



**Finningley and Rossington Regeneration Route
Scheme
Doncaster
South Yorkshire**

Archaeological Watching Brief

October 2005

Report No. 1446

C L I E N T

Golder Associates (UK) Limited

Finningley and Rossington
Regeneration Route Scheme
Doncaster
South Yorkshire

Archaeological Watching Brief

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Summary

An archaeological watching brief was carried out on a series of geotechnical test pits excavated along the three proposed road corridors which link the M18 motorway with Doncaster Finningley airport. These test pits were largely absent of archaeology, although three undated linear features were revealed, two of which lay in areas adjacent to known Romano-British activity.

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1. Introduction

- 1.1 Archaeological Services WYAS was commissioned by Ed Dennison, Archaeological Consultant to Golder Associates (UK) Ltd., to conduct a watching brief on a series of geotechnical test pits excavated within three proposed road corridors which link the M18 motorway with Doncaster Finningley airport.
- 1.2 The Northern Route (formerly HW1/2) would start at Junction 3 on the M18 and run in a large arc south and east of the motorway, running east between the M18 and New Rossington. The route would cross the East Coast Main Line (ECML) and the Mother Drain north of New Rossington. It would then cross the River Torne and the Mother Drain again near Rossington Bridge at Parrot's Corner. The route would be on high embankment as it crosses over the existing A638 (which would be linked via a grade separated junction). From Parrot's Corner it would run parallel to Hayfield Lane for a short distance before reaching the perimeter of the airfield at a point near Hayfield Green (NGR SK652989). This route is approximately 6.5 km long (excluding side roads). A spur road is proposed from a point on the route north of Rossington Colliery to Bank Wood Industrial Estate on the northern edge of New Rossington.
- 1.3 The Southern Route (formerly HW3/4) would also run between the M18 and Finningley Airport but would be longer extending to approximately 9km. This route would run in a south to south-easterly direction from Junction 3 on the motorway before turning eastwards to the south of Rossington Colliery. A crossing over the River Torne is proposed at NGR SK603969. The route would continue eastwards, passing to the south of New Rossington before turning to the north-east, crossing the B6463, the ECML railway and the A638 before reaching the perimeter of Finningley Airport near NGR SK652989. Two spur roads are proposed off the main alignment to provide access to areas of potential future development. These access roads are approximately 800m and 1.5km in length.
- 1.4 The Junction 4 Route (formerly HW8) would start at Junction 4 of the M18 and run initially in a south-easterly direction, crossing the River Torne to the north-east of the village of Auckley before turning to the south to reach the perimeter of the airfield at a point at the junction of two unclassified roads, between the villages of Finningley and Hayfield Green (NGR SK662998). This route would be approximately 6 km long. In addition, a spur road is proposed from Junction 3 to proposed development sites to the north of Rossington. This spur would follow the line of the Northern Route to a point north of Rossington Colliery where it would cross the River Torne to the development sites.
- 1.5 The scheme of geotechnical test pitting included a total of 30 pits, 12 situated along the Junction 4 Route, 5 along the North Route, and 13 along the Southern Route. The locations of these pits are illustrated in Figure 2.

2. Archaeological Background

- 2.1 A survey of the archaeological resource of the study area was included in a wider study of the archaeology of the Doncaster region in 1977 (Magilton 1977), and a survey of the cropmark evidence of the area was presented in 1980 (Riley 1980). These studies have largely been rendered out of date by the weight of more recent investigations and discoveries. A preliminary desk-based appraisal has been carried out in order to assess the archaeological implications associated with a number of proposed routes from the M18 to Finningley Airport (Golder Associates 2003), and this has been followed by a more detailed study (Brown 2005) which focuses upon the three preferred route corridors, which are the areas that have been targetted by the scheme of geotechnical test-pitting discussed here. The background discussion below has been collated from the research carried out for this recent report.
- 2.2 The most intensively investigated part of the study area is the environs of crossing point of the Roman road at Rossington Bridge. Excavations on either side of the river in the 1950s and 1960s revealed the presence of numerous Roman pottery kilns and settlement evidence indicating a pottery production site of some significance, as well as the remains of what was probably the Roman bridge across the river (Buckland *et al* 2001). Since these important discoveries the site has become a Scheduled Ancient Monument (SAM), and subsequently only one small scale evaluation and a preservation assessment by the Humber Wetlands Project have taken place at the site (Head *et al* 1997, 278).
- 2.3 The only other SAM within the study area is the Roman vexillation fortress to the north-east of Rossington which was discovered by aerial photography in 1968 (St. Joseph 1969). Again this site remains largely uninvestigated, although the Humber Wetlands Project has recently carried out geophysical survey, field walking and a small scale preservation assessment at the site (Head *et al* 1997, 276-7).
- 2.4 Indeed aerial photography has provided the impetus for much of the developer-funded work that has been carried out within the study area. Riley's work in the late 1970s placed the study area towards the northern reaches of an extensive system of rectilinear ('brickwork') field systems and associated scattered enclosures dating to the Late Iron Age and Romano-British period (Riley 1980). Numerous developments have impinged upon this relict archaeological landscape in recent years, and the mapping of features from aerial photographs has also continued apace as a result of these threats (Deegan 2001; Deegan 2004; Deegan 2005).
- 2.5 The 'brickwork' field boundaries have been excavated at a number of locations in the vicinity of Rossington (Sydes 1991; Chadwick 1993; Atkinson 1996; Jacobson and Bishop 2003) and geophysical survey (Belford 1999), and excavation (Atkinson 1996) of settlement sites has also taken place. Numerous investigations have also been carried out within and immediately adjacent to the study area to the west of Junction 4 of the M18. This work has included geophysical survey (Hale 1996; Gidman and Rose 2004), aerial photographic mapping (Deegan 2001) and excavation (Rosenburg and Williams 1996; Burgess 1999; Richardson 2001; Gidman and Rose 2004; Richardson and Rose 2004). These investigations have identified settlement and agricultural

activity dating from the Late Iron Age and continuing throughout the Romano-British period.

- 2.6 Archaeological investigations carried out ahead of mineral extraction in the Rossington area have produced negative results (Atkinson 1993), but quarrying activity in the Auckley area has brought to light a group of kilns of similar date to those found further to the west at Rossington Bridge (Buckland and Dolby 1980).
- 2.7 Apart from the work carried out at the two Scheduled Ancient Monuments discussed above, the Humber Wetlands Project has also undertaken a scheme of field walking in the Rossington area which has brought to light numerous findspots of prehistoric flint artefacts, as well as Roman pottery sherds from the vicinity of cropmark sites (Van de Noort and Ellis 1997).

