Greyfriars Road
Doncaster
South Yorkshire

Archaeological Evaluation

Contents

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Summary

An archaeological evaluation at Greyfriars Road, Doncaster, revealed evidence for the medieval occupation of the area probably associated with the nearby (documented) 13th century Grey Friars Franciscan Friary complex. Identified phases of continuous activity were dated between the 12th and 16th centuries and included remains of a foundation wall, copper-working features and later structural remains in the form of beam-slots with incorporated pebble flooring. The environmental assessment of animal bone, fishbone and cereal grain remains has provided an insight into the resources and local food economy associated with the medieval activities. Auger testing and post-excavation assessment has highlighted the potential for earlier archaeological deposits to survive below layers of alluvium.

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1. Introduction

1.1 Archaeological Services WYAS (hereafter ASWYAS) were commissioned by Doncaster Metropolitan Borough Council to carry out an archaeological evaluation by trial trenching in advance of the proposed construction of a new 33/11kv primary substation, including two transformer compounds, (planning ref. 04/7672/P/FUL), at a site to the west of an existing electricity substation on Greyfriars Road, Doncaster, South Yorkshire (Fig. 1).

1.2 The development site comprises an area to the north side of Greyfriars Road, at the point where the road turns southwards to form French Gate, centred on SE 571 036. The site is bounded to the south by Greyfriars Road and to the north by New Cut, a canalised section of the River Don. To the east lies the existing electricity substation and to the west a railway line that is crossed by the new North Bridge (Fig. 2).

1.3 The site lies at approximately 10m Above Ordnance Datum and at the time of investigation was used as a car park. The underlying solid geology has been mapped as Permian and Triassic sandstones (including 'Bunter' and 'Keuper') (British Geological Survey 1979). The soils are unmapped (Soil Survey of England and Wales 1983).

1.4 The fieldwork was carried out between March 8th and 24th 2005 with monitoring visits being made by Roy Sykes from the South Yorkshire Archaeology Service on March 10th, 16th and 21st 2005.

2. Archaeological and Historical Background

2.1 The site lies within the historic core of Doncaster and has the potential to contain archaeological remains dating back at least to the Roman period. Roman *Danum*, (Doncaster) consisted of a fort established in AD 71 and a civilian settlement. The use of the river name (Don) for the fort may indicate that there was no pre-existing place name and no settlement from which the fort could take its name. Certainly there are few demonstrably pre-Roman features, although Doncaster was largely aceramic in the immediately pre-Roman Iron Age (Buckland and Magilton 1986, 17). The settlement and fort at Doncaster were served by a north-south road perpetuated by Hallgate, High Street and Frenchgate, suggesting that the river was crossed in the same area as the medieval Greyfriars Bridge (*ibid.* 30). The western route through the civilian settlement is more problematic, although a road was identified in Frenchgate and at right angles to High Street, and this appears to have been associated with the fort in its early stages. A replacement road may lie beneath St Sepulchre Gate and Baxtergate, although this still remains to be proven. Occupation of the fort continued until *c*. AD 350, after which date it was gradually abandoned, and coin evidence ends around AD 390 (Parker 1987, 31). The distribution of artefacts suggests that the civilian settlement was concentrated to the south and east of the fort between Market Place and Printing Office Street (Buckland and Magilton 1986). Defensive ditches identified in St Sepulchre Gate although enigmatic, presumably indicate part of the defences for this settlement (*ibid*. 31).

2.2 The post-Roman and Saxon period saw the continued occupation of the immediate area of the fort, although it is likely that the settlement decreased in size (Buckland *et al*. 1989, 15). Nevertheless, re-fortification of the earlier defences was undertaken between AD 400-1000, and in the medieval period a Norman castle was constructed on the site of the Roman fort (*ibid*. 86f). At around AD 1200 the castle was demolished, although at this time the town began to expand and prosper with the granting of a market charter by Richard I in AD 1194. Also around this time the town's defences were constructed with gateways (Hallgate Bar and West Gillot Bar) being situated on the main roads. St George's Church (rebuilt in the 1800s), which now occupies the site of the castle, may have developed from a castle chapel, although its rededication of an earlier Anglo-Scandinavian church cannot be entirely ruled out (Slater 1989, 52). A second church, St Mary Magdalene's may have been the earliest parish church and was situated within the market place (*ibid*. 49).

2.3 In 1284 a Franciscan Friary was founded to the north of Church Way beyond the River Cheswold, while in 1346 a Carmelite Friary was established to the west of High Street (Slater 1989, 53-5). In 1842 during construction of the New Cut of the Dun Navigation the footings of buildings were discovered to the north of Greyfriars Road. It was believed that the remains were that of the Franciscan Friary church, however, it is argued that the structure may actually have been the Friary guesthouse and not the church (Buckland *et al*. 1989, 131-133). It is suggested that the foundations of the Franciscan church may survive below ground to the east of North Bridge and north of the canal (*ibid*. 133).

2.4 During 2003 excavations were carried out by ASWYAS at 8-10 High Street, an area within the Roman civil settlement and the historic medieval core of Doncaster. The majority of the archaeology exposed consisted of urban Roman layers and features, with a smaller amount of medieval activity and only limited evidence of the post-medieval occupation surviving. Roman features included floors of buildings, post-holes, beam-slots, walls, wells, gullies, pits and a grave containing two inhumations (ASWYAS in prep). The eastern edge of the Lincoln-York Roman road and ditch was also revealed aligned with the present High Street. Amongst the medieval and post-medieval features uncovered were a possible copper-casting pit, a limekiln and walls (*ibid.* forthcoming).

2.5 A number of evaluations were undertaken by ASWYAS during 2004 at Doncaster Waterfront development project (Brown 2004), Doncaster College, Church View (Whittaker 2004) and at 10-14a Hallgate, Doncaster (Richardson 2004). The evaluation at Doncaster Waterfront revealed the presence of shorefront structures on the northern bank of the River Don probably dating to the 13th to 14th centuries (Brown 2004). Residual pottery dating to the Roman and immediate post-conquest periods suggested that earlier features may be present below unexcavated layers of alluvium (*ibid*). Church View, to the east of the proposed site, revealed evidence of Roman activity and a 13th to late 14th century structure (Whittaker 2004). The structure was stone-built with an internal mortar floor and external cobbled surface suggesting it to be possibly associated with the Franciscan Friary to the north (*ibid*). At 10-14a Hallgate was the further exposure of the Lincoln-York Roman road (Richardson 2004). In addition, a wattle fence and ditch that were sealed by the Roman road may

represent pre-Roman activity, although in the absence of pre-Roman artefacts this is still to be confirmed. Two clay-lined pits, in addition to other discrete pits and post-holes, were medieval in date, while further post-holes and brick cellars represented post-medieval disturbance (*ibid*).

3. Aims and Objectives

3.1 The aims and objectives of the archaeological evaluation were to:

- determine the presence/absence, date, nature, depth, function, quality of survival, stratigraphic complexity and importance of any archaeological features and deposits within the site
- identify, as far as the possible given the constraints of the trenching proposals, any archaeological deposits or features within the site known from cartographic and documentary sources
- provide an assessment of the potential and significance of any identified archaeological deposits and features in a local, regional and (if necessary) national context, and to contribute towards an assessment of the likely scope, cost and duration of any further evaluation and/or excavation works that might be required to mitigate against the proposed development scheme.

4. Method

4.1 A 'Project Design for Archaeological Evaluation by Trial Trenching' was provided by ASWYAS as part of the pre-excavation preparations and was based upon the document 'Brief for Archaeological Investigation' prepared by South Yorkshire Archaeology Service (SYAS) for Doncaster Metropolitan Borough Council. These documents were adhered to during this evaluation and are presented in Appendix I and Appendix II.

4.2 The proposed trench location and rationale are summarised in Table 1 below.

Table 1. Trial trench dimensions and rationale

Trench	Dimensions	Area	Rationale
1	10m by 4m	$40m^2$	Sited in the central part of the development area, this trench is designed to investigate the presence of potential Roman and medieval remains that may survive below present ground level.
	Total	**$40m^2$**	

4.3 Prior to the commencement of the archaeological investigation a review of service plans and a CAT scan of the area was undertaken. As a result of this the proposed trench was divided in to two separate trenches (Trenches 1 and 2), each measuring 5m by 4m, in order to avoid live services (Fig 2). This alteration from the proposed trench dimensions was undertaken in consultation with the SYAS.

4.4 The trenches were excavated using a 360º machine excavator fitted with a toothless ditching bucket, under direct archaeological supervision and in level spits to the top of the first archaeological horizon or undisturbed natural. The

resulting surface was cleaned manually and inspected for archaeological remains. Where a layer of concrete and modern demolition material was encountered a hydraulic breaker and toothed bucket were used judiciously.

