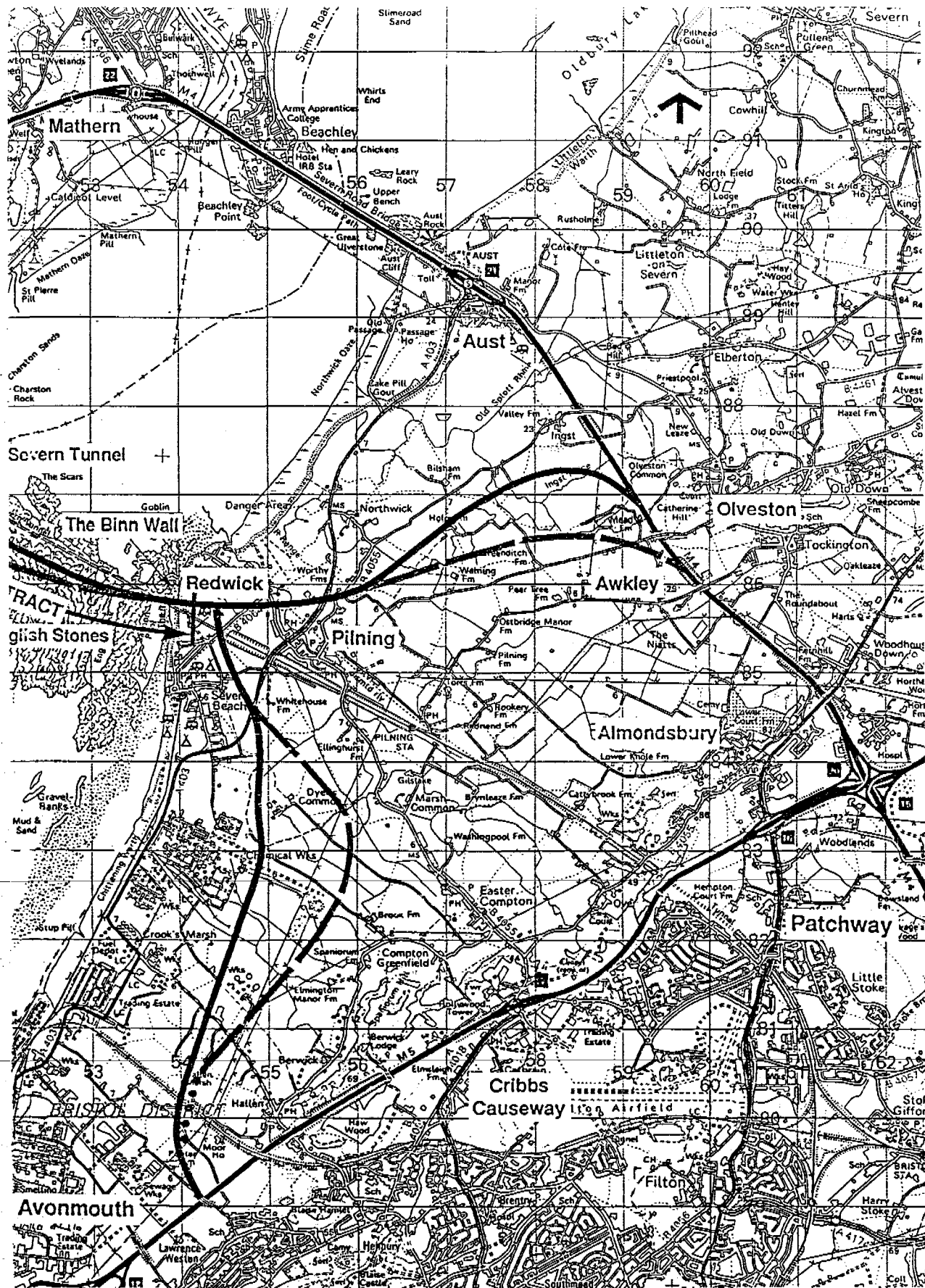


INDEX DATA	RPS INFORMATION
Scheme Title Second Severn Crossing	Details Archaeology
Road Number	Date
Contractor	
County Avon	
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A3 C Colour C	



