

# Barnstaple Western Bypass Devon

Archaeological Evaluation Report

chaeolog





# **Archaeological Evaluation Report**

Document ref. no.	Status	Prepared by:	Checked by:	Approved by:
54511.001	Final			
		D. Godden	A D Crockett	A P Fitzpatrick
		(Project Officer)	(Project Manager)	(Head of Transport)
	Date			



# **Archaeological Evaluation Report**

# **SUMMARY**

Wessex Archaeology was commissioned by Chris Blandford Associates on behalf of Devon County Council to provide archaeological advice in respect of the proposed Barnstaple Western Bypass. The proposed scheme follows an approximate north to south aligned route, from the A361 Braunton Road at Pottington (NGR 254800 133900), across the River Taw and the A3125, to the A39 Barnstaple Bypass just west of its crossing over the Exeter to Barnstaple railway line (NGR 255800 131400). This report concerns the Stage 2 evaluation trenching, as defined in the *Written Scheme of Investigation*, commissioned to examine the southern portion of the route, and in particular to assess the results of the geophysical survey.

The archaeological remains encountered over the majority of the route (i.e. Trenches 1 – 21 inclusive) were unremarkable, comprising predominantly undated field boundaries, drainage features and isolated post-holes. Significant archaeological remains are all concentrated towards the south end of the proposed route, and most notably in the vicinity of Little Pill Farm. These comprise separate subsoil layers containing a scatter of Late Mesolithic worked flint and quantities of medieval pottery (Trench 28), and a substantial hollow-way crossing the proposed route containing 17<sup>th</sup> century pottery (Trench 23).

In addition, peat and/or organic-rich deposits representing the fill of a relict east-flowing tributary of the River Taw (Trenches 24, 25 and 28) were also recorded and sampled. An abraded sherd of Bronze Age pottery was recovered from one deposit (Trench 28). Place name evidence reflects this discovery, with the small hamlet of Lake deriving its name from the Old English *lacu* meaning 'stream'. In addition, Little Pill Farm derives its name from *pulle*; again, a common name meaning creek.

A topographic survey has augmented these areas of archaeological potential, with the Mesolithic flint working evidence apparently focus on a slight terrace overlooking the relict watercourse, whilst the medieval pottery was recovered on higher ground towards a slight knoll within the proposed route. In addition, the hollow-way clearly extends eastwards across the proposed route, the topographic survey indicating the hollow-way turns to the south down to the former riverbank.

On the basis of these results the following additional mitigation measures are proposed:

- Expose, record and sample a transect across the relict watercourse.
- Determine the full extent and nature of the Mesolithic spread of flint-knapping debris, and any potential Bronze Age activity through a gridded array of test-pits.
- Strip, Map and Sample the route of the hollow-way to determine the nature of any activity associated with the medieval pottery spread and post-medieval hollow-way.



# **Archaeological Evaluation Report**

#### **ACKNOWLEDGMENTS**

Wessex Archaeology was commissioned to carry out the archaeological evaluation by Chris Blandford Associates (CBA), on behalf of Devon County Council, and would like to extend gratitude to Mark Holland for his support throughout the project. In addition, Wessex Archaeology would like to thank the following staff of Devon County Council; Dave Cowler for the assistance shown in the field, and Ann Dick (DCC) who monitored the fieldwork.

David Godden and Barry Hennessy directed the fieldwork, with the assistance of Gary Wickenden, Jerry Bond and Simon McCann. Phil Harding assessed the worked flint, whilst Lorraine Mepham undertook the remainder of the artefact assessments. Mike J Allen carried out the environmental assessment, and Rob Goller, Marie Leverett and Andy Crockett provided the illustrations. Barry Hennessy and Dave Godden compiled this report, reviewed by Andy Crockett and Chris Moore, and project managed on behalf of Wessex Archaeology by Andy Crockett.



# **Archaeological Evaluation Report**

# **Contents**

Summa	ary	i
Acknow	wledgments	ii
1	Introduction	1
1.1	Project Background	
1.2	Archaeological Background	
1.2	Introduction	
	Prehistoric (c. 250,000 BC – AD 43)	
	Romano-British (AD 43 – 410)	
	Saxon (AD 410 – 1066)	
	Medieval (AD 1066 – 1500)	
	Post-medieval and Modern (AD 1500 onwards)	
1.3	Archaeological Potential	
1.4	Archaeological Mitigation	
1,7	Stage 1	
	Stage 2	
1.5	The Site	
1.0		
2	Aims and Objectives	5
2.1	Project Aims	
2.2	Project Objectives	
	•	
3	Methodology	6
4	Results	7
4.1	Introduction	7
4.2	Trenches 1 to 11	7
4.3	Trench 12	7
4.4	Trench 13 to 17	
4.5	Trench 18	
4.6	Trench 19	
4.7	Trench 20	8
4.8	Trench 21	
4.9	Trench 22	8
4.10	Trench 23	8
4.11	Trenches 24 and 25	8
4.12		
4.13	Trench 28	9
_	1 ( C ( D )	40
5	Artefact Reports	
5.1	Introduction	
5.2	Pottery	
5.3	Worked Flint	
5.4	Other Finds	12



6	Environmental Reports	13
6.1	.1 Introduction	13
6.2	2 Monoliths	13
	<i>Trench 25</i>	13
	Trench 28	14
	Concluding comments	
6.3	3 Sediment descriptions	15
7	Topographic Survey	17
7.1	.1 Methodology	17
7.2	2 Results	17
7.3	3 Conclusions	17
8	Discussion	19
9	Recommendations	20
10	Project Archive	21
D.C		22
	erences	
Appe	endix 1: Trench Summaries	23
	endix 2: Survey Data Processing Reports	
	ata Filter Report	
	ata Statistics Report	
Gr	ridding Report	31
Table	le List	
Table		
Table	e 2: Quantification of Worked Flint from Trenches 23, 26 and 28	11
Table	e 3: Monolith 1 (Trench 25)	15
Table	e 4: Monolith 10 (Trench 28)	16
Figu	are List	
Cove		
Figur		
Figur		
Figur	· · · · · · · · · · · · · · · · · · ·	
Figur		
Figur		
rıgur	re 5: Proposed additional areas of investigation	



# **Archaeological Evaluation Report**

#### 1 INTRODUCTION

# 1.1 Project Background

- 1.1.1 Wessex Archaeology was commissioned by Chris Blandford Associates (CBA) on behalf of Devon County Council (DCC) to provide archaeological advice in respect of the proposed Barnstaple Western Bypass. The proposed scheme (**Figure 1 inset**) follows an approximate north to south aligned route, from the A361 Braunton Road at Pottington (NGR 254800 133900), across the River Taw and the A3125, to the A39 Barnstaple Bypass just west of its crossing over the Exeter to Barnstaple railway line (NGR 255800 131400).
- 1.1.2 The scheme includes a single two-lane carriageway, four new junctions, a bridge across the River Taw, link roads, cycleways, pathways, underpasses, and other associated infrastructure. The majority of the bypass will be formed on embankments, with a single cutting to the west of Barnstaple railway station, through the slopes of Sticklepath Hill.
- 1.1.3 A preliminary Environmental Assessment prepared by CBA, including Cultural Heritage Report (CBA 1997), was commissioned by Devon County Council to assess the impact of a proposed western bypass for Barnstaple. The Cultural Heritage Report consulted a variety of sources, including the National Monuments Record, North Devon Archaeological Site Index, Devon Sites and Monuments Record, National Maritime Register, English Heritage Register of Historic Parks and Gardens as well as local and regional study libraries. This report formed the basis for further assessment of the proposed scheme impact on the archaeological potential for the route.
- 1.1.4 A planning application for the proposed scheme was submitted in April 1999, accompanied by an Environmental Statement supported by a *Supplementary Report on Archaeological Assessment and Planned Evaluation* (CBA/ WA 1999). Conditional planning consent has been granted, Condition 4 of the planning consent refers to archaeology as follows;

No development shall commence without the implementation of a two-phase programme of archaeological investigation and recording in accordance with a written scheme that has been submitted to and approved in writing by the County Planning Authority. The programme shall include a more detailed survey, geophysical investigation and evaluation trenching where appropriate followed by a report with recommendations. On completion of this, a scheme of rescue archaeological work, if required including sampling, specialist reports and report preparation should be drawn up and agreed with the County Planning Authority.

(Reason: To ensure that adequate archaeological investigation and recording is undertaken prior to and during development.)

#### 1.2 Archaeological Background

Introduction

1.2.1 The archaeological background is drawn largely from the preliminary Cultural Heritage Report (CBA 1997), supplemented by the results of the more recent archaeological investigations associated with the project noted above.

Prehistoric (c. 250,000 BC – AD 43)

- 1.2.2 There are few records available to determine the nature, extent or distribution of prehistoric activity (if any) in the immediate vicinity of the proposed route. No Palaeolithic artefacts are recorded from the entire North Devon region, the earliest evidence comprising Late Mesolithic remains from the well-documented site at Westward Ho!, as far afield as Bideford and the River Tonbridge valley, and isolated stray finds of potential Mesolithic worked flint within the Taw Estuary. However, absence of evidence cannot be considered as evidence of absence, and the potential for such remains, particularly in association with peat deposits within the Taw valley must be considered.
- 1.2.3 Later prehistoric activity (i.e. Neolithic, Bronze Age and Iron Age remains) is similarly poorly represented, both within the immediate vicinity and farther afield. Small-scale Neolithic activity is recorded at such sites as Orleigh Court, but the larger more coherent settlements such as those recorded in South Devon are not present. Occasional 'ritual' elements are recorded, including solitary and grouped megaliths, but these have yet to be placed into a more coherent landscape setting.
- 1.2.4 Although the nature of Bronze Age settlement has yet to be characterised in the region, the plethora of contemporaneous data recorded from, for instance, the upland zones of Dartmoor and Exmoor, strongly suggest that related activity must have occurred within the lowland regions. This may include the limited evidence noted at Lake. A similar pattern exists for the Iron Age, with hillforts and settlements recorded elsewhere in the region, but not in the Barnstaple area.

