

**An Archaeological Watching Brief at Balcombe  
Wastewater Treatment Works, Balcombe, West Sussex**

**MID SUSSEX: Balcombe  
Planning Ref: BA/2597/06**

**NGR 531383 128475**

**Project No. 2761  
Site Code: BTW 07**

**ASE Report No. 2008121  
OASIS id: archaeol6-47094**

**Simon Stevens BA MIFA**

**With contributions by  
Trista Clifford and Lucy Allott**

**September 2008**

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**Abstract**

*An archaeological watching brief was maintained during groundworks at Balcombe Wastewater Treatment Works between June and August 2007. No significant archaeological or geoarchaeological deposits, features or finds were identified.*

## **CONTENTS**

- 1.0 Introduction**
- 2.0 Archaeological Background**
- 3.0 Archaeological Methodology**
- 4.0 Results**
- 5.0 The Finds and Environmental Sample**
- 6.0 Discussion**

**Bibliography**  
**Acknowledgements**

**SMR Summary Sheet**  
**OASIS Form**

### **FIGURES**

- Figure 1: Site Location
- Figure 2: Site Plan showing Monitored Areas
- Figure 3: Potential Features

### **TABLES**

- Table 1: Quantification of Site Archive
- Table 2: List of Recorded Contexts
- Table 3: Flot and Residue Quantification

## **1.0 INTRODUCTION**

### **1.1 Site Background**

1.1.1 Archaeology South-East (ASE), a division of University College London Centre for Applied Archaeology (UCLCAA) was commissioned by 4Delivery Ltd. to undertake an archaeological watching brief during groundworks at the Balcombe Wastewater Treatment Works, Balcombe, West Sussex (NGR 531383 128475) (Fig. 1).

### **1.2 Geology and Topography**

1.2.1 The site lies on sloping ground which drops south-eastwards towards the valley of a small stream, a tributary of the River Ouse. The highest point of the site lies at c.47mAOD.

1.2.2 According to the British Geological Survey 1: 50000 map of the area (Sheet 302, Horsham) the sites straddles the junction between the local Ardingly Sandstone and the Alluvium of the stream valley.

### **1.3 Planning Background**

1.3.1 Planning permission was granted by West Sussex County Council for the construction of a new motor control centre kiosk and blower kiosk at the site as part of the refurbishment and upgrading of the Wastewater Treatment Works (Planning ref. BA/2597/06). Following consultation with the Council's Archaeological Officers, a Condition (No. 7) was attached to the permission requiring that:

*'The applicant shall make arrangements for archaeological observation and recording to take place during the period when development is undertaken. Details of these arrangements shall be submitted to and approved in advance in writing by the County Planning Authority, at least one month before any work commences on the application site.'*

*Reason: To ensure that adequate archaeological investigation and recording is undertaken prior to the development taking place.'*

1.3.2 Other works associated with the refurbishing and upgrading at the site are Permitted Development (not requiring planning permission). These include the construction of a sand filter lift pumping station, sand filter, backwash return pumping station, a new access road and other associated works. Archaeological monitoring will be undertaken on groundworks associated with this work in accordance with the Water Industry Act 1991 and the *Code of Practice on Conservation, Access and Recreation: Guidance for the Environment Agency and Water and Sewerage Undertakers*.

1.3.3 A Written Scheme of Investigation for the archaeological work undertaken at the site was produced by Diccon Hart of ASE, incorporating comments by Chris Pine, Development Archaeology Service Ltd. regarding the possibility of the presence of geoarchaeological remains (which he considered unlikely).

This was accepted by the West Sussex County Council Archaeologist prior to the commencement of the groundworks. This document set out the scope of the work to be undertaken during the monitoring process, to include the attendance of a geoarchaeologist at site if necessary (ASE 2007).

#### **1.4 Aims and Objectives**

- 1.4.1 The principle objective of the archaeological work was to monitor the groundworks in order to ensure that any features, artefacts or ecofacts of archaeological or geoarchaeological interest exposed during groundworks at the site were recorded and interpreted to appropriate standards.

