ST MARY'S CHURCH, PENWORTHAM, LANCASHIRE

Archaeological Watching Brief and Excavation

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SUMMARY

As a result of proposals for intrusive groundworks in association with the installation of a new floor at St Mary's church in Penwortham, Lancashire (NGR centred SD 52388 29000), a specification for an archaeological watching brief was issued by Lancashire County Archaeological Service (LCAS). Oxford Archaeology North (OA North) was subsequently commissioned by Rev. Chris Nelson to undertake the watching brief, during which numerous burials, disarticulated charnel deposits, and burial crypts were discovered.

The ground conditions, combined with the complexity of the archaeological remains, revealed during the removal of floor deposits led to a change in engineering strategy. It was agreed between the client and LCAS that OA North would undertake the archaeological excavation of six 0.5m wide trenches, which were required to facilitate the installation of ground-beams to install a suspended floor in mitigation of the proposals. This would allow the majority of the remains of archaeological interest to be preserved *in situ*. The presence of a castle in Penwortham, which would have been situated on and around a motte that lies immediately adjacent to the current church site, was recorded in 1086, and a church was present within the area prior to 1140. The earliest fabric of the current building has been suggested to date to the fourteenth century. Therefore, the potential existed for the presence of remains of archaeological interest relating to medieval activity both pre-dating, and associated with, the earliest foundation of the church, as well as evidence relating to the later developmental history of the site.

The excavations revealed numerous deposits relating to the developmental history of the church. The earliest encountered remains comprised three human skeletons that underlay portions of walling and structural column bases. A possible infilled well was encountered, which was subsequently overlain by one of two former church walls that are likely to date to at least as early as the fifteenth century. Human remains associated with the possible well, and three skulls found within the medieval wall, might represent deliberate ritual depositions associated with vernacular religious practices or aspects of popular belief. A series of at least five probable column bases revealed running along the centre of the present nave are likely to be contemporary with the medieval walls.

A layer of disturbed subsoil was consistently encountered across the greater proportion of the site. This subsoil comprised the main burial horizon and had been cut by numerous burials that are likely to range widely in date from at least as early as the fifteenth century, and potentially earlier, to as late as the early nineteenth century. The burials within this layer were often associated with coffin voids, formed by the consolidation of soil around the coffin prior to its disintegration. This caused severe instability of the subsoil layer across the site and numerous burials beyond the extents of the excavation trenches were recognised as a result of the collapse of overlying deposits into these voids.

Three crypts were encountered within the church. The earliest of these is likely to have been a demolished vaulted brick crypt discovered at the eastern end of the chancel, which is likely to date to around 1803. A flat-roofed crypt at the western end of the nave is likely to have been the second to have been built, as it holds a coffin

dating to 1838. The final crypt to have been built was the vaulted brick crypt at the eastern end of the nave, which is likely to have been built during the 1850s, in order to increase the capacity of the Rawstorne family crypt. It is also possible that brick springers were inserted at the western end of the nave during the early nineteenth century, to support an arched entrance into the tower.

Extensive, and well documented, modifications were undertaken in 1855-6, which included re-building the nave and adding northern and southern aisles. Evidence of this phase of construction included the demolition of the medieval walls, the removal of the masonry in the tower entrance to springer level, and the insertion of a widespread mortar level and subsequent deposition of make-up and levelling layers. Evidence of twentieth century disturbance was represented by machine-excavated charnel pits and a concrete organ base.

All human remains that were excavated for the purpose of the groundworks, including the charnel remains, were boxed accordingly and reinterred within crypt ***9***, where they can be accessed for further analysis at any time in the future.

ACKNOWLEDGEMENTS

OA North would like to thank Rev. Chris Nelson, Vicar of St Mary's church, Penwortham, for commissioning the project. Thanks are also due to Peter Iles at LCAS for his information and support, and to the wardens of St Mary's church for their insights into the current use of the church and help with access to the church registers. Thanks are also due to Steve Fish of Fish Associates, Mike Lomax of Abbot and Lomax, and the staff of Palmers building contractors for their assistance and co-operation. We are also grateful for the advice given by Patrick Chisholm of South Ribble Borough Environmental Health.