Romano-British (AD 43 – 410)

1.2.5 Although archaeological evidence is sparse, documentary evidence suggests that the River Taw may be that referred to as *Eltabo* in the Ravenna Cosmography. If so, then it is probable that a military garrison existed somewhere at a crossing point over the river, and possibly therefore at Barnstaple itself. Some military sites are known, for instance, at Martinhoe and Old Burrow. However, the strong survival of celtic traditions within the region is considered indicative of the relatively minor impact that the Roman occupation of England had on the south-west in general.

Saxon (AD 410 – 1066)

1.2.6 The Saxon period is typically poorly represented in the archaeological record throughout England, and Barnstaple is no exception. However, less tangible indicators, such as placename evidence, suggest that the medieval and later pattern of settlement throughout the region is established during the Saxon period. Whilst physical evidence is sparse, it should be borne in mind that significant tracts of land at Barnstaple now lie buried beneath saltmarsh and reclaimed land, and that pre-medieval riverside activity may as a result be obscured.

- *Medieval (AD 1066 1500)*
- 1.2.7 Archaeological and documentary records indicate that the development of Barnstaple and the agrarian hinterland is firmly rooted in the medieval period, and previous works have identified numerous remains relating to this period. These include the former farmstead at Pottington, medieval and later riverside activity at Pottington Point and Rolle Quay, the development of Barnstaple and the castle itself, and the settlements at Pill and Lake.
  - Post-medieval and Modern (AD 1500 onwards)
- 1.2.8 Similarly, it is not unreasonable to assume that many of the extant (and historic) land divisions, such as those mapped on the 19<sup>th</sup> century Tithe Maps for the area, represent boundaries established during the medieval period (or perhaps even earlier). The geophysical survey of the route demonstrated the likely presence of similar boundaries, now buried. For instance, Benjamin Donn's map of 1765 clearly demonstrates the origins of the present-day landscape, with settlements indicated at Lake, Pill, Pilton etc. in the immediate vicinity of the proposed route.

#### 1.3 Archaeological Potential

- 1.3.1 Based on the known archaeological background, the supplementary report ( $op\ cit$ .) identified the following areas of archaeological potential (A C);
  - A: Areas in which evidence for past environments, in both geological and human time, and remains of human activity associated with the present and former courses of the river, may exist.
    - A1: Present and former saltmarshes on the north bank of the River Taw.
    - A2: Present and former saltmarshes on the south bank of the River Taw.
  - **B**: Areas of previously recorded archaeological interest in which there is the potential for further significant archaeological evidence to survive.
    - B1: Site of the former medieval farmstead at Pottington.
    - B2: Site of possible medieval and later quays and wharves around Pottington Point and Rolle Quay.
    - B3: The medieval and later town and castle at Barnstaple, and, in the context of the road schemes, particularly the medieval and later castle quay.
    - B4: Site of medieval and post-medieval settlement at Pill, Lake; site of Bronze Age activity.
  - C: Specific archaeological and historical features that have the potential to offer limited archaeological information.
    - C1: All historic landscape features (field boundaries, ditches, drainage systems, ridge and furrow, roads and droveways etc. recorded to the south of Sticklepath Hill running south to Pill and Lake.

# 1.4 Archaeological Mitigation

1.4.1 Advance archaeological works have been separated into Stages 1 (non-intrusive) and 2 (intrusive), comprising the following elements;

#### Stage 1

- Foreshore survey of the north and south banks of the River Taw,
- Geophysical survey south and west of Barnstaple railway station, and
- *Attendance and monitoring of further geotechnical investigations.*

### Stage 2

- Trial trenching to investigate areas of potential identified during Stage 1, and
- Purposive archaeological boreholes to assess the geoarchaeological and palaeoenvironmental potential of the River Taw crossing.
- 1.4.2 The geophysical survey, and attendance and monitoring of geotechnical investigations were carried out in January 2000 (GSB 2000 and WA 2000 respectively). The foreshore and auger surveys were both carried out in July 2003 (WA 2003a and 2003b respectively).
- 1.4.3 This report concerns the Stage 2 evaluation trenching, as defined in the *Written Scheme of Investigation* (WA 2001). The evaluation trenching was commissioned to examine the southern portion of the route, and in particular to assess the results of the geophysical survey.

#### 1.5 The Site

- 1.5.1 As noted above, the archaeological evaluation trenches have examined the southern portion of the proposed route (**Figure 1**), comprising a *c*. 1km by 30m width section between the A3125 (OS NGR 255420 132570) and its proposed junction with the A39 to the south (OS NGR 255810 131520). This section of the route crosses the east-facing slope of Sticklepath Hill, immediately to the west of the current Barnstaple to Exeter railway line. At the time of the evaluation the site was divided into a series of pasture fields, separated by substantial bank and ditch hedgerows.
- 1.5.2 The northern section of the site (Trenches 1 to 9) was situated on the north-east facing slope of Sticklepath Hill at elevations of up to 30m above Ordnance Datum (aOD). To the south (i.e. Trench 10 onwards) ground surface descends onto the south-east facing lower slopes of the hill at elevations of between 5 and 8m aOD.
- 1.5.3 Hydrography for the area is dominated by the north-flowing River Taw, approximately 250m to the east of the site. Although there are no extant watercourses within the proposed route, a relict east-flowing tributary of the River Taw crosses the site at the southern end.
- 1.5.4 The underlying natural geology of the site comprises Culm Measures of the Carboniferous Period. Sticklepath Hill is the last outcrop of this rock and further north (beyond the area of trial trenching) the River Taw meets the older Devonian rocks and turns westwards towards the sea.

#### 2 AIMS AND OBJECTIVES

# 2.1 Project Aims

- 2.1.1 The defined aims of the project (WA 2001) are;
  - To gather sufficient information to establish the presence/ absence, extent, condition, character, quality, location and date of archaeological features within the specified parts of the proposed scheme, and
  - To gather sufficient information to support the formulation of proposals for further work to mitigate the impact of the proposed scheme on any remains present, as appropriate.

# 2.2 Project Objectives

- 2.2.1 To achieve the project aims as outlined, the following general objectives specific to the evaluation trenching were defined:
  - To determine or confirm the presence/ absence and nature of geophysical anomalies where targeted,
  - To determine or confirm the general nature of any remains present,
  - To determine or confirm the approximate date or date range of any remains, by means of artefactual or other evidence,
  - *To determine the condition and state of preservation of any remains,*
  - To determine the degree of complexity of the horizontal or vertical stratigraphy present,
  - To determine the likely range, quality and quantity of the artefactual evidence present, and
  - To determine the potential of any remains to provide palaeo-environmental and/ or economic evidence and the forms in which such evidence may be present.

#### 3 METHODOLOGY

- 3.1.1 In accordance with the *Written Scheme of Investigation* (WA 2001) the archaeological field evaluation comprised the excavation and recording of twenty-seven machine-excavated trenches. The trenches were positioned to investigate potential archaeological anomalies identified by the geophysical survey (GSB 2000) as well as 'blank areas' to test the results of the geophysical survey, and to ensure a relatively even coverage was maintained across the entire evaluation area.
- 3.1.2 During the course of the fieldwork, and in response to ongoing assessment of the results, an additional trench (Trench 28) was excavated, to the east of outbuildings associated with Little Pill Farm near the south of the site, to investigate a shallow terrace within the proposed route.
- 3.1.3 A number of trenches were relocated as a result of on-site conditions and constraints. Trench 7 was divided into two sections to preserve an existing trackway. Trenches 23, 24, 25 and 26 were repositioned to avoid buried services and/or overhead power lines.
- 3.1.4 All trenches were excavated using a tracked 360° hydraulic excavator with a 2.0m wide toothless ditching bucket, under constant archaeological supervision. All machine stripping was carried out in relatively discrete spits of up to 0.15m, with topsoil and subsoil stored separately. Each trench was excavated either to the upper surface of significant archaeological remains, the surface of *in situ* geology, or a depth of 1.2m, whichever was encountered first.
- 3.1.5 All archaeological features were investigated by hand and recorded using Wessex Archaeology *pro forma* recording sheets. A full drawn and photographic record was also produced.
- 3.1.6 Two digital surveys were produced using a Total Station, comprising a record of all 'as-dug' trench locations, including existing ground and base of trench levels, and a digital contour survey of the topography in the vicinity of Trenches 22 25 inclusive and Trench 28.
- 3.1.7 On completion, all trenches were reinstated with arisings in the order they were removed, and compacted to the level of the original ground surface. No other reinstatement procedures (e.g. seeding, turfing etc.) were required or carried out.
- 3.1.8 The fieldwork was carried out between the 6<sup>th</sup> and 24<sup>th</sup> of October 2003.

#### 4 RESULTS

#### 4.1 Introduction

- 4.1.1 Detailed records of individual contexts and trenches are given in the **Appendix 1** at the end of this document and are retained in the project archive.
- 4.1.2 The typical stratigraphic sequence encountered throughout the site comprised:
  - Silty loam topsoil up to 0.3m in depth.
  - Yellowish brown clayey silt subsoil, usually c. 0.3m in depth.
  - Pale yellowish brown silty clay in situ geology that included frequent pieces of broken mudstone, locally known as 'shillet'.
- 4.1.3 A number of trenches varied significantly from this sequence, including Trench 9, situated at the foot of the steeply sloping side of Sticklepath Hill, and containing an unusually thick layer of colluvial subsoil to a depth of 1.2m. In addition, layers of peat to a maximum depth of c. 2m, associated with the relict tributary noted above, were encountered in Trenches 24, 25 and 28.