3. Method

- 3.1 A scheme of geotechnical test pitting was undertaken by Soil Mechanics ahead of any preliminary archaeological works, and this phase of intrusive excavation was archaeologically monitored by Archaeological Services WYAS at the behest of Ed Dennison, Archaeological Consultant to Golder Associates (UK) Ltd. The aims of this watching brief were to enhance the available information regarding the archaeology represented within the proposed road corridors, by providing data from direct observations of below-ground deposits in areas where archaeological features have been identified from the desk-based appraisals, and also to check for the presence or absence of archaeological deposits in areas where non-destructive techniques have previously failed to identify features.
- 3.2 These 30 test pits measured approximately 4m by 1m, and were excavated by a back acting mechanical digger with a toothless ditching bucket under direct archaeological supervision. The excavations were carried out in level spits either to the top of the first archaeological horizon, or to undisturbed d natural, depending upon whichever was encountered first. The locations of the pits were surveyed by Soil Mechanisms and confirmed by ASWYAS using differential GPS (Fig. 2).
- 3.3 Where archaeological features were encountered, these were hand excavated and recorded according to Archaeological Services standard method (ASWYAS 2004) using Trench Record Sheets. A full photographic record of the work was also maintained.
- 3.4 This stage of works took place from 23rd May 2005 to 2nd June inclusive.

4. Results

- 4.1 The pits were all located in open fields consisting of either arable land, pasture or scrub, except for TPA/A1 which was situated in a quarried area. The depth of the topsoil encountered along the proposed corridors varied little, with a maximum of 0.50m and a minimum of 0.25m recorded.

- 4.2 Of the 30 pits monitored, only three contained evidence of possible archaeological features. TP3/A4 (Fig. 3) on Wadworth Carr revealed the northern side of a 0.20m wide and 0.30m deep ditch (102). The primary fill of this feature (100) consisted of a 0.30m deep dark reddish-brown sandy silt, which was overlain by a mid brownish-grey sandy silt (101) which contained occasional rounded pebbles. No artefacts were recovered from either of these fills.
- 4.3 TP8/A4 (Fig.4), located immediately to the south of the remnants of Gravel Hill Plantation, revealed the cut of a north-west to south east oriented linear ditch (105) measuring 0.70m in width and 0.40m in depth. This ditch was filled by a single deposit (104) consisting of a loose dark brown silty sand containing frequent pea gravel and occasional pebbles, but no artefacts.
- 4.4 TPL/A1 (Fig.5), located on the north side of Mosham Road, contained a 0.63m wide and 0.13m deep ditch (106) which was oriented north to south. This feature was filled by a single deposit (107) consisting of light brownish-grey clay containing frequent coarse pebbles but no artefacts.
- 4.5 The results from the remaining test pits are tabulated below (Table 1).

Test pit	Dimensions	Topsoil depth	Geology	Results
TPA/A1	3.5m by 0.9m	N/A	Sand and gravel/clay	No archaeology present
TPB/A1	3.0m by 0.9m	0.45m	Sand	No archaeology present
TPC/A1	3.0m by 0.9m	0.30m	Clay/sand	No archaeology present
TPD/A1	3.0 m by 0.9m	0.35m	Clay/sand	No archaeology present
TPE/A1	4.0m by 0.9m	0.40m	Sand	No archaeology present
TPG/A1	m by 0.9m	0.30m	Sand/clay	No archaeology present
TPH/A1	3.0m by 0.9m	0.40m	Sand/clay	No archaeology present
TPJ/A1	4.0m by 0.9m	0.30m	Sand	No archaeology present
TPK/A1	3.0m by 0.9m	0.35m	Silty sand	Ceramic land drain exposed
TPL/A1	4.0m by 0.9m	0.31m	Sand	N-S oriented hedgeline 106 exposed
TPM/A1	4.0m by 0.9m	0.50m	Clay	No archaeology present
TPNA1	4.0m by 0.9m	0.25m	Sand	No archaeology present
TPA/A2	3.5m by 0.9m	0.39m	Sand	No archaeology present

Test pit	Dimensions	Topsoil depth	Geology	Results
TPB/A2	3.5m by 0.9m	0.33m	Sand	No archaeology present
TPC/A2	3.0m by 0.9m	0.37m	Sandy clay	No archaeology present
TPD/A2	4.0m by 0.9m	0.20m	Sand	No archaeology present
TPE/A2	4.0m by 1.7m	0.30m	Clay	NE-SW oriented land drain exposed
TP1/A4	3.5m by 0.9m	0.45m	Sand	No archaeology present
TP2/A4	3.5m by 0.9m	0.25m	Clay silt	No archaeology present
TP3/A4	3.5m by 0.9m	0.28m	Silty clay/sand	W edge of ditch 102 excavated
TP4/A4	4.0m by 0.9m	0.30m	Sand	No archaeology present
TP5/A4	4.0m by 0.9m	0.54m	Sand	No archaeology present
TP6/A4	4.0m by 0.9m	0.40m	Sand	No archaeology present
TP7/A4	3.5m by 0.9m	0.30m	Sandy gravel	No archaeology present
TP8/A4	4.0m by 0.9m	0.30m	Sand	NNW-SSE oriented ditch 105 excavated
TP9/A4	4.0m by 0.9m	0.30m	Sand	No archaeology present
TP10/A4	4.0m by 0.9m	0.40m	Clay	No archaeology present
TP11/A4	4.0m by 0.9m	0.25m	Sand	No archaeology present
TP12/A4	4.0m by 0.9m	0.30m	Clay	NE-SW oriented land drain exposed
TP13/A4	4.0m by 0.9m	0.22m	Sand	No archaeology present

5. Conclusions

5.1 The largely negative result in the recovery of archaeological data during the works does not detract from the potential of the area to produce significant archaeological remains, as their presence has already been highlighted in the recent desk-based studies (Golder Associates; 2003, Brown 2005). It should be noted that the test pits were deliberately positioned so as to avoid damage to known archaeological features that might be subject to more detailed investigation at a later date. Nevertheless, three features of potential archaeological interest were identified during the scheme of works.

- 5.2 Ditch 102 in TP3/A4 is located immediately to the north-east of a trackway and field system of presumed Late Iron Age/Romano-British date previously identified by aerial photography (Brown 2005, Cat No. 8), and may indicate that these archaeological remains survive in areas which extend beyond the visible cropmark evidence. This indicates that any forthcoming investigations should not be confined to the areas of known archaeology identified by aerial photography, as apparently 'blank' areas may yet yield archaeological discoveries.
- 5.3 Ditch 105 in TP8A4 was located immediately to the south of a gravel pit marked on the 1st edition Ordnance Survey map of 1854 (Brown 2005, Cat. No. 105), within an area of extensive disturbance recognised by aerial photography which has been interpreted as quarrying (Deegan 2005). This indicates that this ditch may be a relatively recent agricultural feature cut into quarry backfill, although it should be noted that this feature was recorded as cutting into natural sand, and therefore it is possible that this area may not have been as extensively quarried as indicated by the aerial photographic evidence, and that the disturbance may have been caused by the location of Gravel Hill Plantation.
- 5.4 The location of ditch 106 in TPL/A1 is equidistant between the two Romano-British kiln sites at Blaxton Quarry and Mosham Wood Nursery Gardens, which lie c.720m apart (Brown 2005, Cat. Nos 137 and 144). This feature could therefore represent further activity contemporaneous with the use of these industrial sites, although a more recent agricultural origin for this feature cannot be ruled out.