4.5 A sufficient sample of features was investigated in order to understand the full stratigraphic sequence, down to the naturally occurring deposits. Built structures, such as walls, were examined and sampled to a degree whereby their extent, nature, form, date, function and relationship to other features and deposits was established.

4.6 A full written, drawn and photographic record was made following ASWYAS standard methods (ASWYAS 2005). Sections of linear and discrete features were drawn at 1:10 scale with all plans drawn at 1:20. All sections and plans included spot-heights related to Ordnance Datum in metres as correct to two decimal places.

4.7 All finds were cleaned, catalogued and bagged and stored in controlled environments, as detailed in the guidelines laid out in the IFA Guidelines for Finds Work. In addition, an environmental specialist was consulted prior to the commencement of works and a soil-sampling programme was undertaken during the course of the evaluation. Samples of at least 10 litres were taken for the recovery of carbonised and waterlogged remains, vertebrate remains, molluscs and small artefactual material including industrial residues.

4.8 The site archive contains all the information gathered during the evaluation and is indexed in Appendix III. Inventories of contexts, artefacts and samples are listed in Appendices IV, V and VI. The archive and finds are currently held by ASWYAS in an appropriate and stable environment. It is anticipated that the archive will be deposited with Doncaster Museum, at an appropriate time agreed with the museum.

5. Results

5.1 Overview

5.1.1 Trench 1 measuring 5m by 4m was orientated north-west to south-east and had a present ground surface at 10.46m OD (Figs 2 and 3). Machine excavation removed the modern overburden to a depth of 1.2m before encountering the concrete flooring and walls of two separate, parallel, north-west to south-east cellar corridors spaced 1.5m apart (Fig. 3). A sondage measuring 1.7m by 0.6m was machine excavated in a partitioned area between the cellar corridors central to the trench. This was excavated to a depth of approximately 1m and established there was archaeology surviving between and below the corridors. On the basis of this observation the trench limit was extended by a further 1.5m to the south-east and included the removal of the south-east facing external cellar wall and partial removal of its concrete floor to maximise the understanding of the exposed archaeological deposits. The remaining *in situ* cellar walls and flooring provided safe shoring for an excavation area measuring 3.5m by 2m. This was once again stepped in 0.5m at a further depth of 0.8m on the north-western, north-eastern and south-eastern limits.

5.1.2 The final excavation area within Trench 1 measured 2.75m by 1.5m (Fig. 3) and was hand excavated to a maximum depth of 0.45m before the water-table was encountered at 7.86mOD. A hand-excavated sondage 0.5m by 0.4m

against the south-eastern section (Fig. 5) revealed the continuation of archaeological deposits to a depth of 7.3mOD. Two hand-excavated auger tests one within the base of the sondage (Auger Test 1; Fig. 5) and the other to the south-eastern extent of the trench (Auger Test 2; Fig. 5) revealed the continuation of probable archaeological deposits at depths to 6.1mOD and 6.7mOD respectively. This was the maximum depth to which the auger could reach. The depth at which the natural deposits occur was not ascertained.

5.1.3 Where possible the archaeological features and deposits investigated within Trench 1 have been assigned to a particular phase of activity. A total of nine phases were identified representing what appears to be continual use of the site between the 12th and 13th centuries (Phases 1 and 2), the 12th and 14th centuries (Phases 3 - 7), 13th and 16th centuries (Phase 8) and the 19th and 20th centuries (Phase 9).

5.1.4 Trench 2 measured 5m by 4m and was located 2m to the south-east of Trench 1 aligned on a similar orientation (Figs 2 and 4). The present ground surface was at 10.41mOD. Machine excavation removed the modern overburden to a depth of 1.5m before encountering the continuation of the north-west to south-east cellar corridors identified within Trench 1. Further machine excavation of a slot measuring 3m by 1.5m between the cellar corridors was undertaken to an additional depth of 1.4m at which point the water-table was encountered at approximately 7.53mOD. Excavation ceased at the aforementioned depth at what appeared to be the natural deposits.

5.2 Trench 1: Phase 1

5.2.1 Phase 1 is represented by a series of layers identified within the sondage and auger tests (Section 5.1.2). Auger Test 1 revealed a total of five layers with no artefact recovery (Fig. 6, S. 24). The deepest layer (170) was mid-brown clay with an excavated depth of 0.19m. Layer 170 contained moderate manganese fleck inclusions and was interpreted as a probable alluvium. Overlying layer 170 was a series of similar light to mid-brown clay layers (163, 167, 168, 169) with average depths of 0.25m, each of the layers contained only occasional charcoal fleck inclusions with the exception of layer 169 which also had occasional mortar flecking.

5.2.2 Identified above the latest of the clay layers (163) and the earliest layer observed within the sondage (Fig. 6, S. 24) was a reddish-brown silty-sand layer (162) that was 0.05m in depth with no visible inclusions. Layer 162 was overlain by a mid-brown silty-clay layer (161) measuring 0.2m in depth with no visible inclusions and interpreted as another probable alluvial deposit. Overlying layer 161 was a dark brown silty-clay layer (160) measuring 0.15m in depth with moderate limestone fragments and occasional charcoal fleck inclusions. This layer possibly represents a demolition or tipping layer of building refuse. A single pottery sherd of late 12th to 13th century date and fragments of roof tile of 13th to 14th century date was recovered from layer 160. The latest layer observed within the sondage was a possible levelling (159) of light grey silty-clay that was 0.14m in depth and contained occasional charcoal flecks. Layer 159 also produced fragments roof tile of 13th to 14th century date.

5.2.3 Auger Test 2 revealed seven layers (174-180) with no finds recovered (Fig. 7, S. 22). The deepest layer was a probable alluvium (180) of greyish-brown silty-clay with an excavated depth of 0.45m. Above layer 180 were two similar layers (178, 179) of mid to dark brown silty-clay that each measured 0.1m in depth. These appear to represent probable soil layers that were sandwiched between layer 180 and another probable alluvium layer (177) above. Layer 177 was 0.3m in depth and similar to layer 161 (Section 5.2.2) and probably represent its continuation to the south-east. Above layer 177 was a greyish-brown silty-clay layer (176) 0.06m in depth overlaid by a reddish-brown silty-sand layer (175) measuring 0.05m in depth. A possible levelling layer (174) measuring 0.12m in depth overlaid layer 175 that was similar to layer 159 (Section 5.2.2) and may also represent the continuation of layers to the south-east. Layer 174 was the last of the sequence observed within this auger test. All the layers contained charcoal fleck inclusions with the addition of limestone fleck inclusions within layers 177, 178 and 179.

5.3 Trench 1: Phase 2

5.3.1 This phase is represented by the truncated remains of a foundation wall (118) forming the north-eastern corner of a building (Fig. 5; Fig. 8, S. 23). Its construction cut (164) measured 1.9m along the north-east facing side and 1.5m along the north-western side with a maximum depth of 0.12m. Contained within cut 164 was sub-angular limestone rubble infill (118) one course high that formed the foundation wall. With the exception of the cornerstone, that was roughly hewn, none of the stone appears to have been worked.

5.3.2 A single pottery sherd from within fill 118 has provided a *terminus post quem* for the construction of the wall to the late 12th to 13th century. Although the function of the building is unknown, it is located within close proximity to the site of the Friary building revealed to the north-east of the site in the mid-19th century (Section 2.3). It is of interest to note that the Friary building was revealed at both a similar depth and alignment suggesting the possibility that both buildings may be contemporary.

5.4 Trench 1: Phase 3

5.4.1 Phase 3 was characterised by the deposition of a series of levelling or tipping layers probably associated with activities that closely followed the truncation of wall 118. Overlying the foundation wall 118 was a levelling layer (117) (Fig. 6, S. 24; Fig. 8, S. 23) comprised of light brown clay containing occasional charcoal fleck inclusions as well as fragments of 13th to 14th century roof tile.

5.4.2 Above layer 117 was a tipping layer (181) (Fig. 7, S. 22; Fig. 8, 23) that was a brownish-yellow silty-clay containing frequent fragments of mortar and limestone. Overlying layer 181 was another tipping layer (116) (Fig. 8, S. 23) that was a dark brown silty-clay with frequent charcoal fleck inclusions. There was no finds recovered from either layers 181 and 116.

5.4.3 Contemporary with layer 116 was a probable levelling layer (157) (Fig. 6, S. 24; Fig. 9, S. 13) consisting of a light brown, yellow and black mottled silty-clay. Finds recovered from layer 157 were fragments of 13th to 14th century roof tile. In addition, an environmental sample of layer 157 provided

fragments of herring fish bone (Section 7.3.5) and carbonised cereal grains of bread wheat and oat (Section 7.1.5).

