Archaeological Services & Consultancy Ltd

WATCHING BRIEF
A47 HARDWICK ROUNDABOUT IMPROVEMENTS
KINGS LYNN
NORFOLK

on behalf of Birse Construction

Joe Abrams BA AIFA

March 2003

ASC: KLH02/2

Letchworth House
Chesney Wold, Bleak Hall,
Milton Keynes MK6 1NE
Tel: 01908 608989 Fax: 01908 605700
Email: office@archaeological-services.co.uk
Website: www.archaeological-services.co.uk

REGISTERED IFA ORGANISATION

Site Data

ASC site code:	KLH02	*Project no:*	439
SMR reference:	37507 RCN		
County:	Norfolk		
District:	West Winch		
Parish:	North Runcton		
NGR:	TF 6329 1825		
Present land use:	Roundabout		
Planning proposal:	Improvements to current roundabout and construction of a flyover and additional mini roundabout.		
Client:	Birse Civil Ltd, Site Offices Hardwick Farm Hardwick Roundabout Norwich Road Kings Lynn PE33 0QP		
Contact name:	Ali Chowdry or Joe McGlynne		
Telephone		*Fax:*	

Internal Quality Check

Primary Author:	Joe Abrams	*Date:*	26 March 2003
Edited/Checked By:		*Date:*	
Revisions:		*Date:*	
Edited/Checked By:		*Date:*	

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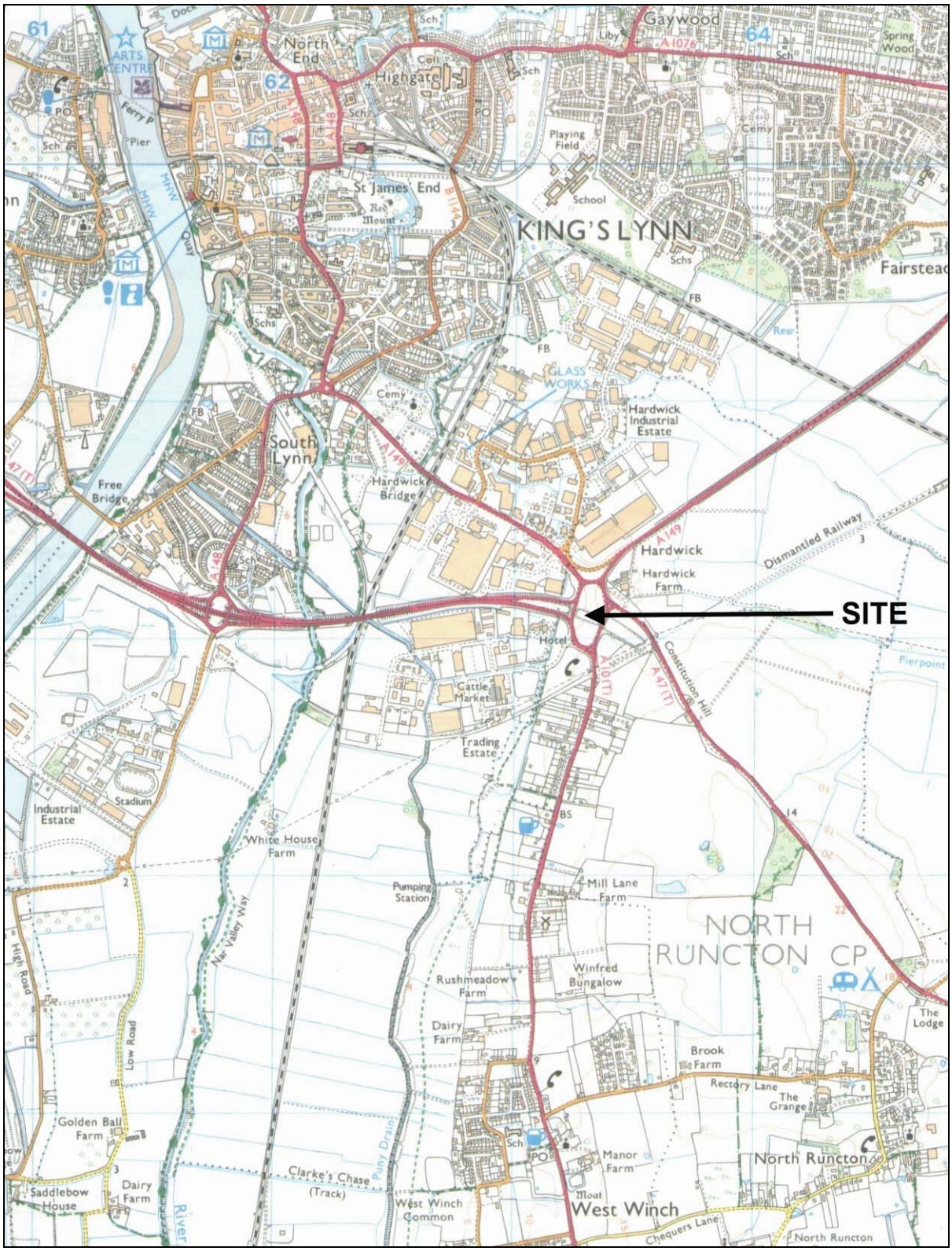


