A303

A303 WYLYE TO STOCKTON WOOD IMPROVEMENT, WILTSHIRE
TOPOGRAPHIC SURVEY OF GRIM'S DITCH

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Summary

Wessex Archaeology was commissioned by the Highways Agency, through their design consultants, Mott MacDonald, to undertake a topographic survey of an approximately 800m length of Grim's Ditch, a prehistoric linear boundary earthwork, situated south of the existing A303 at Stockton Wood, Wiltshire (NGR 39715 13550 to 39790 13530, **Figure 1**). The monument is likely to be affected by proposals for improvement of the A303 here to dual two-lane standard. Although the surveyed section of the monument is not itself scheduled, the adjoining section to the south-east, beyond the C276 Chilmark road is protected as a Scheduled Monument of national importance (ref. Wiltshire AM 455; **Figure 1**). Discussions with English Heritage have indicated that, in selecting a preferred scheme, the impact of the road improvements on the monument should be minimised.

This section of Grim's Ditch earthworks supports an ancient species-rich, double hedgerow dominated by coppiced hazel with an upper canopy of oak and a diverse ground flora. The feature runs close to the crest of a ridge lying between approximately 190m and 194m above Ordnance Datum (AOD) and is followed by the parish boundary between Stockton and Chilmark parishes. The course of the monument is severed close to the southern end of the survey area by a public right of way followed by a farm track.

A series of six routes have been identified for consideration and evaluation (**Figure 2**). Three of these (orange, red and green) are on or close to the line of the existing road on its southern side and would affect the northern part of the surveyed section of the monument. The other three (blue, black and purple) options all intersect the line of the monument further to the south of the existing road. In order to inform the decision making process and the selection of a preferred route, a topographic survey of Grim's Ditch was undertaken. The survey was intended to provide a baseline record of the extent, form and survival of the earthwork features and allow the quality of the monument to be considered in evaluating each route option.

A series of 38 transects were surveyed across the monument at intervals of approximately 20m, with data collected at 0.5m intervals along each transect. A digital photographic record of the transects was compiled and observations concerning the general condition of the banks and ditches, vegetation cover, intrusions and/or other active agents of erosion, were noted. The locations of all transects were tied in to base lines recorded using a DGPS system. The survey data was processed through CAD and Surfer modelling software to produce profiles and an interpretative hachure plan.

The survey has shown that, although the monument has been severed by the farm track, it survives as continuous earthwork features, both west and east of the track (**Figures 3-5**). The earthwork features – typically a ditch bounded on each side by upcast banks – are of relatively low relief, and are subject to ongoing damage from agricultural activity, vegetation, dumping and burrowing animals. The monument is

generally poorly preserved close to the A303 and the farm track, but comparatively well-preserved elsewhere along the surveyed section.

The likely impacts of the route options (**Figure 2**) are summarised below:

Route option	**Aspects of monument affected**	**Impact**
Red	Some loss of poorly-preserved earthworks; no additional severance	Low
Orange	Some loss of poorly-preserved earthworks, including second ditch feature; minor additional severance	Low-medium
Green	As Orange	Low-medium
Blue	Loss of well-preserved earthworks; substantial additional severance resulting in loss of integrity	High
Black	As Blue	High
Purple	Some additional loss of poorly-preserved earthworks around existing severance by farm track; no additional severance	Medium

The route options would all result in the loss of some upstanding earthworks. However, the earthworks affected by the red, orange, green and purple options are comparatively poorly preserved. Of these, the red option would cause least loss and no additional severance. The orange and green options would cause minor additional severance. The purple option utilises the existing severance caused by the farm track, but careful consideration will be required to ensure that proposals to maintain the farm track/PROW do not increase the magnitude of impact here. The blue and black options would affect the best-preserved earthworks, and would also remove the greatest length of the monument and create substantial additional severance.

Further consideration of the route options should take account of the need to preserve the integrity and prominence of Grim's Ditch as an historic boundary feature, as well as an archaeological monument.

