

# ARCHAEOLOGICAL EXAMINATION OF BORE COLUMNS AND GEOTECHNICAL SAMPLES FROM INVESTIGATIONS ALONGSIDE THE RIVER WITHAM, BOSTON, LINCOLNSHIRE (BORW 10)

# Work Undertaken For Vinci Construction UK Limited

August 2010

Report Compiled by Gary Taylor BA (Hons) MA MSc

National Grid References: TF 3282 4392 - TF 3334 4294 The Collection Accession No: LCNCC: 2010.100 OASIS Record No: archaeol1-81691

APS Report No. 82/10



# **Quality Control**

Examination of
Geotechnical columns and soil samples
From alongside the
River Witham,
Boston
Lincolnshire
BORW 10

Project Coordinator	Gary Taylor	
Sample examination	Gary Taylor	
Environmental archaeologist	James Rackham	
Finds Processing	Denise Buckley	
Illustration	Paul Cope-Faulkner, Mark Dymond, Gary Taylor	
Post-excavation Analyst	Gary Taylor	

Approved by Senior Archaeologist	
	Tom Lane
Date: 27/08/10	

# **Table of Contents**

# **List of Figures**

# **List of Plates**

1.	SUMMARY	1
	INTRODUCTION	
2.1		
2.2 2.3		
3.	AIMS	
4.	METHODS	3
5.	RESULTS	3
6.	DISCUSSION	5
7.	CONCLUSION	7
8.	ACKNOWLEDGEMENTS	8
9.	PERSONNEL	8
10.	BIBLIOGRAPHY	8
11.	ABBREVIATIONS	8

# Appendices

- 1. Finds Appraisal, by Alex Beeby
- 2. Glossary
- 3. The Archive

# **List of Figures**

Figure 1	General location plan
Figure 2	Site map, showing locations of examined areas
Figure 3a	Detailed plans showing locations of examined bore columns samples and test pits
Figure 3b	Detailed plans showing locations of examined bore columns samples and test pits
Figure 4	Plan and schematic section of Site 1, Custom House Quay
Figure 5	Plan and schematic section of Site BB, Barrier Option B

### 1. SUMMARY

Archaeological examination was undertaken on columns and samples taken from boreholes drilled during geotechnical investigation of existing flood defences alongside the River Witham, Boston, Lincolnshire.

The sites chosen for assessment lie to the south of the centre of the town. One site, alongside Haven Bridge, falls within the confines of the medieval (AD 1066-1540) town and another, at Custom House Quay, is close to the 15<sup>th</sup> century guildhall. The remaining sites are outside of this core and are located in areas of post-medieval (AD 1540-1900) riverbank formalisation and reclamation.

Examination of the samples revealed probable prehistoric peat deposits near the present Boston Dock. Additionally, much of this area, although now dry land, was found to have been in the river channel during the medieval period. The nature of the deposits suggested the river had been confined by a wall in the medieval period, and this concurs with previous discoveries from the area. Further north, around South Terrace and St. Ann's Wharf, there were suggestions that the river had also been constrained during the early postmedieval period. These two phases of river wall had led to scouring and deepening of the river channel. At Custom House Quay, at the northern limit of the study, there was evidence of a timber wharf or hulk. Although this was undated it lay partially beneath river silts and may be medieval. Above this was a post-medieval brick wall, probably a wharf or river wall. The dating of the peat deposits and wood could potentially be clarified by radiocarbon assay.

### 2. INTRODUCTION

Archaeological Project Services was commissioned by Vinci Construction UK

Limited to undertake an archaeological examination of samples and columns recovered during borehole investigations alongside the River Witham, Boston, Lincolnshire.

## 2.1 Background

Boreholes were excavated by Vinci Construction UK Limited to investigate the nature and condition of existing flood defences and to assess the conditions for possible further flood defence work alongside the River Witham at Boston, Lincolnshire. These boreholes, and an associated series of test pits, were located at several pre-set positions in order to carry out geotechnical investigations (Vinci Construction UK Ltd 2010). An archaeological watching brief was carried out during the excavation of some of the test pits and is reported separately (Cope-Faulkner 2010).

Archaeological Project Services commissioned by Vinci Construction UK Limited on behalf of the Environment Agency (the Client) to undertake archaeological palaeoenvironmental examination of a number of the cores and samples resulting from the geotechnical borehole investigations. Examination of the samples and columns was carried out by Gary Taylor of Archaeological Project Services and James Rackham of the Environmental Archaeology Consultancy on 13<sup>th</sup> August 2010.

### 2.2 Topography and Geology

Boston is situated 45km southeast of Lincoln and approximately 7km northwest from the coast of The Wash, in the Fenland of south Lincolnshire. Bisected by the River Witham, the town is located in the administrative district of Boston, Lincolnshire (Fig. 1).

The investigation areas are located alongside the River Witham, from Custom House Quay in the north (Site 1: centred

on National Grid Reference TF 3282 4392), to an area adjacent to Boston Dock (Site BC: NGR TF 3334 4294) (Fig. 2). The full list of examined sites is given in the table, below:

Site	Name	National Grid reference
S1	Custom House Quay	TF 3282 4392
S2	Haven Bridge	TF 3279 4375
<b>S</b> 3	South Terrace	TF 3280 4338
S4	St. Ann's Wharf	TF 3286 4348
S5	London Road	TF 3268 4294
BB	Barrier Option B	TF 3289 4278
BC	Barrier Option C	TF 3334 4294

Samples from all seven sites were examined.

All sites lie on slight levees adjacent to the River Witham at heights of c. 5m OD, except where they cross the river channel, where they reach as low as c. -1.5m OD.

Local soils have not been mapped as the investigation sites are within an urban area. However, local soils are likely to be of the Wisbech Series, typically coarse silty calcareous alluvial gley soils (Robson 1990, 36). These soils are developed upon a drift geology of younger marine alluvium which in turn overlies glacial till that seals a solid geology of Jurassic Ampthill Clay (BGS 1995).

### 2.3 Archaeological Setting

There is little evidence for prehistoric remains in the Boston area as the land surface of that period is now buried by later alluvium (peats, silts, clays *etc.*). A Neolithic stone axe, found within the town, is considered to be a later import.

Stratified Romano-British deposits have been found at Boston Grammar School, adjacent to Site 2, where occupation remains of the period were recorded 1.4m below the present ground surface (Palmer-Brown 1996, 5).