Figure 1: General location *(scale 1:25,000)*

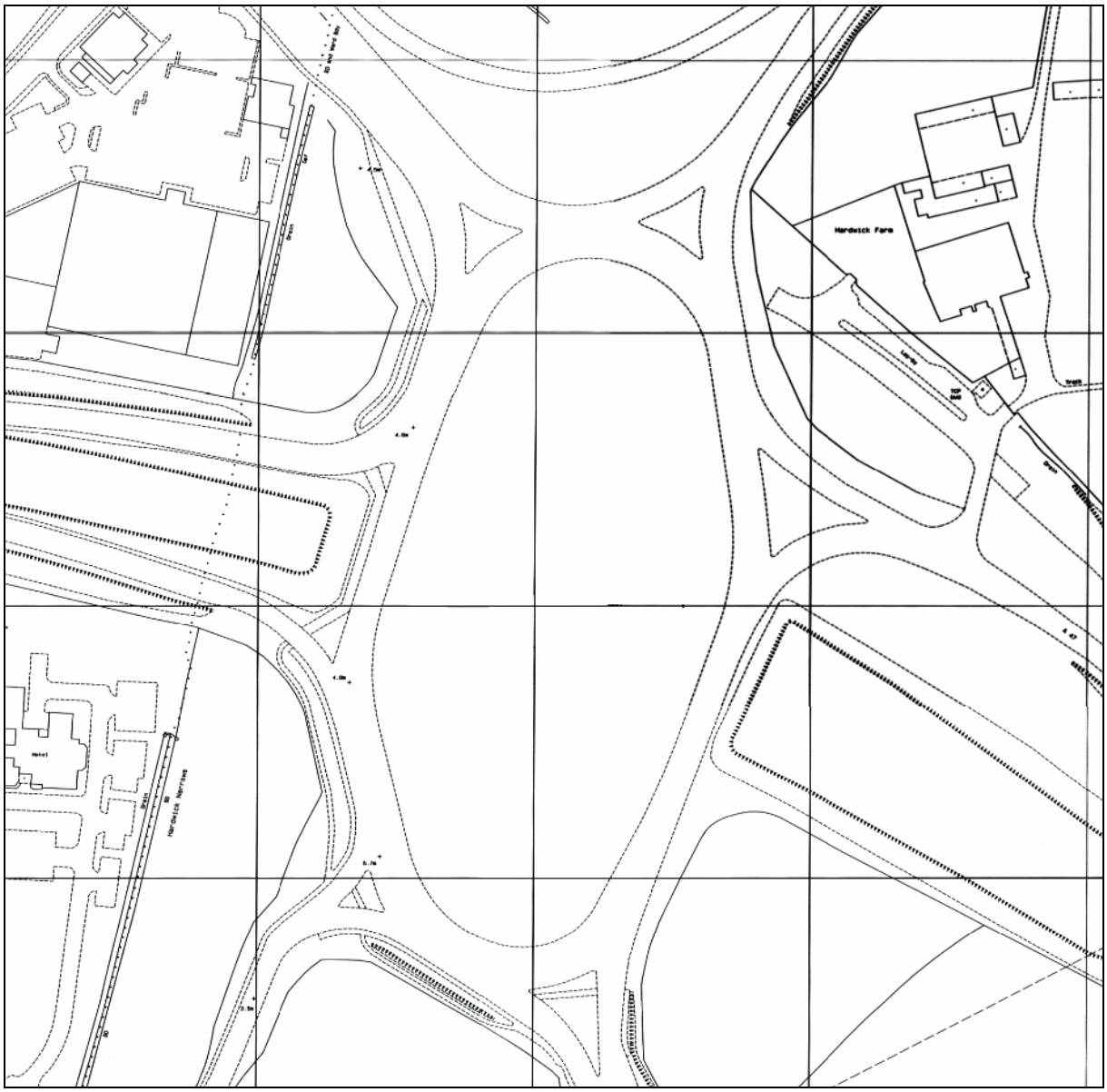


Figure 2: Site plan *(scale 1:2500)*

Summary

Between December 2002 and March 2003 a watching brief was carried out by Archaeological Services and Consultancy Ltd (ASC) during the construction of a viaduct over the A47 Hardwick Roundabout Improvement Scheme, Kings Lynn, Norfolk.

No significant archaeological features were observed during this watching brief.

1 Introduction

1.1 The project was commissioned by Birse Construction, and was carried out according to a specification, prepared by The Highways Agency (Highways Agency XTO186/HW/CD/002/B01) and a project design prepared by ASC (Abrams 2002).

1.2 ***Setting***

1.2.1 The site is the Hardwick roundabout. It is located *c.*1.7km south of central Kings Lynn, at National Grid Reference (NGR) TF 6329 1825. The site functions as a junction for three important roads. The A10 starts at the Hardwick roundabout and runs south to Cambridge, the A47 runs from Great Yarmouth in the east to Leicester in the west and the A149 starts in Kings Lynn and follows the north Norfolk coastline to the east.

1.2.2 The land to the east and west of the roundabout (Fig. 2) is covered by significant embankments. Due to the existence of these embankments, much of the groundworks associated with the construction of the A47 viaduct, terminal roundabout and additional roads had no impact on the potential archaeological resource. The area within the roundabout, in which piers 1 – 4 and two drainage viaducts were constructed (Fig. 2), did not have the same protection from built up embankments, and therefore groundworks within this area were likely to damage or destroy any archaeological features which may have been located here.

1.2.3 The elevation of the site is *c.*5m OD on soils that are classified as belonging to the Downham association (Soil Survey, 1983) being 'deep permeable sandy and coarse loamy often ferruginous soils variably affected by groundwater, with a risk of flooding'.

2 Aims & Methods

2.1 *Aims*

The aim of the Watching Brief was to ensure that, if archaeological features were revealed during the development, they could be adequately recorded, and if necessary, emergency salvage excavation undertaken.

2.2 *Methods*

2.2.1 The work was carried out according to the Highways Agency Specification, Appendix 1/70 (Highways Agency 2002) which required 1.1, 1.2 and 1.6:

- Intermittent archaeological monitoring of the construction works should take place.

- The purpose of the watching brief shall be to allow trained archaeologists to identify, record and retrieve (as far as is reasonably practicable) remains that may be uncovered in the course of construction.

2.2.2 Each site visit was recorded on ASC's Site Monitoring Sheets (Appendix 1). A photographic record (B&W prints, Colour slides and a selection of colour print and digital photographs) was also maintained throughout the watching brief. Plans of the development provided by the client (Fig. 3) were used as the basis for recording the location of archaeological features and finds.