Acknowledgements

The topographic survey was commissioned by Mott MacDonald on behalf of the Highways Agency. The assistance of Mark Frith and Leon Steytler of Mott MacDonald is gratefully acknowledged.

The survey was undertaken by Gail Mabbott with the assistance of Russell Gant and Peter Fairclough. Contour modelling was undertaken by Russell Gant and the interpretative hachure plans and figures were prepared by Karen Nichols. This report was prepared by Chris Moore, who also managed the project for Wessex Archaeology.

A303 WYLYE TO STOCKTON WOOD IMPROVEMENT, WILTSHIRE TOPOGRAPHIC SURVEY OF GRIM'S DITCH

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by the Highways Agency, through their design consultants, Mott MacDonald, to undertake a topographic survey of a section of the earthwork monument known as Grim's Ditch, south of the existing A303 at Stockton Wood, Wiltshire (NGR 39715 13550 to 39790 13530, **Figure 1**). The monument is likely to be affected by proposals for improvement of the A303 to dual two-lane standard to relieve congestion and improve safety on the existing single carriageway stretch of the A303.

1.1.2 Adjoining sections of the monument benefit from statutory designation as Scheduled Monuments of national importance (**Figure 1**). Discussions with English Heritage have indicated that, in selecting a preferred scheme, the impact of the road improvements on the monument should be minimised.

1.2 Purpose of survey

1.2.1 A series of six routes have been identified for consideration and evaluation (**Figure 2**). Three of these (orange, red and green) are on or close to the line of the existing road on its southern side and would affect the northern part of the surveyed section of the monument. The other three (blue, black and purple) options all intersect the line of the monument further to the south of the existing road.

1.2.2 The topographic survey was undertaken in order to inform the decision making process and the selection of a preferred route. The survey was intended to provide a baseline record of the extent, form and survival of the earthwork features and allow the quality of the monument to be considered in evaluating each route option.

2 SITE DESCRIPTION

2.1 Archaeological background

2.1.1 Grim's Ditch is one of a series of long-distance linear earthwork monuments in the Wessex region, many of which bear similar local names. It can be traced, mostly as an extant earthwork, for some 16km across the south Wiltshire downs from Grovely Hill, north of Wilton, to Great Ridge in Stockton Wood. Comparable earthworks are also known from other upland regions of Britain.

2.1.2 The date and function of these earthworks has long been debated. The earthworks typically follow or link ridgelines and clearly serve to divide land in these upland areas. However, the purpose of these land divisions, whether military (such as defensive earthworks) or social (such as the laying out of

boundaries between land controlled or utilised by different groups of people), and the date of the monuments (whether prehistoric or post-Roman), is less certain. Research (Bradley et al 1994) suggests that the linear earthworks on Salisbury Plain represent prehistoric land divisions constructed for social reasons, reflecting a reorganisation of the settled landscape from the later Bronze Age onwards. The establishment of these linear boundaries took place over a very long period of time and encompasses a variety of primary and secondary functions, from territorial division in the Bronze Age to the establishment of defined and enclosed areas of upland field systems in the later Iron Age.

2.1.3 Many of these prehistoric earthwork boundaries in Wessex continued to serve as territorial divisions into the post-Roman period, in some instances serving as parish boundaries from the later Saxon period onwards. Grim's Ditch is no exception, the surveyed section marking the boundary between the parishes of Stockton and Chilmark and also serving as an electoral boundary.

2.1.4 Although the surveyed section of the monument is not itself scheduled, the adjoining section to the south-east, beyond the C276 Chilmark road is protected as a Scheduled Monument of national importance (ref. Wiltshire AM 455; **Figure 1**).

