

PROPOSED TURNTABLE SITE AT YORK TRIANGLE,
YORK RAILWAY STATION
REPORT ON ARCHAEOLOGICAL EVALUATION

Summary

This report presents the results of an archaeological evaluation carried out at the York Triangle, York Railway Station. The railway station is located in the flood plain of the River Ouse, and the site under investigation is surrounded by Roman Cemetery Sites. Three evaluation trenches were excavated by machine and then hand cleaned and recorded.

No Roman or Medieval remains were found during the evaluation. The natural topography in the immediate vicinity of the development site appears to have been truncated rather than raised, as is the case for the surrounding land. A stone drain and part of a brick structure, both almost certainly nineteenth century in date, were found and recorded.

No significant archaeological remains were encountered, and no further work is recommended during the construction of the proposed turntable on this site.

1.0 INTRODUCTION

- 1.1 This report presents the results of an archaeological evaluation carried out by Northern Archaeological Associates (NAA) on the site of a proposed turntable at York Railway Station. The site is located in an area of disused sidings at NGR SE 5935 5151 (figs. 1 & 2).
- 1.2 The evaluation was undertaken on behalf of Bullen Consultants acting for Railtrack Plc.
- 1.3 The site work was undertaken in early November 1998, and the archive and report were prepared in December 1998. The archive will be deposited with the Yorkshire Museum, York, accession number YORYM: 1998.717.

2.0 BACKGROUND

2.1 Archaeological Background

- 2.2 An archaeological assessment was carried out on part of York Railway Station, including the area of the proposed turntable, in November 1997 (NAA Report 97/62).
- 2.3 No antiquarian or archaeological work appears to have been reported within the bounds of the development. A large body of work around the periphery of the development suggested the strong likelihood of archaeological features lying within the development area. This archaeological evidence includes a light scattering of prehistoric finds, and the Roman funerary remains which dominate the archaeological record for the area around the station at York. It appears likely that the later Roman cemetery would have covered the area of this development, which has been landscaped a number of times since the original building of the station in the 1840s. Much of the landscaping work involved making ground, and it is likely that any archaeological features would be buried beneath made-ground.
- 2.4 A series of machine-cut test pits were monitored by NAA in April 1998. These identified over 1 metre of made-ground above alluvial sands in this area, although no evidence of burials was seen. This information broadly corroborated the existing archaeological deposit model maintained by the York City Archaeologist for this part of the city.

2.5 Geology and Topography

- 2.6 The development area lies to the south of the River Ouse, within its flood plain. The topography has been modified during both the main railway construction phases, in the 1840s and 1870s, as well as more recently.
- 2.7 The station appears to straddle one of the river's terraces, and may overlie a ridge, possibly the primary terrace of the Ouse. The results of geo-technical investigations currently being undertaken on behalf of Bullen Consultants may be able to confirm this.

- 2.8 The development area is situated on a spur of warp and lacustrine clay amongst boulder clay on Bunter and Keuper Sandstone. An area of sand and gravel is shown lying immediately to the north-west (Bishop 1997, 2).
- 2.9 Borehole work carried out during early December 1998 has identified a series of relatively thin and frequently alternating layers of boulder clays, laminated clays, and gravels in the area immediately to the south of Trench 1. Relatively thin and frequently alternating layers of boulder clays, laminated clays, and sands were identified in the area immediately to the west of Trench 2.