2.3 *Milestones for Archaeological Monitoring*

Following a site visit on the 10 December 2002 it was decided that the milestones for monitoring the progress of the watching brief should be:

- The completion of monitoring on the area within which Piers 1 – 4 were to be constructed.

- The completion of monitoring on the drainage culvert adjacent to Piers 1 - 4.

2.4 *Standards*

The work was carried out in accordance with the Institute of Field Archaeologists' *Standard and Guidance for Watching Briefs*, and the relevant section(s) of ASC's *Operations Manual*.

3 Archaeological & Historical Background

3.1 **Prehistoric** *(before 600BC)* to **Iron Age** *(600BC-AD43)*

The site lies on the north side of the Nar Valley, which contains numerous sites of archaeological interest including several flint scatters dating to the prehistoric period and pottery and briquetage indicating the presence of salterns during the Roman period (Sylvester 1988). However, the highest concentrations of these sites are 3-4km to the south of the site in the lower part of the valley around the present day settlements of Setchey and Blackborough End.

Within the vicinity of the Hardwick roundabout, sites of archaeological interest include the findspots of two flint axes dating to the prehistoric period. These were recovered in West Winch *c.*1.8km to the south. The sites of at least three salterns dated to the 12th –13th centuries by associated pottery were recorded *c.*700m southwest of the site adjacent to the River Nar (Sylvester 1988).

3.2 **Roman** *(AD43-c.450* to **Medieval** *(1066-1500)*

To the north of the site is the city of Kings Lynn which is rich in historical and archaeological sites mostly dating from the medieval period. During this period the city was an important centre for maritime trade with the continent. The name Lynn is thought to derive from the Celtic language of the region and was known variously as Lin, Lenne and Leuna, meaning place of spreading waters (Campbell *et al* 2001). The Domesday Survey (1086) refers to many salterns being present in the west Norfolk region, an industry to which the area was well suited due to the regular flooding of the area by salt-rich seawater. Fishing, farming and salt production and its trade formed the original economic backbones of the settlement at Lynn. However, during by the 13th century AD the town became the third most prosperous port in the country, after London and Southampton, mainly because of the wool trade with Europe.

By AD 1300 many of the grandest buildings in Lynn had already been constructed including the friaries dedicated to the Carmelite, Franciscan, Dominican and Augustinian orders.

The south gate (Fig. 3) and city defences were located *c.*1.5km northwest of the site. Behind these lay the district of South Lynn and the two important ecclesiastical centres which it contained. These comprised a friary established in the 12th century by the Whitefriars, and All Saints' Church which was parish church to South Lynn, and is believed to have been built during the late 11th century, a short time after the Domesday survey had been carried out.

3.3 **Post-Medieval** *(1500-1900)* to **Modern** *(1900-present)*

The site was located in the agricultural hinterland of Kings Lynn during the Post-Medieval and Modern period. Agricultural land still surrounds the site to the south, but the Hardwick Industrial Estate has been constructed a short distance to the north. This has given the area a relatively built-up appearance and the roundabout now lies on the southern boundary of the town.

4 Results

4.1 Two visits were made on 10 December 2002 and 26 March 2003. Details of the works observed in each visit and a full description of all the deposits observed can be seen in Appendices 1 and 2.

4.2 ***Monitoring on the area within which Piers 1 – 4 were to be constructed (Fig. 4)***

Prior to the construction of Piers 1 – 4 an overburden strip was required across the roundabout. This involved the removal of topsoil and all other overburden in a northwest to southeast strip measuring *c.*110m L x *c.*17.00m W x 0.50m – 1.90m D. The natural subsoil was removed to a depth of 0.90m in the centre of this strip (Fig. 5, Plate 3).

No significant archaeological features were identified in either the base or the sections of this stripped area. A series of modern make-up layers (1, 2, 3 and 4) were observed overlying layer 5 which was the original topsoil layer. These make-up layers were deposited during the 20th century construction of the Hardwick roundabout, and in the centre of the roundabout they overlay the remains of the old A10 road which was aligned north-south, leading towards Kings Lynn.

As natural subsoil had been revealed right across the area within which the trenches for Piers 1 – 4 were to be excavated and constructed, and no significant archaeological features had been observed, it was decided that archaeological monitoring should cease on this phase of works.

The west facing section of a test pit *c.*20m south of the above stripping (Fig. 5, Plate 4) was also observed during the same monitoring visit. An almost identical stratigraphic sequence of modern make-up layers overlying natural subsoil was observed.

4.3 ***Monitoring on the drainage culvert to the north of Piers 1 – 4 (Fig. 4)***

A drainage culvert measuring *c.*96.00m L x *c.*8.00m wide x *c.*2.00m D was excavated 12m north of Piers 1 - 4. This was aligned northwest to southeast, parallel to the piers. The groundworks for this involved the removal of layers 1 – 5 (above) and the excavation of a trench which cut the natural subsoil to a depth of 2.00m.

No archaeology was observed at the interface between layer 5 and the natural subsoil, where the potential was highest, or within the natural subsoil. Three 20th century drainage pipes were observed in the sections of the culvert. These were aligned broadly north – south, and are very likely to have been associated with the A10 road, which formerly ran across the land now occupied by the roundabout.