Boston is not mentioned in the Domesday Survey of *c*. 1086. However, the survey records two churches and two fisheries in Skirbeck, southeast of the current town (Foster and Longley 1976). One of these churches was granted to St. Mary's abbey, York in 1089. Boston is first mentioned by name in 1130, when it was referred to as 'Botulvestan' (Dover 1972, 1).

During the medieval period the core of the town on the east bank was enclosed by a significant boundary, the Barditch, which met the river close to Norfolk Street on the north side and by Skirbeck Road in the south. Archaeological and documentary evidence indicates the former presence of medieval occupation, burgage plots and The friaries. Dominican, several Franciscan and Austin friaries were on the east bank of the river, while the Carmelite house was on the west bank, a little north of Haven Bridge.

Later medieval and post-medieval activities. mercantile and industrial including several windmills, were also located close to the river, near to Skirbeck Road and the South Forty Foot Drain. Custom House Quay takes its name from the adjacent Custom House, built about 1725 (Thompson 1856, 232) a short distance to the south of the Custom House are the Guildhall, dating from the mid 15<sup>th</sup> century, and Fydell House built in the early 18<sup>th</sup> century (Pevsner and Harris 1989, 167-8).

Archaeological investigations undertaken to the south of St Ann's Lane in 2004 adjacent to the Witham identified thick dumped deposits of post-medieval date that were lain to level the river bank following the construction of a river wall. Furthermore, examination of borehole records revealed that the river had been wider and that a probable medieval river wall had been inserted somewhere between 5m and 35m back from the current river's edge (Peachey 2004, 5).

### 3. AIMS

The aim of the investigation was to examine bore columns and soil samples to determine the nature of deposits and to recover datable material from them.

### 4. METHODS

Due to the large number of borehole columns and soil samples taken, a selection of them was made examination. This selection was partially based on the location of boreholes, with a preference made for groups of columns that transected the river. In addition, samples that were recorded on the drillers' logs as containing artefacts, or peaty deposits, were also selected. Not all of the selected samples and columns were available for examination and so some alternatives were chosen for investigation.

Following examination of the samples and columns all recovered finds (artefacts, bones, *etc.*) were cleaned and examined and a period date assigned where possible (Appendix 1). The drillers' logs were examined in association with the archaeological records made during the sample examination and interpretive sectional drawings created.

## 5. RESULTS

Deposits examined during the study are described and interpreted below. Identification codes for sites, boreholes, samples, and depths below ground surface are as recorded on the geotechnical drillers' logs.

# Site 1: Custom House Quay (Fig. 3a and 4)

S1-BH01

Sample B016 – 4.00-4.50m below ground level (bgl) [+1.0-1.5m OD]

Brown fine sand, no inclusions. Probably

river overbank flood sediments.

S1-BH02

Sample B030 – 8.20-8.70m bgl [-3.30-3.80mOD]

Black/dark grey silt with patches of brown silt, containing large hardwood (exotic?) fragments, bone, post-medieval (early 18<sup>th</sup> century) pottery, shell including mussels, cockle, oyster.

S1-BH03

Sample B017 – 6.00-6.50m bgl [-0.80-1.30m OD]

Very dark grey mixed fine sandy silt with abundant organics, large hardwood post, limestone, mussel and oyster shell, occasional brick/tile fragments of perhaps late medieval to post-medieval date (13<sup>th</sup>-19<sup>th</sup> centuries?). Timber includes oak. River deposit, perhaps river edge.

### S1-BH04

DI DIIO	
2.50-2.55m	Contains visible reeds
bgl	
[+2.70m	
OD]	
3.20-3.40m	Organic
bgl [+2.00-	
1.80m OD]	
6.20-7.20m	Laminated intertidal fine
bgl [-1.0-	sands and silts
2.0m OD]	
7.20m +	Geology
bgl (-2.0m	
OD	

### S1-RD01

2.30-2.47m	Handmade	building
bgl [+2.6-	brick, 70mm	_
2.4m OD]	thick, mortared,	
	post-medieval	
3.38m bgl	Handmade	
[+1.60m	brick, 70mm	
OD]	thick, mortared,	
	post-medieval	
3.75m bgl	Handmade	
[+1.2m	brick, 60mm	
OD]	thick, mortared,	
	post-medieval	
4.64-4.90m	Light brown	

bgl [+0.3m-	sandstone with	
0.0m OD]	tooled oxidised	
	face down one	
	side	
7.80-8.10m	Wood-oak, possible grillage	
bgl [-2.80-		
3.20m OD]		
8.10-8.60m	Roundwood post, c.0.2m+	
bgl [-3.20-	diameter, with sapwood,	
3.70m OD]	possibly bark, down one	
	side of column with near-	
	black silt on other side.	
	Oyster, mussel, fishbone and	
	rare brick/tile in silt	

