

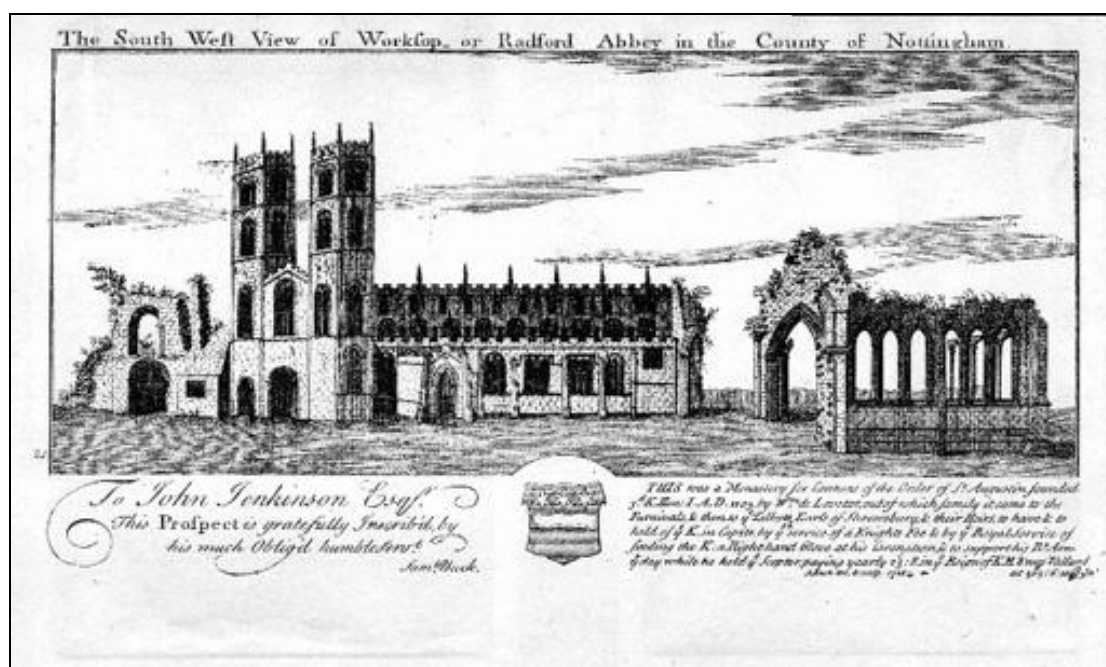
# Report on a Strip, Map and Sample exercise at Worksope Bus Station

Prepared by T. Linington

2014

Project Code – QSW3

TPA Report No. 152/2014




18<sup>th</sup> century engraving of Worksope Priory

Trent & Peak Archaeology ©  
Unit 1, Holly Lane  
Chilwell  
Nottingham  
NG9 4AB  
0115 8967400 (Tel.)  
0115 925 9464 (Fax.)



## QUALITY ASSURANCE

<b>Prepared by</b> <b>Date</b>	Thomas Linington, Project Supervisor <i>With a contribution by Sam Stein, Geoarchaeologist</i>
<b>Checked by</b> <b>Signed</b> <b>Date</b>	Gareth Davies, Project Manager 
<b>Approved by</b> <b>Signed</b> <b>Date</b>	Steve Malone, Project Manager
<b>Report Number</b>	152/2014
<b>Status</b>	Version 1

## DISCLAIMER

*This Report has been prepared solely for the person/party which commissioned it and for the specifically titled project or named part thereof referred to in the Report. The Report should not be relied upon or used for any other project by the commissioning person/party without first obtaining independent verification as to its suitability for such other project, and obtaining the prior written approval of York Archaeological Trust for Excavation and Research Limited ("YAT") (trading as Trent & Peak Archaeology) YAT accepts no responsibility or liability for the consequences of this Report being relied upon or used for any purpose other than the purpose for which it was specifically commissioned. Nobody is entitled to rely upon this Report other than the person/party which commissioned it. YAT accepts no responsibility or liability for any use of or reliance upon this Report by anybody other than the commissioning person/party.*

## **SUMMARY**

- Trent & Peak Archaeology was commissioned by Nottinghamshire County Council to carry out a strip, map and sample exercise, ahead of the Worksop Bus Station works.

The work was carried out between the 15<sup>th</sup>-16<sup>th</sup> July, and the 14<sup>th</sup> and 27<sup>th</sup> October 2014 by staff from Trent & Peak Archaeology in accordance with the approved Written Scheme of Investigation (Davies 2014).

- The proposed Worksop Bus Station Scheme is located off Newcastle Street in Worksop.
- On the basis of earlier evaluation results the Senior Archaeological Practitioner at Nottinghamshire County, recommended that the footprint of the development be subjected to archaeological Strip, Map and Sample, with the caveat that areas (particularly in the east) could be quickly written off if found to be devoid of archaeological features. To fully determine the nature of possible palaeogeographical features observed during the evaluation, a further, targeted auger survey was also recommended.
- Due to the shallow depth of development impact across the northern half of the site, alluvial deposits and a post-medieval drain recorded during the evaluation were not observed during this phase of the works. For similar reasons, two undated (but possibly medieval) features identified towards the western extent of the site during the evaluation were also not observed.
- No further archaeological features confidently pre-dating the 20<sup>th</sup> century were identified during the strip, map and sample exercise, leading to the conclusion that if there was any activity in this area prior to the 19<sup>th</sup> century, it was either limited in nature or that archaeological deposits are now deeply buried. One or two features observed at the western extent of the site, whilst remaining undated, might feasibly represent earlier, potentially medieval, features (e.g. gully [0047]), but this could not be confirmed.
- Following the stripping of a larger area the features that had been interpreted as palaeochannels during the evaluation were, upon re-evaluation and specialist opinion, interpreted as natural variations or boundary features between the two geological formations, the Edlington Formation and Lenton Formation. On the basis of this exercise we can conclude that the southern part of the site does not represent a dynamic alluvial landscape, as had been hypothesised following the evaluation, but that observed deposit variations were, in fact, slight discontinuities in the geological strata. Again, due to the shallow depth of development impact across northern half of the site, such deposits remain unexplored in this area (beyond the earlier evaluation exercise) meaning that this part of the site may still represent a former wet-fringing area.

## Report on a Strip, Map and Sample exercise at Workshop Bus Station

### Contents:

QUALITY ASSURANCE .....	1
DISCLAIMER .....	1
SUMMARY .....	2
1. INTRODUCTION .....	4
2. PROJECT BACKGROUND .....	4
3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND .....	6
Site Topography and Geology (Geology by Samantha Stein) .....	6
Background .....	6
4. FIELDWORK METHODOLOGY .....	9
4.1 Topsoil/Subsoil Stripping .....	9
4.2 Excavation .....	9
4.3 Cleaning/Hand Excavation .....	10
4.4 Recording .....	10
4.5 Sampling .....	10
4.6 Auger Survey .....	11
5. POST EXCAVATION METHODOLOGIES .....	11
5.2 Post-excavation Processing .....	11
5.3 Archive .....	11
5.4 Archive and Finds Deposition .....	11
6. RESULTS .....	12
6.1 Introduction .....	12
6.2 Main Strip .....	12
6.3 Northern Area .....	13
6.4 Auger Survey .....	13
7. DISCUSSION .....	15
8. CONCLUSIONS .....	15
Bibliography .....	16
Appendix 1 : Index of Archive and Arrangements for Deposition .....	17
Appendix 2: Written Scheme of Investigation .....	18
Appendix 3: Plates .....	19
Appendix 4: Figures .....	21

### List of figures:

- Fig. 1: Site Location
- Fig. 2: Trench Plan
- Fig. 3: Section Drawings 1-3
- Fig. 4: Section Drawings 4-7
- Fig. 5: Auger Sample One
- Fig. 5: Auger Sample Two
- Fig. 6: Auger Sample Three
- Fig. 7: Auger Sample Four

### List of plates

- Plate 1: Natural Geology (0012) looking west across the site
- Plate 2: Natural variation [0020]
- Plate 3: Natural variation [0016], labelled with fill (0017)
- Plate 4: Natural variation [0007], labelled with fill (0004)

## **1. INTRODUCTION**

- 1.1 Trent & Peak Archaeology was commissioned by Nottinghamshire County Council to carry out an archaeological Strip, Map and Sample ahead of the Worksop Bus Station Development.
- 1.2 The development, hereafter referred to as 'the Site', is located just to the south of Newcastle Street, close to the centre of Worksop and within the historic core of the town at National Grid Reference SK 5860 7891. It is bordered to the north by Newcastle Street, to the east by Watson Road, and to the west by Queen Street. In total the site measures approximately 40m (north to south) by 75m (east to west) (roughly 0.31 hectares in size), and was formerly occupied partly by a modern car park and partly by disused 20<sup>th</sup> century buildings.
- 1.3 The archaeological investigation was conducted upon recommendations by NCC, following an archaeological evaluation undertaken by Trent and Peak Archaeology.