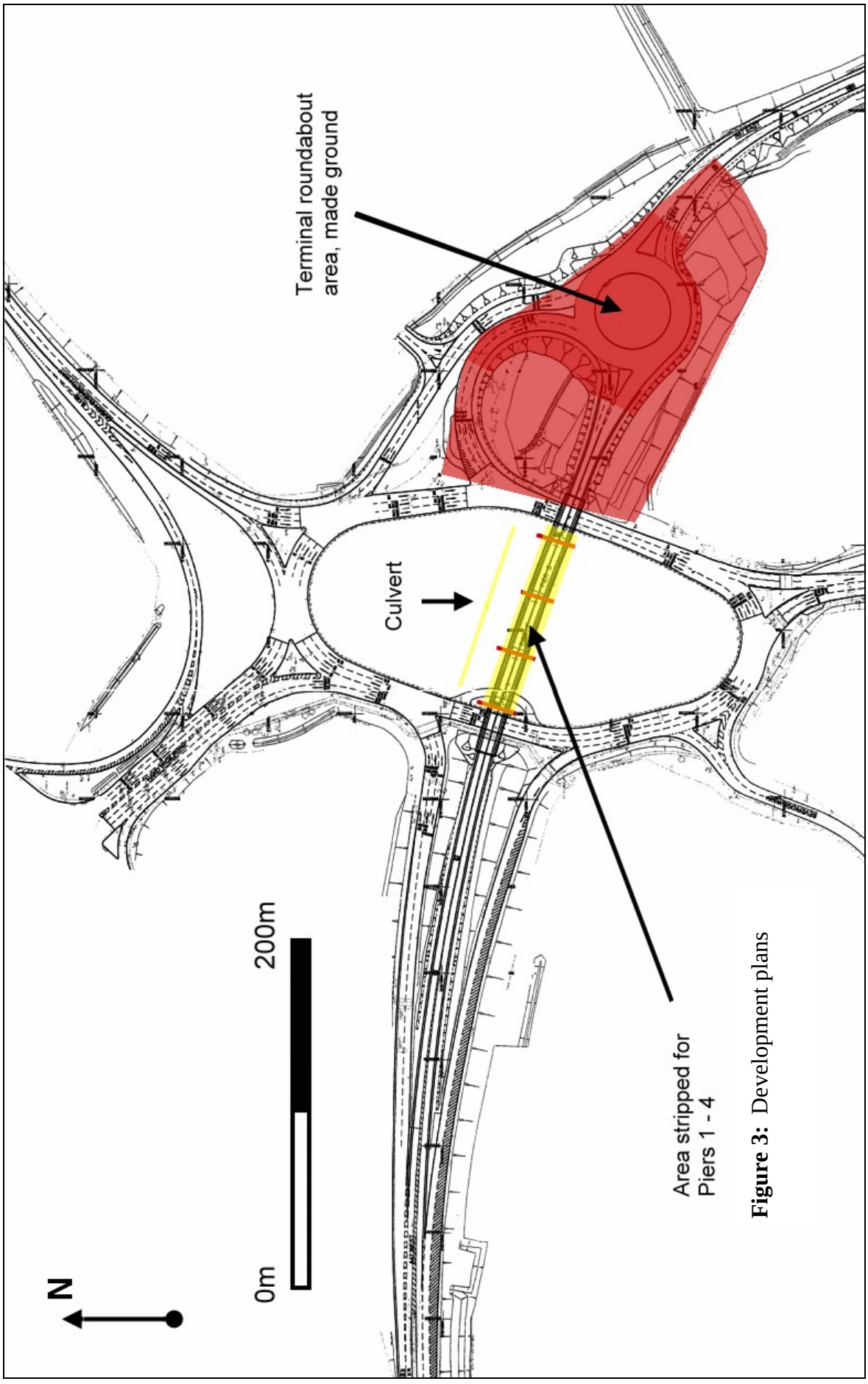


Figure 3: Development plans

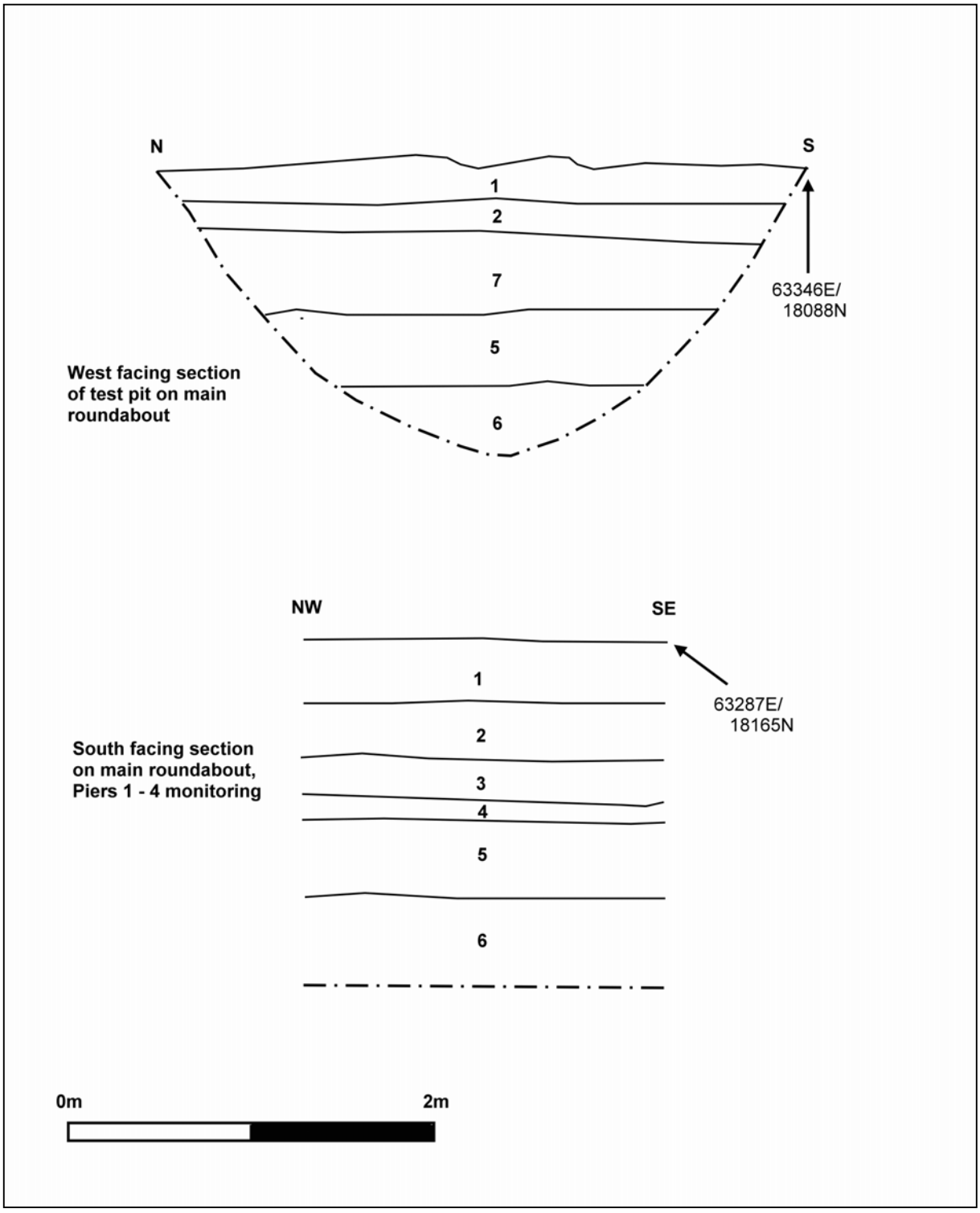


Figure 4: Selected sections from the monitoring of Piers 1 – 4 and associated test pit.

Plate 1: Stripping on the main roundabout, piers 1 – 4.

Plate 2: Stripping on the main roundabout, piers 1 – 4.

Plate 3: Test pit on main roundabout, facing east.

Plate 4: Natural subsoil visible in section of pier strip on main roundabout, facing north.

Plate 5: Culvert during excavation, facing east.

Plate 6: Natural subsoil visible in culvert sections, facing west.

5. Conclusions

5.1 No significant archaeological features were observed within the site. There are three reasons for this.

Firstly, the majority of the groundworks associated with this project took place on land which had been built up by large quantities of imported material. In the area of the access road and terminal roundabout this was four metres deep. Any archaeology located in this area has remained sealed beneath these banks of soil.

Secondly, the parts of the site which were subject to archaeological monitoring, due to the potentially destructive depths of groundworks, were within the existing Hardwick roundabout. This land had been subject to considerable landscaping in the past, which may have disturbed or removed the upper surface of the natural subsoil, the deposit most likely to contain archaeology. Prior to the existence of the roundabout, the A10 road had cut across the land in a north south alignment. Drainage and tarmac associated with this were recorded during the watching brief. Again groundworks associated with the construction of this road will have disturbed and possibly removed deposits with archaeological potential.

The third reason is that the site is situated *c.*1.5km from the south gate to Kings Lynn beyond which the historic core of the town lies. Therefore the activities taking place at this site during the Medieval period would have been peripheral to the town. It is likely that the area was used for agricultural production during the Medieval and Post-Medieval periods. Evidence from earlier periods is recorded within the vicinity, but no finds were known from the site.