The watching brief was undertaken by Jeremy Bradley, Peter Schofield, and Alastair Vannan, and the excavation was undertaken by Alastair Vannan, with Andrew Bates, Ric Buckle, Tim Christian, Graham Motteshead, Jane Roberts, and Steve Tamburello. The report was written by Alastair Vannan, excluding the assessment of human remains, which was undertaken by John Griffiths. The drawings were produced by Alix Sperr. The project was managed by Emily Mercer, who edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

1.1.1 As a result of proposals for intrusive groundworks in association with the installation of a new floor and underground heating system at St Mary's church in Penwortham, Lancashire (Fig 1), a specification for an archaeological watching brief was issued by Lancashire County Archaeological Service (LCAS). In accordance with this specification, Oxford Archaeology North (OA North) was subsequently commissioned by Rev. Chris Nelson, to undertake the watching brief. However, during removal of the then current flooring and overburden, significant remains of archaeological interest were encountered that were too numerous and complex to be dealt with under watching brief conditions. Numerous burials, voids associated with disintegrated coffins, disarticulated charnel deposits, and burial crypts were all discovered.

Plate 1: St Mary's church

1.1.2 Consequently, an alternative strategy was required, in agreement with the client and LCAS, in order to mitigate the impact of the installation of the new floor and heating system on the remains. The alarming number of previously unknown voids, together with the need to preserve as much of the archaeological remains *in situ* as possible, led to a running adaptation in the structural engineering requirements, with the decision taken to support the floor using beams and piles. Whilst planning guidance (then PPG 16 (DoE 1991), now PPS 5 (DCLG 2010)) would look to preserve remains of archaeological interest, including human remains, *in situ*, this is not always practical, and this situation was made more complex by the need for piling.

1.1.3 For the purpose of the insertion of ground beams, it was necessary to excavate six trenches measuring approximately 500mm in width to a depth of 800mm

below the future floor level. These trenches ran along the length of the church, with two contiguous to the northern and southern aisle walls, and four equidistant parallel trenches spanning the length of the nave (Fig 2). LCAS requested that these ground beam trenches be excavated in an archaeological manner, due to the likelihood that burial remains would be encountered. However, following the results of the excavation of Trench 1, and the partial excavation of Trench 6 (see *Section 4.2*, below), the structural engineer revised the depth of the trenches to 625mm below the future floor level, as this would reduce the impact on sub-surface deposits. Furthermore, significant archaeological remains within Trenches 2 and 5 (see *Section 4.2*, below) necessitated the additional localised excavation of pre-piling test pits (PPTP; Fig 2), to remove masonry that would inhibit the piling.

1.1.4 It was agreed with LCAS that once the human remains had been recorded and lifted, a basic assessment would be undertaken, and that the remains would be reinterred within crypt ***9*** inside the church. The work was undertaken during October, November and December 2009. This report sets out the results of the fieldwork in the form of a short document.

Plate 2: Penwortham motte, looking northwards

1.2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 St Mary's church (Plate 1) is located at the north-eastern side of Penwortham, Lancashire (NGR centred SD 52388 29000; Fig 1; Plate 1), within 0.5km south-west of the city of Preston. The church lies at the northern end of Church Avenue, and occupies the north-eastern edge of a spur of land, defined by steep downward slopes to the north and east, overlooking the River Ribble. To the north-east of the church is the motte remaining from Penwortham Castle (Plate 2). The site lies within the Lancashire and Amounderness plain, which is primarily composed of flat and rolling agricultural land consisting of a patchwork of arable and pasture fields (Countryside Commission 1998, 86). The Ribble estuary bisects the plain, which, following the last glacial retreat,

constituted marshland and until recently, when it was drained and improved, was dominated by mosses and meres (*op cit*, 86–9). Local land-use surrounding the church and graveyard is largely residential, with a strip of woodland occupying the land to the east of the church and Church Avenue. The underlying solid geology comprises Permian and Triassic sandstones (British Geological Survey 1979), which are overlain by reddish clayey till (Soil Survey of England and Wales 1983).