5.4.4 Overlying both layers 116 and 157 was a light brown silty-clay layer (115) (Fig. 6, S. 24; Fig. 7, S. 22; Fig. 9, S. 13) with occasional charcoal fleck inclusions. The finds recovered from layer 115 included; a residual sherd of 2nd to 4th century Roman pottery; sherds of 13th to 15th century pottery and roof tiles of similar date; a copper alloy strap buckle (Section 6.4.1, Small find 2); copper-alloy casting debris (probably intrusive from Phase 4); an iron nail; fragments of animal bone and shell. Layer 115 appears to represent a levelling layer deposited in preparation for Phase 4 activity (Section 5.4.4). Above layer 115 was a tipping layer 158 (Fig. 7, S. 22 and Fig. 9, S. 13) that was similar to layer 181 (Section 5.4.2). No finds were recovered from layer 181.

5.5 Trench 1: Phase 4

5.5.1 This phase is characterised by the industrial use of the site for copper-working. A number of small pits (140, 142, 144, 146, 172) and gullies (150, 152, 154) were identified cut into a clay floor surface (113, 114).

5.5.2 The floor surface was constructed during one episode using two types of clay. Layer 113 was a mid-reddish-brown clay (Fig. 6, 24; Fig. 8, S. 23; Fig. 10) that was overlaid by layer 114, a light brown clay (Fig. 6, 24; Fig. 7, S. 22; Fig. 9, S. 13; Fig; 10). Both layers 113 and 114 had charcoal fleck inclusions. Finds recovered from layer 113 included an iron nail, fragments of lead cuttings and copper-alloy casting debris. Layer 114 produced 12th to 14th century pottery sherds, 13th to 14th century roof tiles, iron nails, copper-alloy casting debris and fragments of animal bone. These artefacts were probably debris that was either worked into the floor surface during its use or may have been already incorporated within the clays prior to the construction of the floor.

5.5.3 Pits 140, 142 and 144 (Fig. 9, S. 13; Fig. 10, S. 16-18) were sub-circular and had an average diameter of 0.3m and depths of 0.3m, 0.06m and 0.08m respectively. Pits 140 and 142 were cut into layer 114 and pit 144 cut into layer 113. Pit 140 had two infilling charcoal-rich deposits; a primary fill (139) of pinkish-red clayey-silt-ash 0.09m in depth and a similar upper fill (138) that was 0.06m deep. Fragments of copper-alloy casting debris were recovered from both fills 138 and 139. Pits 142 and 144 had single fills comprising a similar reddish-brown clayey-silt (141, 143) measuring 0.06m and 0.08m in depth respectively, containing moderate charcoal fleck inclusions.

5.5.4 Recovered from the environmental samples of fills 138 and 143 were carbonised cereal grains of mainly bread wheat and oat (Section 7.1.5). It is likely that these grains are intrusive, infilling the disused pits, probably from Phase 5 activities.

5.5.5 A further two pits, 146 and 172 (Fig. 7, S. 22; Fig. 8, S.23; Fig. 10), were partially exposed by the trench limits. Pit 146 cut into layer 113 to a depth of 0.09m with an excavated length of 0.35m and a width of 0.22m. Pit 146 had a single fill of reddish brown clayey-silt with occasional charcoal fleck inclusions from which fragments of copper-alloy casting debris was recovered. Bordering the circumference of pit 146 was a single course of heat-affected limestone that was set into layer 113 and probably functioned as a form of

containment barrier or support platform. Pit 172 had an excavated length of 0.25m and a width of 0.15m and cut into both layers 113 and 114 to a depth of 0.07m. This pit was filled with dark red clay with occasional charcoal fleck inclusions.

5.5.6 Associated with the pits were three gully features 150, 152 (Fig. 8, S. 23; Fig. 10) and 154 (Fig. 9, S.13; Fig. 10). Gullies 150 and 152 were running parallel with each other and spaced 0.14m apart on a north-east to south-west alignment. Measuring 1m in length and 0.2m in width each gully cut into layer 113 to a depth of 0.05m and had similar single fills of a light brown silty-clay with occasional charcoal fleck inclusions. Cutting layer 114 was a shallow gully 154 aligned north to south and measuring 0.18m in length, 0.48m in width and 0.06m in depth. Gully 154 had a single fill similar to the fills of gullies 150 and 152. No finds were recovered from any of the gully fills.

5.5.7 There is the possibility that gullies 150 and 152 converged to form gully 154 or *vice versa*, however, this could not be established as the area where they may have come together was disturbed by a later pit intrusion. The gullies were observed extending beyond the trench limits to the south-west (150, 152) and to the north (154). It can be speculated that gullies 150, 152 and 154 may have functioned as controlled water channels for use during the metal-working activities, however, only further exposure of these features would provide a full understanding of their function.

5.6 Trench 1: Phase 5

5.6.1 In Phase 5 the metal working activities were abandoned and a stone flagged floor laid (132) over part of the clay flooring (Section 5.5.2) which probably continued in use during this phase. In addition, a rubbish pit (136), posthole (148), tipping layers (120, 137, 173) and silting layer (112) were also identified as belonging to this phase.

5.6.2 The flagged floor (132) measured approximately 1.32m in length, 0.8m in width and 0.04m in depth and was observed extending to the south and south-east beyond the trench limits (Fig. 8, S. 23; Fig. 11). The floor was constructed from roughly hewn, sub-angular, platy limestone of varying sizes placed tight against each other forming no particular pattern.

5.6.3 Probably contemporary with floor 132 was a rubbish pit (136) and a post-hole (148) (Fig. 11). Pit 136 was sub-oval measuring 1.28m in length, 0.78m in width and 0.28m in depth. A greyish-brown silty-clay fill (135) containing occasional sub-angular limestone fragments and charcoal fleck inclusions were observed as the single fill of pit 136. Finds recovered from fill 135 included 13th to 14th century pottery sherds, roof tiles of a similar date, iron nails and fragments of lead cuttings. Residual copper-alloy casting debris was also recovered. In addition to recovery of the aforementioned finds, an environmental sample, taken from fill 135, provided fragments of herring and eel fish bone (Section 7.3.2). Post-hole 148 was circular with a diameter of 0.24m and a depth of 0.09m containing a similar fill (147) to the fill of pit 136. No finds were recovered from fill 147.

5.6.4 Overlying floor 132 was a mid-brown silty-clay layer (120) with occasional charcoal fleck inclusions (Fig. 8, S.12, 23). Layer 120 was interpreted as tipping from which a sherd of medieval pottery was recovered. Butting up to

floor 132 was a tipped ash layer (173) of greyish-white silty-sand (Fig. 7, S. 22; Fig. 11). No finds were recovered from layer 173.

5.6.5 Next in the stratigraphic sequence was a dark brown silting layer (112) containing moderate charcoal fleck inclusions (Fig. 6, S. 24; Fig. 7, S. 11; Fig. 8, S. 23). Finds recovered from fill 112 included 13th to 14th century pottery sherds, iron nails and fragments of animal bone. An environmental sample taken from this layer revealed a variety of fish bone remains (Section 7.3.2) that suggests that the area was used for fish processing in preparation for consumption.

5.6.6 Above layer 112 was a brown sandy-clay layer (137) with occasional charcoal fleck inclusions (Fig. 9, S. 13). Copper-alloy casting debris was recovered from layer 137 suggesting that this layer was up-cast from the disturbance of layers associated with Phase 4 activities (Section 5.5).

5.7 Trench 1: Phase 6

5.7.1 This phase is marked by the deposition of demolition debris (111) forming a levelling layer that provides a good archaeological horizon for the end of Phase 5 activities. Also identified with Phase 6 was a possible foundation wall or pit feature (166) followed by a levelling layer (123).

5.7.2 Layer 111 was a light yellow silty-sand mortar debris with occasional small limestone inclusions visible throughout all the sections of the trench (Fig. 6, S. 24; Fig. 7, S. 11; Fig. 8, S. 12, 23) The source of this debris is unknown. No finds were recovered from layer 111.

5.7.3 Cutting layer 111 was the partially exposed cut of a possible wall foundation or pit (166). This feature was 0.84m in length, 0.26m in width and 0.18m in depth (Fig. 6, S. 24; Fig. 9, S. 13). Infilling cut 166 was a light greyish-brown clayey-silt (165) containing occasional large sub-angular limestone and charcoal fleck inclusions. No finds were recovered from this feature.

5.7.4 Overlying feature 166 was a light brown clay levelling layer (123) (Fig. 6, S. 24; Fig. 8, S. 23) containing occasional sub-angular limestone inclusions. No finds were recovered from layer 123. Both layers 111 and 123 appear to represent preparation of the ground for Phase 7 activities.

5.8 Trench 1: Phase 7

5.8.1 Phase 7 is represented by a former ground surface (119) associated with two beam-slots (134, 156) that appear to have formed partitioned walls of a building containing compacted pebbled floor surfaces (110, 129, 131). This is followed by disuse of the building and the formation of silting layers (109, 128).