## **2. PROJECT BACKGROUND**

- 2.1 The Major Projects and Improvements Team of Nottinghamshire County Council's Highways department wishes to redevelop land at Newcastle Street, Worksop, Nottinghamshire (Figure 1). Pre-planning consultation has suggested that the proposed development, comprising the demolition of existing modern buildings and the subsequent redevelopment of the land into a bus station, has the potential to impact upon cultural heritage assets and/or buried archaeological remains.
- 2.2 In line with the National Planning Policy Framework (NPPF) (see Section 3 below), where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, the developer is required to submit an appropriate desk-based assessment describing the significance of any heritage assets affected (including any contribution made by their setting) and a field evaluation.
- 2.3 A desk-based assessment was undertaken by Trent & Peak Archaeology (TPA) to ascertain the known archaeological potential of the proposed redevelopment site and the results are now summarised below:
- 2.4 *An assessment of the baseline data identified no archaeological events, designated or non-designated heritage assets within the proposed redevelopment area. Within the wider study area (500m radius) 9 archaeological events, 61 designated heritage assets (comprising 1 Scheduled Monument, 2 Parks and Gardens and 58 Listed Buildings) and 87 non-designated heritage assets were identified (although some of these heritage assets have no physical form). The baseline data testified to the importance of Worksop as a medieval, post medieval and modern centre with particular emphases on the extant medieval monuments, Worksop Castle (Scheduled Monument, HER 13395), Worksop Priory Gatehouse (Grade I Listed, NHER 1045028,) and the Church of St. Cuthbert and St. Mary (Grade I Listed, NHER 1156758) and post medieval buildings e.g. those fronting Bridge Street.*
- 2.5 *Little is known about past human settlement and land use within the proposed redevelopment site, however. The proposed redevelopment site does not lie within one of the Extensive Urban Survey medieval or post medieval land-use polygons, but by the 19<sup>th</sup> century, development along Watson road (just beyond the southeast extent of the site) is identified as a historic component. In addition, although a cartographic date range of 1763 to 1979 was obtained, with the exception of field boundaries, no activity is depicted within the proposed redevelopment area until the twentieth century. A site visit demonstrated that much of the proposed redevelopment area, with the exception of modern tarmac surfacing, appears to*

*have suffered very little from deposit truncation. No features of archaeological interest were noted and there are no setting issues in relation to this proposed redevelopment.*

- 2.6** The DBA concluded that although the archaeological potential of the site remains largely unknown, the site is potentially important as it sits almost centrally between the medieval castle/market town part of Worksop in the west and the Priory area in the east. Very little is known about the nature of medieval activity here, but there is potential for extramural activities (e.g. informal industry or rubbish pits) relating to both areas to be present, as well as possible key (unmapped) boundary features.
- 2.7** The evaluation concluded that, while no securely dated features were observed, the depositional environment (deep later layers covering potential medieval horizons) indicated that medieval or earlier features if present, might be well preserved, particularly within the western half of the site (Trenches 1-3). Furthermore the undated ditch/pit observed in Trench 3 may have possibly represented some medieval activity peripheral to the main settlement cores. Given the topographic and palaeoenvironmental observations it could be speculated that some activity, potentially industrial, was occurring in this part of Worksop in a wet fringing zone. In contrast to the potential truncation in the eastern half of the site, the areas of Trenches 1-3 could provide a good opportunity for observing such features, which would best be recorded by a limited strip, map and sample of the area (Linington 2014).
- 2.8** To fully determine the nature of the palaeogeographical features observed during the evaluation, a further, targeted auger survey was recommended. This would give an opportunity to determine the morphology as well as the characteristics of the deposits.

### **3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

#### ***Site Topography and Geology*** (Geology by Samantha Stein)

- 3.1** The site is located close to the centre of Worksop, within the historic core of the town. It is bordered to the north by Newcastle Street, to the east by Watson Road, and to the west by Queen Street. Further car parking along with several residential dwellings and commercial properties are located to the south.
- 3.2** The site is irregularly shaped with the main development area situated directly to the south of Newcastle Street. Extensions encompassing pavements run west along Newcastle Street and south down Watson Road. In total the site measures approximately 40m (north to south) by 75m (east to west) (roughly 0.31 hectares in size), and was formerly occupied partly by a modern car park and partly by disused 20<sup>th</sup> century buildings (see section 5 for further description).
- 3.3** The 1:50,000 British Geological Survey Mapping shows that site is situated on a border between bedrock geology, where the Lenton Sandstone Formation (formerly the Lower Mottled Sandstone, a Sedimentary Bedrock formed approximately 246 to 271 million years ago in the Triassic and Permian periods) overlies the Edlington Sandstone Formation (formerly the Middle Permian Marl, a Sedimentary Bedrock formed approximately 251 to 271 million years ago in the Permian Period).
- 3.4** The Edlington Formation largely consists of red mudstone with green bands and mottling (Smith *et al.* 1973, 139). At Worksop, it has been described as 'red, grey, greyish-green, or yellow in colour, variably consolidated, and fine to coarse, but largely medium- to coarse-grained' (Smith *et al.* 1973, 141). Thin layers of sandstone and breccias are also recorded within the formation. The Lenton Formation is described as red to pink fine-grained sandstone with grey bands, and usually in a friable state, with thin lenses of red and green mudstone (Smith *et al.* 1973, 161).
- 3.5** The site lies on the border between freely draining, slightly acid loamy soils to the north and freely draining, slightly acid sandy soils to the south ([www.landis.org.uk/soilscapes](http://www.landis.org.uk/soilscapes)). The site lies on the southern fringes of the floodplain of the River Ryton, and alluvium is mapped on the northeast edge of the excavated area.
- 3.6** Topographically the site is roughly flat, covered in tarmac and levelled around the building platforms, there are no cellared buildings within the site. The site is discussed in more detail in Section 5. The site is located at a height of c. 40m AOD.

#### ***Background***

**3.6** *Prehistoric and Roman*

Although very few Prehistoric or Roman artefacts have been found in Worksop, aerial archaeology has revealed extensive regular 'brickwork plan' field systems around the town, most likely dating from the late Iron-Age and Romano-British periods. Excavations were carried out at Menagerie Wood to the west of Worksop in 1985 and a cropmark enclosure of this period was excavated in 2003 north of Raymoth Lane, Worksop. This excavation uncovered faunal remains that suggested that "animal husbandry played a greater subsistence role than agriculture" in the area. The site also produced a Roman pottery kiln and evidence of metal working (Palmer-Brown and Munford 2004, 19).

**3.7** *Medieval*

Prior to the Norman Conquest very little is known about Anglo-Saxon Worksop, although it must be assumed that a settlement of some sort was present in this location (Stroud 2002).