6. Acknowledgements

The writer is grateful to Sean Farrell of Birse Civils Ltd for commissioning ASC to undertake this work. Thanks are also due to Joe McGlynne and Mushtaq Ahmed for their on site support and co-operation during the works. The fieldwork and report preparation was undertaken by Joe Abrams of ASC Ltd.

7. Archive

7.1 The project archive will be deposited with Norwich Castle Museum, Castle Meadow, Norwich, NR1 3JU.

7.2 The accession number allocated to the archive is 37507 RCN

7.3 The project archive comprises:

1. Field Monitoring Sheets
2. Context Register
3. Context Sheets
4. Sketch Plans
5. Photographic Registers
6. Black and white prints and negatives
7. Colour slides
8. Report (this document)
9. CDROM
10. Project Design
11. Highways Agency Specification, Appendix 1/70

8. Bibliography

Allen J L & Holt A St J, 1986 (with later updates) *Health & Safety in Field Archaeology*. Standing Conference of Unit Managers (London).

Campbell L Howling J Sykes P Willars B 2001 *Kings Lynn: The First Thousand Years*. (Kings Lynn Town Guides).

EH 1991 *The Management of Archaeological Projects, 2nd edition.* English Heritage (London).

Higgins D 2001 *The Antiquities of Kings Lynn. From The Sketchbooks of The Rev. Edward Edwards.* (Phoenix Publications).

Highways Agency 2002 *A47 Hardwick Roundabout Improvement Preamble to the Specification* Volume 3 XT0186/HW/CD/002/B01.

Ferguson L.M. & Murray D.M. 1997 *Archaeological Documentary Archives: Preparation, Curation and Storage.* Institute of Field Archaeologists' Paper **1** (Manchester).

IFA 2001 Institute of Field Archaeologists' *Standard & Guidance* documents *(Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds).*

Soil Survey 1983 *The 1:250,000 Soil Map of England and Wales, and accompanying legend* (Harpenden).

Sylvester RJ 1988 *The Fenland Project Number 3: Norfolk Survey, Marshland and the Nar Valley*. Norfolk. East Anglian Archaeology 45.