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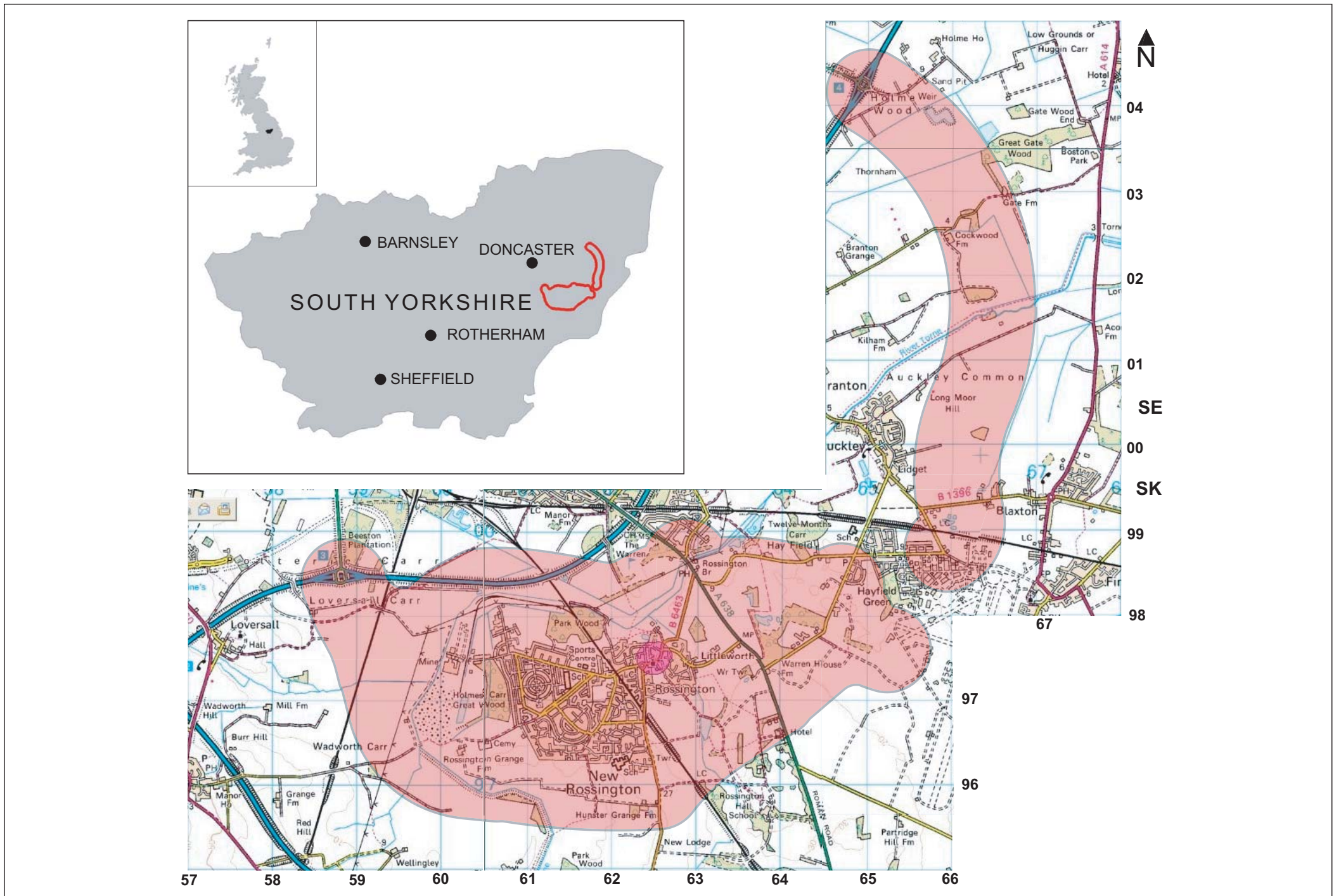


Fig. 1. Location plan for the FARRRS study area

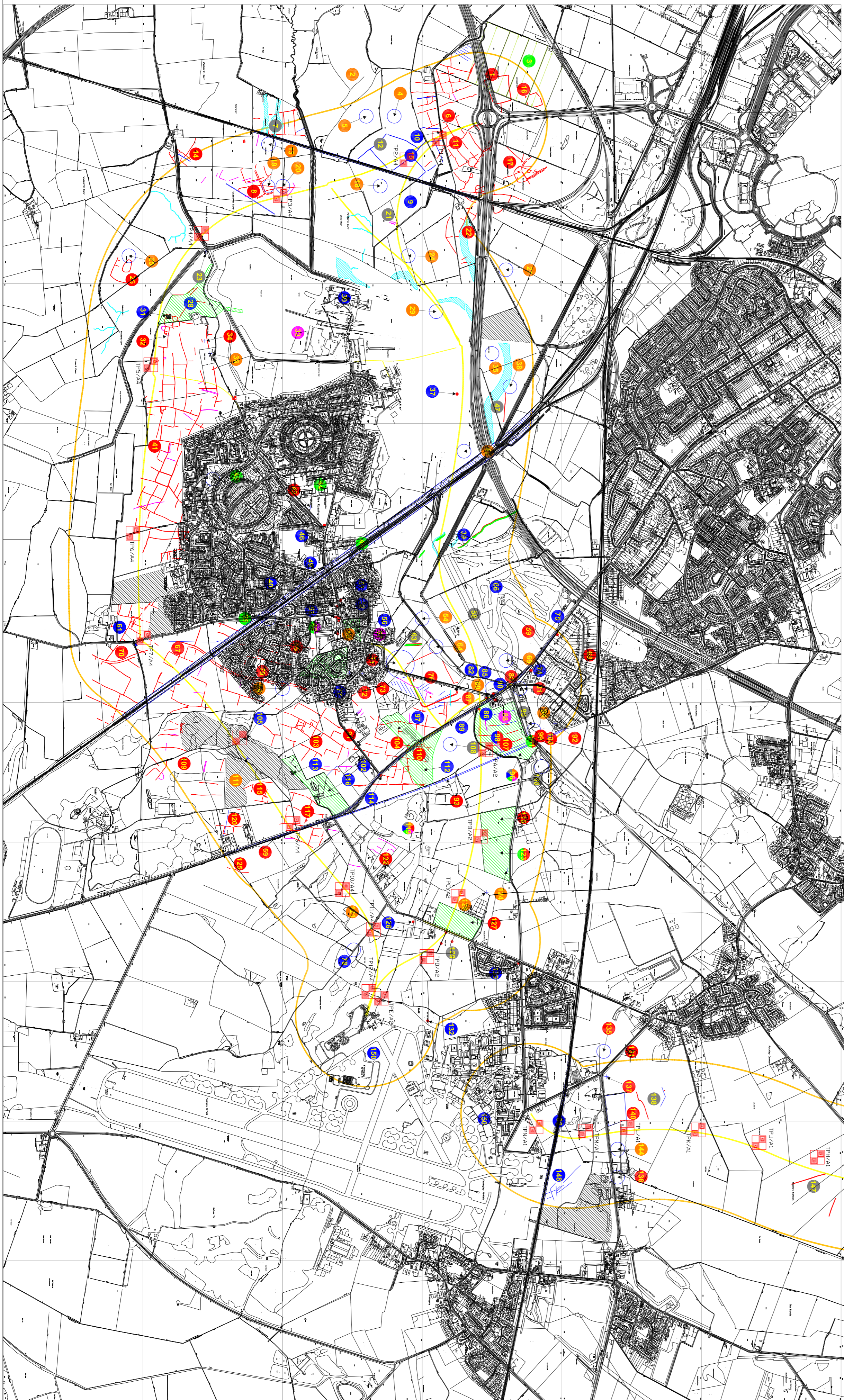
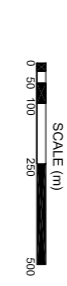


Fig. 2. Locations of new pedestrian crossings to be developed, as identified by the Cultural Heritage Report.