#### **1.5 Scope of Report**

- 1.5.1 The current report provides results of the monitoring of the site carried out between June and August 2007. The work was undertaken by a team comprised of Simon Stevens, Paul Riccoboni, Alice Thorne (Senior Archaeologists), Tom Collie and David Yates (Archaeologists). The project was managed by Neil Griffin and Diccon Hart (Project Managers).

## **2.0 ARCHAEOLOGICAL BACKGROUND**

- 2.1 Although there are no known archaeological sites within the boundaries of the site, or in the immediate vicinity, Balcombe Wastewater Treatment Works is situated in a position in the landscape that has the potential to yield archaeological remains.
- 2.2 Hence, during consultation between 4Delivery Ltd. and John Mills, Archaeological Officer, West Sussex County Council (emailed dated 4<sup>th</sup> June 2006), it was noted by the latter that:

*'the site partly overlies alluvial deposits of a tributary of the River Ouse. Such deposits may contain parts of buried ancient structures such as weirs and trackways, and associated artefacts: buried riverbank ancient occupation sites, e.g. prehistoric camp sites, with associated worked flint tools and debitage: and deposits of palaeoenvironmental interest containing pollen and microfossils, that can provide information on the ancient local environment.'*

### 3.0 ARCHAEOLOGICAL METHODOLOGY

- 3.1 The archaeological watching brief was maintained during mechanical and manual excavation at the site associated with the creation of a sand filter lift pumping station, sand filter, backwash return pumping station, a new access road and other associated works.
- 3.2 All encountered archaeological deposits, features and finds were recorded to accepted professional standards using standard Archaeology South-East context record forms. Deposit colours were recorded by visual inspection and not by reference to a Munsell Colour chart.
- 3.3 A full photographic record of the work was kept (monochrome print, colour transparencies and digital) and will form part of the site archive. The site archive is currently held by Archaeology South-East at the offices in Portslade, and will be offered to a suitable local museum in due course. The archive consists of the following material:

Number of Contexts	13
No. of files/paper record	1
Plan and sections sheets	-
Bulk Samples	1
Photographs	7 B&W 8 Colour Slide 10 Digital
Bulk finds	discarded
Registered finds	-
Environmental flots/residue	discarded

Table 1: Quantification of Site Archive



## 4.0 RESULTS

- 4.1 Unfortunately, owing to a misunderstanding on the part of the on-site contractors, groundworks carried out during the creation of the site compound were not archaeologically monitored. However, during visits between June and August 2007 various groundworks at the site were monitored.
- 4.2 The initial stages of the archaeological watching brief at the site involved the monitoring of numerous trenches for the redirection of buried services. Much of the excavation was through a c.300mm thick layer of disturbed dark greyish brown silty clay topsoil, Context [01], and the sand into which previously services had been laid, Context [02].
- 4.3 Short lengths of trench were excavated in less disturbed areas, through Context [03], a c.200mm thick, dark greyish brown silty clay topsoil. This overlay Context [04], a 100mm thick mid-greyish brown subsoil, which in turn overlay Context [05], the yellow clay with patches of sandstone 'natural' geological deposits of the area. There was also a localised, 100mm thick deposit of imported crushed chalk, which lay directly on top of the 'natural', noted when the excavation crossed the alignment of the access road (Context [06]).
- 4.4 Monitoring was then undertaken during the mechanical stripping of discrete areas of the site for the siting of new machinery and an associated access road. Much of the excavation was undertaken through previously disturbed ground (Context [01]), (which was recorded as Context [13]), although some areas containing less-disturbed Contexts [03] and [04] were also observed. However one of the monitored areas did contain possible features cut into the surface of the 'natural', recorded as Context [11] (Fig. 3).
- 4.5 The mechanical removal of the topsoil, Context [03], and subsoil (recorded as Context [12]) to facilitate the construction of one of the new filter beds at the site, revealed two possible features (Fig 3). Cut [08] was a sub-circular feature with a diameter of 1.05m, but a depth of only 100mm. The single fill was a dark orangey brown clayey sand (Context [07]). No artefacts were recovered from the feature, and a sample taken for analysis of environmental potential showed no evidence of human intervention.
- 4.6 The other feature, Cut [10] was of unclear extent and depth. The discernible fill was Context [09], a deposit of dark orangey brown clayey silt. This was observed to a depth of 500mm during the mechanical excavation of a trench across the area (Fig. 3) It would appear that the edge of this feature marks the boundary between the Alluvium of the stream valley and the Ardingly Sandstone deposits of the higher ground, and hence it is geological in origin. Given the similarity of the fills, it is equally likely that feature [08] was also 'natural' in derivation.
- 4.7 The recorded contexts are tabulated below.