5.8.2 Layer 119 was a mid-brown clayey-silt with occasional sub-angular limestone fragments and charcoal fleck inclusions (Fig. 7, S. 11; Fig. 8, S. 12 Fig. 9, S. 13; Fig. 12). The finds recovery from this layer included iron nails and fragments of animal bone.

5.8.3 Cut into layer 119 was a beam-slot cut (134) measuring 1.52m in length, 0.2m in width and 0.14m in depth orientated north-west to south-east (Fig. 9, S. 13; Fig. 12). Aligned north-east to south-west and at a right angle to cut 134, was the second beam-slot cut (156) measuring 1.3m in length, 0.24m in width and

0.12m in depth (Fig. 6, S. 14; Fig. 9, S. 13; Fig. 12, S 20). Again, it is interesting to note that these beam-slots share a similar alignment with wall 118 (Section 5.9) identified within Phase 2.

5.8.4 Both beam-slots 134 and 156 had similar single fills (133, 130 respectively) of mid-brown silty-sand containing occasional sub-angular limestone and charcoal fleck inclusions. No finds were recovered from either fills 133 or 130.

5.8.5 Butting up to beam-slot cut 156 on its southern side was a light brown silty-sand pebble layer 110 (Fig. 6, S. 24; Fig. 8, S. 23; Fig. 9, S. 13; Fig. 12). A single pottery sherd of 13th to 14th century date was recovered from layer 110. Butting up to beam-slot cut 134 on its western side, and overlying layer 110, was a second light brown silty-sand pebble surface 131 (Fig. 9, S. 13; Fig. 12). Finds recovered from layer 131 included 13th to 14th century pottery sherds, a fragment of roof tile of similar date, an iron nail and fragments of animal bone.

5.8.6 Both pebble layers 110 and 131 appear to represent a single episode of deposition forming a floor surface that was probably contemporary with the light-brown silty-sand pebble layer (129) observed butting up to beam-slot 156 on its northern side (Fig. 9, S. 13; Fig, 12). No finds were recovered from layer 129.

5.8.7 Overlying the pebble surfaces was a mid-brown clayey-silt layer (109) (Fig. 6, S.14; Fig. 8, S. 12) with no visible inclusions. Layer 109 probably represents an initial build up of silt after disuse of the floors followed by a larger second build up of silt (128) that contained occasional sub-angular limestone fragments and charcoal flecks (Fig. 6, S. 14; Fig. 8, S. 12; Fig. 9, S 13). There were no finds recovered from either layers 109 or 128 that mark the end of this phase of activity.

5.9 Trench 1: Phase 8

5.9.1 Phase 8 is characterized by the formation of a ground surface (108 = 127) over layers 109 and 128 and subsequent overlying tipping and levelling layers (107, 124-126). Layer 108 comprised a dark brown clayey-silt containing moderate charcoal fleck inclusions (Fig. 6, S. 14; Fig. 7, S. 11; Fig. 8, S. 12; Fig. 9, S. 13). Finds recovery from layer 108 included 13th to 14th century pottery sherds and an assemblage of food debris including animal bone and oyster shell. The food debris has indicated that layer 108 probably represented a food processing area (Section 7.2.3).

5.9.2 Overlying 108 was a charcoal rich tipping layer (126) (Fig. 6, S. 14) sealed by a mid-brown clay layer (125) (Fig. 6, S. 14; Fig. 8, S. 12) that contained occasional sub-angular limestone and charcoal fleck inclusions. No finds were recovered from either layers 126 or 125.

5.9.3 Above layer 125 was a mid-brown sandy-silt layer (124) (Fig. 6, S. 14; Fig. 8, S. 12) with moderate sub-angular limestone, charcoal and mortar fleck inclusions. Pottery sherds generally dated to the 15th and 16th centuries were recovered from layer 124. An overlying layer (107) (Fig. 6, S. 14; Fig. 7, S. 11; Fig. 8, S. 12) contained similar inclusions as layer 124 but with no finds recovered. Layers 124 and 107 appear to represent rubble levelling layers and the final phases of medieval activity within Trench 1.

5.10 Trench 1: Phase 9

5.10.1 This phase is represented by 19th to 20th century activity. The earliest deposit was layer 106, a mid-grey silty clay with occasional sub-angular limestone and charcoal fleck inclusions (Fig. 6, S. 14; Fig. 7, S. 11; Fig. 8, S. 12; Fig. 9, S. 13). A sherd of 19th to 20th century pottery was recovered from this layer that probably represents the former ground surface of said date. Cutting layer 106 was a pit (122) measuring 1.1m in length, 0.5m in width and 0.4m in depth, containing a building debris fill (121) of dark brown clayey-silt (Fig. 8, S. 12) containing pottery sherds of 19th century date.

5.10.2 Overlying pit 122 were two layers of levelling (103, 105). Layer 105 comprised greyish-brown clay (Fig. 8, S. 12) and was below layer 103, a mid-brown clay (Fig. 6, S. 5, 14; Fig. 7, S.7, 11, Fig. 8, S. 12). The only finds recovered from these layers was a sherd of 19th century pottery from layer 105. It could be possible that both layers 103 and 105 represent re-deposited clay up-cast from the construction of the canal during the mid-19th century (Section 2.3).

5.10.3 Intruding into layer 103 was the construction cut of a 19th-20th century building (104) consisting of a concrete ground floor surface at the north-western extent of the trench from which two stepped cellar corridors extended to the south-east (Fig3; Fig.6, S. 5; Fig. 7, S. 7, 11; Fig. 8, S. 6, 12; Fig. 9, S. 4, 13). Buildings are present on the site as shown on the 1854 and 1907 Ordnance Survey maps, however, it is more likely this structure is associated with a building indicated on the 1949 Ordnance Survey map. The demolition debris (102) (Fig. 7, S.7; Fig. 8, S.6) from the destruction of building 104 was used to back-fill the cellars. This was followed by the formation of the present car parking area represented by a hardcore layer (101) and tarmac surfacing (100) (Fig. 6, S. 5; Fig. 7, S. 7; Fig. 8, S. 6; Fig. 9, S. 4).

5.11 Trench 2

5.11.1 The earliest layer identified within Trench 2 was an alluvium comprising a yellowish-brown silty-clay (207) with an excavated depth of 0.4m (Fig. 13, S. 2). Overlying layer 207 was a dark grey silty-clay layer (206) containing 19th century pottery sherds (Fig. 13, S. 2). Layer 206 appears to be the continuation to the south-east of the former 19th century ground surface identified within Trench 1 (Section 5.9.4). Above layer 206 was a mid-grey silty-clay layer (205) (Fig. 13, S. 2) that again this appeared to be the continuation to the south-east of a layer (103) identified within Trench 1 (Section 5.9.4).

5.11.2 Cutting layer 205 was a cellar corridor (203), representing the continuation of those identified within Trench 1 (Section 5.9.6), infilled by demolition debris (202). Hardcore (201) and tarmac surfacing (200) completed the sequence.

5.11.3 The absence of archaeology within Trench 2 suggests that the activity identified in Trench 1 either terminates just to the north-east of the trench or was more likely truncated by 19th or 20th century development.

6. Artefact Record

6.1 Medieval and Post-Medieval Pottery by Chris Cumberpatch

Introduction

6.1.1 The pottery assemblage from Greyfriars Road consisted of 42 sherds weighing 576 grams and represented a maximum of 39 vessels. The data are summarised in Table 2.

Discussion

6.1.2 The types of pottery identified amongst the Greyfriars Road assemblage have been fully documented in published monographs and articles and there is little need to repeat the information here. Details of publications and of the characteristics of the various ware types can be found in the regional ceramic reference collection (Cumberpatch 2004a) and this discussion will focus on issues arising from the presence of specific sherds within the group.

6.1.3 Contexts 118 and 120 both included sherds with fabrics which resembled *Hallgate A* (Buckland *et al*. 1979) but the vessel forms, at least as indicated by the body sherds, are unusual and in the case of the sherd from context 120 it is possible that it is in fact a fragment of a glazed roof tile. Production of tiles is not known from Hallgate, but the only excavations undertaken in the area to date have been on a very small scale, and many details of the industry remain unclear.

6.1.4 The group of sherds identified as *Doncaster Reduced Sandy ware 01* remain to be assigned to a specific source and to a specific date range. At present it is unclear as to whether they represent an as yet unidentified phase of production at Hallgate or production at some other centre. The date assigned to them is based largely upon their appearance and spans the period at which pottery manufacture moved out of the medieval town of Doncaster and into the countryside that at present believed to have taken place in the early 14th century.