Appendix 1: Details From Field Monitoring Sheets

SHEET (1)

A.S.C. LTD **ARCHAEOLOGICAL FIELD MONITORING RECORD**

Project Name: A47 HARDWICK	Project Code: KLH02	Date of visit: 10-12-02
Location: KINGS LYNN, NORFOLK		
Client/Developer: BIRSE CONSTRUCTION		
Architect:		
Site Manager/ Farmer: ALI CHOWDRY/JOE	Phone:	

Development Type:

Foundations	Services	Roads ✓	Levelling	Quarrying	Pipelines	Other (specify):

Site & weather conditions:
OVERCAST

Observations: ARRIVE 7.30 AM DEPART 3 PM
MAIN ROUNDABOUT AREA:
OBSERVED STRIPPING RIGHT ACROSS ROUNDABOUT IN A N/W – S/E ALIGNMENT. THIS WENT RIGHT ACROSS THE LOCATIONS OF PIERS 1-4. THE DEPTH VARIED ACCORDING TO THE CAMBER OF THE MADE GROUND ON THE ROUNDABOUT. THEREFORE IN THE CENTRE IT WAS 1.90m AT THE N/W & S/E EDGES IT WAS c 0.5m. LAYERS OF MADE GROUND WERE RECORDED SEALING THE ORIGINAL TOPSOIL & NATURAL. NO ARCHAEOLOGICAL FEATURES WERE OBSERVED.
A FORMATION LAYER OF ORANGE GRAVEL HAD BEEN DUMPED ACROSS A LARGE PART OF THE STRIPPED AREA IN ORDER TO ALLOW ACCESS FOR LORRIES. HOWEVER, A FAR LARGER AREA OF NATURAL SUBSOIL WAS VISIBLE THAN WOULD BE OBSERVED DURING THE EXC OF PIERS 1-4 (MILESTONE ONE). ALSO, THE SECTIONS OBSERVED IN THE PIER STRIP SEE SHEET 2

Comments:
(1) – GOT PLANS & ELEVATIONS OF FORTHCOMING WORKS THESE ARE VERY USEFUL IN IDENTIFYING AREAS OF THE SITE IN WHICH ARCHAEOLOGY WOULD BE THREATENED. AND AREAS IN WHICH MADE GROUND WILL PROTECT ARCHAEOLOGY.
(2) ON THE BASIS OF 'OBSERVATIONS' ON THE DEPTH OF NATURAL SUBSOIL INTERFACE & THE DEPTH OF

Completed by: JOE ABRAMS CONTINUES

For sketch plan, use reverse ©ASC, 2000

SHEET (2.)

A.S.C. LTD **ARCHAEOLOGICAL FIELD MONITORING RECORD**

Project Name: A47 HARDWICK	Project Code: KLH 02	Date of visit: 10/12/02
Location: KINGS LYNN, NORFOLK		
Client/Developer: BIRSE CONSTRUCTION		
Architect:		
Site Manager/ Farmer: ALI CHOWDRY / SOE	Phone:	

Development Type:

Foundations	Services	Roads ✓	Levelling	Quarrying	Pipelines	Other (specify):

Site & weather conditions:
OVER CAST

Observations: CONTINUED
AND THE TEST PIT SOUTH OF THIS AFFORDED AN EXCELLENT OPPORTUNITY TO SEE FEATURES CUTTING THE NATURAL. NONE WERE VISIBLE.

TERMINAL ROUNDABOUT AREA:
MADE GROUND IS OVER 4 M DEEP HERE, SEE PHOTOS, PLANS & ELEVATIONS. GROUNDWORKS ARE TO RAISE THE GROUND LEVEL & WILL NEVER INVOLVE EXC'S INTO THE NATURAL SUBSOIL. ARCHAEOLOGICAL MONITORING OF SUCH WORKS IS UNNECESSARY. THIS AREA SHOULD NOT BE MONITORED.

DRAINAGE CULVERT:
THIS WILL RUN PARRALEL TO PIERS 1-4 & WILL BE c.3M WIDE & 1.5 M DEEP

Comments: THE FORTHCOMING EXC'S (APRIL 2003) ON THE CULVERT SHOULD BE MONITORED IN ORDER TO ASSESS THE POTENTIAL IN THIS AREA.
(3.) ON THE BASIS OF THE DEPTH OF MADE GROUND IN THE TERMINAL ROUNDABOUT AREA & THE HEIGHT OF CONSTRUCTION — I DO NOT BELIEVE ANY ARCHAEOLOGY WILL BE THREATENED IN THAT PART OF THE SITE.

Completed by: SOE ABRAMS

For sketch plan, use reverse

©ASC, 2000

SHEET (3)

A.S.C. LTD **ARCHAEOLOGICAL FIELD MONITORING RECORD**

Project Name: A47 HARDWICK	Project Code: KLH 02	Date of visit: 10/12/02
Location: KINGS LYNN, NORFOLK		
Client/Developer: BIRSE CONSTRUCTION		
Architect:		
Site Manager/ Farmer: ALI CHOWDRY/JOE	Phone:	

Development Type:

Foundations	Services	Roads ✓	Levelling	Quarrying	Pipelines	Other (specify):

Site & weather conditions:
OVERCAST

Observations:
IMPLICATIONS FOR ARCHAEOLOGICAL MONITORING?
→ PROJECT DESIGN CONTAINED TWO MILESTONES
MILESTONE 1.) COMPLETION OF MONITORING PIERS 1-4.
→ THIS HAS BEEN ACHIEVED TODAY, NO ARCHAEOLOGY PRESENT IN UPPER PART OF NATURAL SUBSOIL — NONE WILL BE PRESENT BELOW THIS.
MILESTONE 2.) COMPLETION OF MONITORING ON TERMINAL R/BOUT ASSOCIATED ROADS AND DRAINAGE CULVERT.
→ NO POINT MONITORING TERMINAL ROUNDABOUT & ASSOCIATED ROADS (SEE ABOVE)
→ DRAINAGE CULVERT - SHOULD BE MONITORED AS THIS IS LIKELY TO REVEAL ARCHAEOLOGY IF IT IS PRESENT. THIS IS LIKELY TO BE IN APRIL 2003 - THEN MONITORING WILL CEASE.

Comments: (3) BY THE TERMINAL ROUNDABOUT WORKS. THE ELEVATIONS CLEARLY SHOW THIS.