1.3 HISTORICAL AND ARCHAEOLOGICAL CONTEXT

1.3.1 ***Introduction:*** in order to provide a context within which to understand the results of the archaeological works at St Mary's, a summary of the known historical development of the sites of the church and adjacent motte will be presented below.

1.3.2 ***Penwortham Motte and Barony:*** the Domesday survey described Penwortham (*Peneuerdant*) as having been held by Edward the Confessor (AD 1042-1066) (Farrer and Brownbill 1906, 287) suggesting that the area would have been a demesne holding prior to the Norman Conquest. The survey also noted that half a fishery, woodland, and eyries of hawks were present in the area in 1086, and that these had been present during the reign of Edward twenty years earlier (*ibid*). Penwortham was the only borough to have been named for the whole of Lancashire in the Domesday survey, suggesting that a small burh was probably constructed at the head of the Ribble estuary during the Mercian consolidation northwards in the tenth century (Crosby 1998, 29). It was also implied that, prior to the Conquest, there were two carucates of land in the area, although the antiquity of these holdings is somewhat ambiguous, but they certainly originated prior to 1086. It has been suggested that the two carucates, or ploughlands, might relate to Penwortham and Howick (Farrer and Brownbill 1911, 56-61).

1.3.3 Furthermore, local place-names with linguistic roots that pre-date modern English might indicate the establishment of settlement prior to the Norman Conquest. It should be remembered, however, that linguistic continuity, including otherwise incongruous colloquialisms, might be responsible for the introduction of certain place-names in much later periods than their linguistic root suggests (Newman 2006, 95). For example, although the place-name 'Penwortham' appears to include the Celtic-British element *Penn*, denoting a hill (Mills 1991, 257), this could reflect the linguistic survival of this spoken word well into the Anglo-Saxon period, rather than providing definite evidence that *Penn* had been applied as a local place-name during the Romano-British period. The *worth* and *ham* elements of Penwortham are Old English in origin and mean an enclosed homestead (*ibid*), and an alternative analysis suggests *Penn* as an Old English element denoting an enclosure (Smith 1956, 61). It is also possible that *ham* might derive from the Old English meaning dry land surrounded by water (Gelling 1993, 285), rather than the common form meaning a village. This would correspond, both topographically and linguistically, with the former island in the River Ribble to the east of St Mary's church known as 'The Holme'. This means that the location of the earliest *foci* of activity in Penwortham are uncertain, but it is

thought that there may have been a pre-Norman ecclesiastic foundation, perhaps on the site of St Mary's church (Crosby 2000, 4; Site **02**).

1.3.4 There was certainly a castle, at least, at Penwortham recorded in the Domesday survey of 1086, at Castle Hill motte (Site **07**; Plate 2) immediately to the north and east of St Mary's church, and that Penwortham demesne included two ploughs, with six burgesses, three radmans, eight villains, and four oxherds also listed, holding a combined total of four ploughs (Farrer and Brownbill 1911, 56-61). Although there was no indication in the survey that the castle had been present prior to the Norman Conquest, excavations at the site of the motte in 1856 revealed that at least three phases of use were represented within the fabric of the mound and, whilst not closely dated, it remains a possibility that the earliest occupation might pre-date the Norman Conquest (Farrer and Brownbill 1908, 533-6). This suggests the continuity of the site as a power centre between the early medieval and medieval periods; it has been suggested that the castle is likely to have remained in use until around 1232 (SM 13446). The associated stockaded bailey (Sites **01** and **07**) is believed to have lain to the north of the surviving mound, and a second plateau to the west of the mound might have comprised an extension to the bailey increasing the area available for occupation, craft working areas, and buildings associated with agriculture (*op cit*, 553-4). If this is correct, then the area currently occupied by the church would have been situated on land cut off from the castle area by the wide ditch that remains extant to the north of the church, and the castle would have been restricted to the northern limit of the natural spur that dominates this area, only occupying the land to the north of the ditch.