6.1.5 The sherd of *Brackenfield 001* ware from context 108 is unexpected as Brackenfield wares are not commonly found in South Yorkshire, although they do have a wide distribution in northern and north-eastern Derbyshire (Cumberpatch 2004a, 2004b). The appearance of this sherd raises the possibility that other Brackenfield wares have yet to be recognised amongst assemblages from Doncaster as until recently the characteristics of the wares were not widely recognised even in Derbyshire. The precise date range of the Brackenfield wares is not well understood and most probably will not be until further work has been undertaken on medieval assemblages from excavations in Chesterfield.

6.1.6 Later medieval and early post-medieval wares (*Coal Measures Purple* and *Cistercian ware*) are present in small quantities (as is the earlier *Coal Measures Whiteware*) but later post-medieval and early modern wares are absent. This observation, together with the presence of 19th century wares may suggest that activities on the site have resulted in the removal of deposits dating to this period, as there is no evidence that the area ever fell into disuse.

6.1.7 The sherds of 19th century pottery are of types that would be expected from any town in South Yorkshire. Very few 18th or 19th century sites have been excavated in Doncaster and so there are no pottery assemblages with which that from Greyfriars Road can be compared, but there is nothing to suggest that this small group of material is in any way unusual.

6.1.8 In general the small size of the assemblage is surprising as is the apparent absence of pottery from the fills of the pits assigned to Phase 4 and the scarcity of material from Phases 5, 6 and 7. The reasons for this remain obscure and only further work on the site will allow the resolution of the situation.

6.1.9 It is perhaps the absences from the assemblage that are most striking; Hallgate types B, C, D, E and F are all absent as are sherds of vessels manufactured at the nearby Frenchgate site (Cumberpatch in press). All of these types date to the later 11th and 12th centuries and their absence implies that deposits dating to before the 13th century were not located during the excavation (although this does not explain their absence as residual elements within later contexts). Indeed, early medieval deposits were sealed by layers of alluvium at the North Bridge (Low Fishergate) site leading to the possibility that this would explain the absence of such material from the Greyfriars Road site. However, in the absence of a comprehensive deposit map for central Doncaster this suggestion must remain speculative. In this regard the fact that the auger testing of the lower levels of the site produced 'possible alluvium' is of considerable interest. It may be no coincidence that excavations on the site of Doncaster College (which stands on Greyfriars Road) produced an assemblage with a similar date range and a similar absence of significant quantities of material predating the earlier 13th century (Cumberpatch 2004d). It is impossible, on the basis of the information available, to determine whether this is a result of an absence of material from this period or to the existence of similar layers of alluvium masking earlier activity on the site. The resolution of this question will require the comparison of other data from the two sites and from others excavated in the same area. At present the evidence of intensive industrial activity on the nearby Frenchgate site (located as a result of the excavation of very deep trenches which probably cut through the layers of alluvium identified during the Doncaster College and Greyfriars Road excavations) suggests that it is the absence of excavation rather than an absence of earlier medieval activity (including late Saxon activity) which is responsible for the picture gained through these excavations. This observation may be of use in the planning of future excavations in this part of Doncaster.

Conclusion

6.1.10 Although small in size, the assemblage from Greyfriars Road is of interest in the wider context of pottery assemblages excavated in this area of Doncaster. Although a number of sites have been investigated in the past ten years, the lack of publication and the resulting problems in integrating the details of the various sites means that it has not been possible to reassess the conclusions reached by Paul Buckland and his collaborators (Buckland *et al*. 1989) or to move beyond the overall view of medieval Doncaster presented by them on the basis of the results of work undertaken in the 1960s and 1970s.

6.2 **Ceramic Building Material** by John Tibbles

Introduction

6.2.1 A total of 61 fragments of ceramic building material weighing 3645 grams and a single stone fragment weighing 290grams were submitted for examination. All the fragments were retrieved from seven contexts and were visibly examined using a 15x-magnification lens. Information regarding the dimensions, shape and fabric of the material was recorded and catalogued accordingly. It should be noted that the diversity of size and colour within the tile caused during the manufacturing process must be taken into consideration when comparing examples within collected assemblages and local typologies. The varying sizes and colours can be attributed to the variation in the clays used, shrinkage during drying, firing within the kiln or clamp and the location of the tile within the kiln. A summary of the data is presented in Table 3 below.

Table 3. Roof tile assemblage

Form	No. of fragments	Weight
Flat roof tile	56	3600
Unidentified	5	45
Stone	1	290
Totals	62	3935gm

Roof tiles

6.2.2 There is clear evidence to show that clay roof-tiles were in use within Beverley and it's surrounding regions by the late 13th century. Beverley had flourishing tileries at the Beckside by the 14th century (Miller *et al.* 1982) and possibly by the 13th century (Tibbles *et al.* 1993). Their manufacture continued into the early 18th century when pantile became the norm. Non-diagnostic or fragments of flat tile with no suspension or other identifiable characteristics can therefore only be attributed within this date range.

6.2.3 Positions of the nibs and peg holes are usually described from the nib side of the tile, i.e. the underside as hung, not necessarily as made. Demand normally dictated the size and quality of flat roof tile that often varied until a statute was instigated in 1477 (17 Edward IV, c IV) that dictated the size. A flat tile was fixed at 10 inches by 6 inches by 5/8 inch (255 mm x 153 mm x 16mm). (Celoria *et al.* 1967 p218). Early flat roof-tiles were suspended by projecting nibs or by peg/nails Alternately flat tiles were often secured by iron nails, as were ridge and hip tiles. Each layer of tiles overlapped the layer below and to make them weatherproof were bedded on moss. The lowest layers, and sometimes all the layers, were often pointed or rendered with mortar (Salzman 1952 p233)

Flat roof tile

6.2.4 Fifty-six fragments of flat roof tile were identified, representing 92% of the assemblage, of which six fragments (11%) could be equated with near-parallels within the regional tile typology (Table 4). The remaining fragments displaying thickness only were unable to be classified.

6.2.5 Diagnostic qualities included the varying methods of suspension, length, width and thickness. However, thickness alone suggested multiple possibilities, within the flat roof tile typology, and it was therefore impractical to attempt identification.

6.2.6 Manufacturing techniques were still evident on many examples of the roof tile. There was no moulding sand evident suggesting slop moulding technique, however, the majority of fragments displayed residual moulding lips.

Table 4. Identified roof tile by type

Tile Type	No.
15a	1
16	1
21	4
Total	6

6.2.7 The majority of the tiles (54%) were of fabric type F1 with types F2 (39%), F3 (5%) and F4 (2%). The fabrics are fairly common within the Humberside region and are comparable with those identified at St Peters Church, Barton, North Lincolnshire (Tibbles forthcoming) and The Augustinian Priory at Hull (Tibbles forthcoming). No glazed examples of roof tile were identified.

Table 5. Tile fabrics

Type	Colour	Munsell	Inclusions
F1	Light Red	2.5YR/6/8	None visible
F2	Light Red	2.5YR/6/8	Occasional quartzite particles and frequent black speckles
F3	Red	10R/4/8	Frequent quartz particles
F4	Reddish-yellow	7.5/6/6	Non-visible

Unidentifiable material

6.2.8 The five fragments of unidentifiable ceramic building material may represent either brick or roof tile based upon their fabrics, however, as no other evidence

of brick was identified within the assemblage it is highly likely that the fragments are of roof tile.

The Stone

6.2.9 A single non-diagnostic fragment of burnt limestone weighing 290gm was recovered from pit 136.

Discussion

6.2.10 All roof tiles within the assemblage were of flat hand-made type and generally displayed at least one hand-made manufacturing characteristic i.e. moulding lips. Three types of flat roof tile were provisionally identified within the regional typology from their suspension nibs and although not totally identical the suspension nibs were in most part near identical to those within the typology.

6.2.11 All three types of roof tile 15a, 16 and 21 have been recorded within the Humberside region. Types 15a and 16 have been recorded from 14th century contexts at the Dominican Priory, Beverley, East Yorkshire (Potts 1996) and from 13th century contexts elsewhere in Beverley (Tibbles 2001). Type 21 has been recorded within 14th century contexts also at Beverley (Tibbles *op sit*). The thickness of the roof tile ranged between 11mm-18mm with a 15mm thickness being the most common.

6.2.12 The largest tile assemblages were from the levelling dumps 115 (34%) and the clay floor 114 (21%). No abraded fragments were identified suggesting little or no casual deposition. A remarkably low proportion (1.5%) of the assemblage bore mortar adhesions.

6.2.13 Five fragments of unidentifiable ceramic building material may represent either brick or roof tile based upon their fabrics, however, as no other evidence of brick was identified within the assemblage it is highly likely that the fragments are of roof tile.

6.2.14 The lack of bricks within the assemblage tends to suggest that the tiled roof structures would be constructed of local stone.