2.2 Form and survival

2.2.1 The surveyed section of Grim's Ditch comprises an approximately 800m length, following a gently sloping chalk ridge between the existing A303 at NGR 39715 13550, and a concrete field reservoir on Chilmark Down at NGR 39790 13530 (**Figure 1**). This section of Grim's Ditch earthworks supports an ancient species-rich, double hedgerow dominated by coppiced hazel with an upper canopy of oak and a diverse ground flora, extending beyond the upstanding earthworks to the south in places. The feature runs close to the crest of a ridge lying between some 190m and 194m above Ordnance Datum (AOD) and is followed by the parish boundary between Stockton and Chilmark parishes.

2.2.2 The monument typically survives as a ditch bounded on each side by upcast banks. Previous field inspection (Wessex Archaeology 2002) highlighted considerable variation in the survival of the earthworks, with the ditch varying in depth from 0.20m to 1m. Beyond the surveyed section to the south-east, on Chilmark Down, the monument forms a wide boundary between arable fields, surmounted with a substantial double hedgerow in some places. North of the A303, the monument continues through Stockton Wood, where it survives well as upstanding earthworks; this section will not be affected by any of the proposed road alignments.

2.2.3 The surveyed section of the monument and the associated hedgerow vegetation is bounded on its southern edge by a wire fence; the northern edge is unfenced. The monument is crossed close to the eastern end of the survey area by a public right of way (PROW) that is followed by a farm track, which intersects the monument at NGR 39780 13535. The track is bounded to the

west by an open glade with low undergrowth and to the east by dense undergrowth; the line of the monument is completely severed by the track and no trace of the monument is visible here over a width of 10m. At the time of the survey, a well-trodden path clear of vegetation extended through the hedgerow along Grim's Ditch from the PROW almost to the A303; this mostly follows the western bank of the earthwork (see **Figure 4**, photograph looking west from transect 13).

2.2.4 The ditch is generally overgrown with undergrowth of varying denseness. In places, the banks are clearly visible, notably on the southern side, whilst elsewhere, notably on the northern side, they are less well defined. The survey results presented in section 4 below describe the survival of the monument in more detail.

3 METHODOLOGY

3.1 Topographic survey

3.1.1 A measured survey was undertaken using a Total Station surveying instrument. In order to map the course of the monument and record its form, a series of 38 transects were surveyed across the monument at intervals of approximately 20m, the exact interval varying according to vegetation cover and accessibility. The length of the surveyed transects varied between 18.43m and 70.71m. Data was generally collected at 0.5m intervals along each transect, although the interval was moderated to capture finer details and any significant breaks of slope across the earthworks. Where any significant impacts, such as the infilling of the ditch, erosion of the banks or other damage was noted, a higher density of level observations (to approximately 0.25m intervals), including any slope break lines, was recorded.

3.1.2 A digital photographic record of each transect was compiled and observations concerning the general condition of the banks and ditches, vegetation cover, intrusions and/or other active agents of erosion, were noted.

3.1.3 The locations of all transects were tied in to base lines established to the south and north of the monument. The positions of these baselines were then recorded and tied into the OS National Grid using a DGPS system.

3.1.4 The survey data was processed through CAD and Surfer modelling software to produce a contour plan of the monument extrapolated from the transects recorded. The contour data and profiles were combined to produce an interpretative hachure plan, which was verified in the field.

3.2 Survey conditions

3.2.1 The survey was undertaken between 26th March and 9th April 2003. Leaf cover was not yet fully established on trees and undergrowth was restricted; nevertheless, it was difficult to establish transect sight lines in many cases

and access for detailed survey was impossible in several locations. In particular, on the western side of the farm track/PROW 25m of the monument was completely obscured by dense undergrowth. Dense vegetation also prevented survey over a 40m length at the north-western extent, adjacent to the A303.

3.2.2 No vegetation was cleared to assist in access, due to pending ecological surveys. The adjacent arable fields had recently been ploughed.