### S1-RD02

2.65-3.00m bgl [+2.35-2.00m OD]  4.75-5.50m Contains moderate postmedieval – late postmedieval – late postmedieval CBM/tile.  OD]  5.50-5.75m Horizontal oak post, perhaps squared tree trunk – possible grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?)  bgl [-1.25-1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm diameter	S1-RD02	
2.00m OD]  4.75-5.50m bgl [+0.250.50m OD]  5.50-5.75m bgl [-0.5- 0.75m OD]  5.75-5.92m bgl [-0.75- 0.92m OD]  5.92-6.25m bgl [-0.92- 1.25m OD]  6.65-6.75m bgl [-1.25- 1.65m OD]  8rushwood layer? Small bgl [-1.65- Ontains moderate post- medieval CBM/tile.  Contains moderate post- medieval CBM/tile.  Horizontal oak post, perhaps squared tree trunk – possible grillage grillage Horizontal timber, probably oak – possible grillage vegetable matter above vood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  Brushwood layer? Small roundwood to 20-25mm	2.65-3.00m	Contains late post-medieval
4.75-5.50m bgl [+0.250.50m oD]  5.50-5.75m bgl [-0.5- 0.75m OD] grillage  5.75-5.92m bgl [-0.75- 0.92m OD]  5.92-6.25m bgl [-0.92- 1.25m OD] Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m bgl [-1.65- Brushwood layer? Small roundwood to 20-25mm	bgl [+2.35-	handmade brick at c2.65m.
bgl [+0.250.50m oD]  5.50-5.75m Horizontal oak post, perhaps squared tree trunk – possible grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?) roundwood with bark  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	2.00m OD]	
-0.50m OD]  5.50-5.75m bgl [-0.5- 0.75m OD] from Squared tree trunk – possible grillage  5.75-5.92m bgl [-0.75- 0.92m OD]  5.92-6.25m bgl [-0.92- 1.25m OD] Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m bgl [-1.65- Brushwood layer? Small roundwood to 20-25mm	4.75-5.50m	Contains moderate post-
OD] 5.50-5.75m Horizontal oak post, perhaps squared tree trunk – possible grillage 5.75-5.92m Horizontal timber, probably oak – possible grillage 0.92m OD] 5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay 6.25-6.65m Softwood (pine?) bgl [-1.25- 1.65m OD] 6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	bgl [+0.25 -	medieval – late post-
5.50-5.75m bgl [-0.5- 0.75m OD] grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	-0.50m	medieval CBM/tile.
bgl [-0.5- 0.75m OD] squared tree trunk – possible grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  5.92-6.25m Matted organics, lots of bgl [-0.92- 1.25m OD] wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?) roundwood with bark  1.65m OD]  6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm	OD]	
0.75m OD] grillage  5.75-5.92m Horizontal timber, probably oak – possible grillage  0.92m OD]  5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?) roundwood with bark  1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	5. <del>5</del> 0-5.75m	Horizontal oak post, perhaps
5.75-5.92m bgl [-0.75- 0.92m OD]  5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	bgl [-0.5-	squared tree trunk – possible
bgl [-0.75- 0.92m OD]  5.92-6.25m Matted organics, lots of bgl [-0.92- 1.25m OD] wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm	0.75m OD]	grillage
0.92m OD] 5.92-6.25m Matted organics, lots of vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay 6.25-6.65m Softwood (pine?) roundwood with bark 1.65m OD] 6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	5.75-5.92m	Horizontal timber, probably
5.92-6.25m bgl [-0.92- 1.25m OD] wood – urban or riverside, perhaps dumped/redeposited river silt/clay 6.25-6.65m bgl [-1.25- 1.65m OD] 6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	bgl [-0.75-	oak – possible grillage
bgl [-0.92- 1.25m OD] vegetable matter above wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m bgl [-1.25- 1.65m OD]  6.65-6.75m bgl [-1.65- roundwood to 20-25mm	0.92m OD]	
1.25m OD] wood – urban or riverside, perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?) roundwood with bark  1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	5.92-6.25m	Matted organics, lots of
perhaps dumped/redeposited river silt/clay  6.25-6.65m Softwood (pine?) roundwood with bark  1.65m OD]  6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	bgl [-0.92-	vegetable matter above
river silt/clay  6.25-6.65m Softwood (pine?) bgl [-1.25- 1.65m OD]  6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm	1.25m OD]	wood – urban or riverside,
6.25-6.65m Softwood (pine?) bgl [-1.25- 1.65m OD] 6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm		perhaps dumped/redeposited
bgl [-1.25- 1.65m OD] roundwood with bark 6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm		river silt/clay
1.65m OD] 6.65-6.75m Brushwood layer? Small roundwood to 20-25mm	6.25-6.65m	Softwood (pine?)
6.65-6.75m Brushwood layer? Small bgl [-1.65- roundwood to 20-25mm	bgl [-1.25-	roundwood with bark
bgl [-1.65- roundwood to 20-25mm	1.65m OD]	
	6.65-6.75m	Brushwood layer? Small
1.75m OD] diameter	bgl [-1.65-	roundwood to 20-25mm
	1.75m OD]	diameter

#### S1-RD03

51-KD05		
0.15m bgl	Tile and early 19 <sup>th</sup> century	
[+5.10m	creamware pottery	
OD]		
2.10-2.80m	Dark grey	River
bgl [+3.10-	slightly	deposits?
2.40m OD]	organic clayey	
	silts with	
	organic	
	laminae	

3.50-3.80m	Partially	
bgl [+1.70-	laminated	
1.40m OD]	very sandy silt	
4.25-4.45m	Laminated	
bgl [+1.00-	sandy silt,	
0.80m OD]	river edge	
	deposits	
4.45-4.75m	Timber is oak;	
bgl [+0.80-	could be	
0.50m OD]	grillage, or	
	possibly	
	revetment or	
	hulk	

## Site 2: Haven Bridge (Fig. 3a)

S2-BH01

UT035 – 8.50-8.95m bgl [-3.00-3.45m OD]

Junction of sandy gritty Boulder Clay onto washed stony gravel in clays above. Possible channel edge junction

## Site 3: South Terrace (Fig. 3a)

S3-BH01

B032 – 7.30-7.75m bgl [-2.35-2.80m OD] Mixture of dark grey riverside silts and fine sandy gravels with brick/tile, pottery (16<sup>th</sup>-17<sup>th</sup> century), oyster and mussel shell, sheep bone

### Site 4: St Ann's Wharf (Fig. 3a)

S4-BH02

B028 – 8.50-9.00m bgl [-3.60-4.10m OD] Very dark grey sandy silts and dark grey fine sandy silts with clay lenses, containing brick/tile, pottery (16<sup>th</sup> century), a little shell, some of the artefacts being water-worn, others not. Possible a river edge deposit.

## Site 5: London Road (Fig. 3b)

S5-BH01A

8.20-8.40m bgl [-2.15-2.35m OD]
Surviving reed peat with humified black

peat over, limited macrofossils. Reed peat datable by C14.

### S5-BH02

8.00-8.20m bgl [-2.00-2.20m OD] Black very humified peat (reed peat?). Could be C14 dated.

# Site BB: Barrier Option B (Fig. 3b and 5)

#### BB-BH01

B033 – 8.00-8.50m bgl [-2.30-2.80m OD] Very gravelly (much flint) with coarse sand, some patches of silty clay. Contains late medieval (14<sup>th</sup>-16<sup>th</sup> century) pottery, brick/tile and bone, including a small cattle pelvis, all water-rolled. Probably been in a channel, perhaps at channel edge, or possibly dock – not made ground.

### **BB-BH02**

B026 – 8.00-8.50m bgl [-2.40-2.90m OD] Medium sand with much grit with moderate-frequent pebbles and flint, patches of silty clay with organics. Probable channel edge. Contains medieval (13<sup>th</sup>-?15<sup>th</sup> century) pottery and tile, some animal bone and shell and a piece of probable limestone building/paving stone.