6.2.15 The fragment of burnt limestone recovered from pit 136 may possibly be the result of demolition burning or its incorporation within the fabric of a hearth.

6.2.16 Overall, with two exceptions from 114 and 135, the majority of the material was of good quality that excluded waster tiles generally found within assemblages. Although the potential is limited at this level of analysis, the information gleaned is significant as it can add to the corpus of evidence of activity during this period for the area.

Recommendations

6.2.17 It is recommended upon completion of work on the ceramic building material assemblage the diagnostic material with samples of fabrics should be retained and a selective discard policy implemented prior to deposition of the finds assemblage as whole within the appropriate museum.

6.3 **Slag and associated finds** by Jane Cowgill

Recording Methodology

6.3.1 A total of 241g (143 pieces) of copper-alloy casting debris were submitted for recording. The finds were identified solely on morphological grounds by visual examination, sometimes with the aid of a x10 binocular microscope. It was recorded on a *pro forma* recording sheet and this information is presented in Table 6. A note of inclusions is given in the comments section.

Discussion

6.3.2 A reasonably large assemblage of copper-alloy casting debris was recovered. Most of the pieces represent dross removed from the surface of the crucibles and it contains some charcoal as this was often scattered onto the surface of the melting material to help prevent it oxidizing, although it will always have been melted in a reducing atmosphere. The dross will also contain any impurities present in the metal. Most of the remaining pieces are very small droplets of metal or small pieces of slag that evidently contain copper-alloy because of their reddish-brown colour. In general the pieces are very small weighing an average of 1.7g, which drops to 1.3g if the heaviest piece is excluded (weight 48g, Small find 1, Context 135). The smallest pieces were inevitably recovered from sample residues. The amount of dross recovered and its apparently high copper content is surprising because the metal would have been recoverable. Most of the droplets, however, are so small they would not have been spotted on a workshop floor. There are no crucibles or moulds amongst the recovered assemblage and no evidence for a hearth was found on the site. Although it is suggested that the charcoal recovered in the samples was probably imported for metal-working (Section 7.1.4), for copper melting any fuel source is suitable because the fuel will not come into direct contact with the metal, so either the coal or charcoal found on the site could have been used.

6.3.3 The pottery and ceramic building material found in association with the debris are 13th to 14th century in date. The majority of casting debris was found in Phase 4 features (floors 113 and 114: total four pieces, weight 12g and pit 140 fills: 81 pieces weighing 158g). There are two pieces (weight 16g), however, in the underlying leveling and possibly residual material in overlying Phase 5 deposits (mainly in pit 136 and clay layer 137). Although there are a number of similar sized pits spaced quite closely together in Phase 4, only one had casting debris within its fill. The fact that no mould or crucible fragments were recovered suggests that this debris arrived on site from a casting workshop located elsewhere, although probably close to this site.

6.3.4 Near the site in 1842 the footings of a building were found and this structure has been interpreted as being part of the Grey Friars Monastic Complex, known to be located in the vicinity (Buckland *et al* 1989, 131-133). Phase 2 and 7 structures found during the recent excavation respects the alignment of that found in 1842 (Section 8.2) and it is possible that this site also lies within the monastic complex. It is known from documentary evidence that the Grey Friars were established by 1290 (*ibid*) and by then they must have built themselves a church (or be in the process of building it) and all the necessary buildings for the house to function and become prosperous. It is also known

for example, that they had four bells – expensive items because of the amount of tin required in the alloy. It is quite feasible, therefore, that the copper-alloy casting debris found on this site are the by-products from the casting of bells, cauldrons or other fittings intended to furnish a new monastic range.

Recommendations

6.3.5 Some of the pieces are actively corroding and beginning to disintegrate so it is recommended that the finds, as an assemblage, should be stored in silica gel to prevent further corrosion.

6.3.6 There is a possibility that the copper-alloy waste could be from bell casting, as the Monastic House would almost certainly have had from the very beginning, at least one bell to summon both the brothers and lay members. Bell metal is very distinctive (and was expensive) because of its high tin content and it is worth analyzing four samples to see if any match this particular alloy.

6.4 **Metalwork** by Hilary Cool

6.4.1 The metalwork recovered from the site included only one item (the copper alloy strap loop) that can be independently dated. This loop would have been attached to a strap via a rivet, which passed through the small perforation. The loose end of the strap would then have been passed through the loop after being secured by a buckle. The form found here has been recovered from contexts belonging to the late 14th century in London (see Egan and Pritchard 2002, 229-233, especially nos. 1248-9), which suggests this item was contemporary with the Phase 3 levelling layer it was found in.

6.4.2 The commonest category of find was the iron nail and small numbers were found throughout the sequence (Table 7). None were complete, but judging from their head sizes, they would have been used for functions such as timber cladding rather than in major structural carpentry. A large bolt no. 5 is likely to be of relatively recent date.

Catalogue

1. Copper alloy: Strap loop. Rectangular frame, rib along outer face; perforation on inner face. Length 26 x 15mm, section 4 x 2mm. *GRD05, Trench 1, Phase 3, Context 115, SF. 2*.

2. Copper alloy: Sheet fragments. *GRD05, Trench 1, Phase 5, Context 137, SF. 4*.

3. Iron: Perforated plate. Fragment retaining right angle edge and broken across perforation. Present length 40mm. *GRD05, Trench 1, Phase 3, Context 157.*

4. Iron: Plate. Highly corroded and fragmented. *GRD05, Trench 1, Phase 7, Context 119*.

5. Iron: Bolt. Truncated conical head; rounded shank with flat base; wide channel close to base. Length 165mm, head diameter 35mm, shank diameter 15mm. *GRD05, Trench 1, Phase 8, Context 108*.

Table 7: Iron nails

Phase	Context	Head	Shank only
3	115	1	1
4	114	-	4
5	112	1	1
5	135	6	2
5	137	2	2
7	131	-	1
8	108	1	1

7. Environmental Record

7.1 Carbonised Plant Macrofossils by Diane Alldritt

7.1.1 A total of fourteen sample flots from Greyfriars Road excavations were delivered to the author for the identification and analysis of carbonised plant macrofossils including charcoal. The site produced abundant evidence for metalworking, in particular copper-alloy, so the identification of any charcoal remains would be essential to provide an indication of the range of fuel types in use at the site at this time.

7.1.2 Bulk environmental samples were processed ASWYAS using an Ankara style water flotation system (French 1971). The flots were subsequently dried and forwarded to the author, where they were sorted with the aid of a low powered binocular microscope at magnifications of x4-45. Flot sizes varied from between <5ml to up to 30ml of carbonised material, modern root fragments and coal. All identified remains were retained within the individual flots, apart from short-lived charcoal types, which were bagged separately for potential radiocarbon dating.

7.1.3 All charcoal suitable for identification was examined using a high-powered Vickers M10 metallurgical microscope. The reference photographs of Schweingruber (1990) were consulted for charcoal identification. Plant nomenclature utilised in the text follows Stace (1997) for all vascular plants apart from cereals, which follow Zohary and Hopf (2000). The results are presented in Table 8 and discussed below.

7.1.4 The majority of the material identified from the samples comprised small fragments of Quercus (oak) charcoal (most in the 1-2cm range), and abundant pieces of coal. In particular, samples 3 (137), 8 (141) and 10 (139) were rich in oak charcoal. Occasional fragments of burnt peat and other burnt vesicular organic material were also recovered, in samples 5 (113) and 12 (130) respectively. This combined evidence points strongly to the main purpose of this material as fuel for smelting/smithing processes. Indeed the high temperatures required in particular for smelting, would best be served by using pre-prepared oak charcoal as the main fuel source. It has been estimated that up to 100kg of charcoal would have been needed to maintain an iron-smelting

furnace for a single day (McDonnell pers. comm.). Non-ferrous metalworking and smithing hearths however, can be maintained using much lower temperatures and less consumption of raw materials for fuel, so the charcoal type used is not quite as critical. This may explain the presence of Betula (birch) charcoal in addition to oak in Sample 4 (135) and Sample 8 (141).

7.1.5 Cereal consumption also formed an important part of the economy at Greyfriars Road, with low numbers of well preserved carbonised cereal grains recovered from Samples 7 (143), 9 (138) and 13 (157). Bread wheat (*Triticum aestivum* sl.) and oat (*Avena* sp.) were the main cereal types recovered. No cereal chaff, weeds of cultivation, or indeed weeds of any other habitats were present, which strongly suggests the cereal grain was processed elsewhere and arrived at the site ready for consumption.