1.3.5 Penwortham is situated in a highly favourable position for settlement, trade, and defence, which may have been taken advantage of long before the Norman era, overlooking the Ribble and in the vicinity of fordable points of the river to the south, as indicated by the place-name of Middleforth, and to the north (*op cit*, 555-6). Indeed, the site of the motte formed an important strategic position during the eleventh century, with the river marking a frontier zone between Norman-controlled England and the kingdom of Strathclyde (Crosby 1988, 30-1). Such a valued strategic site is also suggested by the presence of an opposing motte and bailey castle on the northern side of the river at Tulketh, and it is possible that the pair of castles provided protection for both the lower Ribble valley and the borough of Preston (*ibid*).

1.3.6 The presence of burgesses for Penwortham in the Domesday survey implies that the castle formed a centre of power within the administrative unit of a borough (Farrer and Brownbill 1911, 56-61). However, the 1856 excavations did not reveal a stone phase associated with it (Farrer and Brownbill 1908, 533-6), and it is possible that the necessity for the castle diminished after the end of the unrest that occurred during the reign of King Stephen in 1135-54 (*op cit*, 32). Despite the urban privileges associated with borough status, and the strategic importance of the site, Penwortham remained as a rural township, with no nucleus of settlement, throughout the medieval period and did not evolve into a town, unlike neighbouring Preston (Crosby 1988, 33; 36).

1.3.7 Instead, Penwortham formed the centre of a large barony, which included a large portion of the Leyland Hundred, and additional manors beyond this hundred (Farrer and Brownbill 1911, 56-61). Initially, it had been bestowed upon Roger de Busli by William the Conqueror (Baines 1891, 203). It then passed into the ownership of Warine Bussel by the early part of the twelfth century, who transferred extensive lands in Penwortham to the Benedictine abbey of Evesham (see *1.3.8*, below), which facilitated the establishment of the priory of Penwortham (Farrer and Brownbill 1911, 52-6; Site **03**). The barony was then acquired by Roger de Lacy in 1205, before descending to the earls and dukes of Lancaster, and it has been suggested that Randle de Blundeville, baron of Lancaster, held his court at Penwortham Castle during the thirteenth-century reign of Henry III (1216-1272) (Baines 1891, 204). The barony eventually passed to the Crown (Farrer and Brownbill 1911, 56-61). The portion of the manor previously owned by the Abbey of Evesham was leased by John Fleetwood from 1539 until 1543, when he purchased the land from the Crown (*ibid*; see *1.3.12*, below). In 1628, Charles I sold the royal manor of Penwortham to buyers including Edward Ditchfield, and it was subsequently acquired by the Farington family (Farrer and Brownbill 1911, 56-61).

1.3.8 ***St Mary's church and Penwortham Priory:*** when, in 1140, Warine Bussel transferred the lands in Penwortham, to the Benedictine abbey of Evesham, this was said to include the church (Farrer and Brownbill 1908, 104-6; 1911, 52-6; Site **03**). This is the earliest historical reference to the church, although it is thought that it was not dedicated to St Mary until 1205 (*ibid*). In return for the grant of land, or benefice, by Bussel, three monks and a chaplain were installed at the priory of Penwortham, whose responsibilities included serving the local church as there was no obligation to endow a vicar, and the abbey also agreed to receive Bussel's son if he decided to become a monk (Farrer and Brownbill 1908, 104-6).

1.3.9 Penwortham Priory was situated to the south-west of the present St Mary's church, to the south of the current Priory Crescent. However, although historical details, such as the names of the priors of Penwortham, were recorded during the medieval period, there is no specific information relating to the nature or location of the church. Therefore, it is difficult to gauge the antiquity of the current church site. It has been suggested that the fabric of the current church building represents at least three phases of construction, with parts of the chancel dating to the fourteenth century, the tower dating to the fifteenth century, and the nave representing the culmination of several phases of repair and expansion during the nineteenth century (Farrer and Brownbill 1911, 52-6). Unfortunately, none of these construction phases is consistent with the antiquity of the church that was recorded in 1140.