### **BB-BH02**

B028 – 9.00-9.50m bgl [-3.40-3.90m OD] Medium coarse sandy gravel with much small rounded flints and chalk (much chalk compared to others – reworked Boulder Clay), occasional-moderate medium-large cobbles. Probably unsorted channel deposits. No anthropogenic material.

### **BB-BH04**

B003 – 0.50-1.00m bgl [-3.6-4.1m OD] Well rolled very sandy flint gravel with chalk and limestone, over Boulder Clay. Frequent brick/tile (13<sup>th</sup>-16<sup>th</sup> century), occasional mussels. River channel floor.

### **BB-BH04**

U024 - 7.00-7.45m bgl [-10.10-10.55m

### OD]

Only 13cm recovered, all clay and chalk – Boulder Clay

### **BB-BH05**

D019 – 6.30m bgl [-0.45m OD] Slightly organic riverside silts with brick, cockle, vegetation. All of bore between 6.00 and 7.00m probably was in river.

### **BB-BH06**

D015 – 4.80m bgl [-2.65m OD] Humified reed peat with macrofossils. Could be C14 dated.

## Site BC: Barrier Option C (Fig. 3b)

### **BC-BH01**

D032 – 7.50m bgl [-2.05m OD]	Reed peat over slightly clayey silts with rooted red rhizomes, occasional leaves. Could be C14 dated.
7.50- 7.95m bgl [-2.05- 2.50m OD]	Black very humified peat
8.20m bgl [-2.75m OD]	Grey gritty silty clay with siltstone and occasional chalk – Boulder Clay over gravels?

### 6. DISCUSSION

At Site 1, Custom House Quay, a series of boreholes were located along the east bank of the river (Fig. 4). At the northern end of the sequence, in Borehole 1, a single examined sample, from c. 1.5m OD, was a fine sand that is probably a natural overbank flood deposit, though could possibly be dumped. In the same area but closer to the current river wall, in Borehole 2, a riverside deposit or made ground was recorded at -3.5m OD. Containing artefacts indicating an early 18<sup>th</sup> century date, this may have formed close to a post-medieval river wall.

Approximately 50m further south, in Borehole 3, another probable riverside deposit was encountered at -1.5m OD. Closer to the present river wall, in RD1 and RD2, a building or wall, of handmade brick founded on stone, extended for about 5m depth from just below the present ground surface to about 0m OD. The wall, of post-medieval brick, was encountered in RD1, with dumped deposits also of late post-medieval date, found just behind it in RD2. Immediately to the east of this wall and dumped deposits, and extending between +3m and +0.8m OD in RD3, was a sequence of laminated river edge deposits. As RD1, 2 and 3 are all within about a metre of each other it seems likely that the structure found in RD1 is a river wall cut into earlier river silts, revealed in RD3, with dumped materials identified in RD2 placed behind the wall. Beneath the wall and river silts in all three RD bores was timber, encountered at about -0.5m OD and extending to about -5m OD. Most of this timber appeared to be horizontal, though a vertical post was recorded in RD1, and much of it was of oak, with some softwood, probably pine, at lower depths. Further timber was present in the nearby bore columns at S1-BH02 and S1-BH03. Similar timber was noted between 4.90m and 5.10m below ground level (from +0.66m to +0.46m OD) in borehole S1-BH01 (Vinci Construction UK Ltd 2010, vol 1, 90). This timber is probably grillage, a network of horizontal beams and crossbeams, used to provide a foundation on soft ground. However, the timber may, alternatively, represent a revetment or wharf, or could possibly even be a hulk. Beneath the timber were river bed deposits which overlay natural Boulder Clay.

A further 35m to the south, in S1-BH04, at a depth of +3m OD was a peaty deposit with visible reeds. This was probably a river edge deposit. Beneath this, at +2m OD was an organic silt that had probably formed a land surface. This overlay a sequence of flood silts, some of which

probably formed land surfaces, perhaps in a coastal marsh environment, at different periods. Below these, at -1m OD and extending to -2m OD were laminated intertidal silts which overlay the natural geology. The intertidal silts were probably formed in a beach-type environment.

A single sample from Site 2, Haven Bridge, was examined. At a depth of -3m OD was a probable channel edge where stony gravels washed out of the Boulder Clay overlay intact Boulder Clay.

At Site 3, South Terrace, another single sample was examined and revealed mixed riverside silts of 16<sup>th</sup>-17<sup>th</sup> century date at a depth of approximately -2.5m OD.

Another single sample of similar 16<sup>th</sup>-17<sup>th</sup> century riverside silts was recorded at about -3.5m OD at Site 4, St. Ann's Wharf.

Sites 3 and 4 are almost opposite each other on either side of the river. The similarity of nature, depth and dates of these deposits may imply that they were formed within a channel confined by a river wall of post-medieval creation.

Peat deposits were encountered at approximately -2m OD at Site 5, London Road. These were reed peats, formed in fresh water conditions, and probably represent a wet prehistoric ground surface. Confirmation of date could be obtained by radiocarbon (C14) dating.

At Site BB, Barrier Option B, a series of boreholes transacted the river from north to south (Fig. 5). In the northern part of the sequence, in Boreholes 1 and 2 at a depth of c. -2.5m OD, were a gravelly sands of late medieval, 14<sup>th</sup>-16<sup>th</sup> century, date. These were river channel or channel edge deposits, probably laid down after a river wall was installed in the medieval period. The insertion of such a wall would confine the channel and lead to the river scouring its bed and deepening. Indications of a

medieval river wall has been surmised from similar evidence previously, with suggestions that such a confining structure was between 5m and 35m back from the current river's edge (Peachey 2004, 5). The results of the present study suggest that in this part of Boston the medieval river wall was at least 33m back from its current edge.

Beneath the medieval river silts in Borehole 2, at a depth of c. -3.5m OD, were river silts that lacked any anthropogenic material. These may have been formed and deposited in the initial scouring after the medieval river wall was installed.

On the south side of the current channel, in Borehole 4, medieval, 13<sup>th</sup>-15<sup>th</sup> century, river silts were encountered at -3.5m OD. These river bed deposits directly overlay the natural Boulder Clay.

On the south side of the river, in Borehole 5 which passed through the current flood defence bank, riverside silts were encountered at approximately -0.5m OD and extended for a metre's depth. The final borehole, on the inner toe of the flood defence bank, at a depth of c. -2.5m OD, was a reed peat. This is probably vegetation that formed on the ground surface in a wet freshwater environment in prehistory. Confirmation of the date of this peat could be obtained by radiocarbon (C14) assay.