7.1.6 Small numbers of fish bone were also present in the samples suggesting that this resource also played a role in the economy of the site

7.1.7 The Greyfriars Road environmental samples produced evidence primarily for fuel materials utilised in metalworking processes. The main charcoal type used as fuel was oak, with lesser amounts of birch recovered. Coal was ubiquitous throughout the samples, although none showed signs of having been burnt, hence it may represent waste material from fuel storage or be naturally occurring as background in the local soil geology. The overall analysis indicated a site involved in metalworking as its primary activity, with cereal grain and possibly also fish arriving as traded products. Given the potentially large quantities of fuel required for metalworking the impact on the local environment would have been considerable, and oak charcoal could also have formed a transported product delivered to the site.

7.2 **Animal bones and marine shells** by Jane Richardson

7.2.1 In total, 193 animal bone fragments and 107 marine shell fragments were recovered from the evaluation. These are listed in Table 9 by period, but given the small sample size are otherwise treated as a single assemblage.

Table 9. Animal bones and shells by phase

	Medieval	Medieval/post-medieval	Total
Cattle	4	19	23
Sheep/goat		9	9
Pig	2		2
Red deer		1	1
Large mammal	15	92	107
Medium mammal		1	1
Small mammal	8	14	22
Goose sp.	1	1	2
Bird sp.	3	2	5
Undiagnostic bone	21		21

	Medieval	Medieval/post-medieval	Total
Oyster	4	102	106
Mussel		1	1
Total	58	242	300

7.2.2 Although the usefulness of the assemblage is limited due to its size, most of the bones were well preserved with few eroded surfaces. The assemblage was quite fragmented, however, and this is reflected in the number of bones that were identified as diagnostic, non-reproducible zones (cf. Tables 9 and 10).

7.2.3 With the exception of a worked red deer antler fragment that had perhaps been mounted as a hook (one side of a tine had been sawn flat and the antler had been drilled through), the animal bones and shells are likely to represent food debris. A diet of beef, lamb/mutton and pork was available and was supplemented by goose and oysters; the latter presumably from the estuarine waters of the Humber. Butchery marks, although rare, were noted on one sheep bone, eight large mammal ribs and a large and medium-sized mammal vertebra. These marks attest to carcass reduction and meat removal.

Table 10. Animal bone and shell zones by phase

	Medieval	Medieval/post-medieval	Total
Cattle		10	10
Sheep/goat		6	6
Pig	2		2
Large mammal		2	2
Medium mammal		1	1
Small mammal		2	2
Goose sp.	1	1	2
Oyster	3	54	57
Mussel		1	1
Total	6	77	83

7.2.4 Age data, based on epiphyseal fusion and dental eruption and wear, were rarely recorded due to the small size of the assemblage and its fragmented nature. Sub-adult sheep and cattle were noted, however, and these imply that some animals were raised specifically for their meat.

7.2.5 Unfortunately too few bones and shells were recovered to facilitate further analysis and interpretation. In summary, it was only possible to identify domestic food waste from the consumption of cattle and sheep (including some from prime meat animals), pigs, geese and oysters. The only non-food

object was the worked red deer antler that may be more accurately classified as an artefact.

7.3 **Fish remains** by Rebecca Nicholson

7.3.1 This report comprises an assessment of the fish remains recovered from medieval and post-medieval deposits excavated at Greyfriars Road. Almost all the bones derived from the residues of sieved environmental samples. Preservation was variable, but in most samples the bones were generally intact and in a good condition, although the quantity of fish bone was very small.

7.3.2 Since very few bones were available, all fragments have been identified to taxon and bone element as far as possible and the identifications are given in the catalogue below.

Catalogue

1. *Clupeidae*: 21 herring (*Clupea harengus*) and herring/sprat (*C. harengus/Sprattus sprattus*) vertebrae, 1 herring/sprat subopercular, 1 herring/sprat opercular. *Anguillidae*: 3 small eel (*Anguilla anguilla*) vertebrae, 1 small eel hymonandibular. *Gadidae*: 1 medium-sized gadid parasphenoid fragment, probably haddock (*Melanogrammus aeglefinus*). *Unidentified*: 1 cf. Gadidae articular, 16 fragments of spine/rib/ray. *GRD05, Trench 1, Phase 5, Context 112, Sample 2*.

2. *Clupeidae*: 4 herring (Clupea harengus) vertebrae. *Unidentified*: 5 fragments. *GRD05, Trench 1, Phase 5, Context 137, Sample 3.*

3. *Rajidae*: 2 thornback ray (*Raja clavata*) teeth. *Clupeidae*: 12 herring (*Clupea harengus*) and herring/sprat (*C. harengus/Sprattus sprattus*) vertebrae. *Cyprinidae*: 1 roach or rudd (*Rutilus* sp.) articular, right side, 2 small cyprinid vertebrae. *Unidentified*: 7 fragments. *GRD05, Trench 1, Phase 3, Context 157, Sample 13*

4. *Clupeidae*: 2 herring (*Clupea harengus*) vertebrae. *Anguillidae*: 1 eel (*Anguilla anguilla*) vertebra. *Cyprinidae*: 1 caudal vertebra. Very similar to bream (*Abramis brama*). *Unidentified*: 14 fragments, not all fish. *GRD05, Trench 1, Phase 5, Context 135, Sample 4.*

5. *Unidentified*: 4 fragments. *GRD05, Trench 2, Context 207, Sample1*

6. *Unidentified*: 8 slivers of bone. *GRD05, Trench 1, Phase 8, Context 108.*

7.3.3 The assemblage, though very small, includes bones from a range of taxa including marine (herring and gadids), euryhaline (eel) and freshwater (cyprinids). The appearance of freshwater taxa is likely to reflect the inland position of the site as medieval and post-medieval assemblages are usually dominated by marine species, particularly cod and herring. Both these fish, along with eels, were often preserved, whitefish by salting and/or drying and oily fish by pickling or smoking. Freshwater fish were usually much more expensive than sea fish (Dyer 1988), but religious institutions often had their own fishponds and fishing rights in local rivers and streams.

7.3.4 The range of taxa represented in this assemblage would be typical for a monastic site or for a fairly wealthy household. Because the group is so small no further analysis is recommended for this assemblage, but should further excavations at the site take place then the fish remains would be of considerable interest.

8. Discussion

8.1 The auger tests have indicated the possibility of archaeology surviving below layers of alluvium at 6.1mOD and this is given further credence by the apparent absence of pottery types manufactured nearby at Frenchgate during the 11th and 12th centuries. With hindsight, it is also considered possible that archaeological deposits may exist below the alluvium within Trench 2. Excavations at Doncaster Waterfront to the north-east of the site revealed medieval features and deposits at similar depths (Brown 2004). Interestingly, the same excavations highlighted the possibility of earlier activity below unexcavated alluvial layers (*ibid*).

8.2 Roof tiles recovered from Phase 1 deposits hint at the possibility of a building nearby that pre-dates the late 12th to 13th century building identified in Phase 2. Unfortunately, the purpose of this building is unknown, although it appears to have had an association with the Friary building revealed to the north-east. The later construction of a beam-slotted structure and incorporated pebbled floors (Phase 7) appears to respect the alignment of the building identified from Phase 2. This may indicate that the same administrative order was responsible for the continuous demolition and re-development of the site, presumably the Grey Friars. In addition to this both buildings in turn also respect the alignment of the Friary building discovered north of Greyfriars Road.

8.3 Further possible evidence for activity connected with the monastic complex is provided by the analysis of the metalworking debris. As highlighted above there is a possibility that the metal-working activities identified in Phase 4 were associated with the casting of bells and other fittings associated with the monastic complex, possibly using locally imported oak charcoal as fuel. It is probable that the bells were cast nearby to the site within the monastic complex. The former course of the River Cheswold, as shown on the first edition Ordnance Survey map, ran close to the south side of the site. The river would have provided not only a close and convenient source of water required for metal working, but also possibly for transporting goods in and out from the site.

8.4 The function of the closely spaced small pits and gullies (Phase 4) remain undetermined. The pits may have been used as holdings for the crucibles and the gullies as water channels, however, it can be assumed that these features were associated with the metal-working activities. The absence of pottery from Phase 4 pit fills as noted above, can only be attributed to the nature of these features.

8.5 The presence of fish bone remains recovered from Phases 3 and 5 has provided an insight into the food economy of the site. It is known from documentary evidence that there were fishponds belonging to the Franciscan Friary (Buckland, *et al*) and in addition, the fish bone assemblage is said to be

typical for a monastic site. At a later stage the economy of the site (Phase 8) appears to change from one based on fish to a more varied diet including shellfish consumption.

8.6 Cereal grain of mainly bread wheat and oats was another element of the food economy at the Greyfriars Road, identified in Phases 3 and 4, the latter probably intrusive from Phase 5 activity. However, it is suggested that the cereal was already processed and ready for consumption prior to its arrival on site.