1.3.10 With the castle in use in some capacity until around 1232, it is difficult to ascertain whether any church founded prior to this date would have been situated within or outside the confines of the bailey (see *1.3.4*, above). Examples from Melling, Arkholme, and Whittington all feature churches lying within bailey extents (P Iles pers comm), whereas the precise configuration of other motte and bailey sites has not yet been tested by

excavation. If the castle perimeter did not extend to the south of the extant ditch, and the original church was located within the bailey, then the current church location might only have been established following the disuse of the castle in the early- to mid-thirteenth century. Indeed, the suggested fourteenth-century date for the establishment of the current chancel might represent the first phase of the church at the present site. Alternatively, the church might always have been on the present site, outside of the confines of the castle, and there is no historical mention of the re-building of the church during the medieval period to suggest otherwise. Furthermore, the possibility remains that the current location of the church might represent the position of a pre-Norman ecclesiastic foundation. A pertinent observation by Crosby (1988, 28-9) supports this possibility by suggesting that the high point utilised by the current church would have been likely to have been used as the site of the Norman motte, unless this was prevented by the presence of a pre-existing church. A final possibility is that the current position is indeed the original location of the church and that the bailey extended to include this area, regardless of whether the church or castle was founded first.

1.3.11 As an 'obedience' of Evesham, the priory did not own any private property independently of the parent monastery (Baines 1891, 204), and the impression given by the historical accounts of the appointments of priors by the abbey suggests that Penwortham Priory might have been considered to have been a minor holding of the Abbey of Evesham, and to have been held in little esteem. Nevertheless, some profit was made available to the Abbey of Evesham as a result of the fisheries located at the Penwortham estate and managed by the priory (Crosby 1988, 47).

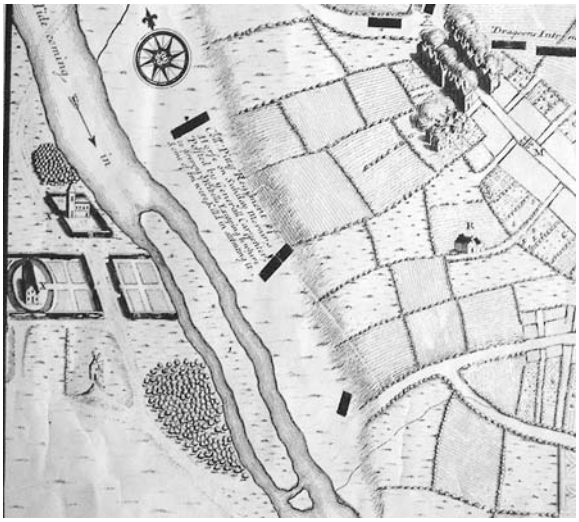

Plate 3: A plan of the Preston environs of 1715 (Esqre and Hulsbergh 1715), clearly showing St Mary's church and the Fleetwood's residence to the west of the river

1.3.12 Both the priory and church remained under Evesham Abbey until the period of the dissolution when, in 1539, the manor and rectory were leased to John Fleetwood (Farrer and Brownbill 1908, 104-6). The Fleetwoods were a Protestant family and maintained a stipendiary minister at St Mary's church, but converted the former priory buildings into a residential house (Plates 3 and 4). This benefice system, wherein grants were supplied to ministers by

patronage, appears to have resulted in, or allowed, holders of that post to be periodically absent or non-resident in the local area. However, this system changed when a grant from the Bounty of Queen Anne, during the early part of the nineteenth century, created an ordinary perpetual curacy at St Mary's church (Farrer and Brownbill 1911, 56-61).

