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New Vacuum Mains Sewerage Scheme Swaton, Lincs Archaeological Evaluation and Watching Brief NGR: TF 133 377 (centre) Site Code: SWTW 04 LCNCC Accn No. : 2004.228

Report

for

Anglian Water Services Ltd

By

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LAS Report No. 830 May 2005

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New Vacuum Mains Sewerage Scheme, Swaton, Lincs Archaeological Evaluation and Watching Brief NGR: TF 133 377 (centre) Site Code: SWTW 04 LCNCC Accn No. : 2004.228

Summary

Evaluation at Swaton waste water treatment works located a number of ditches which were predominantly of modern date with one medieval and one post medieval ditch on the site of the Sewage Treatment Works. A possible channel was located on the site of Pumping Station 2 The only find of note was a fragment from a medieval limestone mortar. The watching brief did not locate any further archaeological finds or features.

Introduction

Lindsey Archaeological Services (LAS) was commissioned by Anglian Water Services Ltd in October 2004 to carry out an archaeological evaluation at the above site (Fig. 1), in accordance with the general requirements set out in the *Lincolnshire Archaeological Handbook* published by the Lincolnshire County Council Archaeology Section (1998).

Site Description

Swaton is a small village situated north of the A52 12km south-east of Sleaford and 20km east of Grantham on the edge of the Fens. The proposed scheme will comprise the construction of a new sewerage system through the village, and pipes will be laid mostly along existing roads or roadside verges with the exception of links to two new pumping stations and a sewage treatment works at the south end of the scheme. All trenches will be directionally drilled.

Planning Background

The proposed new sewerage scheme lies outside the planning process and is covered under Anglian Water best practice policy. However, construction of the pumping stations and sewage treatment works requires planning permission and an archaeological scheme of works has been requested on PS2 and the STW prior to construction of the buildings as a condition of planning permission.

Archaeological Background

Swaton is mentioned in the Domesday Survey of 1086 when the village was the centre of three manors (estates) and the settlement is clearly of Saxon origin. Little has previously been found of archaeological significance in Swaton but there may be evidence for its Saxon/medieval origins and its position on the Fen edge means that evidence of Roman and earlier settlement

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may also be present.

Air photographic evidence indicates the presence of Bronze Age barrows and possible occupation features near the south end of the village which may continue into the areas of the STW and PS2.

Aims and Objectives

The purpose of the evaluation was to

- establish the date, quality and extent of archaeological remains and their location within the development area
- gather sufficient information to enable an assessment of the potential and significance of any archaeological remains to be made and the impact which development will have upon them
- enable an informed decision to be made regarding the future treatment of any archaeological remains and consider any appropriate mitigation measures either in advance of and/or during development

More specifically, the purpose of the evaluation trenching was to assess the potential importance of any medieval or earlier settlement remains present on the site.

METHOD

It was originally proposed that 8 trenches measuring 15m x 2m would be excavated on the site of the sewage treatment works at the south end of the village. The site of the sewage treatment works was shifted to the east side of the road and on a smaller plot of land. It was agreed with the Built Environment Officer of Lincolnshire County Council that the number of trenches required should be reduced to four. These were excavated between October 24-29th 2004 (Pl. 1-2). A further trench measuring 12m x 2m on the site of Pumping Station 2, also shifted from the original proposed location to the east side of the road (Pl. 4). The size of the area available trench 5 was prevented the excavation of a 15m long trench. This was excavated after a newt licence had been obtained and controlled clearance of vegetation had been completed.

The trenches were machine excavated to the first recognisable archaeological horizon under archaeological supervision. They were hand-cleaned to reveal features in plan and appropriate cross-sections selected through the features were excavated to enable sufficient information about form, development date and stratigraphic relationships to be recorded.

Archaeological recording was carried out by a team of three experienced archaeologists, including a Site Director. A full written (single context) and photographic record was made of the

Lindsey Archaeological Services site, including site and trench plans at a scale of 1:100 and 1:20, with section drawings at 1:50, 1:20. A full photographic record was made during the progress of the excavation to cover each feature together with general site views. LAS operates a standard context recording system, developed by its staff over the past 20 years based on MOLAS and CAS models.

Due to the wet conditions on site, excavation could only be undertaken to a depth of 1.20m or less. At approximately 4.80m O.D. the water table was encountered and this necessitated the use of an electric pump in order to assist excavation. This limitation meant that not all features could be fully excavated.

A temporary site bench mark was established (5.48m O.D.) and tied into a bench mark on the village church (8.97m O.D.).

Results

Trench 1

Trench 1 was positioned at the southern boundary of the site. The 0.40m deep topsoil, 1, overlay the natural yellow brown gravelly sandy clay, 2. There were no features or finds in this trench.