<b>Context Number</b>	<b>Type</b>	<b>Description</b>	<b>Maximum Length</b>	<b>Maximum Width</b>	<b>Deposit Depth</b>
<b>01</b>	Deposit	Disturbed Topsoil	-	-	c.300mm
<b>02</b>	Deposit	Modern Sand	-	-	-
<b>03</b>	Deposit	Topsoil	-	-	c.200mm
<b>04</b>	Deposit	Subsoil	-	-	c.100mm
<b>05</b>	Deposit	'Natural'	-	-	-
<b>06</b>	Deposit	Redeposited Chalk			c.100mm
<b>07</b>	Fill	?Pit	1.05m	1.05m	10mm
<b>08</b>	Cut	?Pit	1.05m	1.05m	10mm
<b>09</b>	Fill	?Geological	?	?	?
<b>10</b>	Cut	?Geological	?	?	?
<b>11</b>	Deposit	'Natural'	-	-	-
<b>12</b>	Deposit	Subsoil	-	-	c.100mm
<b>13</b>	Deposit	Made Ground	-	-	c.350mm

Table 2: List of Recorded Contexts

## 5.0 THE FINDS AND ENVIRONMENTAL SAMPLE

### 5.1 The Finds by Trista Clifford

5.1.1 The watching brief at Balcombe Wastewater Treatment Works produced eight fragments of unworked stone weighing 88g from possible pit fill, Context [7]. Seven are identified as sandstone; the remaining piece is possibly siltstone. All are geological in nature; therefore hold no potential for further analysis

### 5.2 The Environmental Sample by Lucy Allott

5.2.1 A single soil sample was taken during archaeological works to establish the presence of environmental remains within Context [7], a possible pit fill deposit. The sample was processed using tank flotation, the flot and residue were retained on 250 and 500 µm meshes respectively and were sorted for archaeological and environmental remains which are recorded in Table 3.

5.2.2 This sample produced a few small charcoal fragments only. As no other archaeological or environmental remains were recovered the sample holds no potential for further analysis.

Sample No.	1	
Context No.	7	
	Flot	Residue
Volume ml	200	
Total Weight g	12	
Uncharred %	98	
Sediment %	<2	
Charcoal >4mm		*/<2g
Charcoal <4mm	*	*/<2

Table 3: Flot and Residue Quantification (\* = 1-10, \*\* = 11-50, \*\*\* = 51-250, \*\*\*\* = >250) and weight in grams.

## **6.0 DISCUSSION**

- 6.1 Despite extensive monitoring, no deposits, features or finds of archaeological significance were recorded during the watching brief. It was unfortunate that the groundworks associated with the creation of the site compound were not monitored, and it is possible (although arguably unlikely given the results from the monitored areas) that archaeological deposits might have been encountered there.
- 6.2 Much of the monitored area had been previously truncated during the construction and use of the Wastewater Treatment Works. However, no archaeological artefacts were recovered from the observed deposits in these areas, suggesting that no significant archaeological features had been disturbed.
- 6.3 The only anomalies encountered during the monitoring appear to have been geological in origin, and reflect the known change in the nature of the underlying deposits at the site. As only a small area of the alluvial deposit was encountered (and only disturbed to a maximum depth of 500mm) there was little potential for geoarchaeological investigation.
- 6.4 Therefore, based on currently available evidence, it can be said with some confidence that the groundworks at the site did not lead to the disturbance of any significant archaeological or geoarchaeological deposits.