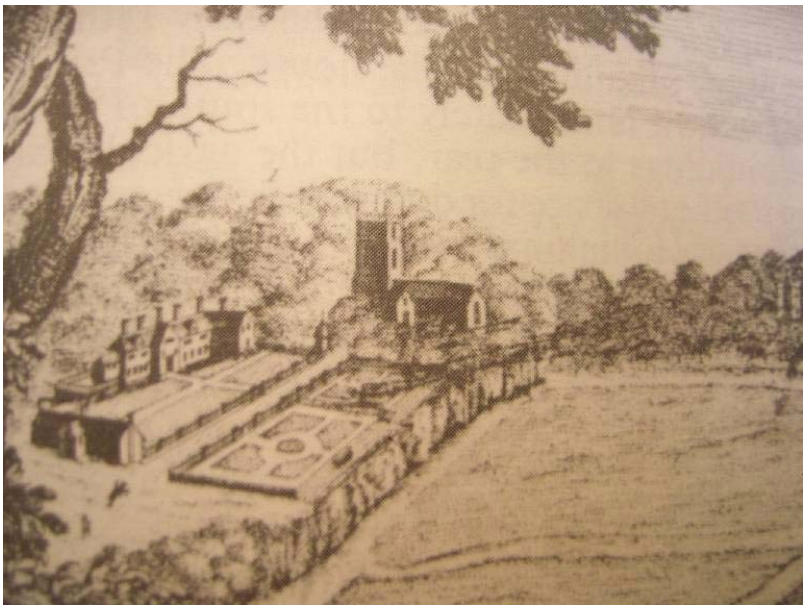

Plate 4: An engraving of St Mary's church of 1728, by Samuel Buck (Crosby 1988, 109), showing the Fleetwood's residence

1.3.13 The estate remained in the possession of the Fleetwood family until 1748, after which the accumulation of debt forced the sale of the land (*op cit*, 52-61). Penwortham Priory estate was acquired by Lawrence Rawstorne in around 1810 (*ibid*), and in 1832 the house shown as Penwortham Priory on nineteenth century maps was constructed (*op cit*, 56-61; Plates 16 and 17). This is likely to have built on the same site as the former priory, and the subsequent Fleetwood residence. The estate was retained by the Rawstorne family into the twentieth century (*ibid*).

1.3.14 The last perpetual curate of St Mary's church was Rev. William Edward Rawstorne who accepted the curacy in 1858 (Baines 1891, 210). Rev. Rawstorne was the commissioner and occupier of a local residence named 'Fairfield', a large private house built on the grounds of the priory in 1860, which became the vicarage in 1868 (Crosby 1988, 122; Plate 17). Immediately prior to his curacy, in January 1857, a fire had broken out at the church caused by an overheating flue (although other sources state 1856: *eg* Farrer and Brownbill 1911, 56-61), destroying parish registers that had begun in 1586 (Baines 1891, 210). Bishop's transcripts of details from the registers were taken anually from the registers and, as these were taken to the Diocesan offices in Chester, copies of some of the details from the destroyed registers have survived, although they are incomplete (Crosby 1988, 27). Consequently, there is little information regarding burials in and around the church.

1.3.15 The earliest known burial is that of a crusader dating to the twelfth century (LRO PR3164/14/57). This is represented by a stone slab lying to the north of the chancel that features a floreated cross with a circle and a sword. Apart from this, the earliest burials recorded within the graveyard date to the seventeenth century, although numerous earlier and contemporary graves will either lie unmarked, or have been disturbed by later building work or burials. A gravestone dating to 1682 (LHER 9075), and memorialising Peter Taylor, lies to the north of the chancel and a second gravestone, dating to 1686 and marking the burial place of Edward Hollinhurst, lies 2m from the south-east corner of the chancel (LHER 9074**;** Plate 6). Both of these gravestones are subject to grade II statutory listings. One tomb chest (LHER 9076) dating to the early nineteenth century, which is of regional significance, is that of the Horrocks family. This tomb chest dates to 1814 and commemorates, amongst other members of the Horrocks family, John Horrocks, who co-founded the renowned Horrocks, Miller and Co, which was a cotton spinning and weaving company based in Preston. Of particular interest within the church grounds, however, is a well, known as St Annes Well, which is also of potentially early origin and recorded at the western side of the church in 1872 (Farrer and Brownbill 1911, 56-61, footnote 6), although it was said to lie 150 yards to the north-west of the church in a report by the Preston Rural Sanitary Authority (Crosby 1988, 105).