KEY

	Area to be investigated for potential of archaeological remains
	Area of archaeological potential
	Area of archaeological interest
	Area of archaeological significance
	Area of archaeological importance
	Archaeological remains identified by the Cultural Heritage Report
	Archaeological remains identified by the Cultural Heritage Report
	Archaeological remains identified by the Cultural Heritage Report
	Archaeological remains identified by the Cultural Heritage Report
	Archaeological remains identified by the Cultural Heritage Report
	Archaeological remains identified by the Cultural Heritage Report
	Proposed pedestrian crossings
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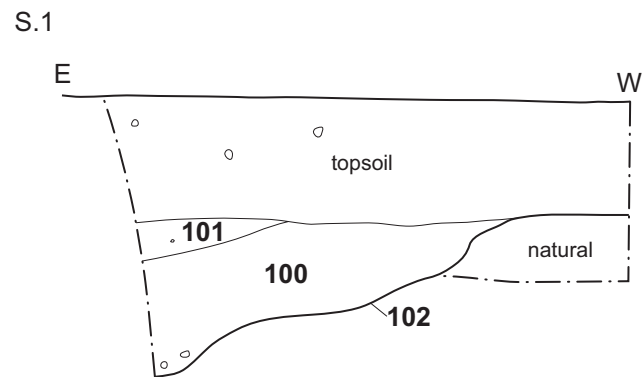
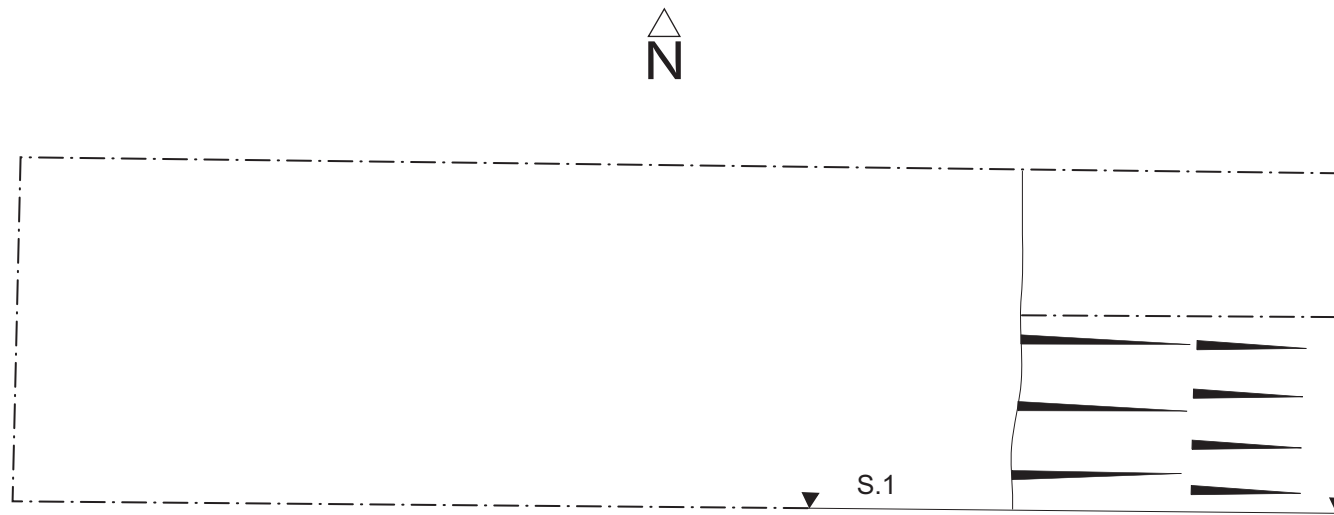