THE ARCHAEOLOGY OF THE SECOND SEVERN CROSSING

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THE ARCHAEOLOGY OF THE SECOND SEVERN CROSSING

An evaluation of the archaeological implications of
the proposed bridge abutment construction camp site

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2 INTRODUCTION

- 2.1 The project here described was carried out by the writer for Avon County Planning Department, over a period totalling one week in the month of November 1990, funded by the Department of Transport.
- 2.2 The collection of data concerning the area included the examination of available records, in the Avon County Sites and Monuments Record (ASMR), published material, including the Transactions of the Bristol and Gloucestershire Archaeological Society, and the more easily available unpublished manuscript documents in the Bristol and Gloucester Record Offices.
- 2.3 Air photographs were consulted in the Avon County Highways and Engineering Department, and in the collection held in the Avon County SMR.
- 2.4 The site study was necessitated by the proposal to use the area for the construction yard for the Second Severn Crossing bridge.
- 2.5 A single machine cut trench, approximately 150.0m long, was recorded in the area (Section 9, Fig 2 no 1).
- 2.6 In addition to the approximately 24 ha of the camp site, an additional approach route was to be studied (Section 9, Fig 1). In the event, the geotechnical trial pits on this route were dug at a time when the writer could not be contacted to observe.
- 2.7 Trial pit logs for the pits on this route were kindly provided for study by Dick Frost of Laing-GTM.
- 2.8 Thanks are due to Mr A Britton of the Department of Transport, and Mr J Roberts of Avon County Council for establishing and funding this project, and Mr Dick Frost of Laing-GTM for providing much helpful information.
-

3 GEOLOGY AND TOPOGRAPHY

- 3.1 The area of the bridge abutment camp (Section 9, Figs 1, 2) lies between the mouth of the Severn Railway tunnel (on the south) and Redwick Road and the small settlement of New Passage to the north.
- 3.2 The area is very flat, and lies entirely between 6.50m and 7.50m above Ordnance Datum. It has been protected from the sea by the construction of the bank known as the Binn Wall.
- 3.3 The site lies entirely on the estuarine alluvium (OS 1967), and appears typical of the Wentloog series, although there are outcrops of Keuper Marl in the river Severn immediately to the east of the site (The English Stones).
- 3.4 There may also be gravel beds in the environs of New Passage to the north. These have been located in trial pits immediately to the west of the abutment camp area (Russett 1990), and their presence may also be implied by the 'Chestles' fieldnames at New Passage (Section 9, Fig 4).
- 3.5 The land is drained by a local ditch system, with a main element of pre 1838 date (BRO 31965/38 (a-h)). Most of the fields in the area have been provided with ponds, possibly a testimony to the effectiveness of the drainage.

4 LANDUSE HISTORY

- 4.1 Most of the fields in the area were under pasture during 1990, and have probably been so for many years. At least two of the fields with 'Chestles' names at New Passage are much flatter, and from air photographs appear to have been cultivated in recent years. One field (OS parcel 4913) was under arable during the field evaluation.
- 4.2 The field names of the area (Fig 4) include 'Ryefields' (1793) suggestive of cultivation during the eighteenth century, and by implication, the existence of names referring to the gravelly nature of the soil ('Chestles') may also provide evidence of early cultivation.
- 4.3 In addition, there are clear indications in several of the fields (OS parcels 1200, 1590, 2128, 2777, 2800, 3900, 3909, and 3217) of surviving ridge and furrow earthworks (Section 9, Fig 3), again implying medieval or postmedieval cultivation.
- 4.4 The ponds in the area generally postdate the ridge and furrow, suggesting a clear sequence from a cultivated landscape to one used for pasture, where animals required the available water.
-

5 SITE OBSERVATIONS

5.1 Few sites of high archaeological potential were observed in the area of the camp (Section 9, Fig 2).

5.2 SITE 1 TRIAL MACHINE TRENCH ST54108582 - ST54248582

A trial trench was cut by the developer, due east west across OS parcel 1572, to a total depth of not more than 1.0m, during November 1990. The stratigraphy was the same throughout, with a thin (c 0.1m) rooty brown topsoil, overlying a stiff, damp dessicated pinkish grey clay which extended to the bottom of the trial trench.