## **7.0 CONCLUSION**

- 7.1 The implementation of an archaeological watching brief was appropriate given the potential of the site, and would have led to the identification of significant archaeological or geoarchaeological deposits, had they been present at the site.

## **BIBLIOGRAPHY**

Archaeology South-East, 2007. *Balcombe WTW, Balcombe, West Sussex Archaeological Watching Brief Written Scheme of Investigation*. Unpub. ASE Document

## **ACKNOWLEDGEMENTS**

The co-operation and hospitality offered by the on-site contractors is gratefully acknowledged.

**SMR Summary Form**

Site Code	BTW 07					
Identification Name and Address	Balcombe Wastewater Treatment Works					
County, District &/or Borough	Mid Sussex District, West Sussex					
OS Grid Refs.	531383 128475					
Geology	Ardingly Sandstone/Alluvium					
Arch. South-East Project Number	2761					
Type of Fieldwork	Eval.	Excav.	Watching Brief ✓	Standing Structure	Survey	Other
Type of Site	Green Field	Shallow Urban	Deep Urban	Other <i>Wastewater Treatment Works</i>		
Dates of Fieldwork	Eval.	Excav.	WB. <i>June 2007 – August 2007</i>	Other		
Sponsor/Client	4Delivery					
Project Manager	Neil Griffin/Diccon Hart/Jim Stevenson					
Project Supervisor	Simon Stevens					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	Other <i>Modern</i>		
<p>100 Word Summary.</p> <p><i>An archaeological watching brief was maintained during groundworks at Balcombe Wastewater Treatment Works between June and August 2007. No significant archaeological or geoarchaeological deposits, features or finds were identified.</i></p>						

**OASIS Form**

**OASIS ID: archaeol6-47094**

**Project details**

Project name	Watching Brief at Balcombe Wastewater Treatment Works
Short description of the project	Monitoring during groundworks at the site. No significant archaeological remains.
Project dates	Start: 04-06-2007 End: 30-08-2007
Previous/future work	No / No
Any associated project reference codes	2761 - Contracting Unit No.
Any associated project reference codes	BTW 07 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Transport and Utilities 3 - Utilities
Monument type	NONE None
Monument type	NONE None
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	'Watching Brief'
Prompt	Direction from Local Planning Authority - PPG16

**Project location**

Country	England
Site location	WEST SUSSEX MID SUSSEX BALCOMBE Balcombe Water Treatment Works
Postcode	RH17 6IH
Study area	1000.00 Square metres
Site coordinates	0 0 531383 00 00 N 128475 00 00 E Point
Site coordinates	TQ 531383 128475 50.8941989509 0.177771578030 50 53 39 N 000 10 39 E Point
Height OD / Depth	Min: 70.00m Max: 79.00m

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#### **Project creators**

Name of Organisation	Archaeology South-East
Project brief originator	West Sussex County Council
Project design originator	Archaeology South-East
Project director/manager	Neil Griffin
Project supervisor	Simon Stevens
Type of sponsor/funding body	Client
Name of sponsor/funding body	4Delivery Ltd.

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#### **Project archives**

Physical Archive Exists?	No
Digital Archive recipient	Local Museum



Digital Contents	'other'
Digital Media available	'Images raster / digital photography'
Paper Archive recipient	Local Museum
Paper Contents	'other'
Paper Media available	'Context sheet','Correspondence','Map','Notebook - Excavation',' Research',' General Notes','Photograph','Plan','Report'

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### **Project bibliography 1**

Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief at Balcombe Wastewater Treatment Works, Balcombe, West Sussex
Author(s)/Editor(s)	Stevens, S.
Other bibliographic details	ASE Report No. 2008121
Date	2008
Issuer or publisher	Archaeology South-East
Place of issue or publication	Portslade, East Sussex
Description	Standard ASE Client Report : A4-Size with cover logo.