3.0 METHODOLOGY

- 3.1. A written methodology (part of the Project Design, Fraser 1998) was agreed with Mr J Oxley, the City of York Archaeologist. It was based on a brief provided by and discussions with Mr Oxley, a site inspection, discussions with Railtrack on safe working practices, and on standard NAA procedures.
- 3.2. Three trial trenches were excavated using a JCB-type excavator under the direct supervision of an archaeologist. The machine was fitted with a toothless ditching bucket.
- 3.3 The first trench excavated (Trench 3) was abandoned and back-filled before natural subsoil had been reached. It was abandoned due to a combination of severe water-logging, soft ground, very restricted access between the rails, and the location of various services. In the light of this, the sizes and positions of the other trenches was adjusted to ensure that approximately the same area was excavated as had originally been intended, within the limits outlined above. This resulted in Trench 1 lying immediately adjacent to the area directly affected by the development.
- 3.3. Material was removed by the machine in a series of shallow spits until naturally deposited material was encountered. The sides of the trenches were stepped or battered to allow safe working in the bottom of the trench.
- 3.4. Where features associated with earlier railway structures were located, they were left *in situ*, cleaned and recorded.
- 3.5. The trenches were cleaned by hand before a full written record of features was made using the NAA context recording system. All archaeological features were photographed, using both colour print and colour slide film. Sections were drawn at a scale of 1:20. Plans were drawn at a scale of 1:50. All levels were tied to Ordnance Datum.
- 3.6 After the trenches had been recorded, a machine was used to further excavate the trenches, to confirm that a naturally deposited layer had been reached and that archaeology was not buried below the layer of silty-clay which had been interpreted as natural.

- 3.7 No finds were recovered from the site. Significant contexts were sampled in accordance with a sampling strategy agreed in advance with the Environmental Archaeology Unit, University of York (EAU).
- 3.8 An assessment of the environmental samples taken has been carried out by EAU (Appendix 2).

4.0 RESULTS

- 4.1 The locations of the trenches is shown in fig. 2. Plans and sections of Trenches 1 & 2 are shown in figs. 3 - 6.
- 4.2 Trench descriptions and interpretations are given in this section. Context numbers shown in square brackets. Summary context descriptions are contained in Appendix 1.

4.3 Trench 1

- 4.4 This trench measured approximately 5.5 x 7.5 m at its upper edge, and approximately 3.5 m x 3.5 m at its base. It is shown in plan and section in figs. 3 & 4.
- 4.5 Boulder clay [17] was found at the bottom of the trench. The upper surface of the boulder clay was found to lie at 11.10 m OD. Above the boulder clay was a thin layer of silty-clay [7], the upper c. 0.10 m of which was stained with diesel and coal ash. Both these layers were interpreted as naturally deposited. The upper surface of the natural deposits was found to lie at 11.70 m OD.
- 4.6 The earliest non-natural deposit encountered was a layer of ashy-silt contaminated with diesel [16]. This layer appears to have been deliberately sealed by a pebbly-sand layer [15]. The uppermost layer in this trench consisted of coal ash [14]. The upper surface of this layer (present ground level) was at 12.98 m OD.

4.7 Trench 2

- 4.8 This trench measured approximately 6.5 x 6.5 m at its upper edge, and approximately 3 m x 5 m at its base. It is shown in plan and section in figs. 5, 6 & 7.
- 4.9 Boulder clay [18] was found at the bottom of the trench. The upper surface of the boulder clay was found at 10.46 m OD. Immediately above the boulder clay was a layer of silty-clay [8], and above that another layer of clay [5]. All three of these layers were interpreted as naturally deposited. The upper surface of the natural deposits was found to lie at 11.56 m OD.

- 4.10 The earliest non-natural deposit was a layer of greasy clay [4] containing some diesel. This greasy clay layer appears to have been dumped, then deliberately sealed by a layer of gravely-sand [3]. A pair of similar layers (consisting of clay [6] sealed by sand [2]) were found immediately overlying the gravely-sand layer [3].
- 4.11 The series of dumping and sealing layers described above were truncated by what appeared to be the edge of a ditch [9]. Three fills, [10], [11], and [12], lay within the probable ditch. Layer [12] contained a stone-built drain.
- 4.12 A brick structure [13], possibly a platform or wall, was also found in this trench.
- 4.13 The uppermost layer in this trench consisted of coal ash [1]. The upper surface of this layer (present ground level) was at 12.92 m OD.