5.3 At its western end, the trench cut a field boundary ditch, whose profile was virtually invisible in section. In addition, at ST54235852, the trench cut through a backfilled field pond. The pond was stone lined, constructed of rounded pebbles and larger stones, presumably obtained from the nearby river shore. The bottom of the pond sloped down from near the topsoil, to a depth of c 1.1m adjacent to the field boundary ditch, and may have removed the ditch at this point, accounting for the absence of a visible ditch section.

5.4 The backfill of the pond was of late Victorian date, including quantities of blue and white transfer printed pottery, and sherds of glass vessels of late nineteenth century date.

5.5 The construction date of the pond is more difficult to establish. It clearly postdates the field boundary, and most of the other ponds in the area also postdate the ridge and furrow earthworks, as can be clearly seen both on the ground, and in air photographs. A post medieval date seems likely.

5.6 No other artefacts of any kind were recovered from the trench.

5.7 SITE 2 THE BINN WALL

The Binn Wall has been discussed previously (Porter 1990). In its original form, it is a sea defense wall, protecting the low lying alluvial level from the high spring tides of the Severn.

5.8 The date of origin of the Binn Wall is obscure. Although there is reference to the structure in 1670 (Smith 1964), it may have had far earlier origins. Sea defence earthworks were constructed and maintained in the medieval period in other areas of the Severn levels (on the estates of Glastonbury Abbey, for example), and may have existed in the Roman period.

5.9 It is particularly unfortunate in this case that the 'Stones' recorded on the OS 1:2500 plan of 1973 should have apparently been removed or buried during reconstruction; in the North Somerset Levels, these frequently recorded the obligations of local landowners and farmers to maintain the walls.

5.10 As recorded above, the structure was rebuilt, and possibly raised, during the 1980s. Any earlier constructions will have been buried within the modern bank.

5.11 It is therefore recommended that any activity involving earthmoving or construction in, or in the vicinity of, the Binn Wall be recorded, to attempt to date and characterise the earliest structure on the site.

5.12 SITES 3 AND 4 STONES ON THE BINN WALL ST54088617
ST54058607

Within the construction camp area, these two stones (and a further just outside the area at ST54108623) were recorded on the Ordnance Survey 1:2500 plan of 1973. As discussed above, these may have been an integral part of the Binn Wall and related to its former maintenance.

5.13 It is recommended that any construction work involving earthmoving in the vicinity of the recorded sites of the stones be recorded, to attempt to establish if the stones survive, perhaps buried, in the modern structure.

5.14 SITE 5 RAILWAY EARTHWORK ST54058597 - ST54258622

A low earthwork bank, c 5.0m across and from 0.1 to 0.2m high is visible on air photographs between these National Grid references.

5.15 It can be seen from ground inspection to be constructed of hardcore, mainly Pennant Sandstone and brick chippings, and to extend as a patch of rough vegetation into the adjacent OS parcel to the south.

5.16 This is the line of a former railway connecting the line and station at New Passage with the site of the Severn Tunnel pumping engines (Buchanan and Cossons 1969). It survives in good condition.

5.17 It is recommended that the line of this industrial earthwork be avoided when sub surface services or similar are installed.