Plate 5: Plan of mosslands for Penwortham from 1570 (LRO P99)

1.3.16 *Structural modifications to the church:* St Mary's church was subject to several phases of modification during the post-medieval period. The earliest illustration of the church appears to have been published in 1570, on a plan of the mosslands in Penwortham and Leyland (LRO P99; Plate5). This plan was not drawn to scale, and takes the form of a stylised pictorial representation of the area rather than a plan surveyed with any degree of accuracy. However, it did depict the curving course of the River Ribble, at the north-western side of Penwortham, and one of the only buildings shown in any detail appears to be

St Mary's church, which was shown on top of a low ridge. The illustration showed the church in a very similar form to the current building, with a crenellated tower at the western end, a central nave with a southern entrance porch, and a chancel. This basic form is likely to have been present since at least as early as the fifteenth century, when the tower is said to have been added to the existing building (Crosby 1988, 26). The earliest indications of modifications to the church, after the construction of the tower, are suggested by the insertion of a date-stone of 1653 above the blocked southern door of the chancel (Plate 7). This stone also includes the letters IFA (possibly JFA), and has been suggested to record the initials of John and Anne Fleetwood (Baines 1891, 206). The date stone is associated with patches of renewed masonry (Plate 7) and is likely to record repairs to the chancel undertaken under the auspices of the Fleetwoods at this time. This stone has recently been replaced by a newly inscribed replica, due to the original stone becoming excessively worn (A Atkinson pers comm).

Plate 6: The southern side of the chancel

Plate 7: Date stone above the blocked southern door of the chancel

1.3.17 Depictions of the church were produced in 1715 (Plate 3) and 1752 (Plate 8), both of which illustrated the tower with a pitched roof or spire. As the sixteenth-century depiction of the church (Plate 5) showed a crenellated tower, and there is no historical evidence for the installation, or subsequent removal, of a spire, it is likely that the illustration on the seventeenth-century map was a schematic representation that was later copied when Bowen's map was produced. The supposition that the tower was crenellated throughout the post-medieval period is supported by Buck's engraving of the church in 1728 (*see* Crosby 1988, 109; Plate 4). This illustration also depicted the southern door of the chancel and a porch over the southern entrance to the nave. The roof of the nave was also shown to be the same height and pitch as the chancel roof. Six bells were cast by Abraham Rudhall in 1712, although the treble was later re-cast twice, in 1858 and 1891 (Farrer and Brownbill 1911, 56-61).

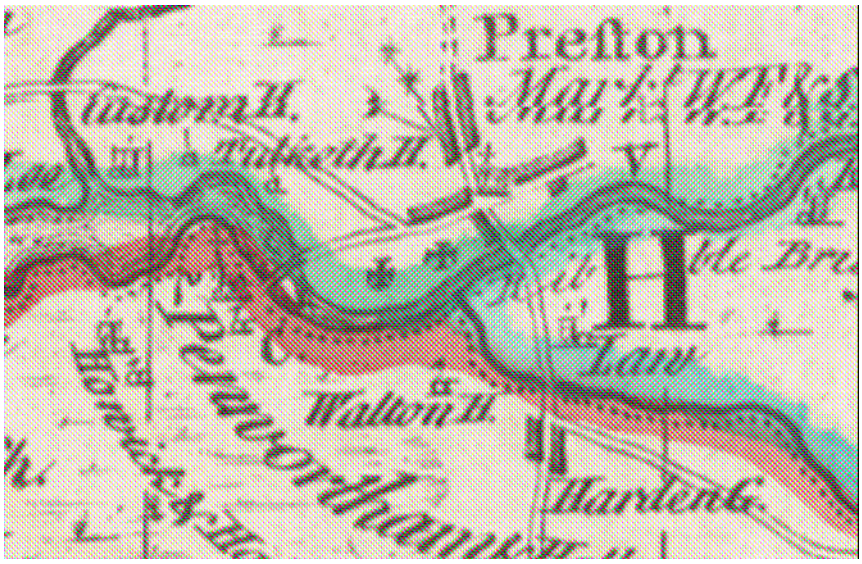

Plate 8: Emanuel Bowen's map of 1752

Plate 9: St Mary's church as it appeared between 1812 and 1856 (Hardwick 1857, 596)

1.3.18 Modifications were made to the church in 1812, when a north gallery was erected and the higher part of the church was apparently fronted and castellated in gothic style (*ibid*), and a new roof was added (Crosby 1988, 27). An account of the church from 1849 described a structure that was small and gloomy with an embattled tower, a chancel and a southern aisle (Gastrell 1849, 387). The absence of a description of a northern aisle was presumably a result of the presence of the northern gallery in this area. Illustrations of the church following these alterations were published in 1857 (Hardwick 1857, 596; Plate 9) and showed the raised level and flattened pitch of the roof. This phase of the church was also depicted on a painting of uncertain date, which must have been produced between 1812 and subsequent modifications in 1855-6 (Plate 10).