#### **4.2** Trenches 1 to 11

4.2.1 No significant archaeological remains were recorded within these trenches. A large modern south-west to north-east aligned service trench was noted but not investigated at the eastern end of Trench 2, running down the slope of the hill. Trenches 9 and 10 revealed 'french' drains (land drains, comprising relatively narrow trenches containing loose unmortared local stone) that produced brick and tile fragments. These probably date to the 19<sup>th</sup> century.

#### 4.3 Trench 12

4.3.1 An undated shallow east to west aligned feature (1205) crossed the trench (Figure 2). It was 2.6m wide and approximately 0.3m deep with shallow-sloping sides and a flat base, and could be seen as a linear depression in the field on either side of the trench. It appeared to be a former trackway or boundary. This trench was also crossed by a 19<sup>th</sup> or 20<sup>th</sup> century ceramic field drain.

#### 4.4 Trench 13 to 17

4.4.1 No significant archaeological remains were recorded within these trenches.

#### 4.5 Trench 18

4.5.1 An undated east to west aligned probable drainage ditch (1804) crossed the trench near its southern end. It was 1.4m wide with a 'V'-shaped profile, 0.4m deep from the stripped trench base (Figure 2). In addition, a small north to south aligned gully (1809) was noted in the northern part of the trench, with a total length of c. 20m revealed. The northern extent curved very gradually towards the west, beyond the limit of the trench. The gully was 0.3m wide and 0.1m deep with moderate sloping sides and a flat base (Figure 2). No finds were recovered from the fill. It was noted that 1809 was aligned with a depression that extended

across the fields in the direction of Little Pill Farm. This suggested that it was remains of either the old field boundary on the east side of 'Eight Acres' field as shown on the Tithe Map of the early 1840s (**Figure 2**) or perhaps more likely a ditch that ran alongside it. An undiagnostic piece of worked flint of probable prehistoric date was recovered from the topsoil of this trench.

#### 4.6 Trench 19

4.6.1 No significant archaeological remains were recorded within this trench.

#### 4.7 Trench 20

4.7.1 Two undated parallel south-west to north-east aligned ditches (2005 and 2007), 2m apart, crossed the central portion of the trench. Both were approximately 1m wide and 0.3m deep (Figure 2), and appeared to coincide with a noticeable depression in the land surface that ran back up the field to the south-west. It is likely they collectively represent the truncated remains of a former field boundary, comprising a single central bank flanked by a pair of drainage/ quarry ditches. The Tithe Map indicates this as the field boundary between 'Four Acres' and 'Over Four Acres' fields.

#### 4.8 Trench 21

4.8.1 Two circular postholes (2104 and 2106) were revealed near the centre of the trench (Figure 3). They were both 0.25m in diameter and 0.1m deep with steep-sloping sides and flat bases, and approximately 5m apart. The fills both contained charcoal flecks but no dating material.

#### 4.9 Trench 22

4.9.1 No significant archaeological remains were recorded within this trench.

#### 4.10 Trench 23

- 4.10.1 This trench investigated a linear depression aligned east to west across the field (see Figure 4), which was shown to indicate a linear hollow-way 5m wide and up to 0.6m deep (Figure 3). It was filled (2304) with a mix of stones and clay containing both pottery and glass indicating a probable 17<sup>th</sup> century date for the infilling, but including a residual medieval sherd. In addition, a small quantity of prehistoric worked flint was also recovered, and whilst the provenance was uncertain, this may have originated from a subsoil cut by the hollow-way along its southern edge.
- 4.10.2 Historic mapping demonstrates the feature continues as a trackway to the west past the Little Pill Farm outbuildings, turning towards the south-west to the former Pill Farm (now dwellings) and on to the hamlet of Lake. Subsequent topographic survey demonstrated that this hollow-way continues to the east beyond Trench 23, possibly turning to the south to lead down to the relict watercourse edge at approximate OS NGR 255880 131695. In addition to the finds from the feature fill, an undiagnostic piece of prehistoric worked flint was also recovered from the topsoil.

#### 4.11 Trenches 24 and 25

4.11.1 Although no archaeological remains were found in either trench, both revealed undated peat deposits. Trench 24 exposed but did not further investigate bands of dark peaty clay (2405)

- and 2406) at a depth of c. 0.8m below ground surface. Dark peaty clay was recorded along the entire length of Trench 25, encountered at a depth of 0.6m below ground surface. A machine-excavated sondage at the north-east end of Trench 25 demonstrated that the full depth of the organic-rich deposits was approximately 1.5m (**Figure 3**).
- 4.11.2 It is clear from the topography of the area that the deposits encountered at the south-western end of Trench 24 represent a peat-filled south to north aligned channel that would have drained into a substantial east to west aligned former tributary of the River Taw. Trench 25 is situated wholly within the centre of the substantial relict watercourse, which as noted above would have formed a significant tributary of the River Taw, approximately 250m to the east.

#### 4.12 Trenches 26 and 27

4.12.1 Although no significant archaeological remains were recorded within these trenches, two undiagnostic pieces of prehistoric worked flint were recovered from subsoil in Trench 26.

#### 4.13 Trench 28

- 4.13.1 This additional trench was excavated to combine further investigation of the area adjacent to the hollow-way (Trench 23) and peat deposits (Trenches 24 and 25) previously discovered, as well as an opportunity to investigate land in the immediate vicinity of the extant Little Pill Farm outbuildings. Of particular interest in relation to Trench 23 was the possibility that further prehistoric worked flint could be recovered from subsoil deposits in the area.
- 4.13.2 Topographically, the trench examined a section across a shallow terrace and down into the edge of the peat-filled relict watercourse. In relation to the Tithe Map, this located the trench straddling the boundary between 'Little Pill Orchard' (the shallow terrace) and 'Little Marsh' to the south (the relict watercourse).
- 4.13.3 Sealed by topsoil and subsoil at the north end of the trench, and at a depth of 0.5m below ground surface, was a layer of dark yellowish brown clayer silt (2812: not illustrated), containing numerous fragments of late medieval pottery (c. AD1300 1600).
- 4.13.4 To the south and extending across the majority of the trench length was layer **2810**. This similarly was sealed by topsoil and subsoil, and recorded at an average depth of *c*. 0.6m below ground surface (**Figure 3**). Although producing a single small sherd of post-medieval pottery, it also contained a significant assemblage of worked flint, diagnostic elements indicating a Late Mesolithic and/ or Early Neolithic date (i.e. *c*. 5000 3000 BC). This material was concentrated on the brow of the south-facing slope overlooking the relict watercourse. On balance, it is considered likely that the post-medieval sherd is intrusive.
- 4.13.5 At the southern end of the trench (i.e. to the south of the historic boundary marking the south edge of the 'Little Pill Orchard') organic deposits were encountered to a maximum depth of 1.5m within the trench limits. The basal deposit of rooty silt recorded (2808) produced a single sherd of prehistoric pottery. Although badly abraded, the pottery is probably of Bronze Age date (2400 700BC).

#### 5 ARTEFACT REPORTS

#### 5.1 Introduction

5.1.1 The evaluation produced a small finds assemblage, deriving from eight trenches, and recovered from topsoil and subsoil layers, and two archaeological features. The finds are largely of medieval to post-medieval date, with a small group of prehistoric material. Finds have been quantified by material type within each context, and the results are presented in **Table 1**.

Table 1: All finds by context (number / weight in grammes)

Trench	Context	Description	Animal Bone	CBM	Flint	Prehist.	Medieval pottery	Post-med pottery	Other finds
12	1206	Ditch 1207				1	1	2/36	
18	1801	Topsoil			1 / 1			2 / 54	
21	2101	Topsoil	2 / 100	1 / 65				5 / 38	
22	2201	Topsoil							2 iron
22	2202	Subsoil						1 / 5	2 clay pipe
23	2301	Topsoil			1 / 1				1 clay pipe
23	2304	Trackway 2303	5 / 123	8 / 1648			1 / 78	15 / 341	240g slag; 1 iron; 8 bottle glass
23	2306	W of trackway			2 / 1				
24	2402	Topsoil						2 / 102	
26	2602	Subsoil			2/3				
28	2806	Layer			2/3				
28	2808	Layer			2/4	1 / 4			
28	2810	Layer			30 / 136			1 / 7	
28	2812	Layer					51/319	1 / 17	
28	Unstrat.	-			1/6			•	
		Totals	7 / 223	8 / 1663	41 / 155	1 / 4	52 / 397	29 / 600	

#### 5.2 Pottery

- 5.2.1 This was the most commonly encountered material type, and ranges in date from medieval to post-medieval, with a single prehistoric sherd. The latter came from layer **2808** in Trench 28. It is a small, abraded body sherd with no diagnostic features, but has been tentatively identified as Bronze Age on the basis of the grog-tempered fabric.
- 5.2.2 Late medieval sherds were identified from two contexts one residual sherd from Trench 23 (trackway *2303*), and 51 sherds from Trench 28 (subsoil *2812*). All sherds are in similar, coarse sandy fabrics, mostly oxidised, and probably locally produced. There are few diagnostic sherds (a few jar rims and a pipkin handle) and the potential date range is 14<sup>th</sup> to 16<sup>th</sup> century.
- 5.2.3 The rest of the assemblage is post-medieval, and consists entirely of coarsewares, almost certainly deriving largely from local manufacture (pottery production is attested at Barnstaple from the 17<sup>th</sup> century and probably began earlier). There are examples here of all three of the main North Devon ware fabrics gravel-tempered (the most common type here), gravel-free with crushed shell, and gravel-free without shell. Also present are two sherds of slipwares (one sgraffito decorated), probably from the south Somerset industries (Donyatt or Wrangway). These coarsewares are not closely datable, but the absence of more diagnostic, later wares suggest a date range probably no later than the 17<sup>th</sup> century.