4 RESULTS

4.1 Presentation of the results

4.1.1 The topographic survey has recorded data on the location, extent, form and survival of Grim's Ditch over a length of 800m. This data is presented in the form of a hachure plan and selected profiles and photographs as **Figures 3-5**. Section 4.2 below presents a summary overview of the survival and condition of the earthworks over the surveyed section. A gazetteer of site observations, together with profiles and photographs, are presented as **Appendices 1 and 2.**

4.2 Summary of survival and condition

4.2.1 The survey has confirmed that Grim's Ditch survives as upstanding earthwork features over the majority of the 800m length surveyed, with the exception of the breaks created by the farm track and the existing A303, and two sections in which survey was not possible. However, along the surveyed length of Grim's Ditch, the survival and condition of the banks and ditch varies due to the effects of erosion caused by agriculture, dumping, trees and animals.

Extent of upstanding earthworks and severance

4.2.2 The farm track has severed the monument over a 10m length. Immediately west of the track, dense vegetation prevented survey over a 25m length and the survival of the earthworks here could not be verified. At the western end of the surveyed section, adjacent to the A303, dense vegetation again prevented survey over 40m of the monument; survey of this section in 1993 (AC Archaeology, 1993) recorded the survival of earthworks here, but this could not be verified in the present survey.

4.2.3 The present A303 has severed the monument over a 55m length. The survival of archaeological remains within the highway boundary cannot be ascertained on the basis of surveys to date. However, the existing carriageway is constructed more or less at grade with a height at the centre of the carriageway of 195.4m AOD, compared to a recorded field height of 194m AOD on the nearest surveyed transect (transect 31). The recorded depth of the ditch at transect 31 is only 0.8m. However, the ditch is likely to have been infilled to a considerable extent and the buried feature may extend 2m or more below this. The survival of archaeological remains within the

highway boundary and/or beneath the existing carriageway cannot, therefore, be ruled out. Information regarding the depth of excavation for construction of the existing highway may assist in evaluating the potential for archaeological survival here.

Survival, condition and erosion

4.2.4 To the west of the track (**Figures 3 and 4**), the northern bank has been eroded by ploughing over much of its length, and in places no longer survives as an upstanding earthwork. This erosion is recent and ongoing – the field edge here is not fenced and the plough is clearly reaching beneath the tree canopy in many places. Ploughed-out bank material was visible as a dark streak in the ploughsoil at the field edge along the eroded sections of the monument. However, the north-western corner of this field is not accessible to the plough and the northern bank, therefore, survives relatively well here. The southern bank of the monument lies within the fenced extent of the hedgerow and has, therefore, escaped plough damage and is generally better preserved. To the east of the track, the northern bank has also been damaged by ploughing in places (**Figure 5**).

4.2.5 The earthworks are also suffering erosion due to the trees and other vegetation cover. The mature oak trees show little sign of recent management, and wind throw damage was noted west of transect 1. Such damage is likely to occur more extensively unless the trees established along the course of the ditch are thinned out. The effects of root action from the trees are also causing degradation of the banks and attracting burrowing animals; root damage due to lesser vegetation is less apparent. Although the mature trees do extend to the east of the track, this section of the monument is notably more overgrown with lesser vegetation, with much bramble, holly and ivy restricting access for survey.

4.2.6 Some erosion of the banks from burrowing animals was also noted, in particular the presence of an extensive rabbit warren east of the track (transect 36). The well-trodden path through the hedgerow vegetation along the southern bank is also causing some superficial erosion. The ditch has been partially infilled with a dump of spoil in several locations (transects 11, 33, 34, 36) and with road construction detritus at its northern extremity (transect 31). At the south-eastern end of the surveyed section, the insertion of the field reservoir has destroyed the southern bank of the monument.

4.2.7 On the northern side of the monument, close to the A303 (**Figure 3**, transects 24-28), the survey has located a second ditch, parallel to the main ditch and up to 2m wide and 0.25m deep, bounded on its northern edge by a low bank typically 0.25m high. This second ditch cuts across the line of the main ditch at transect 29 at an oblique angle. Although the feature appears to cut the Grim's Ditch earthworks, indicating a later date, no conclusion can be drawn regarding the origins or date of the feature, which could be related to Grim's Ditch or of much later date.