- 3.8** The Domesday Book of 1086 records that the Manor of Werchesope had been owned by Elsi, son of Castbin, before the Norman invasion. The name of the town is partly derived from a personal name (Gover *et al.* 1940, 305), which is probably of Saxon origin. The manor was subsequently granted by William the Conqueror to Roger de Busli. The manor of Worksop eventually passed to William de Lovetot. He laid the foundations of the priory at Worksop and granted his charter to the canons, which endowed them with, among other things, 'the chapelry and tithes of his whole house' (Holland 1826, 14). The canons were of the order of St Austin, in the church of St Cuthbert of Wirkosop. Although an early church at Worksop is not mentioned in Domesday, a church may have still have existed since Saxon times. On the death of the second William de Lovetot, his son Richard granted to the church 'the whole site of the town of Wirkosop, near the church, as it was shut in by the great ditch unto the meadow of Bersebrigg. And without the ditch the seat of the mill, with one dwelling house, and the meadow of Buselin, which is between the (virgultum) holt of the church and the water' (Thoresby 1790, 386).
- 3.9** Worksop Castle was probably built in the late 11th or early 12th century by the first William de Lovetot to control the adjacent market town (Wright 2008, 72). It may well have been de Lovetot's major residence (caput) in the county. Today, despite having suffered from considerable landscaping it still retains a substantial mound. It was probably built as a ringwork, ditched all around and with counterscarp bank; there was possibly an outer bailey on the south side. Inside it had a central courtyard with timber buildings ranged around the perimeter. Today the site is a park.
- 3.10** De Lovetot also founded the Augustinian Priory at Radford to the east, and in the 12th century the two sites could see each other, with the medieval town of Worksop based around a market place close to the castle (Speight 1995, 66). The town, castle and the large park to the south-west of the town (the later Worksop Lodge or Manor) were all owned by the Lovetotes, then the Nevilles, then the Furnivaulx and by the 16th century the Talbots. Following the Dissolution of the Monasteries, in 1541 Francis, fifth Earl of Shrewsbury was granted the land of the Priory manor to add to land already owned at Worksop. In the 1580s the Earl of Shrewsbury built a magnificent house to the south-west of the town. Worksop Manor was designed by Robert Smythson and was described in 1636 as "a very stately house ... build of freestone, being very pleasantly situated upon a hill, with gardens corresponding to the same." Manor Lodge (which still survives), a possible hunting lodge associated with the house, was built at the same time.
- 3.11** *Post-Medieval*  
In 1549 John Leland visited Worksop and observed that the castle was "clene down and scant knowen wher it was." He described the town as 'a praty market of 2 streates and metely well builded.' These two streets were probably the main north-south road (Park-gate and Bridge Street) and the east-west Potter Street, descending from the Market Place to the church. The majority of the 'ancient, lofty houses' were later said to have been situated on the west side of Market Street (Holland 1826, 144). This comment must refer to what was called Market Place, that part of Bridge Street that is due west of the study area.
- 3.12** The earliest surviving survey of Worksop is the 'Survey of the Manors of Workesoppe and the Priory' dated to 1636 by John Harrison; as yet no accompanying maps have been located. Of the castle, at this time, 'nothing remaining thereof, but only a hill where ye Castle stood.' The survey also shows that at the time arable land in vicinity of Worksop consisted of common fields to either side of River Ryton, separated by closes of pasture or riverside meadow (Scurfield 1986, 50).
- 3.13** At the time of the Hearth Tax of 1674 Worksop had 176 households and a population of about 750, making it the fourth largest town in the county. By 1743 the population had doubled, and then more than doubled again to 3391 by 1801. By this time the town, including the study area, could be described as being an eclectic mixture of old and new, with timber-framed buildings (possibly on stone foundations) and brick-built Georgian houses and business premises. Growth of the town was spurred on by the arrival of the Chesterfield Canal in 1777 and the railways in the 19th century. Industrial works were established that included textile



and corn mills, coal mines, maltings and foundries. Some of these were within or close to the study area. With this came the growth of low class brick-built artisan housing on street frontages and the infilling of former gardens and paddocks, and better class housing for the professional people. By the end of the 19th century the town had greatly expanded, with the central part densely packed and suburbs forming. The town continued to expand throughout the 20th century, with large parts of the town centre transformed with large-scale clearance of old slum properties from the 1960s onwards.

- 3.14** The 1775 map (see DBA) shows clearly the predominance of the north-south street axis for buildings of special importance. The west end of Potter Street can be seen as an off-shoot to this, with a series of listed buildings on the north side of the street. This also suggests that buildings replaced by the Queen's Buildings in 1981 might today have been included timber-framing. Former timber-framed buildings running up to Bridge Street on the north side of Potter Street, demolished in c.1961, would also have been protected.

## **4. FIELDWORK METHODOLOGY**

### **4.1 Topsoil/Subsoil Stripping**

- 4.1.1 *Machinery:* All machines were supplied by the client. All topsoil/subsoil stripping was carried out using an appropriate toothless bucket (containing no holes for escaping spoil), used on a 360° tracked machine. Spoil was deposited behind the 360° machine to avoid running on freshly stripped areas.
- 4.1.2 *Stripping Levels:* All machining was carried out under archaeological supervision, to produce an acceptable flat surface clean of spoil (to minimise hand cleaning), at a level which archaeological features could be clearly discerned. Further machine stripping may have been required where layers of colluvium and alluvium were suspected to be present, with the potential to mask archaeological features/horizons/finds/deposits, that may have been adversely impacted by the development.
- 4.1.3 *Machine Tracking:* Machinery avoided impacting on freshly exposed archaeological surfaces. Machinery did not track on freshly stripped archaeological surfaces, until they had been appropriately recorded and excavated. All machinery avoided tracking over archaeologically sensitive areas during wet conditions (including those below topsoil), to avoid causing damage by deep rutting, compaction and displacement.
- 4.1.4. *Artefacts.* The location of any artefacts recovered in the topsoil/subsoil was to be recorded three-dimensionally or by context/spit if appropriate

### **4.2. Excavation**

- 4.2.1. *Site Extent:* Excavation initially aimed to establish and record the extent of the archaeological remains exposed, with a resulting detailed ground plan produced by GPS/Total Station survey.
- 4.2.2. *Structural Development:* To establish the structural development of the archaeological components on site intersections between ditches/features, were excavated (by context or in spits) to identify any stratigraphic sequences or relationships present. To date the various components that were identified, suitable sections of ditch or cuts of features were excavated (supplemented by a programme of machined cuts) away from the disturbance of intersections in order to retrieve datable artefacts and environmental samples. All artefacts were recorded three dimensionally in order to distinguish between feature fills (or by spit/context in the event that substantial quantities were encountered).
- 4.2.3. *Features:* To establish the function of archaeological activity on site a sample of associated features were to be excavated. All pits and other discrete features half-sectioned (50% sample). Features to be prioritised for excavation were to be determined once the site/interior of the enclosure was fully exposed following soil stripping. Emphasis was to be given to those features best preserved, while considerations also to be made of structural remains or any potential environmental and industrial evidence, with appropriate sampling where necessary. Excavation of the features was attempted to establish their date, form, function and interrelationships. All excavation and recording was carried out as set within the minimum standards detailed below (Section 4.3-4.6).

### **4.3. Cleaning/Hand Excavation**

- 4.3.1 All excavations were carried out in accordance with the code of conduct of The Institute for Archaeologists.
- 4.3.2. Features were hand-cleaned and planned. Features were sample excavated sufficiently to determine their plan and form, and to recover any datable artefacts (for pits this was 50%).
- 4.3.3. Feature fills were removed by contextual change (the smallest usefully definable unit of stratification). Features were excavated to a maximum depth of 1m (dependant on assessment of the stability of the deposits). Below this features were battered or stepped following health & safety guidelines.
- 4.3.4. All finds of medieval date or earlier were recorded three dimensionally. Post-medieval finds or abundant re-deposited structural material were recorded by context/spit.
- 4.3.5. Spoil from IA/RB features or later was to be searched where appropriate with a metal detector.
- 4.3.6 In the event of human remains the curator was to be contacted and the necessary burial license was to be obtained in line with the most recent guidelines from the Ministry of Justice.