#### 5.3 Worked Flint

5.3.1 A small quantity of worked flint was recovered, mostly from Trench 28, with a few pieces from Trenches 18, 23 and 26. This report considers the relatively spatially discrete group from Trenches 23, 26 and 28.

Table 2: Quantification of Worked Flint from Trenches 23, 26 and 28

Trench	Chips	Blade/lets	Flakes/	Bladelet	Crested	Rejuv.	Microburins	Total
			<b>Broken Flakes</b>	Cores	Pieces	Flakes		
23		1	2					3
26			1					1
28	3	9	11	4	1	1	1	30
Total	3	10	14	4	1	1	1	34

- 5.3.2 The flint ranges in colour from homogeneous grey to dark grey with light mottled patches. It is of relatively good quality with white, heavily battered cortex, which suggests that it were obtained from a gravel or beach deposit. At present it is uncertain whether this was likely to be of Irish Sea origin or from the south coast at Beer Head.
- 5.3.3 There is sufficient material to indicate the general technology. The largest component is flakes, however the industry was clearly designed to produce blades and more frequently bladelets for conversion into microliths. The cores are principally those with a single striking platform. They are small, although the principal end product was bladelets, which does not require large pieces of flint. There are examples of all the main components of a bladelet industry, including crested pieces from core preparation, rejuvenation tablets and platform abrasion, as a means to prepare the core before the blank was removed.
- 5.3.4 The assemblage is distinctive enough and includes a diagnostic microburin to be confident that this material is of Mesolithic date. The location, on slightly higher land near the confluence of a small creek with the River Taw drainage system, may have provided a convenient short-term campsite. There is a scattered sparse distribution of Mesolithic material around the Taw Estuary, which indicates that the estuary was probably populated in the Mesolithic, a time at which the sea level was considerably lower than it is now.
- 5.3.5 Previous broadly contemporaneous discoveries include the well-documented site of Westward Ho! at the mouth of the Taw Estuary, with other large assemblages from Fremington, much of the latter collected from the beach. Poorly provenanced material is also recorded from Instow on the south bank and an unspecified number of pieces from Braunton on the north bank. These sites have been associated with small geometric microliths, which are typical of the Late Mesolithic.
- 5.3.6 The recent discoveries along the route of the proposed Barnstaple Western Bypass are of some significance in that they are among the first discoveries to be made under controlled archaeological conditions for some time. It is also the first recorded Mesolithic material beyond the head of the estuary, within the valley of the River Taw itself. There were no microliths, however the cores indicate that the assemblage is likely to be of Late Mesolithic date

# 5.4 Other Finds

5.4.1 Other finds comprise animal bone, ceramic building material (post-medieval unfrogged brick and roof tile), clay pipe (stem fragments), iron (two nails, ?cauldron foot), ironworking slag and glass (green wine bottle, *c*. 1650-1750).

#### **6** ENVIRONMENTAL REPORTS

#### 6.1 Introduction

- 6.1.1 Two sequences from the valley floodplain of a relict east-flowing watercourse south of Little Pill Farm were exposed in Trenches 25 and 28. They were sampled in monoliths to allow a more detailed description and interpretation of the floodplain sequence. Sampling for pollen, diatoms, foraminifera and radiocarbon dating was undertaken where appropriate (see sediment descriptions).
- 6.1.2 A charcoal-rich bulk sample was taken from posthole *2104*.

#### 6.2 Monoliths

Trench 25

- 6.2.1 A sequence of c. 1.5m depth was exposed in Trench 25 (**Figure 3**), the trench situated approximately centrally within the relict watercourse. The detailed descriptions are given below, and can be interpreted as follows.
  - The lowest deposit exposed **2508** is a humic alluvium probably representing flooding and alluviation on the small valley floodplain. The vegetation is likely to have been herbaceous and rich, but local ground water conditions were not high enough for terrestrial peat formation.
  - There is evidence of higher groundwater levels as the deposit becomes more humic and peaty 2507, before the development of <u>c</u>. 0.6m of silty peat 2506. Detailed description and microscopic examination of these shows the presence of <u>Phragmites</u> (reed) stems, and other plant matter, in a silty and nutrient rich peat. This is likely to have formed on land with high groundwater and occasional standing or flowing water, but it was not formed in a flooded channel. It is sealed by peat alluvium 2505, the result of a mix of alluvial deposition and in situ vegetation growth.
  - The rate of alluviation then decreases, and ground water is high enough to enable the formation of <u>in situ</u> terrestrial peat **2504**. This is followed by a layer of <u>in situ</u> soil **2503**, with weak prismatic structure. This indicates the formation of a former land surface.
  - Ultimately the soil is buried by a dark grey homogenous well-sorted silty alluvium **2502**. Although this is probably floodplain alluvium, this could just indicate gentle channel and stream deposits.
- 6.2.2 A total of 87 subsamples was removed from this sequence to facilitate pollen, foraminifera and diatom assessment and/or analysis if required, and for radiocarbon dating if necessary. The location of these samples is indicated in the detailed descriptions below. Analysis of these subsamples awaits a decision regarding any further additional mitigation works at the site, which may identify a more suitable sequence within the relict watercourse for sampling and analysis.

#### Trench 28

- 6.2.3 The sequence as exposed in Trench 28 at the north edge of the relict watercourse is more ambiguous. There remains uncertainty about what the section shows at this point, the build-up of the creek stratigraphy possibly being disturbed by the cutting of a channel along the edge of the higher ground (**Figure 3**).
- 6.2.4 The deposit originally considered peat (2807) has been identified in laboratory conditions as slightly humic silty alluvium, not an *in situ* growth of vegetation and peat formation. Furthermore, examination of the monolith could not identify a soil matrix boundary that may indicate the base of a channel between context 2806 and 2807, and as such description of the sediment has not been able to aid the field interpretation.
- 6.2.5 None of the deposits are typically well-sorted fluvial deposits. They are reminiscent of either floodplain overbank flooding, or very shallow water with high locally derived terrestrial sediment, as might be seen in surface water streams.
- 6.2.6 As a result of the apparent uncertainty relating to the depositional sequence as recorded and sampled; any further subsampling, assessment and analysis of this sequence will await a decision regarding additional mitigation works at the site, which may provide clarification of these issues.

# Concluding comments

- 6.2.7 The deeper more locally restricted sequence seen in Trench 25 appears to represent highly localised peat growth, possibly in damper areas of the stream floodplain. Peat growth may represent the abandonment of a former watercourse, and infilling by largely terrestrial damp vegetation forming silts and peat. None of the sediment recorded indicates major fluvial deposition.
- 6.2.8 The overall impression is largely of relatively recent (i.e. post-Roman) rather than prehistoric sequence, and the highly abraded nature of the prehistoric sherd of pottery recorded at the base of this sequence in Trench 28 may support this interpretation. The evidence, although clearly allied to the hydrology of the Taw, is both localised and largely independent of the Taw floodplain.

# 6.3 Sediment descriptions

**Table 3:** Monolith 1 (Trench 25)

Depth	Wood/ C14	Pollen	Description
(cm)	(cm)	(cm)	
0-12		0cm	2502: dark grey (5Y 4/1), firm compact homogenous silt loam, no
		4cm	structure, stonefree, no mottles, rare small modern roots.
		8cm	10-12cm (base) mix of silt loam with some humic material -
		12cm	transition, abrupt boundary.
			Well-sorted Alluvium
12-25	15cm peat	16cm	2503: very dark brown (10YR 2/2) moist peaty silty clay, weak
		20cm	medium prismatic structure, no inclusions noted, abrupt boundary.
		24cm	HUMIC ?STASIS HORIZON/ FLOODPLAIN SOIL
25-45	26cm peat	28cm	2504: very dark brown (10YR 2/2) with slight reddish (peaty) hues
		32cm	(5YR) in places, moist humic peat with some fine faint bedding, no
		36cm	stones but rare very small vertical fleshy root, rare identifiable plant
		40cm	mater in highly humified matrix, abrupt boundary
		44cm	PEATY FLOODPLAIN SOIL
45-57	46cm peat	48cm	2505: very dark grey (7.5 YR 3/1) moist silty clay, no structure.
		52cm	Stonefree, no mottles, common small modern vertical fleshy roots, but
		56cm	also other plant matter inc. stems mainly vertical but some horizontal
			inc. leaves, clear boundary.
			PEATY CLAY – HUMIC OVERBANK ALLUVIUM
57-113	58cm peat	60cm	2506: very dark grey (10YR 3/1) moist silty peat, no structure,
		64cm	stonefree, no mottles, common small modern fleshy vertical roots and
	88cm stem	68cm	some other plant matter including Phragmites stem, abrupt boundary.
	phragmites	72cm	97-105cm band of black (5YR 2.5/1) humic silty clay, no inclusions or
		76cm	structure, clear boundary).
	110cm peat	80cm	SILTY PEAT – FLOODPLAIN DEPOSIT
		84cm	
		88cm	
		92cm	
		96cm	
		100cm	
		104cm	
		108cm	
		112cm	
113-127		116cm	2507: very dark grey (7.5YR 3/1) moist humic silty clay, no structure,
		120cm	stonefree, no mottles, rare fine fleshy mainly vertical roots and rare
		124cm	other plant matter, abrupt boundary.
			Transition
127-147+		128cm	2508: very dark grey (5YR 3/1) moist fine sandy/coarse silty clay, no
		132cm	structure or mottles, rare small rounded stones, common modern
		136cm	vertical roots and other probably ancient plant matter.
		140cm	SLIGHTY HUMIC ALLUVIAL DEPOSIT
		144cm	

6.3.1 Samples were taken for diatoms and foraminifera at the same 4cm intervals and levels as pollen (37 of each) and in addition six C<sup>14</sup> (humic acid, wood, bone samples) and 87 subsamples were taken. As noted above, analysis of these subsamples awaits a decision regarding any further additional mitigation works at the site.