A single borehole column from Barrier Option C was also examined. At -2m OD was a further reed peat was encountered. This may be part of the same prehistoric land surface revealed to the west at Barrier Option B. This peat was about 0.5m thick and overlay gritty silty clay at -2.8m OD, which may be natural Boulder Clay.

### 7. CONCLUSION

Examination of borehole columns and

samples from alongside the River Witham at Boston was undertaken to investigate evidence of early landscapes and archaeological remains at depth. The data revealed a variety of archaeological remains.

In the southern and eastern sections of the scheme, between London Road and Barrier Option C, reed peats were identified. These were probably formed on a waterlogged prehistoric land surface, and dating of these horizons could be clarified by radiocarbon assay.

Many of the deposits identified at depth beneath the present dry land surface were found to have been formed in the river channel. Several of these at the Barrier Option B site had been deposited in the medieval period and indicated the presence of a medieval river wall which had led to scouring and deepening of the channel. This concurs with previous discoveries close to this area of Boston. The present evidence suggests the north river wall was at least 33m back from the present river edge.

In the area of South Terrace and St. Ann's Wharf there were further river channel deposits, though of 16<sup>th</sup>-17<sup>th</sup> century date. These suggest that post-medieval river walls were located on either side of the river in this area and these, like the medieval examples further downstream, had caused scouring of the channel.

A probable timber grillage network, or perhaps a wharf, or possibly a hulk, was identified at Custom House Quay. This was undated but partially lay below some river silts and may be medieval, though the dating could be clarified by radiocarbon assay or possibly dendrochronology. Above this wooden grillage/wharf/hulk was a post-medieval brick wall, probably a river wall or wharf.

### 8. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the assistance of Mr A Robinson and Mr T Walton of Vinci Construction UK Limited. Thanks are also due to Dr Joanne Norris of Halcrow Group Ltd. The work was coordinated by Gary Taylor and this report was edited by Tom Lane. Jenny Young, the Boston Planning Archaeologist, kindly allowed access to the parish files and library maintained by Heritage Lincolnshire.

### 9. PERSONNEL

Project Coordinator: Gary Taylor Sample Examination: Gary Taylor

Environmental Specialist: James Rackham

Finds processing: Denise Buckley

Illustration: Paul Cope-Faulkner, Mark

Dymond

Analysis: Gary Taylor

### 10. BIBLIOGRAPHY

BGS, 1995 *Boston; Solid and drift edition*, 1:50 000 map sheet **128** 

Cope-Faulkner, P, 2010 Archaeological Watching Brief of Trial Pits alongside the River Witham, Boston, Lincolnshire (BORW 10), unpublished APS report **76/10** 

Dover, P, 1972 *The Early Medieval History of Boston, AD 1086-1400*, History of Boston Series No. **2** (2<sup>nd</sup> edition)

Foster, CW and Longley, T (eds), 1976 The Lincolnshire Domesday and the Lindsey Survey, The Lincoln Record Society 19

Molyneaux, FH and Wright, NR, 1974 *An Atlas of Boston*, History of Boston Series No. **10** 

Palmer-Brown, C, 1996 Boston Grammar School Archaeological Evaluation Report,

unpublished PCA report

Peachey, M, 2004 Archaeological evaluation: Boston Southern Economic Corridor, Boston Docks Link Road, Boston, Lincolnshire (BSEC 04), unpublished APS report 54/04

Pevsner, N and Harris, J, 1989 *Lincolnshire*, The Buildings of England (2<sup>nd</sup> ed, rev. N Antram)

Robson, JD, 1990 Soils of the Boston and Spalding District, Memoirs of the Soil Survey of Great Britain

Thompson, P., 1856 The History and Antiquities of Boston and the Hundred of Skirbeck

Vinci Construction UK Ltd, 2010 F15875, Report on a Ground Investigation at Boston Barrier and Haven Works –Phase 1 GI