### **4.4. Recording**

- 4.4.1. Plans of all contexts including features were drawn on drafting film in pencil at a scale of 1:20/1:50 and showed at least:
  - context numbers,
  - all colour and textural changes,
  - principal slopes represented as hachures,
  - levels expressed as O.D. values, or levelled to permanent features if benchmark absent,
  - sufficient details to locate the subject in relation OS 1:2500 map (national grid).
- 4.4.2 Sections showed the same information, but levelling information was given in the form of a datum line with O.D/arbitrary value; the locations of all sections were shown on plan.
- 4.4.3 Digital images/B&W photos of each context were taken, together with general views illustrating the principal features of the excavations: these were supplemented by colour prints of subjects potentially worthy of publication.
- 4.4.4 Written records were maintained as laid down in the TPA recording manual.

### **4.5. Sampling**

- 4.5.1. The necessary resourcing was provided for a programme of environmental sampling, if deemed necessary on site (including pollen, plant macro, insect remains), to recover suitable evidence for the reconstruction of the past environment of the site including any former economic activity present. The sampling strategy remained flexible and subject to review in the field, including the use of further techniques where appropriate. Where necessary sampling involved consultation with the appropriate specialist opinion, and follow where

practicable, the English Heritage Centre of Archaeology Guidelines, *Environmental Archaeology* 2008.

- 4.5.2. Sampling was restricted to securely dateable deposits of known archaeological character, with preference for well-preserved or regionally significant deposits.

## **4.6 Auger Survey**

- 4.6.1 A hand auger survey was undertaken. Stratigraphic units were to be identified and recorded on TPA borehole record pro-formas. Soil sub-samples were to be retained for further specialist analysis (macrofossils, pollen, invertebrates) or scientific dating (radiocarbon) if possible or necessary.

## **5. POST EXCAVATION METHODOLOGIES**

- 5.1. All recording resulted in 'the preparation of a report and ordered archive', was in line with the guidelines of the IFA Institute of Field Archaeologists.

### **5.2. Post-excavation Processing**

- 5.2.1. All finds were cleaned and stored as recommended in "First aid for finds" (by the Archaeology section of the United Kingdom Institute for Conservation, 2nd edition 1987), and marked with the site and find codes, and relevant accession numbers. These will be deposited with the appropriate Museum on completion of the report, subject to the provisions of the brief and the agreement of the client.

### **5.3. Archive**

- 5.3.1. The archive was fully indexed and contained where relevant:
- copies of correspondence relating to fieldwork
  - site notebooks/diaries
  - original photographic records
  - site drawings (plans, sections)
  - original context records,
  - original sample records
  - computer discs and printout

### **5.4. Archive and Finds Deposition**

- 5.4.1. Where necessary the documentary archive will be sent to the NMR for copying.
- 5.4.2. Finds will remain the property of the client with deposition to the relevant regional museum subject to their approval. The client will be subject to deposition costs of the respective museum.
- 5.4.3. The paper and digital archive generated by TPA will remain the property of the Unit until deposited within the appropriate public archive.

## **6. RESULTS**

### **6.1 Introduction**

An outline narrative of the results of the archaeological trenching during the Strip, Map and Sample is presented below. The area stripped was located along the southern extent of the development, overlapping slightly with the eastern extent of evaluation trench three (FIG 2). The area to the north of the Strip was only impacted on marginally and will be discussed separately below.

### **6.2 Main Strip**

- 6.2.1 The maximum depth stripped across the southern extent of the site, was 1m BGL.
- 6.2.2 After the removal of the existing tarmac car park surface (0000) and underlying creamy-yellow, type one hardcore (made up of angular, stones up to 30mm across) (0001) to a depth of 0.3m beneath ground level (BGL), a 19<sup>th</sup>/20<sup>th</sup> century deposit (0002) was revealed, which consisted of dark-blackish-grey, clayey-sandy-loam, with inclusions of brick rubble. At the eastern extent of the site this material showed extensive root disturbance. This material extended to a depth of 0.6m BGL.
- 6.2.3 At this depth the natural geology was observed. It consisted of mid to light brown sandy clay with inclusions of occasional sub-rounded pebbles (0.02-0.05m in diameter), (0003, 0012 & 0015) (Plate 1). When a sondage was excavated through this material at the south-eastern limit of the site, laminations within this natural were observed, consisting of mid-grey sandy-silty-clay (0019), deep-reddish-brown sandy clay (0018), mid-brown clayey silt (0024) and red with brown mottled silty-sandy-clay (0025). (FIG. 3)
- 6.2.4 A number of 20<sup>th</sup> century features were also observed across the site; these were sealed by the 19<sup>th</sup>/20<sup>th</sup> century deposit (0002) and were cutting into the natural geology, discussed above. These features consisted of:
- A shallow modern cut containing plastic sheets; [0005]
  - A shallow curvilinear cut 10m long, 0.8m wide and 0.02m deep, probably just a modern machine scoop; [0008]
  - A modern pit, containing large amounts of glass (not excavated as clearly modern), measuring 1m in diameter; [0013]
  - Two of the five evaluation trenches dug by TPA earlier in the project; [0010] & [0022]
- 6.2.5 The natural variations observed within Trench 3 during the evaluation were again identified during this phase of the work.
- [0020], curvilinear in plan, aligned northeast-southwest and observed over a length of 20m, was 5 m wide and 0.85m deep (possibly converging with [0016] to the north outside the limit of the excavation) (Plate 2)
  - [0016], linear in plan aligned north-south (and possibly converging with [0020] to the north outside the limit of excavation and with [0007] to the south outside the limits of the excavation), this feature was observed over a length of 20m, was 4.2m wide and at least 0.45m deep. Its fill was heavily compacted mid-grey-green silty-clay with occasional rounded stone measuring 0.01-0.03m in diameter (0017) (Plate 3)
- A further natural variation was also identified:
- [0007], curvilinear in plan aligned northeast-southwest (and possibly converging with [0016] to the south outside the limits of the excavation) this channel observed over a length of 40m, was 6.5m wide and up to 0.70m deep (Plate 4)

The fills of the natural variations [0007] and [0020] are discussed in the auger survey section below.

- 6.2.6 Two features were observed during the evaluation, at the western end of Trench 3. The first was a small pit, 1.46m across, 0.5m deep and oval in plan. It was filled by soft, light gray, silty clay with inclusions of occasional sub-rounded stones. The second feature was curvilinear in plan, 0.64m across and 0.20m deep, and was probably a narrow ditch. It was filled by soft, mid-grey, silty clay with inclusions of occasional sub-angular and sub-rounded stones.

While no finds were recovered from either feature; they were interpreted as possibly medieval. Due to being located at the western end of the Trench 3, they lay outside the scope of this phase of the works and it was not possible to observe these features at this stage. Furthermore, no further similar features were identified during the Strip, Map and Sample.

### **6.3 Northern Area**

- 6.3.1 To the north of the main strip, the only impact of the works was a shallow strip, only extending to a depth of 0.5m BGL for the purposes of levelling-off the site in advance of piling. No layers below (0002) were observed and because of this the field drain observed at the northern end of Trench 2 during the evaluation was not identified.
- 6.3.2 After the removal of the existing tarmac car park surface (0000) and underlying creamy-yellow, type one hardcore (made up of angular, stones up to 30mm across) (0001) to a depth of 0.3m beneath ground level (BGL), a 19<sup>th</sup>/20<sup>th</sup> century deposit (0002) was revealed, which consisted of dark-blackish-grey, clayey-sandy-loam, with inclusions of brick rubble. No archaeology was impacted upon. (0002) extended to the limit of the excavation, sealing any surviving archaeological remains and preserving them in situ.