5.18 SITE 6 HARDSTANDINGS AT SHAFT ROAD ST54058585

OS parcel 0079 contains a number of hardstandings and

- remains of small buildings. These were not recorded in detail.
- 5.19 The remains in this field were probably connected with the maintenance of the Severn Tunnel pumping engines, and subsequently used for agricultural purposes, but now abandoned and overgrown.
- 5.20 It is recommended that in the event of this site being developed or subject to earthmoving during the construction of the camp, the hardstandings and other structures should be archaeologically recorded.
- 5.21 SITE 7 RED HOUSE Paddock ST541859
- This suggestive field name was recorded in 1792 (BRO 31965/38). Its name may imply a former dwelling on the site, although no trace was seen of any settlement earthworks during field reconnaissance. It is possible that the name may be possessive (i.e. 'the field belonging to the Red House'). No earlier forms of the name were found.
- 5.22 It is recommended that any earthmoving in this field be subject to watching brief, to establish if any settlement or structure existed there.
- 5.23 SITE 8 CHESTLES FIELD NAMES ST544861
- The 'Chestles' field name (from OE *ceosol*, stony or gravelly soil) has two possible meanings in landscape terms. The first is 'a field with gravelly soil' referring to natural gravel deposits. The second is 'field where stones are revealed by ploughing', and this often refers to early buildings disturbed by later cultivation.
- 5.23 It is most likely that the name in this instance refers to gravel deposits, as revealed during trial pitting to the south of New Passage (Section 2.4 above). These were, however, associated in one instance with Romano British pottery (Russett 1990).
- 5.24 It is therefore recommended that any earthmoving in the area of the Chestles field names be subject to site observation, to identify and characterise the nature of any early occupation.

6 THE TRIAL PITS ON THE ACCESS ROUTE

- 6.1 In all, four trial pits were excavated on the line of the approach route to the camp.
- 6.2 The trial pit logs, as provided by Laing-GTM, confirm the results of trial pits nos 4405 - 4408, on adjacent sites, recorded in Russett 1990. These results, discussed therein, showed the existence of an extensive layer of waterlogged peat with substantially preserved macrofossils in the northern half of the route, and a complex of alluvial clays in the southern.
- 6.3 Recommendations for further archaeological work, based on the findings in the earlier trial pits, were made in Russett 1990.

7 DISCUSSION

- 7.1 The area, being largely under pastoral regimes, with the features of a relict medieval / postmedieval landscape surviving substantially intact, does not lend itself to the normal ways in which archaeological sites are discovered (collection of artefact scatters from cultivated fields, or the plotting of earthwork evidence other than that resulting from cultivation).
- 7.2 Consequently, the existence of a buried Roman and earlier landscape, well attested in other parts of the levels (Everton 1981, Russett 1990), cannot be confirmed in the bridge abutment camp area by this study.
- 7.3 Its possible existence, and the undoubted use of the landscape in Roman and earlier times should be a factor in the formulating of recommendations for archaeological recording on major developments in the area.
- 7.4 Apart from the Binn Wall, and an area of possible curved medieval ridge and furrow in OS parcel 1200, the earliest landscape visible in the area is that represented by the ridge and furrow and field boundaries visible at the present day. The development of the agricultural landscape is discussed in Section 4.
- 7.5 Some 100m south of the site of the camp, the placename Salthouse Farm is the surviving evidence of the saltworking site recorded there in a map of 1668 (ASMR 7451). The site is no longer visible, but elements of it may have lain within the area of the proposed camp.
- 7.6 Later accretions to the landscape are the nineteenth century industrial features, such as the railway and hardstandings, both of which are no longer in use.

BIBLIOGRAPHY

- Buchanan and Cossons 1969 A Buchanan and N Cossons Industrial Archaeology of the Bristol area, Newton Abbot, 1969
- Everton 1981 R Everton and A Everton Romano British occupation at Crooks Marsh Farm, Hallen in Bristol Archaeological Research Group Review, 2, 1981
- OS 1967 1:63360 Geological Survey, Southampton, 1967
- Porter 1990 D Porter The Archaeology of the Second Severn Crossing Stage 1a, Bristol, 1990
- Russett 1990 V Russett The archaeology of the Second Severn Crossing Stage 1b, Bristol, 1990
- Smith 1964 J Smith, ed., The Placenames of Gloucestershire, Cambridge, 1964

THE FIGURES

Rear cover

This plan shows the location of the bridge abutment site within the county of Avon.