9. Conclusions

9.1 Phases of continuous activity dating from the 12th to the 16th centuries have been identified at the Greyfriars Road site. Remains including a foundation wall, copper-working features and later structural remains in the form of beam-slots with incorporated pebble flooring have been identified. Artefactual and environmental evidence suggests that much of the activity identified during the evaluation could be associated with nearby Grey Friars Franciscan Friary although the site would not necessarily have been within the main part of the monastic complex. Further assessment work may clarify the nature of some of these activities.

9.2 Furthermore the evaluation has established that there is a high probability of further archaeological remains extending beyond the excavated area to the north, north-east, south, south-west and west. Unfortunately the depth of these remains was not established. However, parallels from other sites suggest that further archaeological features or deposits may survive below the layers of alluvium. Consequently construction of foundation trenching or piling below 8.66mOD would almost certainly impact upon the archaeology in these areas.

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O.S. Map, 1907, 6 inch to 1 mile

O.S. Map, 1949, 6 inch to 1 mile

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Appendix I

Project Design for Archaeological Evaluation by Trial Trenching

Appendix II

Brief for Archaeological Investigation

Appendix III

Inventory of primary archive

File no.	Description	Quantity
1	Context register	5
1	Context cards (100-181 and 200-207)	89
1	Environmental samples register	1
1	Drawing register	2
1	Level sheets	7
2	Permatrace drawings (sheets 1-11) (sheets 12 and 13 loose)	13
1	35mm colour film sheets	2
1	35mm black and white film sheets	2

Appendix IV

Inventory of contexts

Context	Trench	Description
100	1	Tarmac modern surface
101	1	Modern hardcore
102	1	20th century demolition rubble
103	1	Clay levelling
104	1	General context number for 19th - 20th century building
105	1	Clay levelling
106	1	Former 19th - 20th century ground surface
107	1	Rubble levelling
108	1	Former medieval/post-medieval ground surface
109	1	Silting layer
110	1	Pebbled floor surface
111	1	Demolition debris
112	1	Silting layer
113	1	Clay floor (copper working area)
114	1	Clay floor (copper working area)
115	1	Levelling layer
116	1	Ash tipping
117	1	Levelling
118	1	Foundation wall
119	1	Former medieval/post-medieval ground surface
120	1	Clay tipping
121	1	Infill of 19th - 20th century pit feature 122
122	1	Cut of 19th - 20th century pit feature
123	1	Levelling
124	1	Rubble levelling
125	1	Clay tipping
126	1	Charcoal layer
127	1	Same as 108
128	1	Silting layer
129	1	Pebbled floor surface
130	1	Infill of beam-slot 156
131	1	Pebbled floor surface
132	1	Limestone flagged floor
133	1	Infill of beam-slot 134
134	1	Cut of beam-slot
135	1	Infill of 136
136	1	Cut of pit
137	1	Clay tipping
138	1	Secondary infill of 140 (silting)
139	1	Primary infill of 140 (metal working residue)
140	1	Cut of pit
141	1	Infill of 142

Context	Trench	Description
142	1	Cut of pit
143	1	Infill of 144 (metal-working residue)
144	1	Cut of pit
145	1	Infill of 146 (metal-working residue)
146	1	Cut of pit
147	1	Infill of 148
148	1	Cut of post-hole
149	1	Single infill of 150
150	1	Cut of narrow gully
151	1	Single infill of 152
152	1	Cut of narrow gully
153	1	Single fill of 154
154	1	Cut of shallow gully
155	-	Void context
156	1	Cut of beam-slot
157	1	Possible levelling
158	1	Tipping layer
159	1	Possible levelling (sondage)
160	1	Possible demolition layer (sondage)
161	1	Possible alluvium (sondage)
162	1	Layer (sondage)
163	1	Layer (auger test 1)
164	1	Construction cut for wall 118
165	1	Infill of 166
166	1	Cut of possible wall/ pit feature
167	1	Layer (auger test 1)
168	1	Layer (auger test 1)
169	1	Layer (auger test 1)
170	1	Possible alluvium (auger test 1)
171	1	Infill of 172
172	1	Cut of pit
173	1	Ash tipping
174	1	Possible levelling (auger test 2)
175	1	Silting layer (auger test 2)
176	1	Possible alluvium (auger test 2)
177	1	Possible alluvium (auger test 2)
178	1	Possible soil layer (auger test 2)
179	1	Possible soil layer (auger test 2)
180	1	Possible alluvium (auger test 2)
181	1	Mortar tipping
-	-	-
200	2	Tarmac surface
201	2	Modern hardcore
202	2	19th - 20th century demolition layer
203	2	Truncated remains of 19th –century building
204	2	Concrete cellar flooring
205	2	Re-deposited clay

Context	Trench	Description
206	2	Alluvium layer
207	2	Alluvium layer

Appendix V

Inventory of artefacts

Fabric	Trench	Context	SF no.	Quantity	Details
Pottery	1	105	-	2	See specialist report
	1	106	-	1	See specialist report
	1	107	-	5	See specialist report
	1	108	-	4	See specialist report
	1	110	-	1	See specialist report
	1	112	-	3	See specialist report
	1	114	-	2	See specialist report
	1	115	-	4	See specialist report
	1	118	-	1	See specialist report
	1	120	-	1	See specialist report
	1	121	-	2	See specialist report
	1	127	-	1	See specialist report
	1	131	-	2	See specialist report
	1	135	-	2	See specialist report
	1	157	-	8	See specialist report
	1	160	-	1	See specialist report
	2	206	-	3	See specialist report
Total				**43**	
Fe objects	1	108	-	6	See specialist report
	1	112	-	2	See specialist report
	1	113	-	1	See specialist report
	1	114	-	2	See specialist report
	1	115	-	1	See specialist report
	1	119	-	9	See specialist report
	1	131	-	1	See specialist report
	1	135	-	9	See specialist report
Total				**31**	
Lead	1	113	-	<10	Small off cut fragments
	1	135	-	<50	Small off cut fragments
	1	145	-	5	Small off cut fragments
Total				**<65**	
Cu alloy/slag	1	113	SF 3	1	See specialist report
	1	113	-	3	See specialist report
	1	114	-	1	See specialist report
	1	115	SF 2	1	See specialist report
	1	115	-	2	See specialist report
	1	135	SF 1	1	See specialist report
	1	135	-	<30	See specialist report
	1	137	SF 4	2	See specialist report
	1	137	-	<20	See specialist report
	1	138	-	<50	See specialist report
	1	139	-	<30	See specialist report

Fabric	Trench	Context	SF no.	Quantity	Details
	1	145	-	2	See specialist report
Total				**<143**	
CBM/Tile	1	114	-	15	See specialist report
	1	115	-	23	See specialist report
	1	117	-	3	See specialist report
	1	131	-	1	See specialist report
	1	135	-	13	See specialist report
	1	159	-	7	See specialist report
	1	160	-	3	See specialist report
Total				**65**	
Bone	1	108	-	153	See specialist report
	1	112	-	3	See specialist report
	1	114	-	4	See specialist report
	1	115	-	3	See specialist report
	1	119	-	6	See specialist report
	1	131	-	11	See specialist report
Total				**180**	
Shell	1	108	-	90	See specialist report
	1	115	-	1	See specialist report
	1	159	-	2	See specialist report
Total				**93**	

Appendix VI

Inventory of samples

Sample	Trench	Context	Type	Description
1	2	207	GBA	Yellowish brown, silty-clay
2	1	112	GBA	Dark brown, silty-clay
3	1	137	GBA	Brown, sandy-clay
4	1	135	GBA	Greyish brown, silty-clay
5	1	113	GBA	Reddish brown, silty-clay
6	1	145	GBA	Brownish red, silty-sand
7	1	143	GBA	Brownish red, silty-sand
8	1	141	GBA	Brownish red, silty-sand
9	1	138	GBA	Brownish red, silty-sand
10	1	139	GBA	Brownish red, silty-sand
11	1	114	GBA	Reddish brown, silty-clay
12	1	130	GBA	Yellowish grey, silty-sand
13	1	157	GBA	Light brown, silty-clay
14	1	163	GBA	Dark grey, silty-clay (auger test 1)
15	1	167	GBA	Light brown, silty-clay (auger test 1)
16	1	168	GBA	Light brown, silty-clay (auger test 1)
17	1	169	GBA	Light brown, silty-clay (auger test 1)
18	1	170	GBA	Mid-brown, silty-clay (auger test 1)
19	1	174	GBA	Greyish-brown, silty-clay (auger test 2)
20	1	175	GBA	Reddish-brown, silty-sand (auger test 2)
21	1	176	GBA	Greyish-brown, silty-clay (auger test 2)
22	1	177	GBA	Greyish-brown, silty-clay (auger test 2)
23	1	178	GBA	Dark brown, silty-clay (auger test 2)
24	1	179	GBA	Greyish brown, silty-clay (auger test 2)
25	1	180	GBA	Greyish brown, silty-clay (auger test 2)