4.14 Trench 3

- 4.15 This trench measured approximately 4.5 m x 3.6 m. Its location is shown in fig. 2 and a sketch section is shown in fig. 4.
- 4.16 This trench was excavated by machine at the western end of one of the trenches proposed in the NAA Project Design. Unfortunately, a combination of water logging and space restrictions between the rails meant that it had to be backfilled almost immediately and abandoned.
- 4.17 No contexts were assigned to this trench, but the layers seen corresponded very closely to those found in Trench 1, except that the sealing layer was of clay rather than sand.

5.0 DISCUSSION

- 5.1 The deposits found in these trenches follow the same basic pattern, described below:
- a. levelling of existing ground surface (in this area the topography has been truncated)
 - b. dumping of material (for disposal)
 - c. sealing of dumped deposits
 - d. dumping of material (for disposal *and* to make ground)
- 5.2 The dark greenish-grey clay layers, [4], [5] and [16], appear to represent a phase of deliberate dumping. This interpretation is supported by a number of factors. Firstly the absence of any old ground surface(s) suggests a truncation of deposits rather than the making-up of ground in this area. Secondly these layers contained much diesel and smelt strongly of printing ink. These materials were usually disposed of by burial. Thirdly the layers were sealed by "clean" layers of sandy-gravel (Trenches 1 & 2) and clay (Trench 3).
- 5.3 The sandy-gravel and clay layers lying immediately below the coal ash, [2], [3] and [15], and the equivalent layer in Trench 3, appear to have been imported, possibly

from another part of the station but almost certainly from the York area. These layers appear to have been designed to seal the dumping layers below.

- 5.4 The black coal ash layers, [1] and [14], found in the trenches appear to be the result of dumping of ash from steam engines, either to dispose of the ash, to make ground or a combination of both. Very large quantities of this material would have been produced during the *c.* 130 years that steam locomotives were the main motive power used on the railways, and its disposal would have presented problems. The present railway tracks are held to the sleepers with clasps dated 1963, so it is conceivable that the dumping is relatively recent.
- 5.4 The wall, [13], found in Trench 2 appears to have been part of a platform. Platforms of this type were used for loading and unloading goods in this area of former sidings. These kinds of platform differ from passenger platforms in that they do not need to be wide but do need to support much greater loads. The solid construction of this structure, rather than a two-skinned and rubble core construction, supports this interpretation. It has not been possible to positively identify this feature with any feature shown on the maps consulted for the assessment stage of this project.
- 5.5 The drain cut [9] may be the re-cutting of a feature formed unintentionally by tipping (see fig. 6). The building of a stone drain (fig. 9) has formalised this feature at a later stage, and the drain appears to have been intentionally buried within context [12]. It is not clear in which direction the water in the drain flowed.

6.0 CONCLUSIONS

- 6.1 None of the features recorded in these trenches is of great archaeological significance.
- 6.2 The tip lines recorded in Trench 2 support the premise that the ground level in this area has been raised, either deliberately or as a by-product of dumping.
- 6.3 The upper surface of boulder clay was found at between 10.46 and 11.10 m OD (only 1.7 - 2.5 m below present ground level), while nearby boreholes had suggested it would lie at around 7 - 8 m below present ground level. Test-pitting, carried out approximately 60 m to the south-west of Trench 3 and monitored by NAA in April 1998, found natural deposits similar to those recorded during this evaluation, and at comparable depths (of between 2 and 3 m below present ground level). A number of the test-pits also contained waterlogged organic layers, at approximately 1.5 m below present ground level, which may be the remains of previous ground surfaces. If these layers are old ground surfaces, then the truncation of topography surmised in the area affected by this development may be very localised.
- 6.4 This evaluation has provided useful data for enhancing the archaeological deposit model for this area. It shows that the development area lies on what was a hill or ridge, rather than on a low-lying flood plain. Prior to this evaluation, it was thought that this part of the station consisted entirely of made-ground rather than truncated ground. It now seems likely that the upper parts of a hill or ridge were removed during the

construction of the part of the station affected by this development, although the size and extent of the feature remain undetermined.

7.0 RECOMMENDATIONS

- 7.1 No archaeological remains were encountered that would represent a significant constraint to the construction of the proposed turntable at this location. No further archaeological work is recommended at this site.