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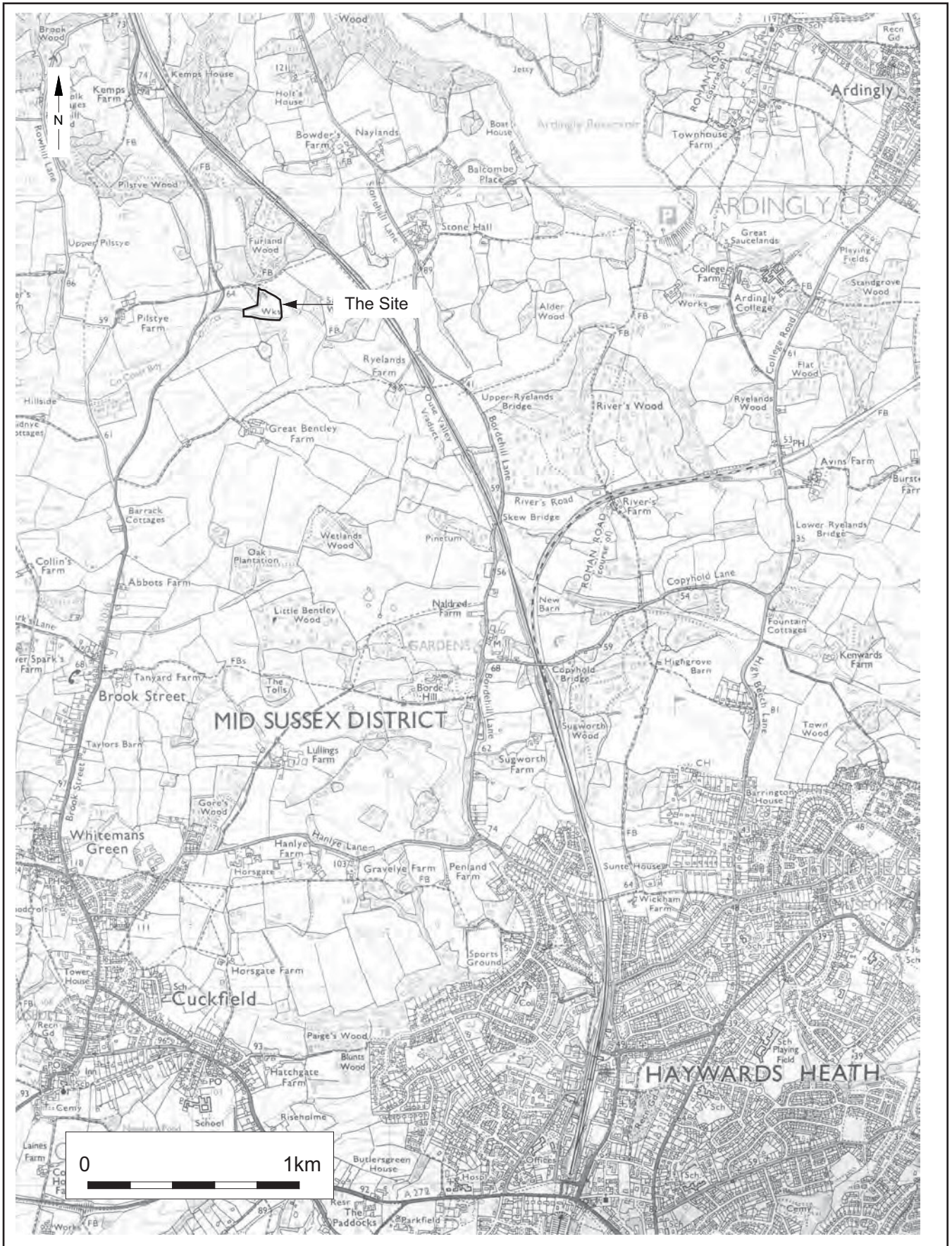
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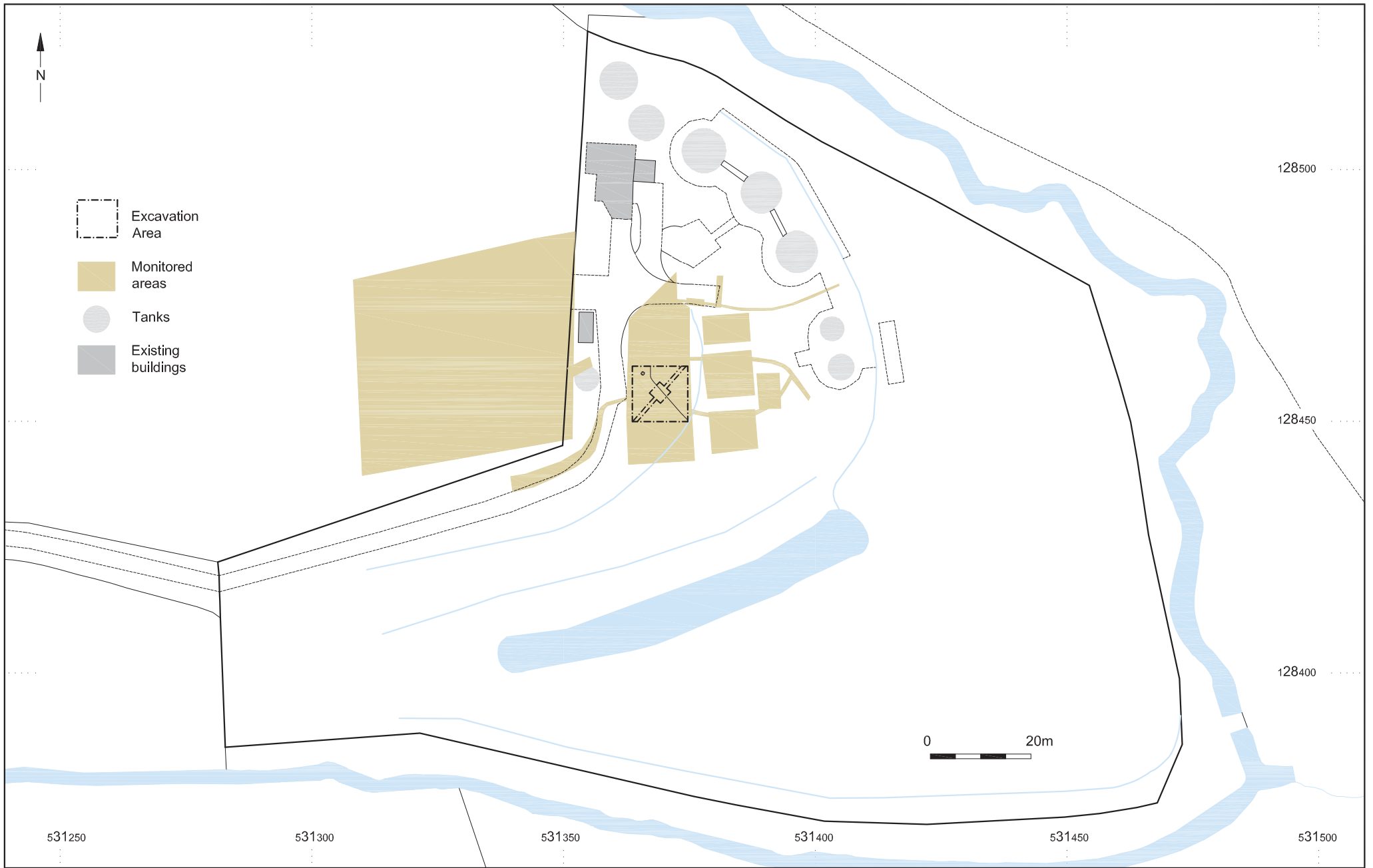
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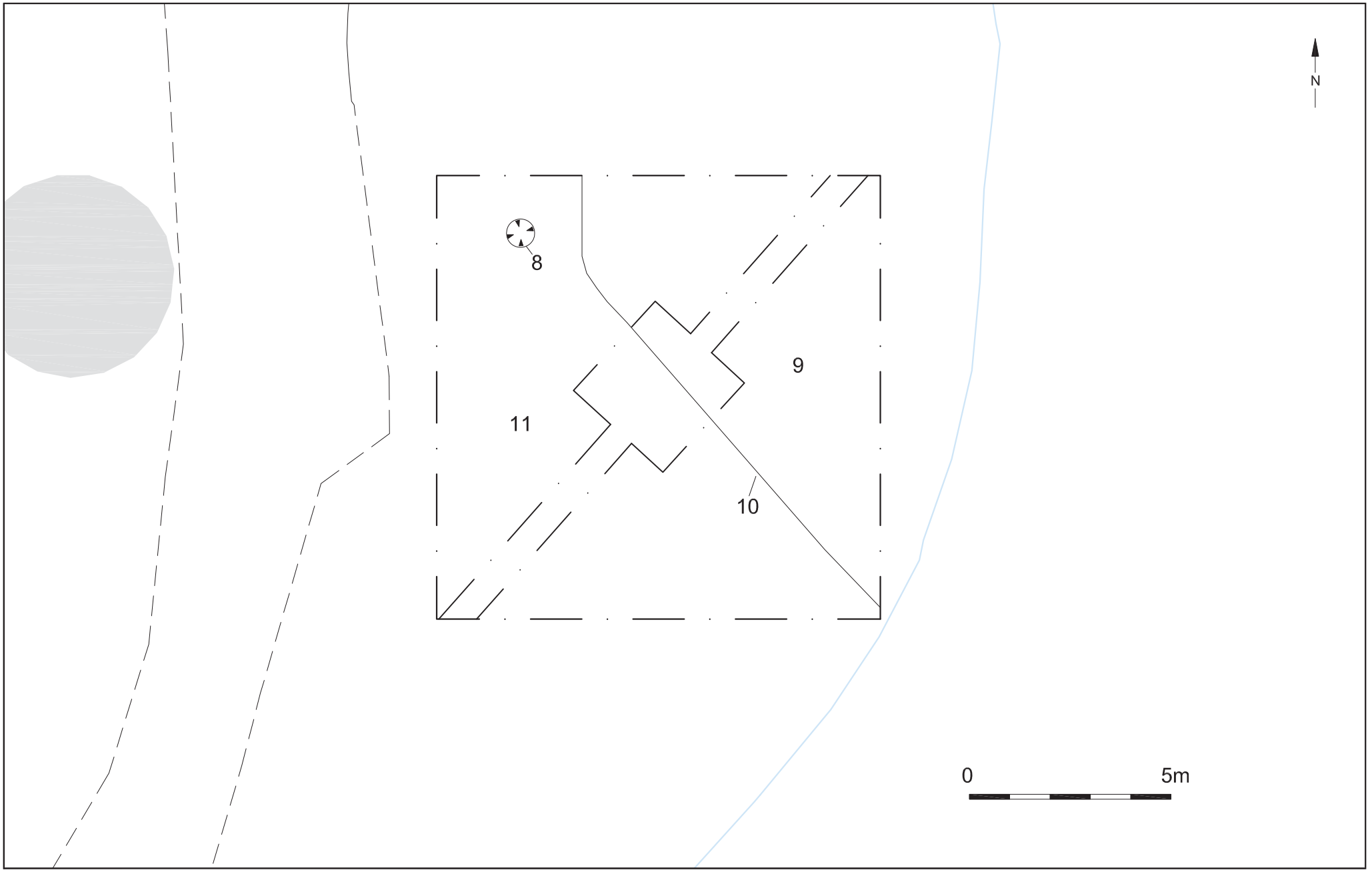
© Archaeology South-East		Balcombe WTW	Fig. 1
Project Ref: 2761	Oct 2008	Site location	
Report Ref: 2008121	Drawn by: JNC		

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© Archaeology South-East		Balcombe WTW	Fig. 2
Project Ref: 2761	Oct 2008	Site Plan showing monitored areas	
Report Ref: 2008121	Drawn by: FEG		



© Archaeology South-East		Balcombe WTW	Fig. 3
Project Ref: 2761	Oct 2008	Potential Features @ 1:125	
Report Ref: 2008121	Drawn by: FEG		

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