### 11. ABBREVIATIONS

APS Archaeological Project Services

BGS British Geological Survey



Figure 1 - General location plan

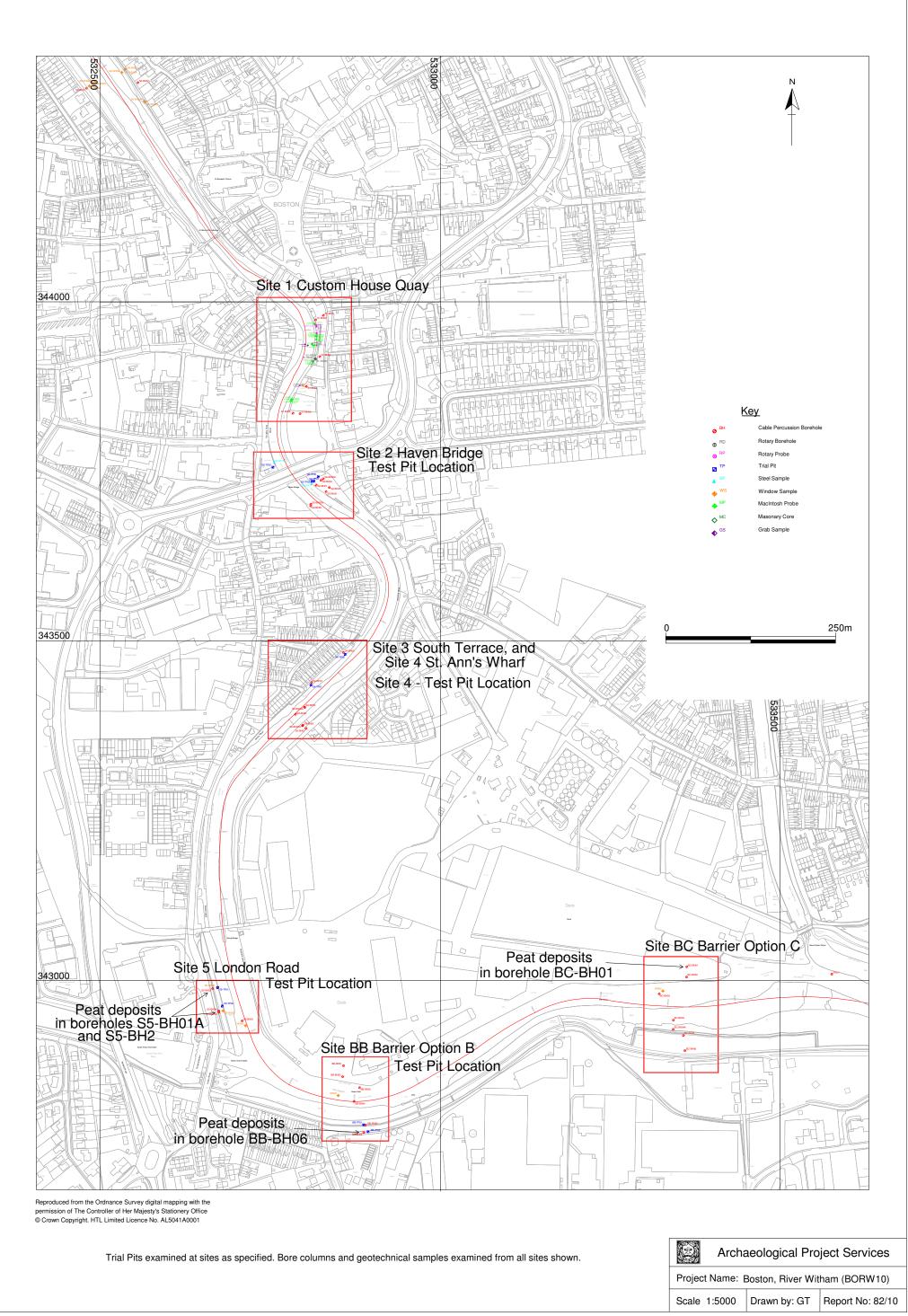


Figure 2 Site Map, showing locations of examined areas

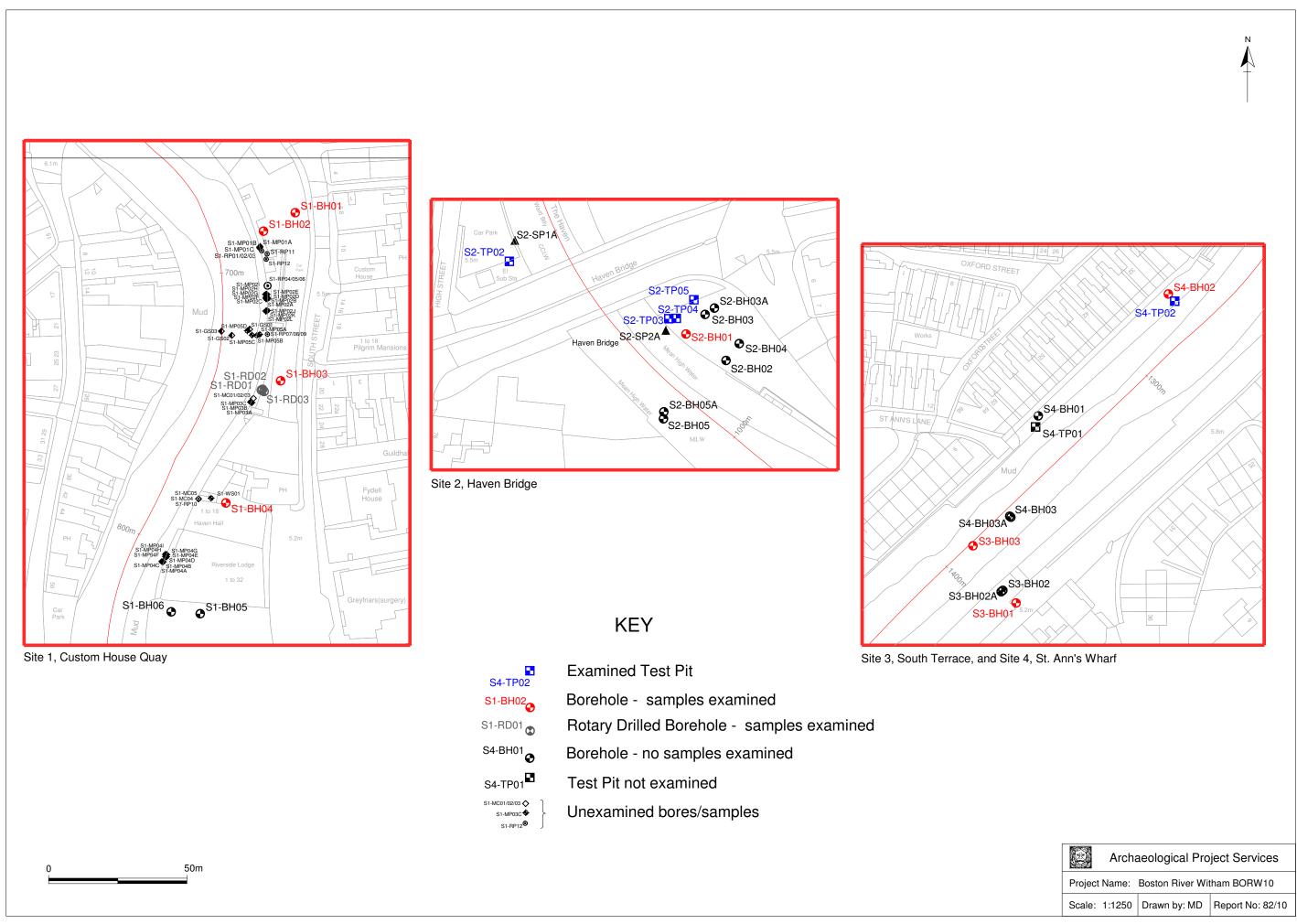


Figure 3a Detailed plans showing locations of examined bore columns samples and test pits

