barns elsewhere on Salisbury Plain (McOmish *et al* 2002, 117-9), they may have housed machinery related to the agricultural use of the down, as well as providing shelter for animals.

Early roads

Within a national context Salisbury Plain was still very much a backwater in the 18th century and Salisbury rather than Amesbury was still the main focus for the delivery of the Royal Mail en route to Exeter. There were few constraints to traffic on the open

downland but increasingly enclosure funnelled traffic into certain zones. That traffic routes wandered freely across the down is indicated by the ephemeral and apparently unrelated lengths of rutting and hollowing seen here and there on the surface and in aerial photographs and geophysical surveys.

The earthwork of an unfinished road is an unusual field monument, evidently constructed by using two constraining banks with the material scraped up from the road surface. There is no indication that it was macadamised (macadam surfaces were introduced from around 1820); there is no cambering of the surface and no side ditches to provide drainage but a few surviving cobbles and the signs of robbing on the causeway suggest that this part at least was surfaced. It is likely, however, that the road was not actually laid along its whole length, a view supported by its unfinished nature across the ditch and berm of the Amesbury 43 round barrow.

Quarries

Quarries on the Stonehenge Bottom valley floor are intriguing. There is no indication of them on early estate maps or in field names. They are not spread right along the valley floor and there are no isolated examples; instead they are largely confined to the area between the Avenue and the unfinished road, with a few more to the south. It could be asserted that as a result they date to a period later than construction of the road. It could even be that they are related to the road construction. However, individually they are small in nature and do not appear to be indicative of a corporate operation. Little is known of the deposits in Stonehenge Bottom. A test pit dug close to the Cursus here during the Stonehenge Environs Project (Richards 1999, 210-11) encountered chalk just below the topsoil. The product may have been clunch for building but the quarries are relatively shallow. They are similar to quarries within Rybury, All Cannings, from which stone for lining chimneys was extracted (Smith 1884, 115), although they are also not dissimilar from those employed in quarrying sarsen in West Woods, also on the Marlborough Downs.

METHOD

The survey used a combination of Trimble R8-2 GNSS and Trimble 5800 GPS receivers linked to a single on-site base station fixed on to the Ordnance Survey National Grid using the Trimble VRS network to access the Ordnance Survey system of active stations (OSNet). Recent tests of this system indicate that the methodology used to fix the base station is likely to achieve a rms accuracy of better than 10-20mm in plan and 15-30mm in height (Edwards *et al* 2008). The survey data was downloaded into Korec's Geosite software to process the field codes and the data transferred to AutoCad software for plotting out at the elected scale of 1:1000 on polyester drawing film for completion in the field.

In areas of complex or subtle earthworks, detail was supplied using standard graphical techniques of offset and radiation, and by plane tabling, from available hard detail and a temporary network of plastic pegs previously located with the GPS receivers. The survey plans were completed in the office at 1:1000 scale using pen and ink on plastic drawing film. Additional report illustrations were prepared using Adobe CS4 software. The survey data has been archived in compliance with English Heritage RADF guidelines and deposited at the NMR.

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APPENDIX

Report on an arrowhead found less than 90m north of Stonehenge (SU 12298 42332).

by Clément Nicolas[1]

The barbed-and-tanged arrowhead (Fig 20) is created in a flint with a grey/blue patina with fine grain. It is 20.3 mm long, 14.9 mm wide and 3.6 mm thick. The V-shaped tang is particularly long (10.2 mm) and the barbs are very short (1 mm). The arrowhead has been made by a covering retouch. We can make out three stages in the retouch. First, some negatives of removal, coming from the *débitage* or a first retouch, remain in the middle of the two faces. Second, the shaping is done by a short and low-angle bifacial retouch and some semi-abrupt retouch for making the barbs and tang. Third, the edges are done regularly by a partial micro-retouch. The final result is an arrowhead with quite regular knapping, a biconvex profile and a general shape slightly dissymmetrical. The point of the arrowhead, quite short (13.8 mm) and surely more resistant, could have been thought for a specific use or for having less risk of breakage when shot. Indeed, it has no impact feature. The surface context supposes that this still functional arrowhead could have been lost or it is derived from the destruction of some archaeological structure. The arrowhead is a 'Sutton a' type in Stephen Green's typology (Green 1980, 51). The date of the barbed-and-tanged arrowheads are from the Late Neolithic (with Beaker) to the Early Bronze Age (Green ibid, 120-131). A more precise date can't be suggested, because the shape of this arrowhead is definitely ubiquitous. Nevertheless, it is broadly contemporary with the various stages of Stonehenge (Parker Pearson *et al* 2007).

Figure 20: Arrowhead found by Rachel Foster near Stonehenge. Drawing by Clément Nicolas.

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* Imaging and Visualisation (including Technical Survey, Graphics and Photography)
* Remote Sensing (including Mapping, Photogrammetry and Geophysics)

The Heritage Protection Department undertakes a wide range of investigative and analytical projects, and provides quality assurance and management support for externally-commissioned research. We aim for innovative work of the highest quality which will set agendas and standards for the historic environment sector. In support of this, and to build capacity and promote best practice in the sector, we also publish guidance and provide advice and training. We support community engagement and build this in to our projects and programmes wherever possible.

We make the results of our work available through the Research Report Series, and through journal publications and monographs. Our newsletter *Research News*, which appears twice a year, aims to keep our partners within and outside English Heritage up-to-date with our projects and activities.

A full list of Research Reports, with abstracts and information on how to obtain copies, may be found on www.english-heritage.org.uk/researchreports

For further information visit www.english-heritage.org.uk

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