Trench 2

Trench 2 was positioned at right-angles to Trench 1 approximately 2.00m east of an extant hedgerow. The 0.33m deep topsoil, **1**, overlay the natural yellow brown sandy clay, **2**. There were no features or finds in this trench.

Trench 3 (Fig. 5)

Trench 3 was aligned on an approximate northwest-southeast axis and sought to confirm the northerly presence of linear features observed in Trench 4. Below the 0.40m deep topsoil 1, was a mid yellow brown silt layer 13 that sealed a circular pit 10 0.53m in depth, with gently concave sides and base measuring 2.58m in diameter. It contained a pale grey-brown sandy silt 9, sealed by orange-brown silty sand 8 and a pale mid brown clayey silt 7.

This feature cut through a northeast-southwest aligned ditch, **12** with a flat base and gently sloping sides. It was 1.57m wide and 1.03m deep and cut **2**, natural. It contained a number of layers of fill comprising a yellow clayey sand **35**, that sealed a fill of mid yellow-grey sandy silt **11**, overlying a light yellowish brown coarse sand **14**, above a dark bluish grey sandy silt **15**. Fills **11** and **15** produced pottery dating to the late 18th- mid 19th century.

A circular pit **26** containing golden brownish grey sandy silt **27** with steep sides and concave base measuring 0.73m in diameter and 0.50m in depth that cut a clean light orange-brown clayey silt **22** within a northeast-southwest aligned shallow ditch **23** 1.50m wide and 0.30m in depth and dug into the natural clay **2**. Pit **26** produced no dating evidence.

A clean, yellow brown sandy clayey silt **31**, overlying a similar yellowish brown sandy clayey silt **30** that abuts a pale brown clayey silt **29** within a circular plan cut **28** with gently sloping sides and sub-concave base. This feature cut a light yellowish brown sandy silt **34**, overlying a light orange-brown silty sand **33** within an east-west aligned linear cut **32** with irregular sloping sides and an uneven base and measuring over 1.80m in width and over 0.40m in depth. This feature cut layer **2**, natural. The feature produced no finds.

Trench 4 (Fig. 6)

Trench 4 was located at the extreme eastern edge of the development and formed, with Trench 1, a broken transect across the study area.

Below the 0.40m deep topsoil 1, was the following stratigraphic sequences:

A greyish yellow sandy silt **3** that filled a linear north-south aligned gently sloping cut **4** 2.40m in width and 0.42m in depth. This penetrated a layer of yellowish grey sandy silt **5**, that sealed light grey clayey silt **24** (which produced a ceramic date of 13th to 14th century), overlying mid grey sandy silt **25** within a north-south aligned linear cut **19** possessing a curved profile and base (Pl. 3). This feature measured 1.30m in width and 0.38m in depth and penetrated layer **2**, natural.

A mid to light pale brown sandy silt **16**, sealing a mid grey-brown clayey silt **17**, overlying a yellow-brown sandy clay **18** within a north-south aligned linear cut **6** with near-vertical sides but not bottomed. This feature measured 2.80m in width and over 0.80m in depth and cut layer **5** described above and a mixed, mid grey silty clay **20** (which produced a ceramic date of mid 15th to mid 17th century) within a probable sinuous plan cut **21** with vertical sides and flat base. This feature measured 0.60m in width and 0.48m in depth and penetrated layer **2**, natural.

Trench 5

Trench 5 was set out across the area of Pumping Station 2 in the most convenient location to facilitate the safe machining of the trench and the storage of the associated spoil. An extension of the trench was machined when the features encountered proved to be of a modern date. The extension was cut to investigate the possibility of an in filled paleochannel.

A layer of mid to dark brown clay sand topsoil covered the site (36) which had been already reduced in level by approximately 0.2m by the contractors as a result of the newt protection

Lindsey Archaeological Services measures. The total depth of the topsoil was calculated to be 0.42m. Beneath the topsoil a mid brown sandy clay subsoil layer (37) which was cut (39) by a linear cut which contained a dark brown clay silt with frequent charcoal inclusions and a ceramic drain pipe and a narrow ditch which contained a similar fill to 38 (51) which was excavated to a depth of 0.3m at which depth pea gravel (52) was encountered and excavation was abandoned as the feature was deemed to contain services or a land drain.