8.0 BIBLIOGRAPHY

Bishop M C & Fraser R (1997), *Land to the Rear of York Railway Station - An Archaeological Assessment*, unpublished NAA Report 97/62

Fraser R (1998), *Proposed Turntable, York Triangle, York Railway Station - Project Design for Archaeological Evaluation*, Unpublished NAA Project Design

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Edited by: Richard Fraser

APPENDIX 1

Summary Context Descriptions

context no.	trench	type	same as	description
1	2	layer	14	firm black coal ash, maximum 0.90 m thick.
2	2	layer		light orangey-brown sandy gravel, maximum 0.60 m thick.
3	2	layer	15	light orangey-brown sand, maximum 0.40 m thick
4	2	layer	16	dark greenish-grey clay, maximum 0.40 m thick. Contaminated with diesel.
5	2	natural		mid-greenish-grey clay
6	2	layer		dark greenish-grey clay, maximum 0.30 m thick.
7	1	natural		firm silty-clay varying in colour from reddish-brown, through mid-yellowish-brown to greyish brown, average 0.20 m thick. The upper c. 0.10 m of this layer was stained with diesel and coal dust or ash. The material appears to have been deposited in flowing water.
8	2	natural		mid-greenish-grey silty-sand, average 0.50 m thick.
9	2	cut		ditch cut containing three fills [10], [11], [12], runs north-west to south-east. Full width not visible but was at least 7 m wide.
10	2	layer		moderately loose orangey-brown sand, maximum 0.30 m thick.
11	2	layer		whitish crushed limestone or dumped mortar, average 0.25 m thick.

context no.	trench	type	same as	description
12	2	layer		light brown gravely sand, maximum 0.60 m thick. Contained a square-section stone lined drain, with a drainage channel, measuring 0.10 m x 0.25 m in section. Stonework was roughly-squared, rounded-edged stones. No flagging covering the top of the drain was visible. The material inside the drain was iron-stained.
13	2	layer		brick-built wall, solid, height 0.80 m, width 0.65 m. Irregular bond, un-frogged bricks measuring 5.5 x 11 x 24 cm, lime mortar bonded, sandstone foundation course. One end of the wall lay within the trench.
14	1	layer	1	compacted black coal ash, maximum 0.70 m thick.
15	1	layer	3	compacted orange pebbly sand, averaging 0.45 m thick.
16	1	layer	4	spongy dark greenish-black ashy-silt, maximum 0.50 m thick. Contained much diesel and smelt strongly of printing ink,
17	2	natural	18	very firm mottled orangey-grey boulder clay with frequent white flecks, at least 0.30 m thick.
18	1	natural	17	very firm mottled orangey-brown-grey boulder clay with frequent white flecks, at least 0.30 m thick.

APPENDIX 2

Report on Environmental Analysis [extract from letter]

Two tubs of sediment were analysed.

YTR98 007 AA slightly mottled, light red-brown, light grey-brown, sticky, plastic, very sandy clay or clay sand with occasional patches of dark purplish-brown mineral deposit

YTR98 008 AA mottled mid-grey/light-mid olive brown, soft, plastic, thixotropic slightly silty sand

Neither is actually a 'silt' as such, and both are likely to have formed in flowing rather than quiet water; groundwater movements since deposition are likely to account for the mottling. Sample 008 is much better sorted than 007 and is perhaps more likely to be fluvial, with 007 perhaps essentially a solifluction deposit, but in any case there seems to be no reason to suspect that these are not natural deposits forming since the deposition of the till (boulder clay) in the later stages of the late glacial or the early part of the post-glacial, and presumably truncated by some activity prior to the deposition of the 'made ground' identified immediately above them (since there was no OGS visible).