Fig. 3. Trench TP3A4 with section

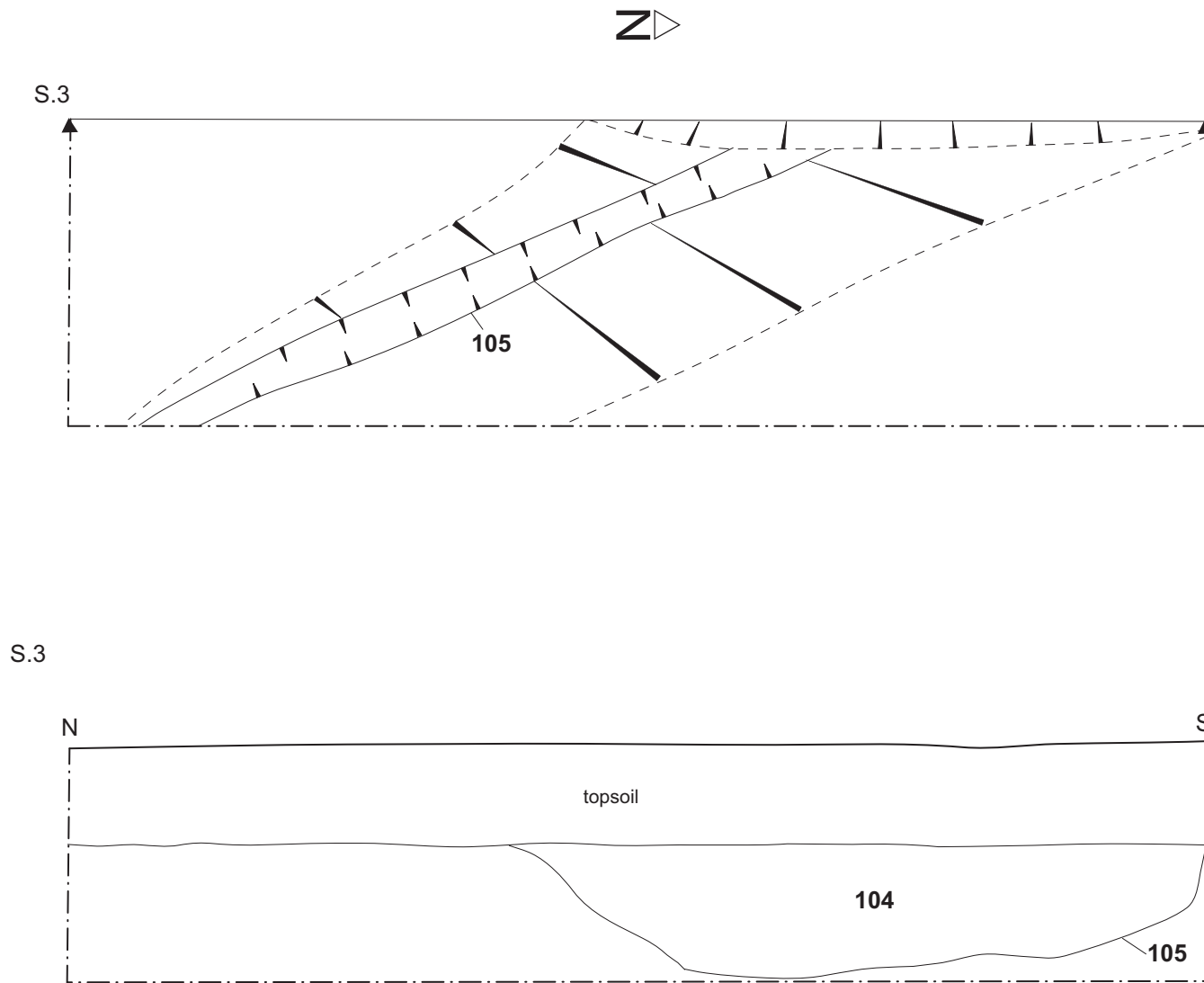


Fig. 4. Trench TP8A4 with section



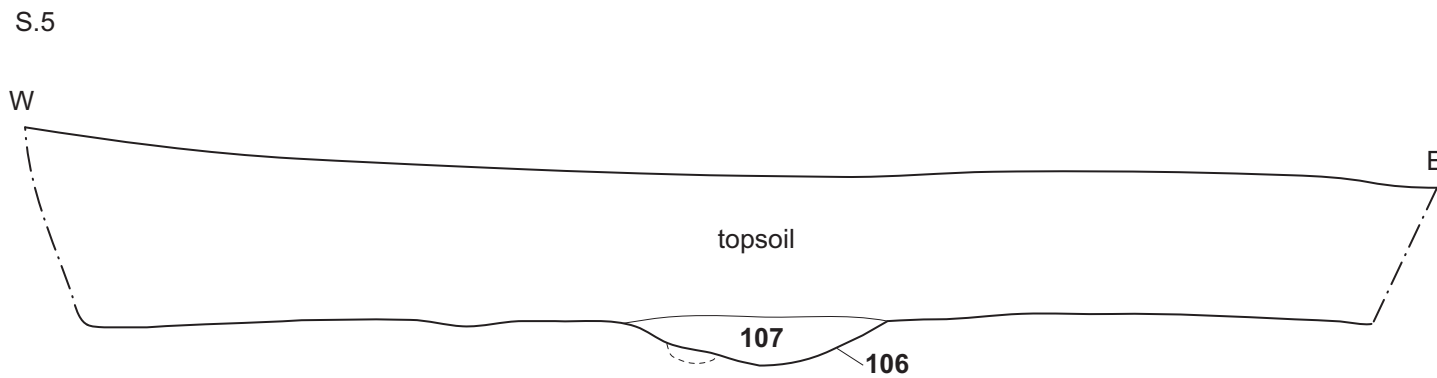
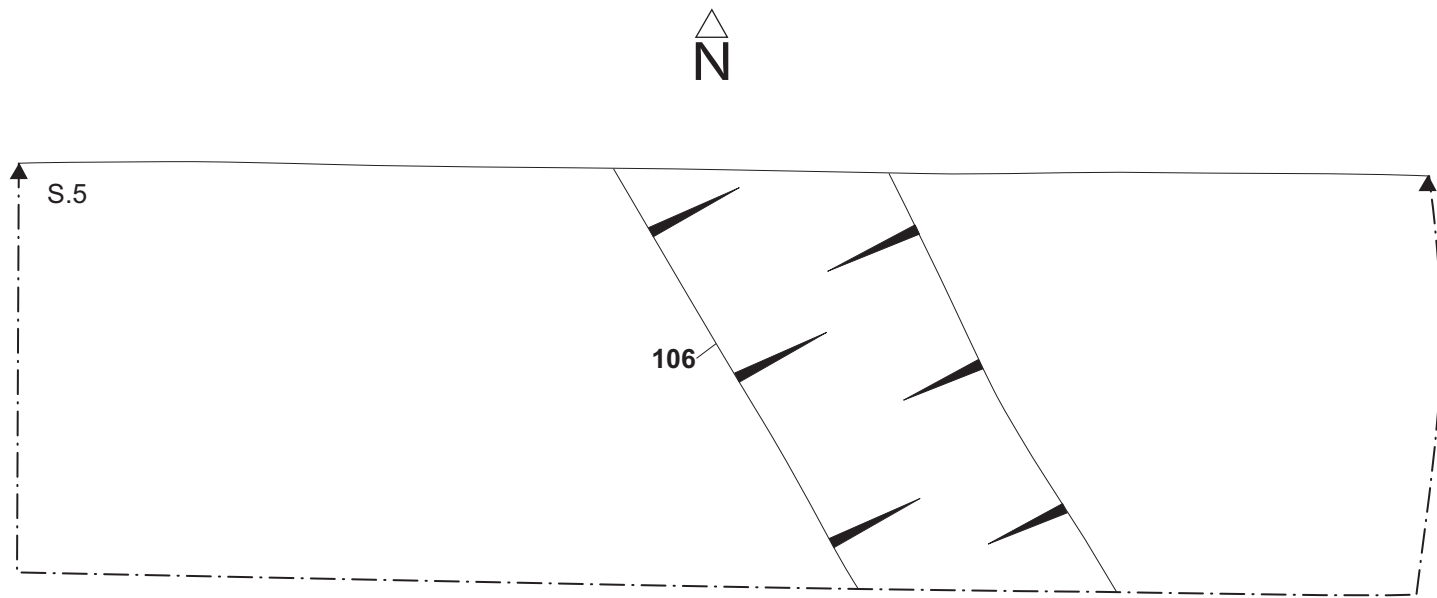


Fig. 5. Trench TPLA1 with section



Appendix I
Inventory of primary archive

File no.	Description	Quantity
1	Context register	1
1	Context cards	8
1	Trench Record Sheets	30
1	Drawing Sheets	2
1	Drawing Register	1
1	Photograph Record Sheets	2
1	Colour transparencies	1 film
1	Black and white negatives	1 film
1	Black and white contact sheets	1 film

Appendix II

Inventory of contexts

Context	Test Pit	Description
100	TP3/A4	Dark reddish brown sandy silt – primary fill of ditch 102
101	TP3/A4	Mid reddish grey sandy silt – secondary fill of ditch 102
102	TP3/A4	Cut of ditch
103	TP3/A4	Topsoil
104	TP8/A4	Dark brown silty sand – single fill of ditch 105
105	TP8/A4	Cut of ditch
106	TPL/A1	Cut of ditch
107	TPL/A1	Light brownish grey clay – single fill of ditch 106

Appendix III

Project Design for monitoring of geotechnical test pits

***Finningley and Rossington
Regeneration Route Scheme
Monitoring of Geotechnical Test Pits
Archaeological Project Design***