Completed by: JOE ABRAMS

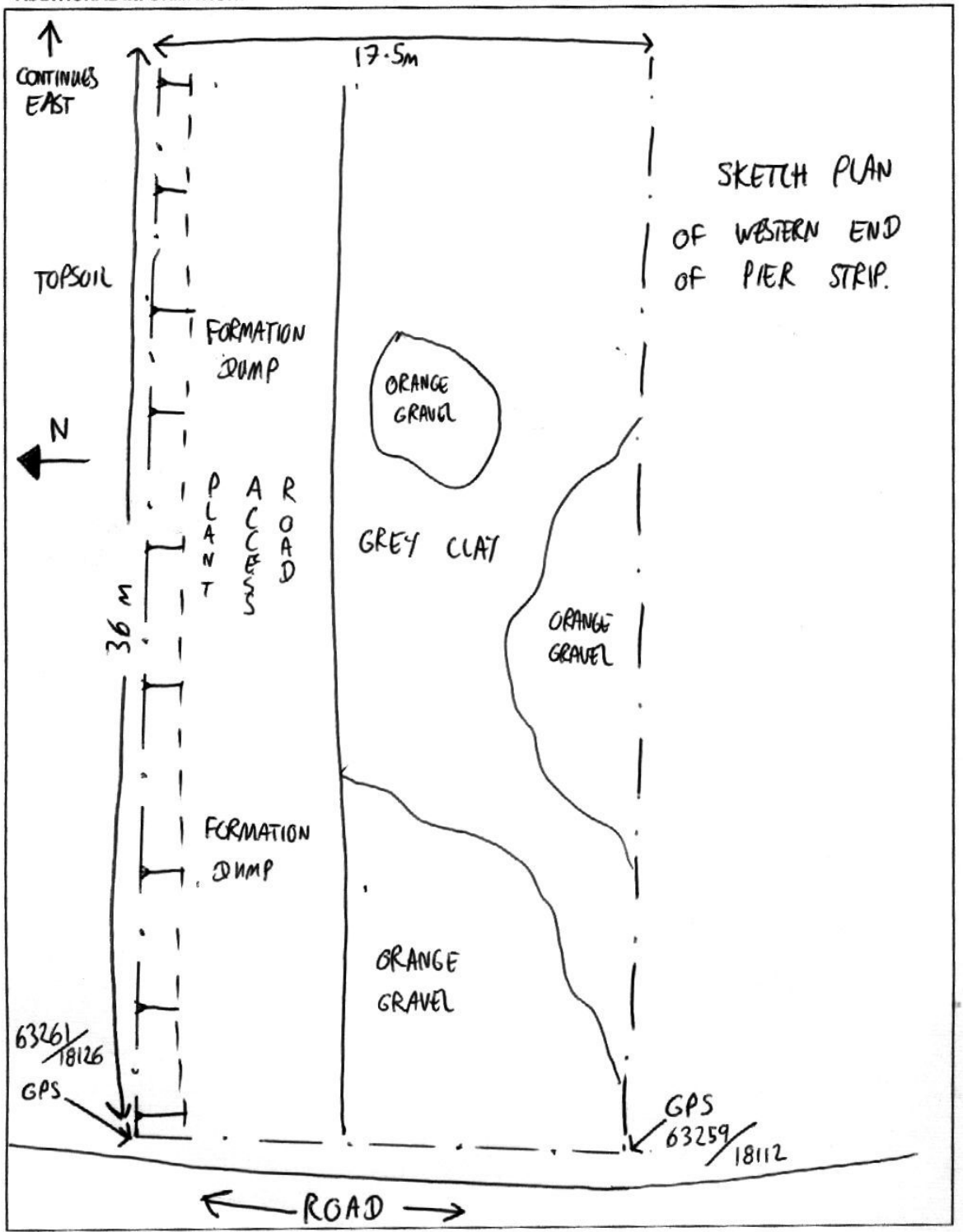
For sketch plan, use reverse ©ASC, 2000

A.S.C. LTD

CONTINUATION SHEET

Site Code: KLH 02	Co-ordinates:	Continued from Sheet Number:
~~Sheet Type~~: SCALE 1:200		

ADDITIONAL INFORMATION:



RECORDING NOTES

Recorded by: SA	Date: 10/12/02	Checked by:	Date:	Entered by:	Date:

A.S.C. LTD **ARCHAEOLOGICAL FIELD MONITORING RECORD**

Project Name: KINGS LYNN, A47	Project Code: KLH02	Date of visit: 26/3/03
Location: A47 ROUNDABOUT, HARDWICK, KINGS LYNN, NORFOLK		
Client/Developer: BIRSE CIVILS LTD		
Architect:		
Site Manager/ Farmer: ALI CHOWDRY/SOE MCGLYNN	Phone:	

Development Type:

Foundations	Services	Roads	Levelling	Quarrying	Pipelines	Other (specify):
		✓				

Site & weather conditions:
SUNNY, FINE

Observations: 8.50 A.M → 12.30 PM.
CULVERT EXC'S OBSERVED – NO ARCHAEOLOGY PRESENT.
CULVERT 96.0m L X 6.0m W X 2.0m D
LAYER (5) PREVIOUSLY RECORDED WAS UPPERMOST LYR ON ARRIVAL, THIS WAS OPTIMUM POINT TO OBSERVE ANY ARCHAEOLOGY PRESENT AT THE SITE AS LAYER (5) LAY IMMEDIATELY ABOVE NAT SUBSOIL (6). EXC'S INTO (5) REVEALED PIPE, PROBABLY ASSOCIATED WITH ROAD WHICH USED TO RUN N-S ACROSS R/BOUT. EXC'S INTO NAT SUBSOIL (6) WERE 2m's DEEP, AT THE BASE BLACKISH GREY SAND WAS REVEALED, ALSO NAT SUBSOIL.
PHOTO'S TAKEN DURING WORKS TO RECORD THE (BLANK) NATURE OF THE SUBSOILS REVEALED BY GROUNDWORKS.
NOTE → CONCRETE WILL BE POURED + CULVERT FINISHED BY FRIDAY 28/3/03 – NAT SUBSOIL WILL BE COVERED/CONCRETED TODAY.