Dr Allan Hall

Environmental Archaeology Unit, University of York

APPENDIX 3

PROJECT DESIGN FOR ARCHAEOLOGICAL EVALUATION

1.0 INTRODUCTION

- 1.1 This document presents a project design for undertaking an archaeological evaluation on land adjacent to York Railway Station (York Triangle), York, centred on grid reference SE 5935 5151 (Fig. 1).
- 1.2 The site of the proposed development lies on the south-west side of the existing station. There is good reason to believe that remains of archaeological importance may be preserved on the site.
- 1.3 This project design has been prepared on behalf of Railtrack, in order that an archaeological evaluation can be undertaken to assess the potential impact of the construction of a new turntable in the north-western corner of the site.

2.0 BACKGROUND

- 2.1 Despite the fact that no antiquarian or archaeological work appears to have been reported within the bounds of the development, a large body of work around the periphery nevertheless renders it possible to predict the likely nature of the archaeological record that would be encountered. A light scattering of prehistoric finds have been noted in the general vicinity, but the discovery of Roman funerary remains dominates the archaeological record for the area around the station at York. There are strong indications that the later Roman cemetery will have covered the area of the proposed York Triangle development. The large number of finds from the area of the station is almost certainly due to the landscaping activities undertaken during the construction of the railway. There have also been similar finds of a funerary nature from Blossom Street and Holgate Road to the south. The distribution of these finds suggests that similar material may exist in the development area and that they are buried beneath made ground.
- 2.2 Monitoring of a series of machine cut test pits in April 1998 identified over 1 metre of made ground above alluvial sands in this area, although no evidence of burials was seen. This information broadly corroborates the existing deposit model for this area.

3.0 PROJECT DESIGN

- 3.1 This project design proposes a detailed archaeological scheme of works designed to assess the impact of the development on any archaeological deposits within the trial trenches and to enable a report which makes recommendations to mitigate the impact of development on any such deposits to be prepared.

- 3.2 The archaeological investigation, comprising the excavation of two trial trenches located on the site, will be undertaken by Northern Archaeological Associates on behalf of Railtrack. It is proposed that the archaeological investigation will be undertaken over a period of between one to three weeks, commencing 9th November 1998.
- 3.3 The following questions (aims and objectives) have been identified as being relevant to this evaluation:
- i) What was the character of the pre-Roman occupation of this area
 - ii) Do the Roman cemeteries observed in the site of the Railway Station Holgate Road and Queen Street extend into this area
 - iii) What form did post Roman, pre-medieval activity take in this area
 - iv) What was the nature of medieval exploitation of the site
 - v) What was the nature of the re-modelling of the landscape in this area in the 19th century that created the present railway landscape
 - vi) What remains are left on the site of earlier railway buildings and structures
- 3.4 The evaluation will attempt to establish the following details
- i) what is the profile of natural deposits
 - ii) are there anoxically preserved deposits, wet deposits and dry deposits preserved on the site and if so at what depth
 - iii) can a deposit prediction indicating the nature and preservation of Roman, Anglian, Anglo-Scandinavian, medieval and post-medieval strata be made

4.0 EVALUATION METHODOLOGY

- 4.1 The information in this methodology statement is based on discussions with Mr J. Oxley of York City Council, a site inspection and discussions with Railtrack on safe working practices.
- 4.2 The evaluation shall comprise the excavation of two trial trenches, which will measure approximately 15m by 2m. One of the trenches will be split into two parts, which shall lie either side of a railway siding. The trenches will be laid out at right angles to one another and shall be approximately 'T'-shaped in plan. The attached figure (fig. 2) shows the suggested location of the trenches within the proposed development area, although the exact siting will depend upon local ground conditions.
- 4.3 Modern overburden will be removed by a JCB-type excavator, fitted with a toothless ditching bucket, under the supervision of an archaeologist. The material will be removed in a series of spits. Mechanical excavation will cease when either archaeological deposits or natural drift geology is encountered. Thereafter all excavation will be by hand.
- 4.4 A sufficient sample of any archaeological features and deposits revealed (not more than 25%) will be excavated by hand in an archaeologically controlled and stratigraphic manner in order to fulfill the aims of the evaluation. The complete excavation of features is not regarded as necessary although a sufficient sample would

be excavated to understand the full stratigraphic sequence in each trench down to natural subsoil. Any human remains will be cleaned, recorded and lifted together with any associated artefacts. Where stone walls, foundations or pits associated with earlier railway structures are located, these would be left in situ and not broken through. Trenches will be backfilled but not reinstated after the completion of the fieldwork.