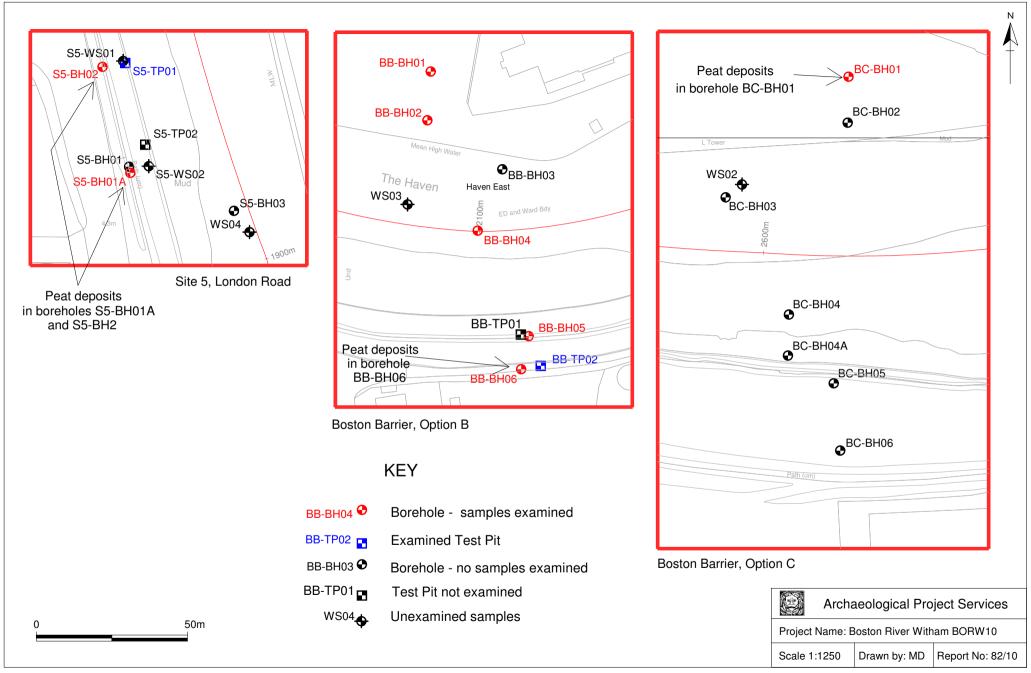


Figure 3b Detailed plans showing locations of examined bore columns samples and test pits

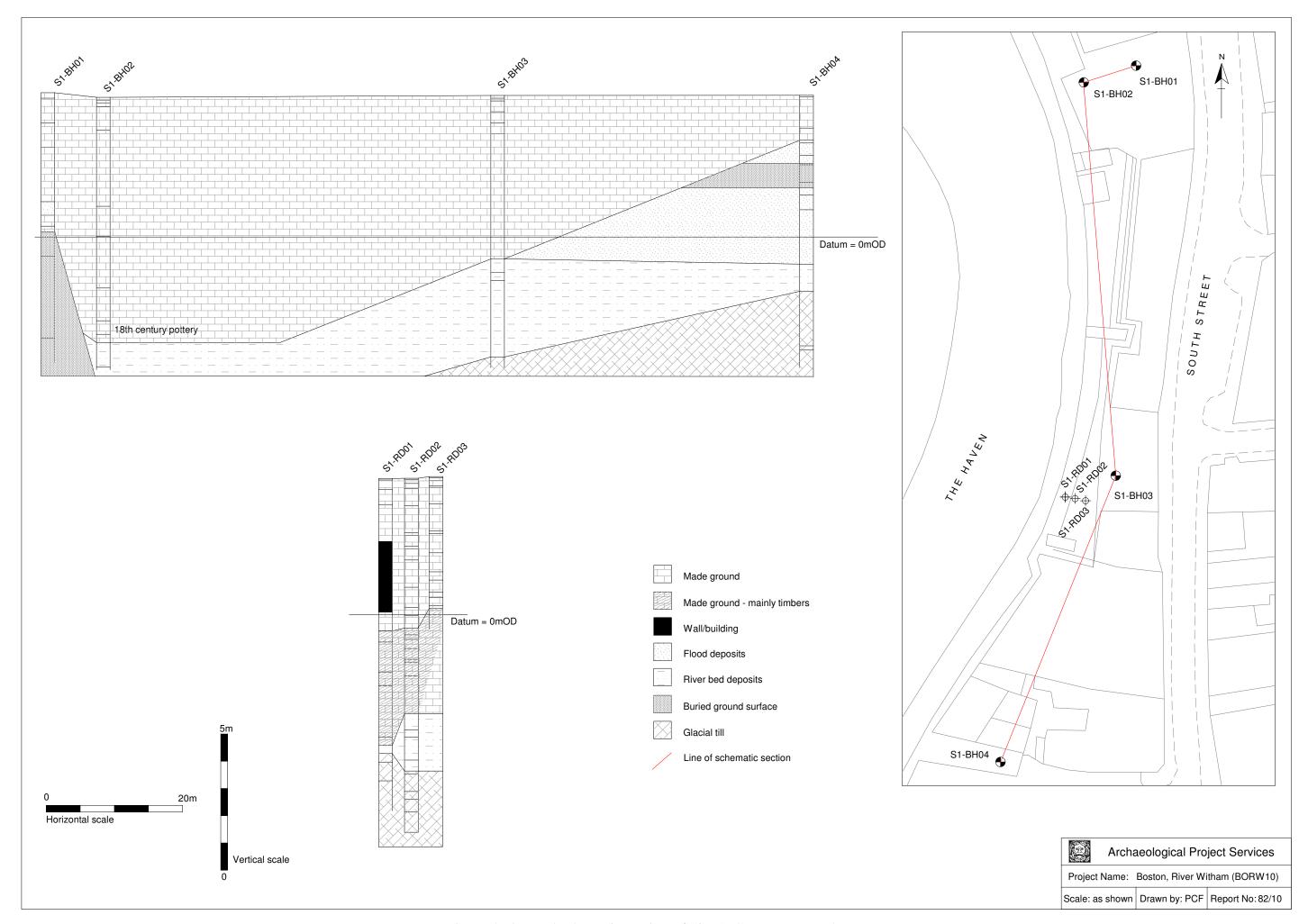
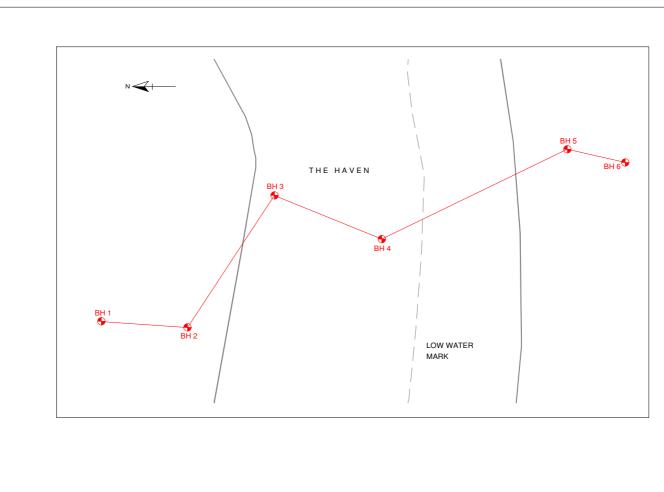