### **6.4 Auger Survey**

- 6.4.1 As part of the strip map and sample, a targeted auger survey was undertaken to establish the depth and makeup of apparent palaeofeatures [0007] and [0020], the results of which are shown below.
- 6.4.2 **Sample One** (48.660 OD, FIG. 5) revealed a series of bedded deposits of the natural variation [0007], these were in descending order to a maximum depth of 47.66 OD:
- Greenish-grey clay with occasional black specks and very coarse quartz sand (0.15m thick) (Given context number (0004) in plan)
  - Light-yellow-brown sandy-clay, no inclusions (0.1m thick)
  - Mid-brown silty-sand with grey mottled clay with occasional pebbles (0.2m thick)
  - Light-brown poorly sorted silty-sand with moderate sub rounded medium pebbles (0.15m thick)
  - Orange-brown poorly sorted coarse sand with moderate sub-rounded medium pebbles (0.1m thick)
  - Mid Brown compacted very coarse sand with orange mottles with sub-rounded pebbles between 5-10mm in diameter (0.15m thick)
  - Orange-brown very coarse sand with frequent sub-rounded medium pebbles 10-20mm across (0.15m thick)
  - Light-brown poorly sorted very coarse sand and pebbles, unknown depth of deposit due to severe water logging.
- 6.4.2 **Sample Two** (48.852 OD, FIG. 6) revealed a series of bedded deposits of the natural variation [0007], these were in descending order to a depth of 47.152 OD:

- Greenish-grey clay with occasional black specks and very coarse quartz sand (0.3m thick) (Given context number (0004) in plan)
- Mid-grey clay with sand and pebble inclusions (0.15m thick)
- Mid-brownish-grey sandy-clay with frequent rounded medium pebbles (0.15m thick)
- Orangey-Brown clayey-sand with moderate medium pebbles (0.1m thick)
- Reddish-brown sandy-clay, no inclusions (0.15m thick)
- Light-brown clayey-silt, no inclusions (0.15m thick)
- Mid-to-light-brown sand with clay (<10%), no inclusions(0.15m thick)
- Black clayey sand, no inclusions (0.15m thick)
- Orange-red clayey-silt with occasional sub-rounded medium pebbles (0.3m thick)
- Pinky-gray clayey-silt, no inclusions (0.05m thick)
- Reddish-brown clayey silt with occasional sub-rounded medium pebbles (0.05m thick)
- Loose pebbles-cobbles, too waterlogged to retrieve a workable sample

6.4.3 **Sample Three** (48.852 OD, FIG. 7) revealed a series of bedded deposits of the natural variation [0007], these were in descending order to a depth of 47.752 OD

- Greenish-grey clay with occasional black specks and very coarse quartz sand (0.3m thick) (Given context number (0004) in plan)
- Brownish-yellow sandy-clay, no inclusions (0.15m thick)
- Mid-brown silty clay with sand; greyish mottles, no inclusion (0.1m thick)
- Orange-brown very coarse sand and sub-rounded pebbles (0.25m thick)
- Reddish-brown sand, no inclusions (0.15m thick)
- Brown coarse sand with sub-rounded 10-30mm stones (0.15m thick)
- Too waterlogged to retrieve a workable sample

6.4.4 **Sample Four** (48.840 OD, FIG. 8) revealed a series of bedded deposits of the natural variation [0020], these were in descending order to a depth of 47.64 OD

- Mid-grey-blue clay with occasional sub-rounded very coarse quartz sand (0.12m thick)
- Light-brown-green clay, no inclusions (0.1m thick)
- Greenish-grey clay with occasional black specks and sub-rounded very coarse quartz sand (0.08m thick)
- Dark grey clay with occasional sub-rounded medium pebbles (0.15m thick)
- Grey clay with occasional black flecks and sub-rounded pebbles (0.25m thick)
- Mid-brown silty-clay with sand and occasional sub-rounded medium pebbles(0.15m thick)
- Mid-brown sand with occasional medium to coarse pebbles(0.15m thick)
- Mid-brown very coarse sand and sub-rounded medium to coarse pebbles (0.2m thick)
- Too waterlogged to retrieve a workable sample

## **7. DISCUSSION**

### **7.1 Modern Surfaces:**

Tarmac (000) seals type one hardcore (made up of angular, stones up to 30mm across) (0001) across the entire site. To a depth of 0.3m BGL

### **7.2 Buried Soils:**

The buried soil (0002) was interpreted as being post-medieval or earlier in date. This was due to the relatively undisturbed nature of the material and the finds from the post-medieval drain, observed during the evaluation, cutting the buried soil.

**7.3 Archaeological Features:** No further archaeological features predating the 20<sup>th</sup> century were identified. This could indicate that this area was not used much during the medieval period and does not represent an active wet fringing zone to Worksop, as had been suggested following the evaluation.

**7.4 Palaeogeographical Features by Samantha Stein:** Three distinct natural variations were observed during this excavation, that were interpreted as palaeochannels during the site evaluation. Two of these were previously observed during the evaluations: [0017] and [0020], and a further one was observed to the immediate east of these, [0007].

With the exposure of a larger area, these variations were determined to be geological. All sediments and features encountered closely match previous descriptions of the Edlington Formation and Lenton Formation (Smith *et al.* 1973; Aitkenhead 2002). The linear features are interpreted as boundary features between the two geological formations, and slight discontinuities in the geological strata.

No further samples were taken, as the deposit analysis on site indicated no archaeological information could be gained from them.

## **8. CONCLUSIONS**

8.1 No medieval features were exposed during the excavations. It is possible that either this area was not, as had been suggested, an active wet fringing zone, during the medieval period, or that the activities taking place here were so ephemeral that they left no evidence in the archaeological record. Furthermore, no more post-medieval features (such as the box drain observed during the evaluation) were observed, possibly indicating a very limited use of the land during at this time. Indeed, early maps indicate that this area was mostly open fields.

8.2 No further archaeological features confidently pre-dating the 20<sup>th</sup> century were identified during the strip, map and sample exercise, leading to the conclusion that if there was any activity in this area prior to the 19<sup>th</sup> century, it was either limited in nature or that archaeological deposits are now deeply buried. One or two features observed at the western extent of the site, whilst remaining undated, might feasibly represent earlier, potentially medieval, features (e.g. gully [0047]), but this could not be confirmed.

8.3 Following the stripping of a larger area the features that had been interpreted as palaeochannels during the evaluation were, upon re-evaluation and specialist opinion, interpreted as natural variations or boundary features between the two geological formations, the Edlington Formation and Lenton Formation. On the basis of this exercise we can conclude that the southern part of the site does not represent a dynamic alluvial landscape, as had been hypothesised following the evaluation, but that observed deposit variations were, in fact, slight discontinuities in the geological strata. Again, due to the shallow depth of development impact across northern half of the site, such deposits remain unexplored in this area (beyond the earlier evaluation exercise) meaning that this part of the site may still represent a former wet-fringing area.



## **Bibliography**

Gover, J.E.N., Mawer, A. & Stenton, F.M. (1940) *The Place Names of Nottinghamshire*.

Holland, J. (1826) *The History, Antiquities and Description of the Town and Parish of Worksop*.

Knight, D., Vyner, B. and Allen, C. (2012). *East Midlands Heritage: An Updated Research Agenda and Strategy for the Historic Environment of the East Midlands*, University of Nottingham and The York Archaeological Trust.

Linington, T. (2014) *Worksop Bus Station Trial Trenching Report*, Trent and Peak Archaeology

Palmer-Brown, C & Munford, W. (2004) *Romano-British Life in North-Nottinghamshire: Fresh Evidence from Raymouth Lane, Worksop*, Transactions of the Thoroton Society **108**, 19-86

Samuels, J. (1996) *Park Street, Worksop, Nottinghamshire: An Archaeological Watching Brief (Phase II)*. John Samuels Archaeological Consultants, unpublished assessment & evaluation reports.