Comments:
OTHER GROUNDWORKS ARE NOT CONSIDERED TO BE LIKELY TO REVEAL ARCHAEOLOGY – FURTHER VISITS TO THIS SITE WOULD BE UNLIKELY TO REVEAL ARCHAEOLOGY AS NAT SUBSOIL HAS BEEN REACHED IN THE MASORITY OF PLACES IDENTIFIED IN SPECIFICATION AS BEING OF CONCERN IN AN ARCHAEOLOGICAL SENSE – NO POINT IN RETURN VISITS.

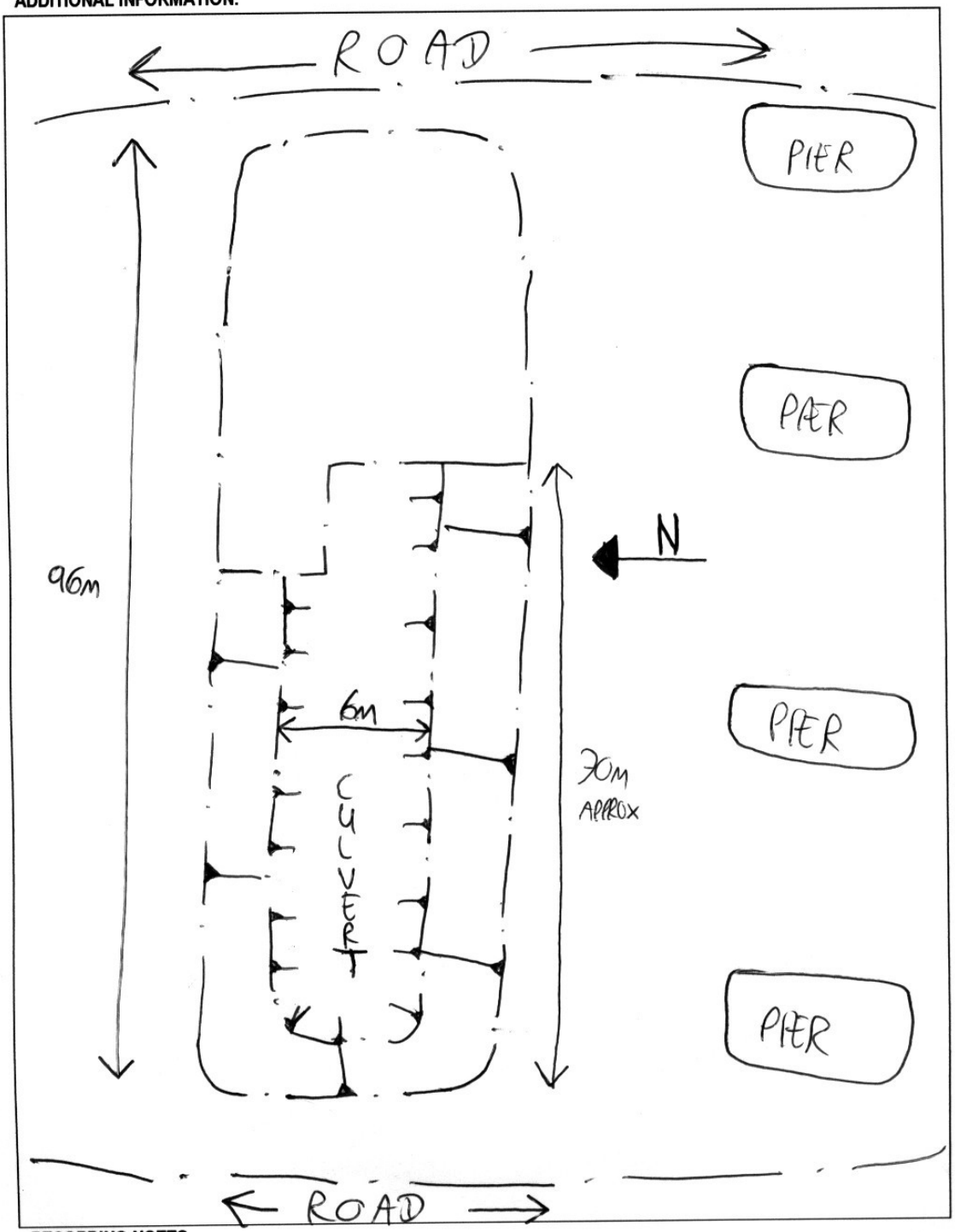
Completed by: SOE ABRAMS

For sketch plan, use reverse

A.S.C. LTD **CONTINUATION SHEET**

Site Code: KLH 02	Co-ordinates:	Continued from Sheet Number:
Sheet Type: 26/3/03		

ADDITIONAL INFORMATION:



RECORDING NOTES

Recorded by: SA	Date: 26/3/03	Checked by:	Date:	Entered by:	Date:

Appendix 2: Context Summary

Context	Type	Description	Dimensions/ thickness of deposit (m)
1	Layer	Topsoil layer. Mid brown silty clay, firm, occasional rounded pebbles.	0.35m
2	Layer	Make-up layer. Brownish mid yellow clay, firm, moderate rounded medium chalk pebbles.	0.25m
3	Layer	Mid brown silty clay, firm, frequent rounded medium pebbles.	0.25m
4	Layer	Brownish mid yellow clay, firm.	0.25m
5	Layer	Dark brown silty sand, firm, moderate pieces of Post-Medieval ceramic building material.	0.40m
6	Layer	Mid orange to orangeish white fine sand and gravel & Grey clay, firm.	0.50m
7	Layer	Mid brown silty clay, firm, large lenses of re-deposited natural orange sand.	0.45m