Beneath the subsoil was a 0.24m deposit of mid yellow brown silty clay (**40**) which appeared to be cut by a broad channel which ran the length of the trench with an estimated width of 4.25m (**45**) which contained a mid brown clay silt (**41**). Overlying **41** another possible channel re cut was evident (**48**) which contained a mid grey brown clay silt (**49**)

A section was cut at 90° to the trench to investigate the large linear features (PI. 5). Beneath deposit **40** was a 0.42m deposit of mid green grey silty clay (**42**), a 0.24m deposit of light grey slightly gritty silt clay (**43**) which overlay yellow sandy gravel (**44**) (PI. 6). Layer **42** contained one sherd of $18^{th} - 19^{th}$ century pottery suggesting that all features above this level were modern and layer **43** produced a large fragment of a medieval limestone mortar (N. Field *pers. comm.*) and a fragment of post medieval to early modern brick.

The Watching Brief

A single watching brief visit was made by G. Tann on November 11th 2004. Directional drilling access trenches had been excavated at the eastern edge of the B1394 Heckington - Billingborough road, either side of St Michael's Church. No archaeological features, deposits or artefacts were seen in the trench faces.

An area of ground opposite the southern spur of West Street was manually cleared of turf and topsoil, in preparation for Pumping Station 2. Inspection of the stripped surface showed that there were no archaeological features present.

Discussion

The trenches on the sewage treatment site produced evidence for one medieval ditch and one post medieval ditch. Other features were undated or produced modern ceramics. The silty alluvial deposits and layers showed that the site had been subjected to repeated flooding. The location of the sewage treatment works on the southern edge of the village some distance from the parish church may account for the scant archaeological remains.

The evaluation of Trench 5 showed a depth of water deposited layers of a post medieval to modern date overlying a yellow sandy gravel. Two interpretations of the evaluation trench could be made: the deposits represent a depth of post medieval silting from a nearby water course or that the deposits are the infilling of a watercourse running east- west. The constraints of the area prevented an conclusive answer. The attempt to extend the trench north south although suggesting a slight slope in the deposits from north to south did not show edges to the silting. This could be explained by of produced evidence for a large in filled channel. The ceramic evidence from deposit **42** showed that the channel had been mostly in filled by the 19th century. A ditch to the south of trench 5 would appear to be a re-cut or the remnant of a line of the channel. The large channel which runs to the west of the pumping station 2 site turns to the south and the existing drain feeds into it. It is possible that a water course ran through the area of pumping station 2 and that the land which was evaluated has silted up by the 19th century. The full width of the original channel may have been in excess of 6m. The alignment of the original watercourse could not be demonstrated as the edges were not established.

Although the evaluation produced few archaeological features their remains potential for archaeological remains in the village (Tann 2003).

Conclusions

The evaluation and watching brief produced little evidence for archaeological features. Excavations on the site of Pumping Station 1 consisted of predominantly modern and postmedieval features with one ditch producing material of a medieval date. The former water course encountered on the site of Pumping Station 2 showed that the impact of the installation upon archaeological remains was low. Although there is the potential that further investigations in the area may reveal more archaeology the impact caused by the Sewerage Scheme was slight.

Acknowledgements

LAS would like to thank Nick Finch of Amec. Evaluations 1-4 were excavated by Gerry Martin, trench 5 was excavated by Ian Rowlandson and the Watching Brief was conducted by Geoff Tann. Ian Rowlandson would like to acknowledge the on site assistance of Ben Crossley. Illustrations were produced by Ian Rowlandson and Sophie Claxton. The ceramic reports were produced by Jane Young. Naomi Field edited and collated the report.

Gerry Martin, Ian Rowlandson and Geoff Tann May 26th 2005

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Tann, G. 2003, Swaton Sewarage Scheme: Archaeological Desk-Based Appraisal, LAS Developer Report No. 688

Contents of Site Archive

LAS film no.s 04/120 negs 7-27 04/161 negs.11-36 Context sheets and register Site plans and sections Correspondence Risk Assessment and Method Statement

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New Vacuum Mains Sewerage Scheme, Swaton, Lincs. (SWT 04) Archaeological Evaluation and Excavation Context Summary

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Context	Туре	Fill of	Period	Interpretation
1	Layer		Modern	Topsoil
2	Layer		Natural	Natural
3	Fill	4	Medieval	Furrow
4	Cut		Medieval	Furrow
5	Layer		Undated	Plough soil
6	Cut	_	Undated	Ditch
7	Layer		Modern	Buried soil
8	Fill	10	Modern	Pit
9	Fill	10	Modern	Pit
10	Cut	_	Modern	Pit
11	Fill	12	Modern	Ditch
12	Cut		Modern	Ditch
13	Layer	_	Modern	Active soil
14	Fill	12	Modern	Ditch
15	Fill	12	Modern	Ditch
16	Fill	6	Undated	Ditch
17	Fill	6	Undated	Ditch
18	Fill	6	Undated	Ditch
19	Cut		13 th -14 th	Ditch
20	Fill	21	Mid 15 th - mid 17 th	Ditch
21	Cut	-	Mid 15 th - mid 17 th	Ditch
22	Fill	23	Undated	Furrow
23	Cut		Undated	Furrow
24	Fill	19	13 th -14 th	Ditch
25	Fill	19	13 th -14 th	Ditch
26	Cut	_	Undated	Post-hole
27	Fill	26	Undated	Post-hole
28	Cut	_	Undated	Pit
29	Fill	28	Undated	Pit
30	Fill	28	Undated	Pit
31	Fill	28	Undated	Pit
	1			1