Fig 1

This plan shows the location of the bridge abutment camp site and the access route from the A403, together with the proposed line of the Second Severn Crossing bridge.

Fig 2

This plan shows the detailed outline of the proposed camp area. The bold numbers on the plan refer to the site observations in Section 5. The thick bold line is the trial trench (site 1). There was a slight gap in the centre of the trench (left to provide vehicular access between the fields), but this was covered by the excavation of two slight offsets from the main trench. The dashed (---) lines surround areas of similar field names (Fig 4).

Fig 3

This plan records the ridge and furrow visible in air photographs and on the ground. The lines depict the orientation and area of the blocks of ridge and furrow, but not their number. The double dashed lines (==) indicate large linear gullies, all probably former field boundary ditches.

Fig 4

This plan records the fieldnames of the area. The main sources were the Tithe Plan and Apportionment of Henbury (BRO 31965/38). No names were available for two of the fields. The dashed lines indicate field boundaries depicted on the Tithe Map, but no longer in existence.

APPENDIX 1 COUNTY POLICYHistoric and Archaeological Features

- 10.1 The Government has published Planning Policy Guidance Note, No. 16, in November 1990 entitled "Archaeology and Planning". In this it states that archaeological sites of national, regional and local importance should be identified in development plans as appropriate, and these should also indicate the circumstances in which assessments of their archaeological implications and subsequent archaeological recording may be necessary.
- 10.2 The County Planning Department maintains a Sites and Monuments Record (SMR) which shows those archaeological features which have been identified. However, this is not a comprehensive record, and the SMR is a guide to areas of potential archaeological interest as well as a record of known sites. It is important that before development proposals are formulated the SMR should be consulted and, if appropriate, an evaluation be made of the archaeological significance of the site or area.
- 10.3 For all major development schemes, including roads, it is now common practice to seek a staged archaeological programme along the following lines:-
- (i) Evaluation of known archaeological sites and discovery of previously unrecorded ones within the area of the proposed development, by means of a programme which would include the examination of map and other topographical information, aerial photographic evidence, information contained in existing record systems (including the County Sites and Monuments Record, County Record Offices, Museums, local archaeological and historical groups, etc) and fieldwork and the observation by archaeologists of any geotechnical ground investigations (test pits) undertaken in preparation for the development.
 - (ii) Evaluation of the survival of archaeological stratigraphy on specific sites threatened by the development proposals, utilising methods such as geophysical survey and trial excavation.
 - (iii) Full archaeological recordings of those sites which are both threatened by the development proposals and, upon evaluation, (stage ii), are shown to contain surviving archaeological stratigraphy. (It is assumed that the choice of precise locations for components of the development and its detailed design will, as far as it is feasible, be informed by the desirability of preserving sites of archaeological interest and their settings).
 - (iv) On-site observation during soil movement

associated with construction of the development.