Table 4: Monolith 10 (Trench 28)

Depth (cm)	Description						
0-32	<b>2804</b> : Very dark greyish brown (2.5Y 3/2), firm loamy silty sand, no structure, rare small rounded stone <0.3cm diameter, rare small vertical fleshy roots, few fine yellowish red (5YR 4/6).						
	At 28-32cm (bottom 4cm) has common very small manganese concretions, in a slightly sand						
	matrix, sharp boundary.						
	WELL-SORTED ALLUVIUM						
32-41	2805: Coarse silty clay with zones of mottling/discoloration						
	32-35cm dark greyish brown (10YYR 4/2) coarse silty clay loam matrix with 50% yellowish red (5YR 4/6) post depositional gleying, no structure, stonefree, no roots, abrupt boundary.						
	35-39cm dark greyish brown (10YR 4/2), coarse silty clay loam, no structure, stonefree, no roots,						
	but with common very fine and fine distinct strong brown (7.5YR 4/6) mottles, sharp boundary.						
	39-41cm dark greyish brown (10YR 4/2) coarse silty clay loam matrix with 50% strong brown						
	(7.5YR 4/6), gleying., no structure, stonefree, no roots; the base of this band has an intermittent,						
	discontinuous lens of fine yellow sand – inwash abrupt boundary.						
	GLEYED ALLUVIUM AND SAND INWASH						
41-57	2806: Very dark grey (2.5YR 3/1) clay loam, no structure, common small modern vertical roots and						
	plant matter, stonefree, no mottling, clear boundary. (Note: the left hand edge of monolith has no						
	plant matter and be animal or other modern biotic disturbance)						
	ALLUVIUM – SLIGHTLY HUMIC						
57-70	2807: Very dark grey (10YR 3/1) clay loam, no structure, common small rounded stones (<3mm						
	diameter), common small modern fleshy vertical roots and other plant matter, abrupt boundary.						
	ALLUVIUM						
70- 94+	2808: Dark grey (5Y 4/1) sandy clay, massive, rare small subrounded stones (quartzite), common						
	modern vertical roots and plant matter.						
	WELL-SORTED ALLUVIUM						

#### 7 TOPOGRAPHIC SURVEY

### 7.1 Methodology

- 7.1.1 A series of 494 readings were taken of the ground surface within the proposed route between Trench 22 to the north and the field boundary to the south of Trench 24. The readings were recorded using a Topcon GTS-210 series Total Station (TST), downloaded using commercially available software (Topcomm v.2.32) and post-processed using in-house developed software.
- 7.1.2 A terrain-modelling program (Surfer v.7.0) was used to create a computer modelled contour plot (**Figure 4**). The survey data was processed using the *Kriging* algorithm, with a search radius of 94.2m for interpolation of missing data. The survey report is included below (**Appendix 2**).

#### 7.2 Results

- 7.2.1 The topographic survey clearly demonstrates the relict watercourse identified within Trenches 24, 25 and 28. The survey suggests that the outer bank of the former watercourse would have been situated at about the 4.25m aOD contour. On the higher ground to the north, the topographic survey indicates the route of the extant earthwork crossing the proposed route, and revealed in Trench 23 as a substantial hollow-way containing 17<sup>th</sup> century pottery.
- 7.2.2 The earthwork can be traced to the east of Trench 23, apparently turning (or at least forking) to the south to lead down to the former riverbank. Although no archaeological remains were recorded with Trench 23, the convergence of the hollow-way with the river edge forms a distinct well-pronounced east-facing promontory, the southern edge of which appears to be terraced.
- 7.2.3 Similarly, Trench 28 appears to cross a slight terrace overlooking the former river edge, between the 5.25 and 5.75m aOD contours. This terrace coincides with the main focus for recovery of the early prehistoric worked flint, with the medieval pottery concentrated above this, towards the 6.25m high knoll adjacent to the hollow-way earthwork noted above.

#### 7.3 Conclusions

- 7.3.1 In combination with the trial trench results, the topographic survey demonstrates several areas of archaeological potential. The Mesolithic/ Neolithic flint working evidence appears to focus on the brow of the riverbank overlooking the relict watercourse, primarily between the 5.25 and 5.75m aOD contours. It would not therefore be unreasonable to assume that such activity extends along the entire riverbank within the proposed route corridor, at least as far as the later hollow-way (see below).
- 7.3.2 To the north, the ground surface rises to a small knoll at about 6.25m aOD. Medieval pottery recovered from a buried soil at the north end of Trench 28 suggests that this higher ground may be the location for contemporaneous occupation in the vicinity, particularly adjacent to the hollow-way.
- 7.3.3 The hollow-way clearly extends westwards from Trench 23 across the proposed route, and although this feature has only produced 17<sup>th</sup> century pottery to date, the possibility that it



may have medieval (or earlier) origins cannot be discounted. To the east the route of the hollow-way is less clear, though there are compelling topographic indicators to suggest the route (in part at least) turns to the south down to the former riverbank. Therefore, the possibility that structural remains survive at this location must be considered, and in particular revetments, wharves, jetties or similar riverside structures.

#### 8 DISCUSSION

- 8.1.1 A total of 28 evaluation trenches was investigated along the length of the proposed route, targeting areas of interest from the geophysical survey as well as the area around Little Pill Farm, where medieval pottery was recovered during the construction of a gas pipeline in 1986.
- 8.1.2 Few archaeological features were found along the majority of the proposed route (i.e. between Trench 1 and Trench 21). Those remains discovered generally relate to relatively recent former field boundaries and/ or possible drainage ditches.
- 8.1.3 Significant archaeological remains are all concentrated towards the south end of the proposed route, and most notably in the vicinity of Little Pill Farm. Place name evidence reflects ground conditions in this area, with the small hamlet of Lake c. 0.5km to the west deriving its name from the Old English *lacu* meaning 'stream', clearly a reference to the relict watercourse passing across the proposed route to the south of Trench 24. In addition, Little Pill Farm derives its name from *pulle*; again, a common name meaning creek.
- 8.1.4 The northern edge of the creek can still be seen as a sharp break of slope just to the south of Little Pill Farm, and Trenches 24 and 25 have revealed and sampled the organic-rich deposits within the relict watercourse. The southern edge of the creek is likely to exist between Trench 24/25 and Trench 26 to the south. Examination of the monolith in Trench 25 demonstrates that peat formation took place under wet but terrestrial conditions indicating that the creek was no longer permanently flooded. It is likely that the peat formation post-dates the adjacent evidence for Mesolithic activity.
- 8.1.5 The land beside the marshy creek would have been a natural place for human activity in antiquity, as demonstrated by the results of the evaluation. Of particular significance is a small group of probable *in situ* Mesolithic flints recovered from the brow of the slope and terrace overlooking the south bank of the relict watercourse.
- 8.1.6 The Bronze Age pottery is in a soft fabric, and therefore although significantly abraded may not have been transported far from its point of origin (presumably up-stream to the west).
- 8.1.7 The subsoil layer **2812** containing substantial quantities of medieval pottery demonstrates medieval activity in the immediate vicinity, and most likely identifies the origins for the nearby Little Pill Farm. In this context, the 17<sup>th</sup> century hollow-way recorded extending from the farm buildings eastwards across the proposed route is most likely to have medieval origins. This feature appears to terminate at the riverbank, possibly indicating a focus for medieval/ post-medieval activity.

#### 9 **RECOMMENDATIONS**

- 9.1.1 On the basis of the results of the archaeological evaluation, it is recommended that further archaeological works be carried out in the area of Little Pill Farm to mitigate the impact of the proposed development on the archaeological resource of the area.
- 9.1.2 To achieve this mitigation, the following objectives are defined:
  - Expose, record and sample a transect across the relict watercourse to determine its depositional history, and to place other archaeological remains nearby into a more coherent environmental setting. This work may also determine the potential for archaeological remains preserved within the waterlogged channel fill(s). A proposed Trench location is indicated (Figure 5).
  - Determine the full extent and nature of the Mesolithic spread of flint-knapping debris and any other potentially associated activity through a regular grid of hand-excavated test-pits at 5m intervals (Figure 5). Such investigation may require additional interspersed test-pits to further define and clarify any apparent centres of activity.
  - Determine the possibility for activity related to the Bronze Age remains recovered within the same zone defined for investigation of the flint scatter noted above.
  - Determine the potential for activity (including structural remains) relating to the medieval remains recovered, and in particularly intrinsically associated with the hollow-way and its connecting relationship between higher knoll and the lower riverbank. A proposed strip, map and sample area is indicated (Figure 5).

# 10 PROJECT ARCHIVE

10.1.1 The project archive, consisting of an A4 lever-arch file, a collection of colour and monochrome photographs and a box of finds is currently held at the offices of Wessex Archaeology at Old Sarum, Salisbury, Wiltshire under the project code 54511. In due course the paper archive will be deposited with The Museum of Barnstaple and North Devon in Barnstaple. It is hoped that, with the landowner's permission, the finds can be deposited with the rest of the archive.