Contents

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1. Background

- 1.1 The archaeological implications associated with proposals to link the M18 motorway corridor with Doncaster Finningley Airport have been documented in an initial desk-based appraisal (BHWB 2003). The study was designed to identify, at an early stage in the planning process, the impact a number of proposed route options would have on the buried and upstanding cultural heritage resource. The aim of the work, bounded by the limitations of the desk-based appraisal, was to identify those route option(s) which would have the least impact on the known cultural heritage resource.
- 1.2 Recommendations were also made for further investigative studies (including a more detailed desk-based assessment and aerial photographic mapping), as these would assist with the development of mitigation strategies once a scheme option(s) has been selected. These strategies may take the form of targeted geophysical surveys and archaeological evaluation via trial trenching, which in turn may lead to more detailed open area investigations and/or watching briefs in advance of and during the construction programme.
- 1.3 As part of the design work associated with this route selection process, information is to be gathered from geotechnical investigations that will take the form of machine dug test pits, boreholes and cone penetration tests. There is some potential that these investigations will directly impact on known and hitherto unknown buried archaeological features and deposits at the selected locations. In order that an adequate archaeological record is made of such discoveries, archaeologists will be in attendance.
- 1.4 This project design details the methodology for the archaeological monitoring of all ground works associated with the geotechnical investigations. It has been agreed that the hand-dug ground works which will precede the boreholes and cone penetration tests will be monitored by one archaeologist. The machine-excavated test pits will be covered by the deployment of two archaeologists.
- 1.5 This project design details the methods and approach for carrying out the archaeological monitoring of the geotechnical investigations. For a fuller archaeological context this design should be read in conjunction with the 'Stage 1 Cultural Heritage Appraisal' document prepared by BHWB Limited (2003).

2. Aims and Objectives

- 2.1 The general aims of the archaeological monitoring of the geotechnical investigations are:
 - to enhance the available information about the archaeology represented within the proposed road corridor(s);
 - to assist in the formulation of an appropriate strategy for any further archaeological evaluation work (both non-destructive and destructive) that might be required to assess the archaeological implications of the route scheme proposals.

2.2 The specific objectives are:

- to provide high quality archaeological data from direct observations of below-ground deposits in areas where archaeological features have been identified from the desk-top appraisal and also to check the presence or absence of archaeological deposits in areas where non-destructive techniques may fail to identify features;
- to determine the thickness, depth and depositional history of any archaeological deposits identified;
- to characterise the main stratigraphic units encountered in terms of their physical composition and archaeological formation;
- to determine, as far as possible, the date, function and likely interpretation of any identified features, and, where appropriate, the implications for the understanding of the buried archaeological landscape in which the features are components;
- to assess the survival of any structural remains and the potential for the recovery of structural information;
- to undertake appropriate sampling to assess the survival of any artefactual evidence (including pottery, flint, bone, stone etc.), ecofactual evidence (including animal bones, human bones, plant remains etc.) and environmental evidence (including charcoal, mollusca, soil structure etc.) and its potential;
- to assist in the formulation of an appropriate strategy for any further archaeological evaluation work that might be required to assess the archaeological implications of the route scheme proposals.

3. Method

3.1 The watching brief strategy has been devised by Ed Dennison, Archaeological Consultant to Golder Associates (UK) Ltd. For the purposes of this project, Ed Dennison will be the Supervising Officer and will monitor the archaeological works on behalf of Golder Associates. The numbers and specific locations of the geotechnical works will be determined on the ground by the consulting engineers. Plans showing this information will be provided to Archaeological Services WYAS in a digital and hard copy format in advance of the commencement of the project and for reporting purposes. Any survey tie-in work that is required as a result of archaeological discoveries being made will be undertaken by Archaeological Services WYAS by means of either differential GPS or Total Station theodolite. For the purposes of the machine-dug test pits, which will measure approximately 4m long by 1m wide and up to 4m deep (30 pits estimated), the geotechnical engineers, under archaeological supervision, shall mechanically excavate the plough soil or topsoil/turf. For archaeological purposes the machine must be equipped with a toothless ditching bucket. The

excavations should be carried out in level spits to either the top of the first archaeological horizon or to undisturbed natural, depending on whichever is encountered first. In the event of examination revealing there to be no potential archaeological features or deposits in the pit, the engineers shall allow a short period for examination and brief written record to be made. Where there are potential archaeological features within the pit, these will be recorded and investigated in accordance with 3.7-3.15 below, as appropriate.

- 3.2 For the shallow hand-dug test pits, which will measure approximately 1m square and which will precede the boreholes and cone penetration tests (42 pits estimated), the excavations should also be carried out in level spits to either the top of the first archaeological horizon or to undisturbed natural, depending on whichever is encountered first. In the event of examination revealing there to be no potential archaeological features or deposits in the pit, the engineers shall allow a short period for examination and brief written record to be made. Where there are potential archaeological features within the pit, these will be recorded and investigated in accordance with 3.7-3.15 below, as appropriate.
- 3.3 Where appropriate, the results of each test pit will be logged, with descriptive notes, photographs and stratigraphic summary to include depths and thicknesses. This may or may not include sketch and/or measured sections.
- 3.4 Any worked flint, ceramics and other archaeologically relevant materials will be recovered for off-site washing, study, analysis and subsequent reporting.
- 3.5 The volume of soil removed will also be calculated to allow ratios of artefacts per volume of soil to be calculated. The analysis of finds should follow that used for field walking collections, estimates of artefact density per volume replacing estimates of density per unit area. For pits that exhibit archaeological strata and/or features, representative samples from key deposits or primary fills will be taken for off-site examination to provide data on plant, mollusc and other environmental factors.
- 3.6 Archaeological Services WYAS will hand excavate all exposed archaeological features in an archaeologically controlled and stratigraphic manner in order to meet the aims and objectives outlined above. A sufficient sample of features will be investigated in each pit in order to understand the complete stratigraphic sequence, down to the naturally occurring deposits. Where necessary the Supervising Officer will be consulted regarding the selection of features/deposits for hand excavation.
 - Linear features: Where possible the section will be located and recorded adjacent to the pit edge.
 - Intersections of linear features: The deposits at the junctions of or interruptions in linear features will be totally removed over a sufficient length to determine the nature of the relationship between the components. Excavation of an 'L'-shaped section will be undertaken in the first instance to demonstrate and record relationships and then expanded to the full widths if necessary, planned and recorded.
 - Discrete features: pits, post-holes and other isolated features shall be half excavated.
 - Built structures, such as walls, will be examined and sampled to a degree

whereby their extent, nature, form, date, function and relationship to other features and deposits can be established.