- (v) Post-survey and post-excavation analysis of the data collected by the above processes and appropriate reporting of the results.
- 10.4 Clearly the project design of each stage of such a programme will be informed by the results of the preceding stage except that analysis and reporting (stage v) would follow from stage (i) onwards, even if no further stages of the programme were deemed to be necessary. The above procedures would be expected to be applied to smaller development schemes if there was the likelihood of significant archaeological features being affected.
- 10.5 Arising from the procedures outlined above, the extent to which archaeological factors will affect development can be assessed, and in certain circumstances development may not be permitted if the importance of the archaeology is such that it should be preserved *in situ*. The basic approach to archaeology is that the feature should remain as far as practicable undisturbed, and frequently this can be achieved by the detailed design of the proposals. It is important therefore to consult the County SMR at an early stage in formulating development proposals.
- 10.6 The existing approved policy BE.4 seeks to prevent development which will affect sites, structures or areas of archaeological significance. However, it is possible that development could affect a site or area without it being an adverse effect. It should be amended to recognise this, and also consideration has to be given to the setting of archaeological features.
- 10.7 There are other features which normally may not be regarded as 'archaeological' but which are of historic interest. A survey has been undertaken by the County Planning Department in conjunction with the Avon Gardens Trust to identify the historic parks and gardens in Avon. This includes those on the Gardens Register compiled by the Historic Buildings and Monuments Commission (English Heritage) under the provisions of the National Heritage Act 1983, to list parks and gardens which are considered to be of national importance. Government advice (in DoE Circular 8/87) is that this interest should be known so that highway and planning authorities, and developers, know that they should try to safeguard them when planning new roads and new developments generally.
- 10.8 All these parks and gardens form part of the County Sites and Monuments Record, but it is important that their distinction is recognised because of the combination of landscape and built features which together comprise their particular interest. The approved Structure Plan does not contain a specific policy relating to historic parks and gardens. As they form an important part of the heritage of the County,

particular consideration needs to be given to their existence, protection and enhancement and it is proposed that this be covered by the inclusion of a specific reference to 'historic gardens' in policy BE.4. It is also proposed that reference be made to the historic interest of other sites, structures or areas which merit protection within the County.

10.9 It is proposed that policy BE.4 be altered as follows:-

BE.4 DEVELOPMENT PROPOSALS WHICH AFFECT ADVERSELY HISTORIC GARDENS OR SITES, STRUCTURES OR AREAS OF ARCHAEOLOGICAL OR HISTORIC INTEREST, AND IF APPROPRIATE THEIR SETTING, NORMALLY WILL NOT BE PERMITTED.

10.10 In accordance with Government advice, additional policies are proposed to give guidance about the need for archaeological assessments of potential development sites. The County Council considers that an assessment of the archaeological significance of a site is a normal part of site appraisal prior to preparing proposals for development, and such assessments should accompany planning applications rather than the local planning authority having to request such information subsequently before it is able to determine the planning application. No general guide can be given about the scale of development which should take account of archaeological sites because this will vary with the archaeological significance of each location. Advice can be obtained from the County Planning Department in relation to individual proposals. To take account of the need to evaluate, and if appropriate to excavate and record, or preserve *in situ*, the following policies are proposed:-

BE.4A THE ARCHAEOLOGICAL IMPLICATIONS OF DEVELOPMENT PROPOSALS AFFECTING EITHER SITES OF ARCHAEOLOGICAL INTEREST OR OF HIGH ARCHAEOLOGICAL POTENTIAL SHALL BE EXAMINED AND EVALUATED BEFORE PLANNING APPLICATIONS ARE DETERMINED. PLANNING PERMISSION WILL NOT BE GRANTED WITHOUT ADEQUATE ASSESSMENT OF THE ARCHAEOLOGICAL IMPLICATIONS. WHERE SITES, STRUCTURES OR AREAS OF ARCHAEOLOGICAL INTEREST WOULD BE ADVERSELY AFFECTED BY THE GRANTING OF PLANNING PERMISSION, THE APPLICANT WILL BE REQUIRED TO DEMONSTRATE THAT THE PARTICULAR ARCHAEOLOGICAL INTEREST WILL BE SATISFACTORILY PRESERVED, EITHER *IN SITU* OR BY RECORD, BEFORE PERMISSION IS GRANTED.

10.11 In the above policy, the preservation by record refers to a full archaeological survey of the site, including excavation if appropriate, the recording and analysis of relevant data, and appropriate publication. These policies are also intended to cover the involvement of archaeological expertise during development, as well as prior to the granting of permission.

Fig 1