#### **REFERENCES**

- Chris Blandford Associates [CBA], 1997, Barnstaple Western Bypass and Urban Relief Road Stage 4, Environmental Assessment Phase A: Volume 2, Part 2; Cultural Heritage, unpublished client report no. W144-R01-EA
- Chris Blandford Associates/ Wessex Archaeology [CBA/ WA], 1999, Barnstaple Western Bypass Environmental Assessment: Archaeological Assessment and Planned Evaluation Supplementary Report, unpublished client report
- GSB Prospection [GSB], 2000, Geophysical Survey Report 2000/06, Barnstaple Western bypass, unpublished client report
- Wessex Archaeology [WA], 2000, Barnstaple Western Bypass: Archaeological Observation of Site Investigations, unpublished client report no. 46972.01
- -- , 2001, Barnstaple Western Bypass, Devon: Archaeological Evaluation Written Scheme of Investigation, unpublished client report no. 46977.02
- -- , 2003a, Barnstaple Downstream Bridge and Western Bypass Archaeological Foreshore Survey, unpublished client report no. 53757.01
- -- , 2003b, Barnstaple Downstream Bridge and Western Bypass Auger Survey, unpublished client report no. 53746.01

# **APPENDIX 1: TRENCH SUMMARIES**

TRENCH 1 Dimensions: 39 x 2 x 0.50m deep

Context	Description	Depth m
100	Dark Reddish Brown silts with occasional stones, frequent fine root action. Turf line	0-0.20
	and topsoil.	
101	Reddish Yellow Brown silts with occasional stones. Subsoil.	0.20-0.50
102	Reddish Yellow Brown silty clay and weathered bedrock. Natural.	0.50+

**TRENCH 2** Dimensions: 27 x 2 x 0.7m deep

Context	Description	Depth
200	Dark Reddish Brown silts with occasional stones. Turf line and topsoil.	0-0.25
201	Reddish Yellow Brown silts with frequent stone. Subsoil.	0.25-0.68
202	Reddish Yellow Brown silty clay with weathered bedrock. Natural	0.68+

**TRENCH 3** Dimensions: 38 x 2 x 0.5m deep

Context	Description	Depth
300	Dark Reddish Brown silts with occasional stones and fine root action. Turf line and topsoil.	0-0.28
301	Reddish Yellow Brown silts with moderate stones. Subsoil.	0.28-0.52
302	Reddish Grey Brown silty clay with weathered bedrock.	0.52+

**TRENCH 4** Dimensions: 28 x 2 x 0.6m deep

Context	Description	Depth
400	Dark Reddish Brown silts with occasional stones and fine root action. Turf line and	0- 0.25
	topsoil.	
401	Reddish Brown silts with frequent stones. Subsoil.	0.25-0.58
402	Reddish Yellow Brown silty clay with weathered bedrock. Natural.	0.58+

**TRENCH 5** Dimensions: 49 x 2 x 0.5m deep

Context	Description	Depth
500	Reddish Brown silts with occasional stones and fine root action. Turf line and topsoil.	0-0.30
501	Yellowish Brown silts with occasional stones. Subsoil.	0.30-0.45
502	Reddish Grey Brown silty clay with weathered bedrock.	0.45+

**TRENCH 6** Dimensions: 33 x 2 x 0.5m deep

Context	Description	Depth
600	Reddish Brown silts with occasional stones and fine root action. Turf line and topsoil	0-0.28
601	Yellowish Brown silts with occasional stones. Subsoil.	0.28-0.48
602	Reddish Grey Brown silty clay with weathered bedrock. Natural	0.48+

**TRENCH 7** Dimensions: 48 x 2 x 0.5m deep

Context	Description	Depth
700	Reddish Brown silts with rare-moderate stones and fine root. Turf line and topsoil.	0-0.28
701	Reddish Yellow Brown silts with occasional stones. Subsoil.	0.28-0.50
702	Reddish Grey Brown silty clay with weathered bedrock. Natural.	0.50+

**TRENCH 8** Dimensions: 49 x 2 x 0.5m deep

Context	Description	Depth
800	Reddish Brown silts with moderate stones and frequent fine root. Turf line and topsoil.	0-0.30
801	Reddish Brown silts with frequent stones. Subsoil.	0.30-0.55
802	Light Grey clay with weathered bedrock.	0.55+

**TRENCH 9** Dimensions: 46 x 2 x 1.5m deep

Context	Description	Depth
900	Mid Reddish Brown silts with occasional stones and quartzite. Frequent fine root	0-0.30
	action. Turf line and topsoil.	
901	Reddish Yellow Brown silts with occasional stones, fine root action and rare charcoal	0.30-1.52
	flecks. Subsoil.	
902	Yellowish Brown silty clay with weathered bedrock. Natural.	1.52+
903	French drain cut from surface of 902	
904	French drain from surface of 902.	

**TRENCH 10** Dimensions: 27 x 2.0 x 0.7m

Context	Description	Depth
1000	Mid Reddish Brown silts with occasional stones and frequent fine roots. Turf line and	0-0.23
	topsoil.	
1001	Reddish Yellow Brown silts with frequent stones, abundant at interface with 1002.	0.23-0.56
	Subsoil.	
1002	Yellowish Brown silty clay with weathered bedrock. Natural.	0.56+
1003	French drain cut from surface of 1002.	

**TRENCH 11** Dimensions: 20 x 2 x 0.9m deep

Context	Description	Depth
1101	Greyish Brown silty loam. No inclusions visible. Turf line and topsoil.	0.0-0.26
1102	Yellowish Brown silt with sparse stones. Subsoil.	0.26-0.67
1103	Pale Yellowish Brown clay silts overlying Blue-Grey clay with weathered bedrock.	0.67+
	Natural.	

**TRENCH 12** Dimensions: 49 x 2 x 0.7m deep

Context	Description	Depth
1201	Greyish Brown silt loam with rare stones. Turf line and topsoil.	0.0-0.20
1202	Yellowish Brown sily with sparse stones. Subsoil.	0.20-0.50
1203	Pale Yellowish Brown clay silts with frequent stones. Natural.	0.50+
1204	Fill of 1205.	0.50-0.70
1205	Cut of shallow ditch/trackway. Field boundary?	0.50-0.70
1206	Fill of 1207	0.24-0.90
1207	Cut of Drainage Ditch.	0.24-0.90

**TRENCH 13** Dimensions: 29 x 2 x 1m deep

Context	Description	Depth
1301	Greyish Brown silt loam with rare stones. Turf line and topsoil.	0.0-0.24
1302	Yellowish Brown silt with sparse stones. Subsoil.	0.24-0.44
1303	Pale Yellowish Brown clay silt with frequent stones. Natural.	0.44+

**TRENCH 14** Dimensions: 24 x 2 x 0.5m deep

Context	Description	Depth
1401	Greyish Brown silt with no visible inclusions. Turf line and topsoil.	0.0-0.21
1402	Yellowish Brown silt with rare stones.	0.21-0.40
1403	Pale Yellowish Brown clay silt very rare stones. Natural.	0.40+

**TRENCH 15** Dimensions: 19 x 2 x 0.7m deep

Context	Description	Depth
1501	Greyish Brown silt loam with no visible inclusions. Turf line and topsoil.	0.0-0.22
1502	Yellowish Brown silt very rare stones. Subsoil.	0.22-0.39
1503	Pale Yellowish Brown clay silt rare stones. Natural.	0.39+

**TRENCH 16** Dimensions: 50 x 2 x 0.6m deep

Context	Description	Depth
1601	Greyish Brown silt loam with no visible inclusions. Turf line and topsoil.	0.0-0.17
1602	Yellowish Brown silt sparse stones. Subsoil.	0.17-0.40
1603	Pale Yellowish Brown clay silt with very rare stones. Natural.	0.40+

**TRENCH 17** Dimensions: 20 x 2 x 0.6m deep

Context	Description	Depth
1701	Greyish Brown silt loam with no visible inclusions. Turf line and topsoil.	0.0-0.28
1702	Yellowish Brown silt no inclusions visible. Subsoil.	0.28-0.48
1703	Pale Yellowish Brown silty clay with rare stones. Natural.	0.48+

**TRENCH 18** Dimensions: 49 x 2 x 0.7m deep

Dimensions. 49 X 2 X 0.7 in deep		
Context	Description	Depth
1801	Mid Yellow Brown silty clay loam with occasional-moderate stones. Turf line and	0.0-0.25
	topsoil.	
1802	Mid Yellowish Brown silty clay loam occasional-moderate stones. Subsoil.	0.25-0.65
1803	Yellowish-Greyish Brown silty clay with frequent stones. Natural.	0.65+
1804	Ditch cut. Drainage ditch?	
1805	Fill of 1804.	
1806	Fill of 1804	
1807	Fill of 1804	
1809	Gully cut. Field boundary?	
1810	Fill of 1809	

**TRENCH 19** Dimensions: 20 x 2 x 0.6m deep

Context	Description	Depth
1901	Greyish Brown silty loam with no visible inclusions. Turf line and topsoil.	0.0-0.25
1902	Yellowish Brown silt with no visible inclusions. Subsoil.	0.25-0.43
1903	Pale Yellowish Brown clay silt with frequent stones. Natural.	0.43+

**TRENCH 20** Dimensions: 50 x 2 x 0.6m deep

Context	Description	Depth
2001	Dark Greyish Brown silt with occasional stones. Turf line and topsoil.	0.0-0.25
2002	Yellowish Brown clay silt with occasional stones. Subsoil.	0.25-0.60
2003	Yellowish/Greyish Brown silty clay with weathered bedrock. Natural.	0.60+
2004	Fill of ditch.	0.30-0.66
2005	Cut of ditch. Field Boundary	0.30-0.66
2006	Fill of ditch.	0.20-0.55
2007	Cut of ditch. Field Boundary	0.20-0.55
2008	Cut of modern field drainage ditch.	0.0-0.18

**TRENCH 21** Dimensions: 23 x 2 x 0.7m deep

Context	Description	Depth
2101	Mid Greyish Brown silty loam sparse stones. Turf line and topsoil.	0.0-0.23
2102	Light Yellowish Brown silts with occasional stones. Subsoil.	0.23-0.46
2103	Light Yellowish Brown silty clay with common manganese and stones. Natural.	0.46+
2104	Cut of posthole.	
2105	Fill of posthole.	
2106	Cut of posthole.	
2107	Fill of posthole.	