Scurfield, G. (1986) *Early seventeenth century Worksop and its environs*, Transactions of the Thoroton Society 90, 38-49

Sheppard, R. (2010) *An Archaeological Desk-Based Assessment of Land Between Potter Street and Newgate Street, Worksop, Nottinghamshire*. Trent and Peak Archaeology, Unpublished report.

Sheppard, R. (2005) *Newcastle Street, Worksop*. Trent and Peak Archaeological Unit, unpublished report.

Speight, S. (ed) (2002) 'Archaeology in Nottinghamshire 2002'. *Transactions of the Thoroton Society of Nottinghamshire* 107. 197-209.

Stroud, G. (2002) *Worksop: Nottinghamshire Extensive Urban Survey Archaeological Assessment*, English Heritage/NCC

Swann, A. (2007) *35-37 Potter Street, Worksop, Nottinghamshire. Archaeological Building Recording and Analysis*. Archaeological Services WYAS, unpublished report.

Wright, J. (2008) *Castles of Nottinghamshire* (Nottinghamshire County Council)

British Geological Society Map Viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Cranfield Soil and Agrifoods Institute Soilscape Map Viewer [www.landis.org.uk/soilscapes](http://www.landis.org.uk/soilscapes)

## **Appendix 1: Index of Archive and Arrangements for Deposition**

<i><b>Field Records</b></i>	<i><b>Description</b></i>	<i><b>Number</b></i>
Context Sheet	Record of each context	26
Registers	Registers	3
Borehole Record Sheets	Record of each borehole	4
A3 Drafting Film	Scale plans and sections	3
Watching Brief Sheet	Record of each day's activity	10
Digital Photographs	All views	160
<i><b>Documents</b></i>		
Written scheme of investigation	Statement of the aims, objectives and methodology for the project.	1
Health & Safety	Safe working statement & risk assessment	1
Report to client	Report of findings of the watching brief.	1

The archive is currently held in the offices of Trent & Peak Archaeology, Unit 1, Holly Lane, Chilwell, Nottingham, NG9 4AB. It will be deposited at an appropriate museum on the completion of the investigations.