- 3.7 Archaeological Services WYAS shall make a full written, drawn and photographic record of all material revealed in each test pit. The test pit will be surveyed using electronic survey equipment with larger scale hand-drawn plans of each pit illustrating archaeological features at 1:50 or 1:20 scale, as appropriate. Sections of linear and discrete features will be drawn at 1:10 scale.
- 3.8 Small finds will be recorded three dimensionally. Bulk finds will be collected by context. All non-modern artefacts recovered will be retained and removed from the site for processing and analysis. Non-modern artefacts will be collected from the excavated topsoil and subsoil. Finds material will be stored in controlled environments, where appropriate at the Archaeological Services WYAS offices in Morley. All artefacts recovered will be retained, cleaned, labelled and stored as detailed in the guidelines laid out in the IFA Guidelines for Finds Work. Conservation, if required, will be undertaken by approved conservators. UKIC guidelines will apply (UKIC 1990).
- 3.9 Archaeological Services WYAS will fully record all excavated archaeological contexts by detailed written records giving details of location, composition, shape, dimensions, relationships, finds, samples, and cross-references to other elements of the record and other relevant contexts, in accordance with best industry practice and in accordance with Archaeological Services WYAS recording guidelines. All contexts, and any small finds and samples from them, will be given unique identifying numbers. Colour transparency and monochrome negative photographs will be taken at a minimum format of 35mm.
- 3.10 In the event that archaeological features and deposits are encountered, a soil-sampling programme will be undertaken for the recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefactual material. An environmental specialist will be consulted prior to the commencement of the works in order that a suitable sampling programme is devised.
- 3.11 Environmental material removed from site will be stored in appropriate controlled environments at the Archaeological Services WYAS offices. The collection and processing of environmental samples will be undertaken in accordance with Archaeological Services WYAS standard guidelines which are based upon those set out in the Association for Environmental Archaeology's (1995) Working Paper No. 2, *Environmental Archaeology and Archaeological Evaluations - Recommendations concerning the environmental archaeology component of archaeological evaluations in England* and English Heritage's (2002) guidelines, *Environmental Archaeology. A Guide to the theory and practice of Methods, from Sampling and Recovery to Post-excavation*.
- 3.12 In the event of human remains being discovered during the geotechnical investigations, the Supervising Officer will be informed immediately. In all cases, any human remains will be recorded but left *in situ* and undisturbed by the on site archaeologists. No human remains will be removed; if necessary, the geotechnical investigation will be relocated to an alternative position.
- 3.13 Archaeological Services WYAS will make provision for the recovery of samples suitable for scientific dating.

- 3.14 All finds that fall within the purview of the Treasure Act 1996 will be reported by to H.M. Coroner according to the procedures outlined in the Act, after discussion with the Supervising Officer.
- 3.15 At all times on site, the archaeological contractor will liaise with the consulting engineer's site supervisor and geotechnical contractors over vehicular and pedestrian access and any other specified requirements. All site regulations, including health and safety provisions, imposed by the geotechnical contractor, will be strictly observed by the archaeological contractors.

4. Archive Preparation and Deposition

- 4.1 A site archive will be produced as a result of the project, which will contain all the archaeological data collected during the geotechnical investigations, including records, finds and environmental samples. It will be quantified, ordered, indexed and internally consistent. Adequate resources will be provided to ensure that all records are checked and internally consistent. Archive consolidation will be undertaken immediately following the conclusion of fieldwork:
- the site record will be checked, cross-referenced and indexed as necessary;
 - all retained finds will be cleaned, conserved, marked and packaged in accordance with the requirements of the recipient museum;
 - all retained finds will be assessed and recorded using *pro forma* recording sheets, by suitably qualified and experienced staff. Initial artefact dating will be integrated with the site matrix;
 - all retained environmental samples will be processed by suitably experienced and qualified staff and recorded using *pro forma* recording sheets, to identify at this stage presence or absence of environmental remains.
- 4.2 The archive will be assembled in accordance with the specification set out in English Heritage's *Management of Archaeological Projects 2* (English Heritage 1991; Appendix 3). In addition to the site records, data and reports produced during excavation, post-excavation, finds processing, conservation and analysis, and the artefacts, ecofacts and other sample residues, the final archive shall contain:
- a project summary;
 - the specification and the approved project design;
 - an archive guide (an introduction to the archive stating its principle and layout);
 - an index to the contents of the archive;
 - interim and post-excavation assessment reports.
- 4.3 The integrity of the primary field record will be preserved.
- 4.4 Provision will be made for the final deposition of the archive, artefacts and environmental material, subject to the permission of the relevant landowner(s) at the time of the fieldwork, with the recipient museum (Doncaster Museum). Archaeological Services WYAS will be responsible for the deposition of the site

archive, although the Supervising Officer will deal with the landowner(s) in respect of the legal ownership of any finds, and their transference to the museum. The site archive will not be deposited until these transference of title matters have been resolved by the Supervising Officer.

- 4.5 The museum curator (Peter Robinson) will be advised of the timetable of the project in advance of the commencement of work, and Archaeological Services WYAS will adhere to any reasonable requirements the museum may have regarding conservation and storage of the excavated material and the resulting archive. The archive will be prepared for eventual deposition with Doncaster Museum in accordance with the *Guidelines for the preparation of Excavation Archives for long-term storage* (United Kingdom Institute for Conservation 1990) and *Standards in the Museum care of archaeological collections* (Museums and Galleries Commission 1994).

5. Report Preparation, Contents and Distribution

- 5.1 The report on the monitoring work will include:

- a catalogue providing a summary description of each test pit giving its position, size, depth and relationship to any known archaeological features or negative zones, as well as content in terms of the items listed in 2.2 above. The tabulations of the main characteristics, stratigraphy present, and finds recovered will be sufficient.
- a selection of plans, section drawings (sketched or measured) and photographs to support and illustrate the descriptive accounts.
- a general overview of the results of the monitoring work in the light of the main objective of assessing the archaeological implications of the Finningley and Rossington Regeneration Route Scheme.

- 5.2 The artefacts, ecofacts and stratigraphic information shall be assessed as to their potential and significance for further analysis.

- 5.3 The illustrated final report, incorporating post-excavation assessments, will conform to the requirements as defined in English Heritage's *Management of Archaeological Projects 2* (English Heritage 1991). It will include the following:

- a non-technical summary of the entire report;
- a summary of the project's background (including reference to planning application numbers, site codes, the archaeological background and the dates when fieldwork took place);
- a detailed site description;
- an account of the methodology and techniques used and the objectives of the monitoring work ;
- the results of the monitoring work , including phasing and interpretation of the site sequence;
- a post-excavation assessment of the stratigraphic and other written, drawn and photographic records;

- a catalogue and post-excavation assessment of each category of artefact recovered during the monitoring work , including spot-dating, each undertaken by a relevant archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- a catalogue and post-excavation assessment of any faunal remains recovered during the monitoring work , each undertaken by an archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- a catalogue of soil samples collected and a post–excavation assessment of the results of the soil sampling programme, undertaken by a relevant archaeological specialist and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- catalogues and post-excavation assessments and/or summary reports of all scientific dating procedures or other analyses carried out and detailing the potential for any further analytical work and recommendations for selection of material to be deposited for long-term storage with the site archive;
- individual specialist reports;
- a statement of potential for all categories of evidence, including stratigraphic, artefactual and ecofactual data, a deposit model indicating the likely nature and state of preservation of any archaeological strata, within the limits imposed by the scale of the monitoring work ;
- recommendations regarding storage and curation requirements;
- an appendix containing a list and summary descriptions of all contexts recorded;
- a summary of the contents of the project archive and its location;
- if further post-excavation work is recommended this work is likely to be undertaken as part of a further stage of archaeological work and will be the subject of a separate contract and specification;
- a copy of the approved project design to be included as an appendix to the main report;
- a full list of acknowledgments, references and bibliography of all sources used.