Areas of good and poor survival

4.2.8 Good survival of earthworks, with clearly defined banks and a ditch depth of 1m or more, was recorded west of the farm track at transects 1-4, 10-12 and 20-27. Within these sections of good survival, the northern bank is protected from the plough and survives comparatively well, although never more than 0.3m in height. However, the oblique course of the monument across the slope makes the southern bank generally more prominent, and the profile of this and the ditch is well defined even where the northern bank has been removed by ploughing over transects 13-18.

4.2.9 East of the farm track, good survival was recorded only in transects 33-34, the rest of this section of monument having suffered from plough damage, dumping, rabbits and the insertion of the concrete field reservoir.

4.2.10 Poor survival of earthworks was noted west of the farm track in transects 5-9, 19 and 28-31, and east of the farm track in transects 32 and 35-38.

5 IMPACT OF ROUTE OPTIONS

5.1 Introduction

5.1.1 This section reviews the aspects of the monument affected and the likely magnitude of impact for each of the six route options under consideration (**Figure 2**).

5.2 Red option

5.2.1 The **red option** proposes on-line widening with construction of a parallel second carriageway on a low embankment on the south side of the existing road. This would affect approximately 750 sq. m of the monument adjacent to the road, west of transect 29, resulting in the loss of upstanding earthworks here. Although it was not possible to survey about 500 sq. m of the affected area, the earthworks here do not survive well where they have been recorded in this survey. No additional severance of the monument would arise. The red option would represent a **low impact**.

5.3 Orange option

5.3.1 The **orange option** proposes a split carriageway, with the eastbound carriageway utilising the existing alignment and a new westbound carriageway constructed in shallow asymmetric cutting to the south of the existing road, resulting in the loss of approximately 500 sq. m of the monument, between transects 28 and 31. The earthworks here do not survive well, although a second ditch of unknown date and importance is recorded at this location. There would be some additional severance to the monument from this option, which could leave any earthworks that survive west of transect 31 isolated between the two new carriageways. This would represent a **low to medium impact**.

5.4 Green option

5.4.1 The **green option** proposes a new dual carriageway constructed off-line on a low embankment immediately south of the existing road; this would affect approximately 750 sq. m of the monument. Although survey adjacent to the existing road was restricted by access, the earthwork features recorded between transects 26 and 31 (**Figure 2**) survive well and include a second, apparently related, ditch on the edge of the proposed road line. The construction of the new road on embankment might offer some scope to preserve the earthwork features, but this should not be assumed. As with the orange option, some additional severance would result, which could leave any earthworks that survive west of transect 31 isolated between the old and new roads. This would represent a **low to medium impact**.

5.5 Blue option

5.5.1 The **blue route** proposes construction off-line approximately 200m to the south of the existing A303. The section of monument affected would be approximately 1,200 sq. m between transects 23 and 17 (**Figure 3**); the road construction at this point would be moving from embankment to an asymmetric cutting and would result in the loss of upstanding earthwork remains. The monument here is generally well-preserved but does show some variation in survival. The southern bank survives generally well within the fenced extent of the hedgerow vegetation. Although the northern bank has suffered some plough damage, a section where the northern bank does survive (transects 19-21) would be directly affected. The line of the monument would be severed at a new location. This would represent a **high impact**.

5.6 Black option

5.6.1 The **black route** also proposes construction off-line, approximately 400m to the south of the existing A303, and would cross Grim's Ditch in cutting between transects 9 and 14, affecting approximately 1,800 sq. m of the monument (**Figure 4**). The monument is moderately well-preserved here: although the northern bank of the monument survives only partially, the southern bank survives well. The oblique angle of the proposed road alignment to the monument would cause an extended break of approximately 100m in the line of the monument and the section remaining between this option and the farm track would be less than 200m in length. This would represent a **high impact**.