**TRENCH 22** Dimensions: 26 x 2 x 0.6m

Context	Description	Depth
2201	Dark Yellowish Brown silty clay loam with occasional stones. Turf line and topsoil.	0.0-0.22
2202	Mid Yellowish Brown silty clay with moderate stones. Subsoil.	0.22-0.60

**TRENCH 23** Dimensions: 13 x 2 x 0.9m deep

Context	Description	Depth
2301	Mid Brown silty clay loam occasional stones. Turf line and topsoil.	0.0-0.30
2302	Pale Yellow Brown silty clay with stones. Subsoil.	0.30-0.45
2303	Cut of trackway	
2304	Trackway construction of rounded local stones in clay. Contained late	
	medieval pot	
2305	Fill of trackway	
2306	Fill west of trackway	
2307	Fill east of trackway	
2308	Natural weathered bedrock	0.85+

**TRENCH 24** Dimensions: 36 x 2 x 1m deep

Context	Description	Depth
2401	Light Greyish Brown clay silt . Turf line.	0.0-0.14
2402	Light Greyish Brown clay silt with very rare stones. Topsoil.	0.14-0.38
2403	Light Blueish Grey silty clay with very rare stones. Subsoil.	0.38-0.80
2404	Dark Brown Peaty clay.	0.80-+
2405	Very Dark Brown Peaty clay.	0.80+
2406	Light Blueish Grey with gritty bands. Alluvial deposits.	0.80+
2407	Light Blueish Grey gritty clay. Alluvial deposits.	0.80+

TRENCH 25 Dimensions: 19 x 2 x 2m deep

Context	Description	Depth
2501	Mid Greyish Brown silt. Turf line.	0.0-0.10
2502	Light Blueish Grey clay with rare stones. Subsoil.	0.10-0.60
2503	Dark Brown Peaty clay.	0.60-0.76
2504	Very Dark Brown Peat.	0.76-0.90
2505	Mid-Dark Greyish Brown clay with abundant organics.	0.90-1.00
2506	Mid Brown Peat with abundant organics.	1.00-1.60
2507	Mid-Light Brown clay with moderate organics and occasional stones.	1.73-2.07
2508	Mid-Light Grey clay with moderate organics, rare charcoal flecks and	2.07+
	wood.	
2509	Compact deposit of Blueish Grey silty clay with stones and grits. Natural.	2.07+

# **TRENCH 26** Dimensions: 47 x 2 x 0.6m deep

Context	Description	Depth
2601	Reddish Grey Brown silt with frequent stones. Turf line and topsoil.	0.0-0.23
2602	Yellowish Brown clay silt with frequent stones. Subsoil.	0.23-0.60
2603	Yellow-Greyish Brown silty clay with weathered bedrock.	0.60+

# **TRENCH 27** Dimensions: 50x 2 x 0.6m deep

Context	Description	Depth
2701	Mid Greyish Brown silt with common stones. Turf line and topsoil.	0.0-0.24
2702	Mid yellowish Brown silt with common stones. Subsoil.	0.24-0.45
2703	Mid Yellowish Brown clay silt with frequent stones. Natural.	0.45+

# **TRENCH 28** Dimensions: 29 x 2 x 1.6m deep

Context	Description	Depth
2801	Reddish Brown loam with frequent stones. Turf line and topsoil.	0.0-0.40
2802	Yellowish Grey Brown clay silt with frequent stones. Subsoil on raised ground.	0.15-<0.80
2803	Yellowish Grey Brown clay silt with frequent stones. Subsoil over peat.	0.20-0.72
2804	Light–Dark Greyish Brown silty clay with occasional stones.	0.60-1.20
2805	Reddish-Greyish Brown silty clay. Alluvial deposit.	0.70-0.95
2806	Dark Greyish Brown silty clay-clay silt with frequent stones.	1.00-1.40
2807	Dark Greyish Brown peaty deposits.	0.75-1.32
2808	Light Grey silty clay with frequent roots. Contained Bronze Age pottery	1.32-1.60
	sherd	
2809	Yellowish-Dark Yellowish Brown silty clay with frequent stones.	1.60+
2810	Dark Yellowish Brown silty clay with frequent stones and manganese.	0.35-1.20
	Contained Mesolithic worked flints	
2811	Yellowish-Dark Yellowish Brown silty clay with frequent stones and manganese	0.65-1.10
2812	Reddish Yellow Brown clay silts with frequent stones. Buried soil that	0.50-0.65
	contained medieval pottery.	



# **APPENDIX 2: SURVEY DATA PROCESSING REPORTS**

\_\_\_\_\_

**Data Filter Report** 

**Data Source** 

Source Data File Name:  $X:\PROJECTS\54511\Survey\Topography\Basedata.xls$ 

X Column: A
Y Column: B
Z Column: C

**Data Counts** 

Number of Active Data: 494

Number of Original Data: 494
Number of Excluded Data: 0
Number of Deleted Duplicates: 0
Number of Retained Duplicates: 0
Number of Artificial Data: 0

**Filter Rules** 

Duplicate Points to Keep: First X Duplicate Tolerance: 0 Y Duplicate Tolerance: 0

Exclusion Filter String: Not In Use

# **Data Statistics Report**

# **Data Counts**

Number of Active Data:	494
Number of Original Data:	494
Number of Excluded Data:	0
Number of Deleted Duplicates:	0
Number of Retained Duplicates:	0
Number of Artificial Data:	0

# **X** Variable Statistics

X Range:	113.57
X Midrange:	255863
X Minimum:	255806
X 25%-tile:	255849
X Median:	255864
X 75%-tile:	255878
X Maximum:	255920
X Average:	255864
X Standard Deviation:	21.445
X Variance:	459.889

# **Y Variable Statistics**

Y Range:	150.311
Y Midrange:	131697
Y Minimum:	131622
Y 25%-tile:	131674
Y Median:	131695
Y 75%-tile:	131710
Y Maximum:	131772
Y Average:	131694
Y Standard Deviation:	30.8949
Y Variance:	954.497

# **Z** Variable Statistics

Z Range:	3	.469
Z Midrange:		5.4715
Z Minimum:		3.737
Z 25%-tile:		4 239



Z Median:	4.879
Z 75%-tile:	5.474
Z Maximum:	7.206
Z Average:	4.95138
Z Standard Deviation:	0.824994
Z Variance:	0.680614
Z Coef. of Variation:	0.166619
Z Coef. of Skewness:	0.594307

# **Inter-Variable Correlation**

	X	Y	Z	
X:	1	0.196605	-0.162117	
Y:		1	0.801908	
Z:			1	

# **Inter-Variable Covariance**

	X	Y	Z	
X:	459.889	130.259-	2.86818	
Y:		954.497	20.4391	
Z:			0.680614	



\_\_\_\_\_

# **Gridding Report**

\_\_\_\_\_

### **Search Rules**

Number of Sectors: 4

Maximum Data Per Sector: 6

Minimum Number of Data: 5

Maximum Number of Empty Sectors: 4

Search Ellipse Radius #1: 94.2

Search Ellipse Radius #2: 94.2

Search Ellipse Angle: 0

# **Gridding Rules**

Gridding Method: Kriging Kriging Type: Point

# Semi-Variogram Model

Component Type:

Variogram Slope:

Anisotropy Angle:

Anisotropy Ratio:

Polynomial Drift Order:

Kriging standard deviation grid:

Linear

1

0

no

# **Grid Summary**

Grid File Name: X:\PROJECTS\54511\Survey\Topography\Basedata.grd

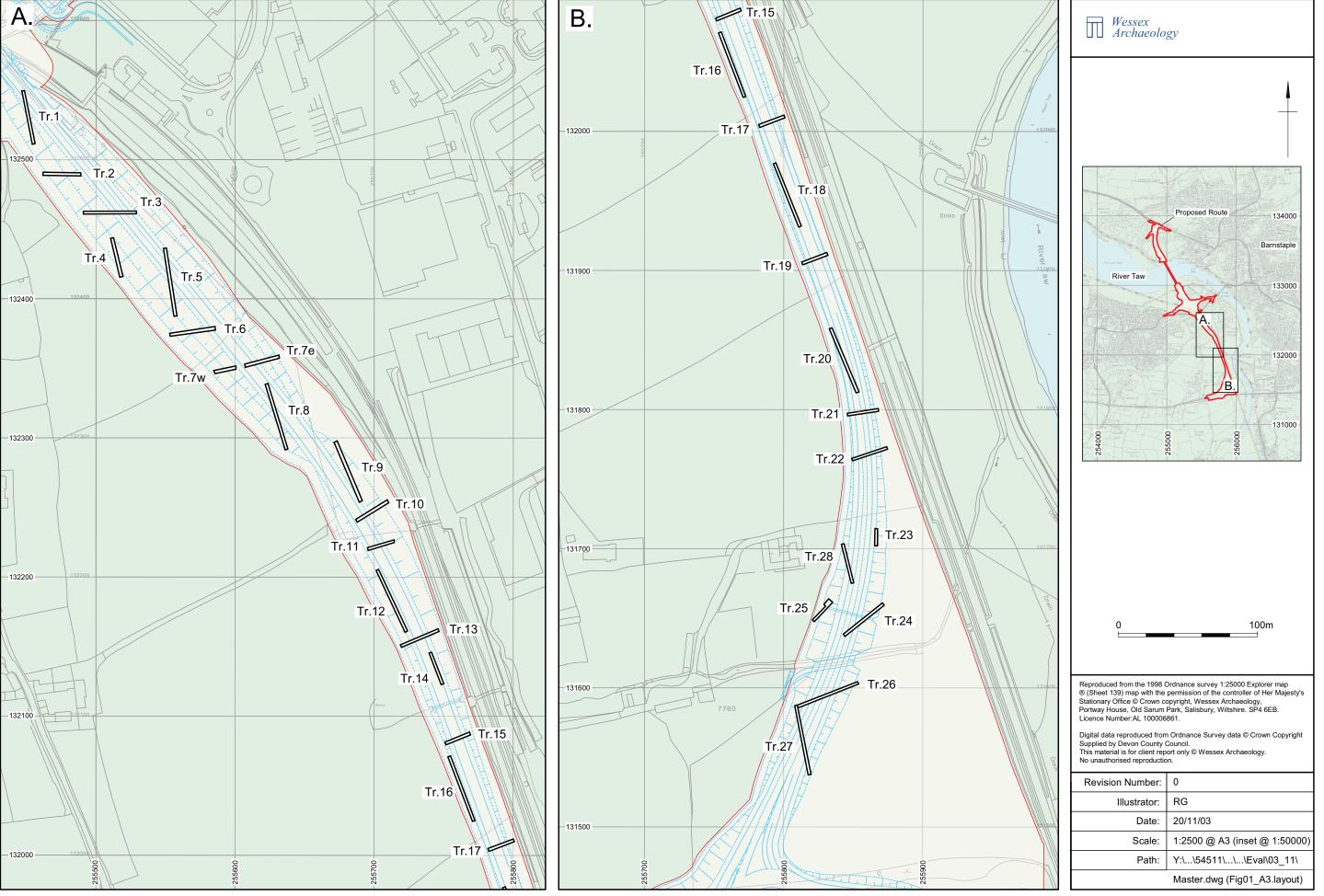
Minimum X: 255800 Maximum X: 255920

Minimum Y: 131620 Maximum Y: 131775

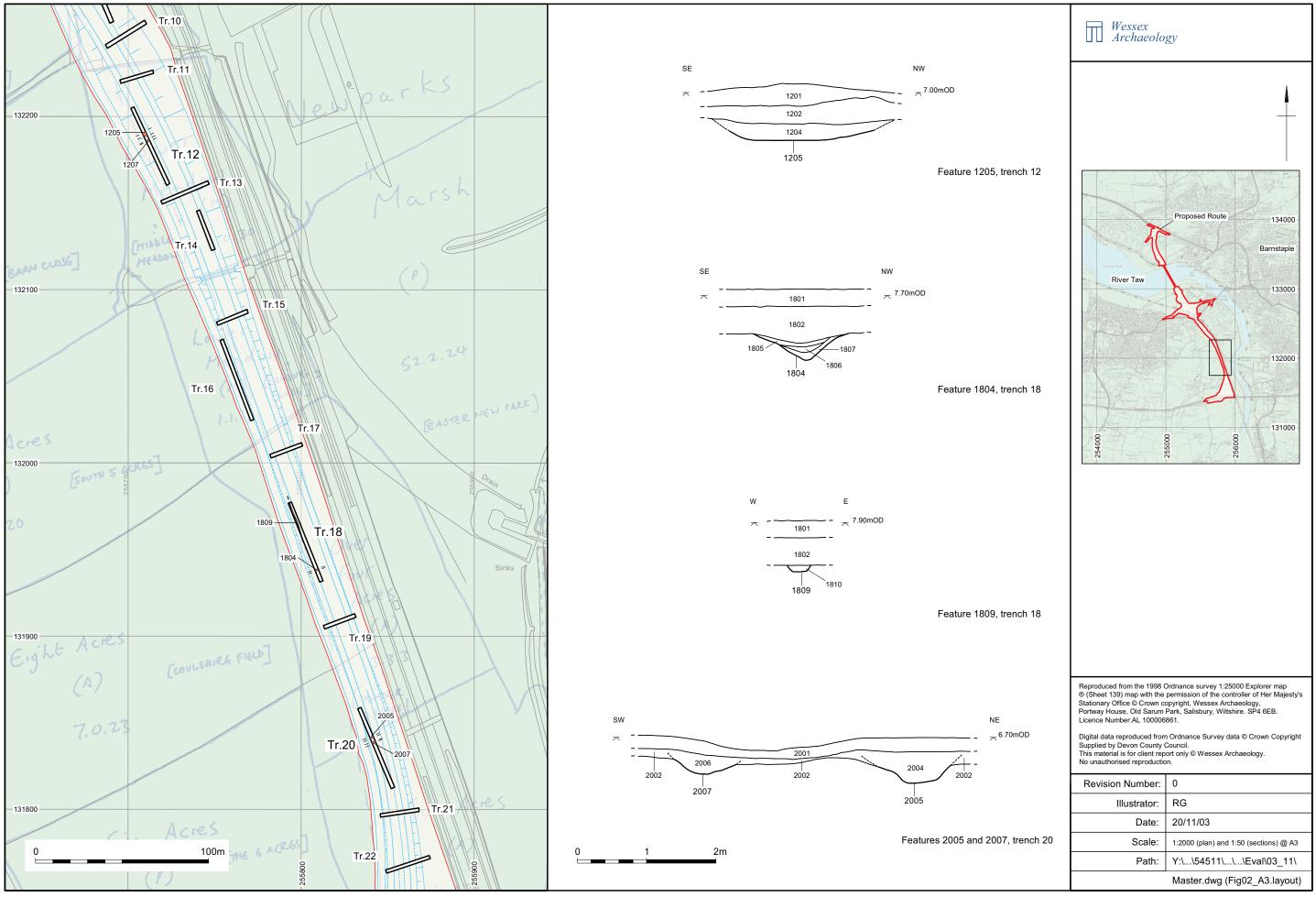
Minimum Z: 3.73834 Maximum Z: 7.22059

Number of Rows: 311 Number of Columns: 241

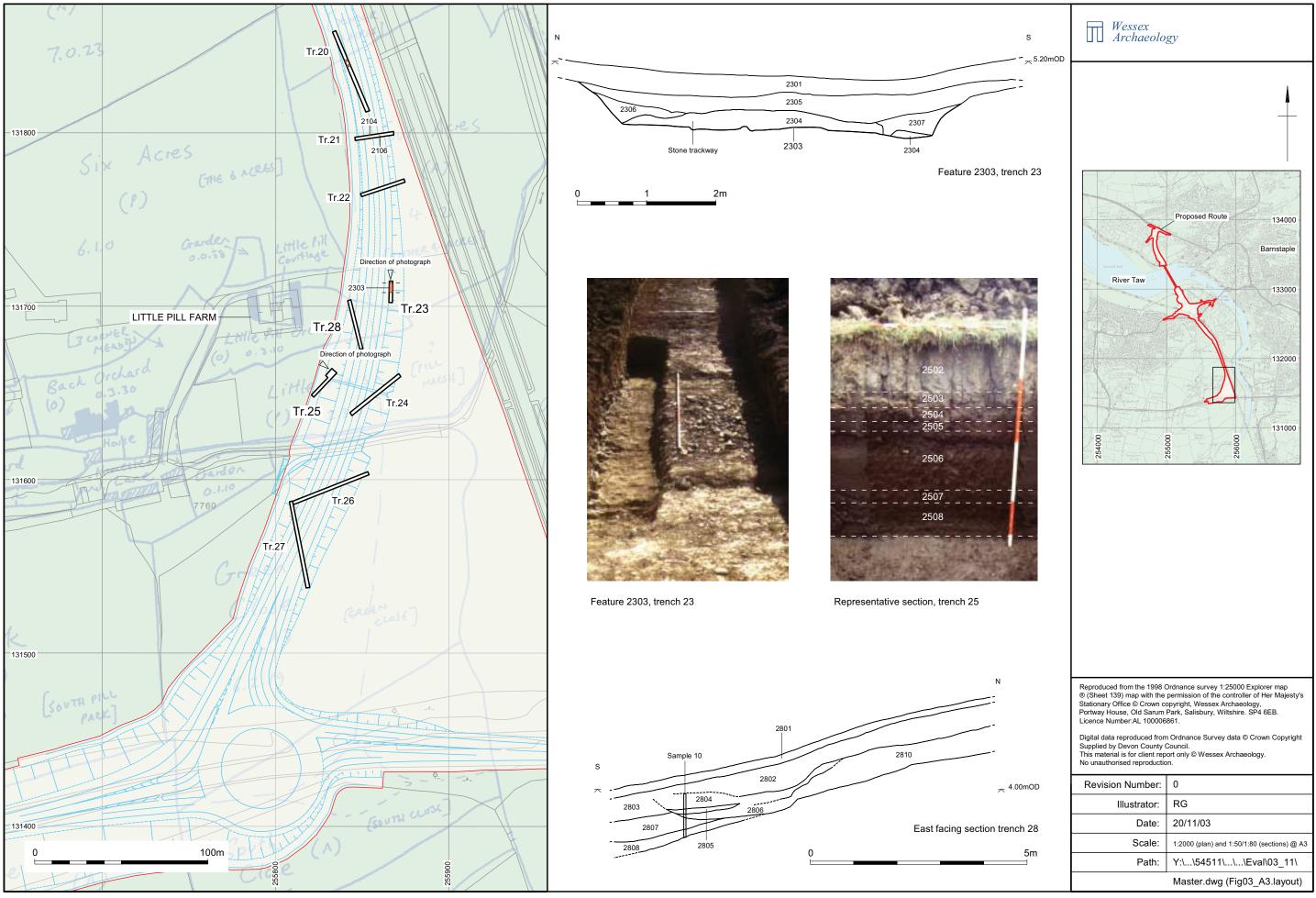
Number of Filled Nodes: 74951 Number of Blanked Nodes: 0 Total Number of Nodes: 74951



Site and trench location



Location of features, trenches 12, 18 and 20, with tracing of Tithe map in background



Location of feature, trench 23, with tracing of Tithe map in background