- 4.5 A full written record of features will be made using the NAA context recording system. All archaeological features will be photographed and recorded at an appropriate scale. Sections will normally be drawn at a scale of 1:10. Archaeological plans will normally be drawn at a scale of 1:20. All levels will be tied in to Ordnance Datum. A photographic record of the site will be taken using colour prints and slides and black and white coverage.
- 4.6 Pottery and faunal remains will be collected as bulk samples whilst the location of significant artefacts will be three-dimensionally recorded prior to processing. Finds will be recorded and processed using the NAA system and submitted for post-excavation assessment in accordance with MAP2. Archaeological contexts will be sampled in accordance with a sampling strategy agreed in advance with the EAU. Selected contexts would be sieved to retrieve faunal material in addition to hand collected material.

Post-excavation work

- 4.7 Upon completion of the fieldwork, all finds shall be cleaned, identified, marked (where appropriate) and properly packed and stored in accordance with national guidelines. Specialist assessments of the artefacts recovered, including spot dating of ceramics, and summaries of their potential for further study would be prepared together with a specialist assessment of the environmental samples taken.
- 4.8 A report will be prepared to professional standards and will include background information; a summary of the work carried out; a description of the principal features and finds; together with the phasing and interpretation; an assessment of their archaeological importance and an interpretation of the archaeological and research potential of the remainder of the site. The report will identify the impact of the development on any archaeology and will make recommendations to mitigate the impact of the development on the archaeology. The report shall be accompanied by an overall site plan, individual trench plans and sections, and photographs as appropriate.

Specialist studies

- 4.9 Although the range of artefacts that may be recovered cannot be accurately predicted at this stage, the most common specialist requirements are listed below, indicating the nature of the material, the name of the specialist and the organisation if applicable. Each of the specialists listed below has a proven record of expertise in their particular field of work and has previously undertaken specialist work for NAA.

Subject	Specialist
Roman pottery	Peter Didsbury
Medieval Pottery	Jenny Vaughan
Building material	Richard Fraser (NAA)
Palaeobotanical analysis	EAU
Animal bone	EAU
Human Bone	Joy Langston
Coins	Richard Brickstock (University of Durham)
Conservation	Jennifer Jones (University of Durham)

Where necessary, conservation will be undertaken to stabilise the condition of an artefact to enable its study by a specialist.

- 4.10 Four copies of the site report together with an index to the archive will be deposited in the York City SMR, together with an electronic copy. A copy of the site report and the full site archive would be deposited at the Yorkshire Museum. NAA will liaise with the Curator of Archaeology regarding the Museum's requirements regarding accession and numbering systems, ordering, boxing and labelling the site archive.

5.0 PERSONNEL

- 5.1 Project management will be undertaken by Richard Fraser and the fieldwork will be supervised by Jonathan Godfrey.
- 5.2 **Jonathan Godfrey** has a BA (Hons) in Archaeology and five years archaeological field experience. He has worked as an archaeological supervisor on a number of evaluations for NAA and has previously worked for Lancaster University as a project supervisor

6.0 HEALTH AND SAFETY

- 6.1 The firm would expect to comply with the 1974 Health and Safety Act and its subsequent amendments in all its operations. In this respect the updated SCAUM manual (1997) on archaeological health and safety is followed for site works, and as normal practice, First Aid boxes, an Accident Book and a telephone is provided for each project. In this instance additional safety considerations will also apply due to the trackside location of the works and all works will comply with a safety method statement approved by Railtrack. In summary this will require that a blue fence will separate the excavations from the existing electrified line; that a safety officer (PICOW) will be in permanent attendance and give daily safety briefings; all staff will wear high visibility orange jackets, safety helmets and safety boots at all times. The site director is normally nominated as site safety officer and all supervisory staff have undertaken a first aid training course.

NAA 98/61
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Text: R. Fraser