5.4 The report will be supported by an overall plan at 1:5000 scale, accurately identifying the location of the test pits on Ordnance Survey mapping, plus individual test pit plans as appropriate, indicating the location of archaeological features with supporting section drawings and photographs (including those of finds), where appropriate.

5.5 Six copies of the final report will be produced, of which one will be an unbound copy. One draft copy of the final report will be submitted to the Supervising Officer, to enable suggestions and comments to be made. A period of two weeks after the return of the draft report to Archaeological Services WYAS from the

Supervising Officer will be allowed for the incorporation of any such comments and the production of the finalised reports.

5.6 The final report will also be provided in digital form in pdf and Microsoft Word format. Digital copies of images and figures will be provided in a format convenient to the Supervising Officer.

5.7 The Supervising Officer will be responsible for the distribution of the final reports to interested parties, including the South Yorkshire Archaeology Service.

6. Publication and Dissemination

6.1 The information contained within the assessment report will enable decisions to be taken regarding the future treatment of the archaeology along the route and any material recovered during the geotechnical investigations.

6.2 If the results of this work does not lead to a further stage of work, it may be possible that the results warrant publication. Where no further work is envisaged, Archaeological Services WYAS will make an allowance for the preparation and publication of a brief note in a local journal outlining the results of the project.

6.3 If further work is proposed, the publication of these results will be covered by and included in the requirements for the further work.

7. Copyright and Confidentiality

7.1 At the end of the project, Archaeological Services WYAS will assign copyright of all project documentation and reports as defined in the Copyright, Designs and Patents Act 1988 to the Employer upon written request. However, Archaeological Services WYAS and/or their subcontractors shall retain the right to be identified as the author(s) of the report and/or its component parts and to be duly referenced as such.

7.2 The Employer will also retain absolute control over the use and dissemination of any project documentation or reports, although Archaeological Services WYAS may apply in writing for permission to use or disseminate any of the material themselves. Such permission will not be unreasonably withheld.

8. General Considerations

8.1 Any local or media interest in the evaluation will be discouraged and the on-site supervising archaeologist will refer interest to the Senior Manager who will then inform the Supervising Officer. The Supervising Officer will make the decision on whether statements and comments can be made.

8.2 The supervising archaeologist will be equipped with a mobile phone that will be switched on at all times during fieldwork operations to enable contact to be made between the site and the Senior Manager, the Supervising Officer and his client. The mobile phone number will be provided to the Supervising Officer prior to work commencing on-site.

9. Health and Safety

9.1 Archaeological Services WYAS has its own Health and Safety policies compiled using national guidelines and which conform to all relevant Health and Safety legislation (to be submitted as a separately bound document prior to work commencing).

- 9.2 In addition, Archaeological Services WYAS will undertake a Risk Assessment detailing project-specific Health and Safety requirements, which all members of staff will be made aware of prior to on-site work commencing. This will take into account the location of the nearest Accident and Emergency Unit Department to the site, overhead and below-ground services, dangers to/from the public and the identification of potential dangers and risks to the archaeologists and approved visitors to the site during fieldwork and when the site is not in operation (e.g. evenings and weekends).
- 9.3 The Archaeological Services WYAS will ensure that Health and Safety takes priority over archaeological matters. All necessary precautions will be taken to locate and avoid disturbance to underground services and overhead lines at the outset of the project.
- 9.4 Archaeological Services WYAS will also adhere to any Health and Safety and other site specific requirements imposed by the main geotechnical contractor.

10. Insurance

- 10.1 Archaeological Services WYAS is covered by the insurance and indemnities of the City of Wakefield Metropolitan District Council. Insurance has been effected with: Zurich Municipal Insurance, Park House, 57–59 Well Street, Bradford, BD1 5SN (policy number RMP 03GO39–0143). Any further enquiries should be directed to : The Chief Financial Officer, Insurance Section, Wakefield MDC, PO Box 55, Newton Bar, Wakefield WF1 2TT.

11. Monitoring

- 11.1 The work will be monitored by the Supervising Officer and the local archaeological curators. They, and any other visitors authorised by the Supervising Officer and his client, will be afforded the opportunity to inspect the site and the records during any stage of the fieldwork and post-excavation processes.
- 11.2 During the on-site work weekly verbal progress reports will be made to the Supervising Officer and the Supervising Officer will be immediately informed of any significant findings, incidents or problems.

12. Resources

- 12.1 Archaeological Services WYAS is an accredited ISO9001:2000 organisation operating to set guidelines, processes and procedures. These are set within a framework that endeavours to carry out the required work and submit the final report in a manner that meets with our client's specific needs providing quality assurance throughout the project and for the end product. These guidelines, processes and procedures are contained within a Quality Manual and all staff work in accordance with this manual.
- 12.2 Archaeological Services WYAS will ensure that the relevant archaeological personnel involved in the evaluation are professionals and are competent to undertake the work required.

12.3 Project personnel:

Senior Management:	Paul Wheelhouse BA MIFA
Project Supervisor:	Marina Rose BA
Site Assistant:	TBC
Artefact/ecofact co-ordinator:	Alison Morgan BA
Illustrator/CAD operator:	Andy Swann MAAIS
Photographer:	Paul Gwilliam BA

12.4 Post-excavation specialists :

Prehistoric pottery specialists:	Blaise Vyner
Roman pottery specialist:	Ruth Leary PhD
Medieval pottery specialist:	Chris Cumberpatch PhD
Flint specialist:	Ian Brooks PhD
Soils and environmental:	Ruth Young PhD
	Dianne Alldritt MSc
	Jane Richardson PhD*
	John Carrott PhD
Faunal analyst:	Jane Richardson PhD*
Human bone specialist:	Malin Holst MSc
Non-ceramic artefact specialist:	Holly Duncan MIFA
	Hilary Cool PhD
Artefact conservator:	Karen Barker

* Archaeological Services WYAS staff

12.5 The list of Archaeological Services WYAS project personnel may be subject to change. A finalised list will be available at the outset to the project if this differs from the above.

12.6 Where possible the external specialists have been contacted and notified of the projected timetable.

13. Timetable

13.1 A site specific 'Risk Assessment' and 'Environmental Sampling Strategy' will be prepared in advance of fieldwork commencing, in consultation and agreement with the Supervising Officer.

13.2 It is anticipated that a supervisor and one assistant will complete the on-site work. The supervisor will monitor the hand-excavation of the test-pit locations (estimated to take eight days) and she will be joined by an assistant to monitor the machine-excavated trenches that follow (fifteen days estimated). Additional staff will be made available, if required, to survey and complete within the required timescale.

- 13.3 The report will be targeted for submission within eight weeks of the completion of on-site work and the first draft of the final report will be submitted within six weeks. The timetable of the final report may however depend upon external specialists; any variation from the contract will be discussed with the Supervising Officer. The finalised report will be submitted within two weeks of the receipt of comments on the first draft.

Bibliography

BHWP Ltd , 2003, 'Finningley and Rossington Regeneration Scheme: Stage 1 Cultural Heritage Appraisal', unpublished BHWP Limited client report

English Heritage, 1991, *Management of Archaeological Projects 2*

English Heritage, 2002, *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation*

Museums and Galleries Commission, 1994, *Standards in the Museum Care of Archaeological Collections*

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