## **Appendix 2: Written Scheme of Investigation**

### **Appendix 3: Plates**



**Plate 5: Natural Geology (0012) looking west across the site**

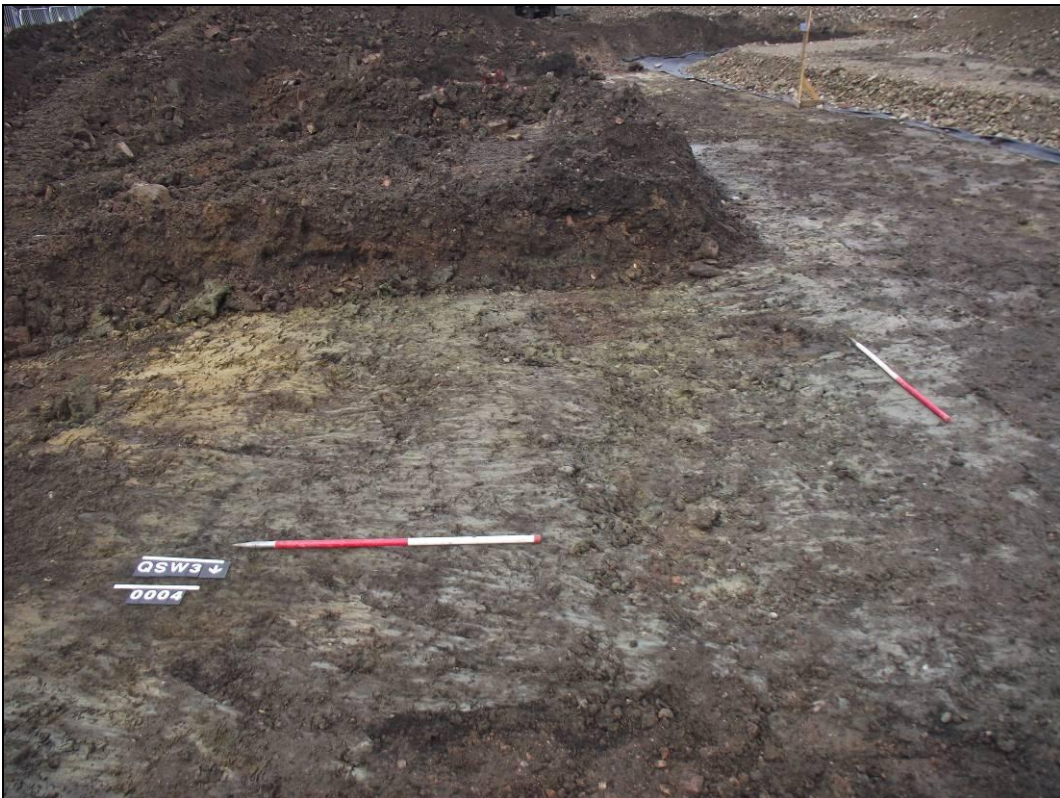


**Plate 6: Natural Variation [0020]**



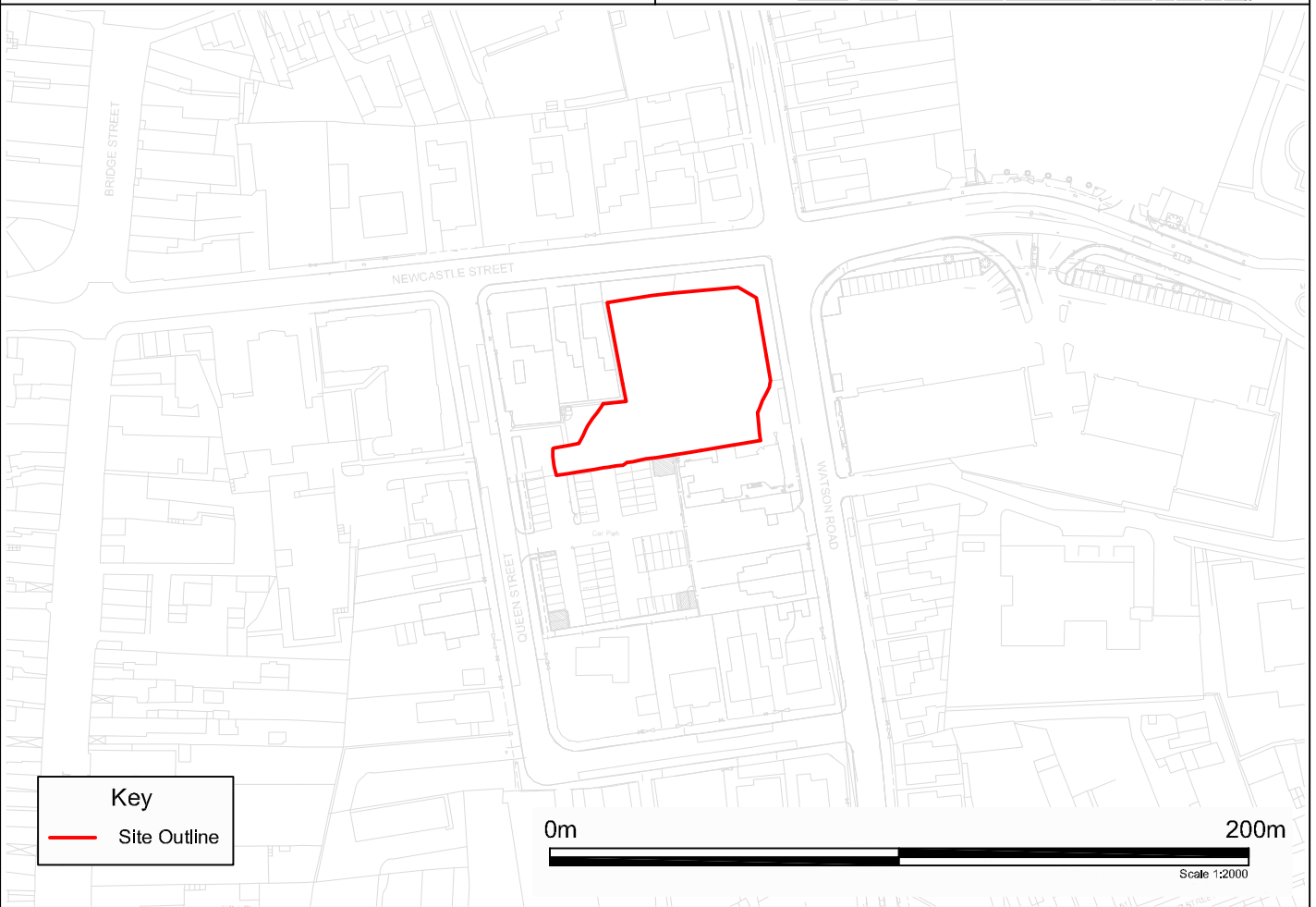
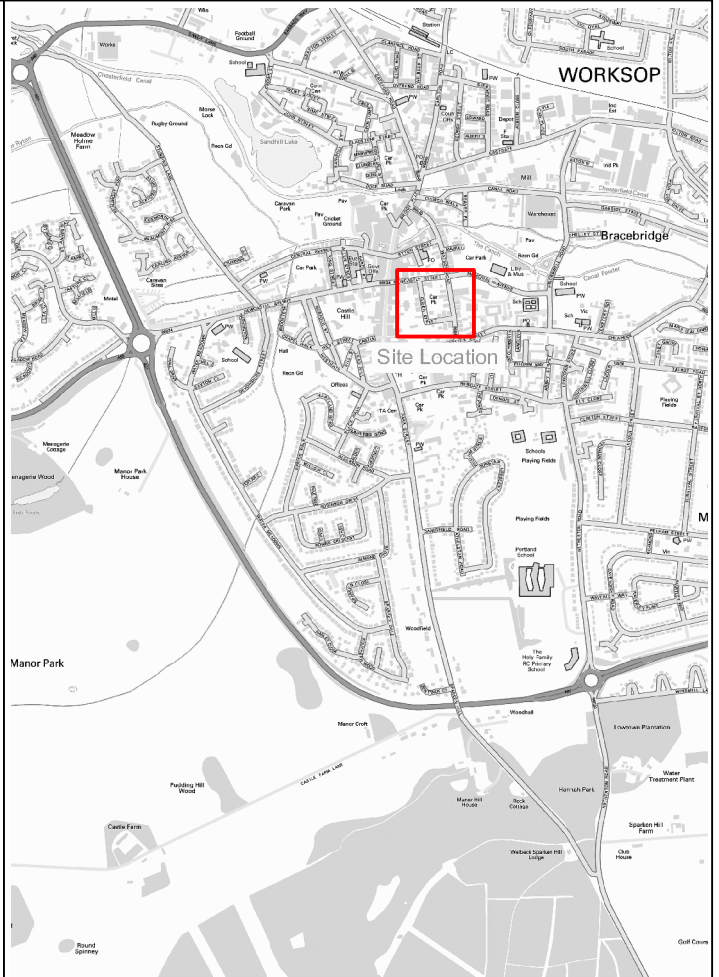


**Plate 7: Natural Variation [0016]/(0017)**



**Plate 8: Natural Variation [0007]/ (0004)**

## **Appendix 4: Figures**



**Key**

— Site Outline

0m 200m

Scale 1:2000

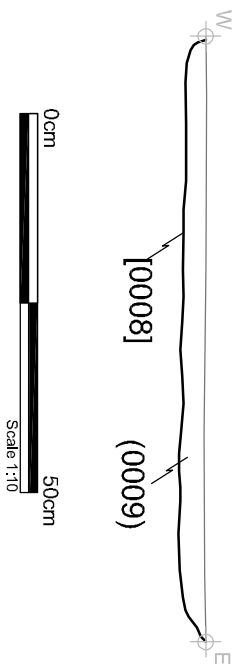


Figure 2: Overall Site Plan





Drawing 01  
South Facing Section of [0008]



Drawing 02  
South Facing Section



Drawing 03  
North Facing Section of [0016]

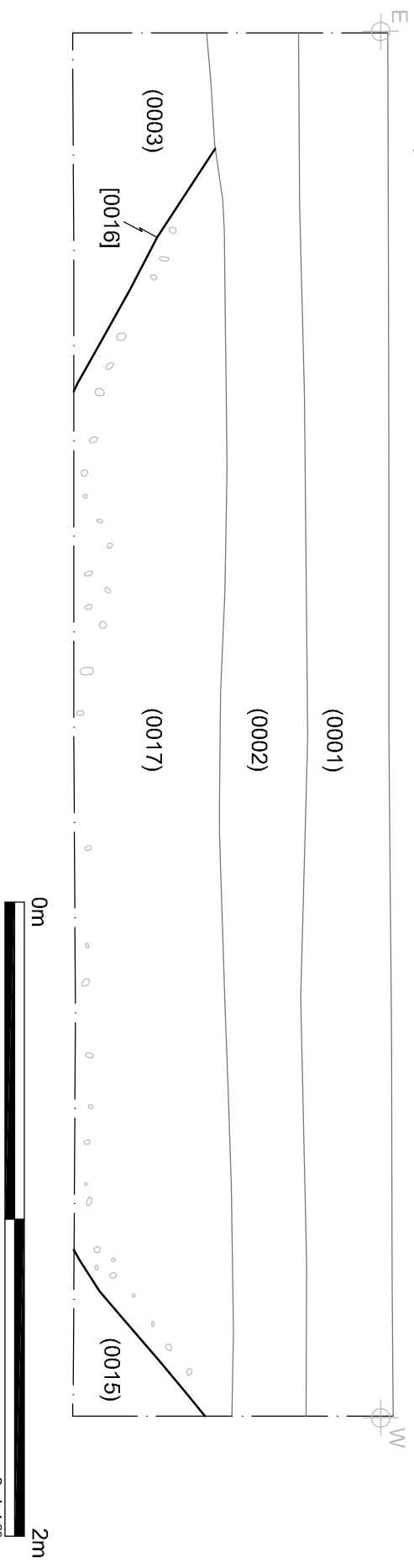
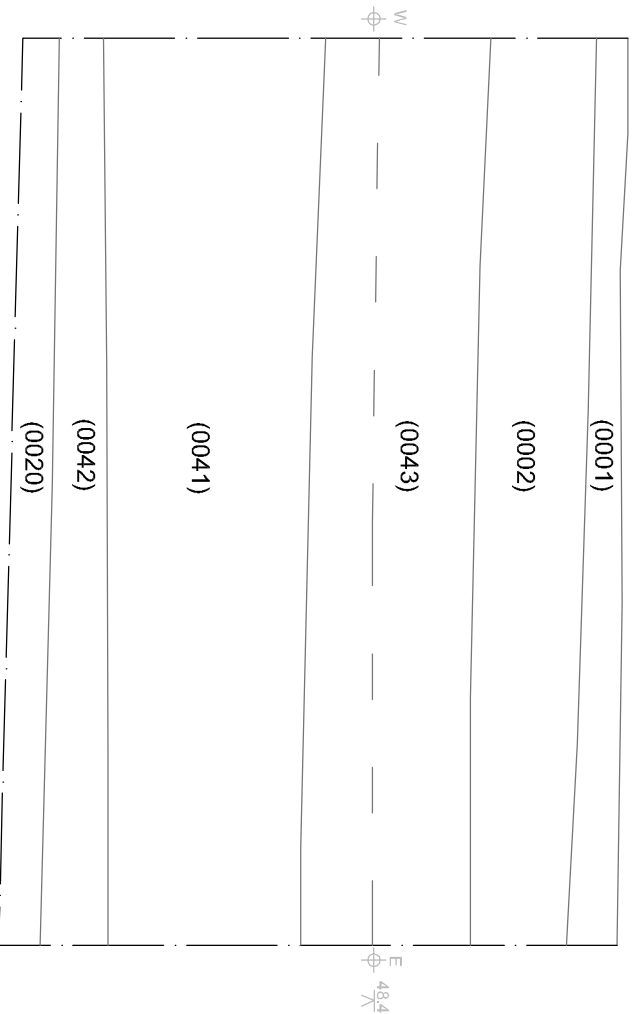
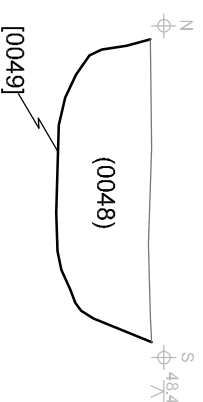