Context	Туре	Fill of	Period	Interpretation
32	Cut		Undated	Ditch
33	Fill	32	Undated	Ditch
34	Fill	32	Undated	Ditch
35	Layer	_	Modern	Flood level
36	Layer	-	Modern	Topsoil
37	Layer	_	Modern	Subsoil
38	Fill	39	Modern	Land drain
39	Cut		Modern	Land drain
40	Deposit	_	Modern	Channel
41	Deposit		Modern	Ditch/ channel
42	Deposit	_	18 th - 19 th century	Channel
43	Deposit	_	Medieval ?	Channel
44	Layer	_		Natural gravel
45	Cut	_	Modern	Ditch/ channel
46	Cut	_	Modern	Stakehole
47	Fill	46	Modern	Stakehole
48	Cut	_	Modern	Ditch/ channel
49	Fill	48	Modern	Ditch/ channel
50	Cut		Modern	Land drain/
				services
51	Fill	50	Modern	Land drain/
				services
52	Fill	50	Modern	Land drain/
				services
53	Cut	_	Modern	Land drain
54	Fill	53	Modern	Land drain
55	Layer		_	Natural gravel

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Pottery Archive SWTW04

Jane Young

context	cname	sub fabric	full name	form type	sherds	vessels	weight	decoratio	part	description	date
11	PEARL		Pearlware	small hollow vessel	1	1	1	decorated	BS		late 18th to mid 19th
11	PEARL		Pearlware	?	1	1	1	decorated	BS		late 18th to mid 19th
11	NOTS		Nottingham stoneware	jar	1	1	3		rim		18th
11	ws		White stoneware	small vessel	1	1	1		BS		18th
11	CREA		Creamware	small vessel	2	1	12		base		late 18th to mid 19th
11	BL		Black-glazed wares	jar	1	1	22		rim		18th to 19th
11	CEP		Chinese export porcelain	cup	1	1	1	painted dec	rim		18th
15	CREA		Creamware	open	1	1	1		rim		late 18th to mid 19th
15	CREA		Creamware	small hollow vessel	1	1	4		base	bur `	late 18th to mid 19th
20	BOU		Bourne D ware	?	1	1	2		BS	very abraded;no surfaces left	mid 15th to mid 17th
24	MEDX	OX/R/OX white margins;fine sandy;hard	Non Local Medieval Fabric	jar	1	1	4		BS	unglaze; abundant fine quartz comm fine black fe occ flint occ ca	13th to 14th
38	WHITE		Modern whiteware	small jar	1	1	8		rim		19th to 20th
38	SLIP		Unidentified slipware	bowl	5	1	422		profile	internal white glaze with white slip over red fabric;brown band around rim	19th to early 20th
38	BL		Black-glazed wares	large bowl	1	1	85		base		19th to early 20th
42	BL		Black-glazed wares	bowl	1	1	31		BS		18th to 19th

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Brick Archive SWTW04

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context	cname	full name	frags	weight	date	
43	BRK	Brick	2	31	post-med to early modern	

24 February 2005

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Fig. 2 The Pipeline route and sites of the new treatment works and pumping stations showing areas of evaluation (based on a reduced scale copy of WS Atkins dwg. No. AK2998/SK/141. © Crown Copyright, reproduced with the permission of the Controller of HMSO. LAS Licence No. AL 100002165).



Fig. 3 Swaton sewage treatment works trench locations.

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Fig. 5 Trench 3 plan and sections.







Fig. 6 Trench 4 plan and section.



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Fig. 7 Trench 5 plan and sections.

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PI.1 Sewage Treatment site, looking south east.



PI. 2 Sewage Treatment site, looking south west.



PI. 3 Trench 4 ditch 19, looking south (scale 1m).



PI.4 Pumping Station 2 site, looking east.



PI. 5 Trench 5 section through possible water channel, looking east (scales 2m and 1m).



PI. 6 Trench 5 showing gravel deposit 44, looking west (scale 1m).