5.7 Purple option

5.7.1 The **purple route** would cross Grim's Ditch where the monument has been broken by the existing farm track (**Figure 5**). The road here would be in cutting and some 40m wide; the farm track and PROW would be maintained via a bridge. However, the landtake for the road would affect upstanding earthworks on the eastern side of the track over an area of approximately 300 sq. m, although the northern bank in particular has been degraded by ploughing here. It is likely that some upstanding earthworks would also be

affected on the western side of the track over an area of 200 sq. m, although dense vegetation has prevented survey to confirm the survival and condition of elements of the monument here. No additional severance would arise from this option. However, careful consideration of the vertical alignments of both the main carriageway and the bridge to carry the PROW/farm track would be required to minimise landtake and the impact on the integrity of the monument here. This option would have a **medium impact**.

6 DISCUSSION

6.1 Summary

6.1.1 The topographic survey has compiled a record of the location, form and survival of upstanding earthwork remains of Grim's Ditch. The results of the survey indicate that the monument generally survives as earthworks of relatively low relief, which are vulnerable to ongoing damage from agricultural activity, vegetation, dumping and burrowing animals. Although the monument has been severed by the farm track and continues to suffer degradation, in particular from ploughing on its northern edge, the survey has demonstrated that it still survives as continuous earthwork features, both west and east of the track.

6.1.2 The route options would all result in the loss of some upstanding earthworks. However, the earthworks affected by the red, orange, green and purple options are comparatively poorly preserved. Of these, the red option would cause least loss; the blue and black options would affect the best preserved earthworks. Two of the options (red and purple) cross the monument at or adjacent to existing severances caused by the A303 and the farm track. However, careful consideration will be required to ensure that proposals to maintain the farm track/PROW do not increase the magnitude of impact of the purple option. The orange and green options would both cause minor additional severance at the western end of the surveyed section of the monument, but both the blue and black options would cause substantial additional severance and loss of integrity in the central part of the surveyed section.

6.1.3 The likely impacts of the route options (**Figure 2**) are summarised below:

Route option	Aspects of monument affected	Impact
Red	Some loss of poorly-preserved earthworks; no additional severance	Low
Orange	Some loss of poorly-preserved earthworks, including second ditch feature; minor additional severance	Low-medium
Green	As Orange	Low-medium
Blue	Loss of well-preserved earthworks; substantial additional severance resulting in loss of integrity	High
Black	As Blue	High
Purple	Some additional loss of poorly-preserved earthworks around existing severance by farm track; no additional severance	Medium

6.1.4 Although the monument has suffered some adverse effects arising from the establishment of the hedgerow vegetation, this hedgerow has nonetheless served to protect the monument from more severe damage from agricultural activity, and has also emphasised the prominence of the monument as an historic landscape feature. Further consideration of the alternative route options should take account of the need to preserve the integrity and prominence of Grim's Ditch as an historic boundary feature, as well as an archaeological monument.

7 REFERENCES

AC Archaeology 1993 *Archaeological investigation of the A303 Wylye to Stockton Wood*, unpublished client report

Bradley, R., Entwistle, R. and Raymond, F. 1994 *Prehistoric Land Divisions on Salisbury Plain: the work of the Wessex Linear Ditches Project.* London, English Heritage

Wessex Archaeology 2002 *A303 Wylye to Stockton Wood Improvement, Wiltshire: Archaeological Appraisal*, unpublished client report

Mallett, Timothy

From: Mallett, Timothy
Sent: 12 June 2002 17:15
To: Freke, David
Subject: A483 Pant and Llanymynech Bypass Achaeological Assessments

David,

I am sending you a copy of Leicester University's Stage 1 Report in respect of the above

They are proceding with the Stage 2 study, but I am sure that if you have any comments on the Stage 1 Study they will be able to incorporate them into the Stage 2 study.

Regards,

Tim