Figure 3: Section drawings 01-03

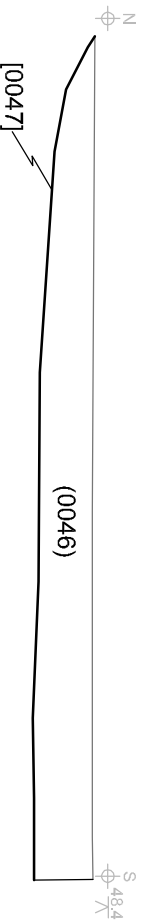
**Drawing 04**  
**South Facing Section**



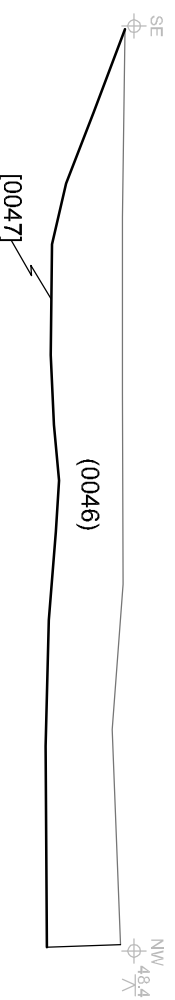
**Drawing 05**  
**West Facing Section of [0049]**



**Drawing 06**  
**West Facing Section of [0047]**

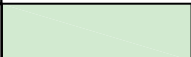








**Drawing 07**  
**South West Facing Section of [0047]**



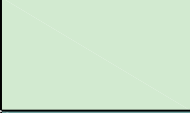




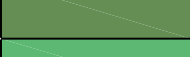





# Auger Survey Log

Auger Number: Sample 1	Date: 27.10.14
Location: Worksop Bus Station	Co-ordinates: 458628,378909
Drilling Method: Auger Sample	Logged by: S.Dixon
Figure: 5	Vertical scale: 1:20

Description	Legend	Depth (thickness) m	Comments / Samples
Greenish-grey clay with occasional black specks and 1-2mm sub-rounded quartz pebbles		0.15m (0.15m)	Natural
Light-yellow-brown sandy-clay no inclusions		0.25m (0.10m)	Natural
Mid-brown silty-sandy-clay and grey mottling with poorly sorted gritty and occasionally sub-rounded 5 - 10mm gravel		0.45m (0.20m)	Natural
Light-brown poorly sorted silty-sand with sub rounded pea gravel		0.60m (0.15m)	Natural
Orangey-Brown poorly sorted sandy-gravel with moderate sub-rounded pea gravel		0.70m (0.10m)	Natural
Mid Brown compacted gravel with orange mottles with sub-rounded pebbles between 5-10mm in diameter		0.85m (0.15m)	Natural
Orange-brown sandy-gravel with frequent sub-rounded stone 10-20mm across		1.00m (0.15m)	Natural
<i>End of borehole</i>			<i>Too waterlogged to retrieve a workable sample</i>




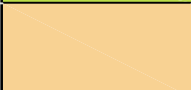
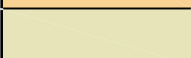

# Auger Survey Log

Auger Number: Sample 2	Date: 27.10.14
Location: Worksop Bus Station	Co-ordinates: 458614,378907
Drilling Method: Auger Sample	Logged by: S.Dixon
Figure: 6	Vertical scale: 1:20

Description	Legend	Depth (thickness) m	Comments / Samples
Greenish-grey clay with occasional black specks and 1-2mm sub-rounded quartz pebbles		0.30m (0.30m)	Natural
Mid-grey clay with poorly sorted sand and gravel		0.45m (0.15m)	Natural
Mid-brown-grey sandy-clay with frequent 10-15mm rounded gravel		0.60m (0.15m)	Natural
Orangey-Brown clayey-sandy-gravel with moderate 10-20mm poorly sorted gravel		0.70m (0.10m)	Natural
Reddish-brown sandy-clay, no inclusions		0.85m (0.15m)	Natural
Light-brown loamy-clay, no inclusions		1.00m (0.15m)	Natural
Mid-to-light-brown slightly-clayey-sand, no inclusions		1.15m (0.15m)	Natural
Deep-black clayey sand, no inclusions		1.30m (0.15m)	Natural
Orange-red clayey-silt with occasional; sub-rounded 5-10mm pebbles		1.60m (0.30m)	Natural
Pinky-gray clayey-silt, no inclusions		1.65m (0.05m)	Natural
Reddish-brown slightly-silty clay with occasional sub-rounded 5-10mm pebbles		1.70m (0.05m)	Natural
<i>End of borehole</i>			Natural sand and gravel- too waterlogged to retrieve a workable sample



# Auger Survey Log

Auger Number: Sample 3	Date: 27.10.14
Location: Worksop Bus Station	Co-ordinates: 458606,378902
Drilling Method: Auger Sample	Logged by: S.Dixon
Figure: 7	Vertical scale: 1:20

Description	Legend	Depth (thickness) m	Comments / Samples
Greenish-grey clay with occasional black specks and 1-2mm sub-rounded quartz pebbles		0.30m (0.30m)	Natural
Brownish-yellow sandy-clay, no inclusions		0.45m (0.15m)	Natural
Mid-brown silty-sandy-clay with greyish mottles, no inclusion		0.55m (0.10m)	Natural
Orange-brown sandy-gravel, with sub rounded 10-20mm stones		0.70m (0.25m)	Natural
Reddish-brown sand, no inclusions		0.85m (0.15m)	Natural
Brown sandy-gravel with sub-rounded 10-30mm stones		1.00m (0.15m)	Natural
<i>End of borehole</i>			<i>Too waterlogged to retrieve a workable sample</i>

# Auger Survey Log

Auger Number: Sample 4	Date: 27.10.14
Location: Worksop	Co-ordinates: 458587,378907
Drilling Method: Auger Sample	Logged by: S.Dixon
Figure: 8	Vertical scale: 1:20

Description	Legend	Depth (thickness) m	Comments / Samples
Mid-grey-blue clay with occasional sub-rounded 1-2mm quartz pebbles		0.12m (0.12m)	Natural
Light-brown-green clay, no inclusions		0.22m (0.10m)	Natural
Greenish-grey clay with occasional black specks and sub-rounded 1-2mm quartz pebbles		0.30m (0.08m)	Natural
Black-grey clay with occasional sub-rounded 10mm pebbles		0.45m (0.15m)	Natural
Grey-clay with occasional black flecks and sub-rounded stones		0.65m (0.25m)	Natural
Mid-brown sandy-silly-clay with occasional sub-rounded 5-10mm stones		0.80m (0.15m)	Natural
Mid-brown sand with occasional 5-10 mm gravel		0.95m (0.15m)	Natural
Mid-brown sandy-gravel with occasional sub-rounded 10-20mm pebbles		1.15m (0.20m)	Natural
<i>End of borehole</i>			<i>Too waterlogged to retrieve a workable sample</i>