Figure 4 Plan and schematic section of Site 1, Custom House Quay



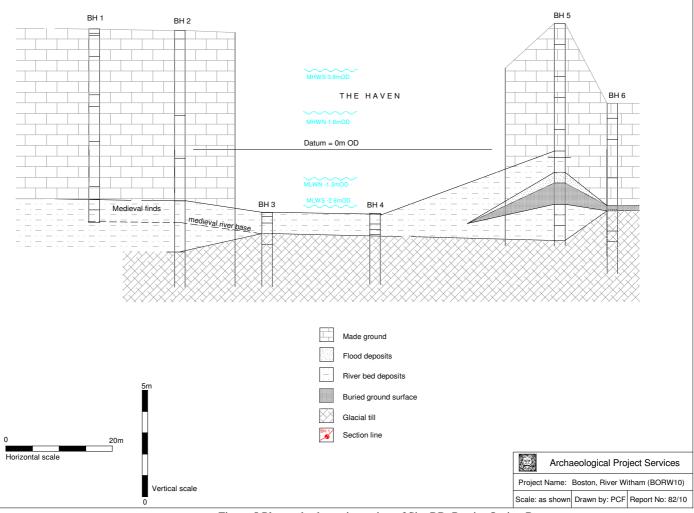


Figure 5 Plan and schematic section of Site BB, Barrier Option B

# Appendix 1

# Finds Appraisal By Alex Beeby

Borehole Number	Ceramic Finds Retrieved	Other
S1 BH02 BO 30	A single piece of pottery and four fragments of ceramic building material (CBM) came from this borehole. The pottery sherd is from a Staffordshire mottled ware cup dating to the late 17th to 18th century. Three of the pieces of CBM probably date from the 16th-19th century, whilst the final fragment is undatable.	Wood, bone, industrial residue
S1 BH03 BO 17	Two tiny fragments of partially vitrified tile came from this borehole these are difficult to date but are probably post Roman (13th-19th century)	Wood
S3 BH01 BO 32	Six pieces of ceramic building material including a medieval tile fragment were recovered from this borehole. In addition, sherds of what maybe medieval Stamford type A/D (late 10th-13th century), Boston Lincoln type ware (early 13th – early 14th), Late medieval Dutch red earthenware (16th) and post medieval glazed red earthenware (16th-17th) were also retrieved.	Bone, shell
S4 – BH02 BO 28	A range of ceramic building material was recovered, including a large piece from a brick of 16th-18th century date and four fragments from medieval flat roofing tiles. As well as undatable post Roman brick and tile fragments, a piece of Frechen stoneware of 16th century date was also retrieved.	
BB BH01 – BO 33 8M - 8.50M	A brick, two flat roofing tiles and two sherds of pottery were recovered from here. The roofing tiles have a late 12th-15th century date, whilst the brick is probably slightly later perhaps 16th to 18th century. The pottery includes a Boston Lincoln type jug (13th-14th centuries) and Glazed or Dutch red earthenware jug of 16th century date. A late medieval or early post medieval date is probable for this group.	
BB BH02 – BO 26 8M – 8.50M	This borehole yielded three fragments of ceramic building material (CBM) and two pottery sherds. Two of the pieces of CBM are from flat roofing tiles dated to the Late 12th to 13th centuries, whilst the third is undatable. There is a single piece of developed Stamford ware of late 12th to 13th century date and a probable Grimston type jug dating from the early13th to mid 16th century. A medieval date is likely for this group.	
BB BH04 BO 03	This Borehole produced a piece of brick dating from the 16th to 18th century, at least one medieval roof tile and one or possibly two pieces from a medieval glazed ridge tile (dating to the 13th-15th centuries). A late medieval or early post medieval date is probable for this group.	Bone

### Appendix 2

### **GLOSSARY**

Alluvium A deposit (usually clay, silts or sands) laid down in water. Marine alluvium is deposited

by the sea and freshwater alluvium by streams, rivers or within lakes.

**Context** An archaeological context represents a distinct archaeological event or process. For

example, the action of digging a pit creates a context (the cut) as does the process of its subsequent backfill (the fill). Each context encountered during an archaeological investigation is allocated a unique number by the archaeologist and a record sheet detailing the description and interpretations of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by

brackets, e.g.(004).

**Cut** A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench,

etc. Once the fills of these features are removed during an archaeological investigation

the original 'cut' is therefore exposed and subsequently recorded.

**Dumped deposits** These are deposits, often laid down intentionally, that raise a land surface. They may be

the result of casual waste disposal or may be deliberate attempts to raise the ground

surface.

Fill Once a feature has been dug it begins to silt up (either slowly or rapidly) or it can be

back-filled manually. The soil(s) which become contained by the 'cut' are referred to as

its fill(s).

Layer A layer is a term to describe an accumulation of soil or other material that is not

contained within a cut.

**Medieval** The Middle Ages, dating from approximately AD 1066-1500.

Natural Undisturbed deposit(s) of soil or rock which have accumulated without the influence of

human activity.

Neolithic The 'New Stone Age' period, part of the prehistoric era, dating from approximately

4500-2250 BC.

**Post-medieval** The period following the Middle Ages, dating from approximately AD 1500-1800.

Prehistoric The period of human history prior to the introduction of writing. In Britain the

prehistoric period lasts from the first evidence of human occupation about 500,000 BC,

until the Roman invasion in the middle of the 1<sup>st</sup> century AD.

**Romano-British** Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.

Till A deposit formed after the retreat of a glacier. Also known as boulder clay, this material

is generally unsorted and can comprise of rock flour to boulders to rocks of quite

 $substantial\ size.$ 

## Appendix 3

### THE ARCHIVE

The archive consists of:

Boreholes logs 1 Box of finds

All primary records and finds are currently kept at:

Archaeological Project Services The Old School Cameron Street Heckington Sleaford Lincolnshire NG34 9RW

The ultimate destination of the project archive is:

The Collection Art and Archaeology in Lincolnshire Danes Terrace Lincoln LN2 1LP

Accession Number: 2010.100

Archaeological Project Services Site Code: BORW 10

The discussion and comments provided in this report are based on the archaeology revealed during the site investigations. Other archaeological finds and features may exist on the development site but away from the areas exposed during the course of this fieldwork. *Archaeological Project Services* cannot confirm that those areas unexposed are free from archaeology nor that any archaeology present there is of a similar character to that revealed during the current investigation.

Archaeological Project Services shall retain full copyright of any commissioned reports under the *Copyright*, *Designs and Patents Act* 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.