Plate 10: An undated painting showing St Mary's church as it appeared between 1812 and 1856

1.3.19 The most conspicuous modifications to the church occurred in 1855-6, by the renowned Edward Paley of Lancaster; described by Pevsner as one of the "Lancaster dynasty of architects [who] did more work in the county, and for a time more outstanding work, than any other" (Pevsner 2002). This phase of work resulted in the nave being dismantled and rebuilt, the northern and southern aisles being added, the restoration of the chancel, the opening up of the tower arch, the addition of a porch, and other alterations and improvements (Hardwick 1857, 596; Baines 1891, 210; LRO PR3164/4/7; LRO PR3161/2/5). Illustrations of the church following these alterations were published in 1863 (LRO PR3164/14/1; Plate 11), and a photograph was taken of the church in 1865-6 (LRO PR3164/14/41; Plate 12). These images show that, by the second half of the nineteenth century, the church exterior had essentially evolved into the current form of the building (Plate 1). The southern side of the churchyard was also enlarged at this time (Hardwick 1857, 596). Two former roof-lines are visible on the interior side of the church tower, in addition to the current roof (Plate 13). It is likely that the lower of these lines, which is steeply pitched, represents the low roof of the nave dating to the fifteenth century, or earlier, which was depicted on Buck's engraving of 1728 (Plate 4). The higher roof-line, which has a shallower pitch, is likely to represent the level of the roof following the modifications

undertaken in 1812. The current roof is the same height and pitch as that constructed during the alterations of 1855-6. A further phase of work was undertaken in 1884, when the tower was restored (Farrer and Brownbill 1911, 56-61).

Plate 11: A woodcut print of St Mary's church used in the Penwortham parish magazine 1863 (LRO PR3164/14/1)

Plate 12: Photograph of St Mary's church taken in 1865-6 (LRO PR3164/14/41)

Plate 13: The roof scars visible on the east side of the tower (west end of the nave), either side of the tarpaulin

1.3.20 ***St Mary's Church Environs:*** a sunken track leading along the western side of the church and to the north of Castle Hill (Farrer and Brownbill 1908, 553-4; Crosby 1988, 44) has been suggested to have led to a fording point on the river. When this was in use is uncertain, but it is depicted on the earliest map found available of 1715 (Plate 3) as an actual trail running across the river. Thereafter, mapping evidence shows it as running past the church still but meeting a dead-end. Its demise was probably due to the preferred route still in existence as to the current A59 road (Liverpool Road; Fig 3) to the south of St Mary's church, which runs in a south-west/north-east direction. This road also appears to have had very early origins, with mentions being made of it in a thirteenth century tithe dispute settlement between Cockersand and Evesham Abbeys (Crosby 2000, 28). There are also references to a waingate in the thirteenth century, taken to be the A59, which suggests that it was also suitable for wheeled carts and wagons (*op cit*, 29). The road is depicted on early maps (1715, Plate 3; 1752, Plate 8) as taking a direct route, similar to the current route that utilises a twentieth century bridge, down to and over the Ribble, suggesting that this area across The Holme was once fordable (Crosby 1988, 44). However, by 1786 (Plate 14), the road was depicted by Yates as taking a short diversion south-eastwards to access the eighteenth century Penwortham Bridge (Crosby 2000, 102), although Harrison's later map of 1789 (Plate 15) shows the original straight route implying that he either used out-of-date survey data or, it would appear more likely, simplified this and all other roads.

1.3.21 It is certainly clear that the presence of the roads and associated river crossings will have conferred a degree of significance on Penwortham during the medieval period as a point of access northwards and westwards across the

river. Both of these routes were also marked by ecclesiastical landmarks during the medieval period, with Penwortham Priory cross (Site **04**) lying adjacent to Church Avenue, and St Mary's holy well (Site **06**) lying to the south of the current A59. However, it still remained relatively rural comprising larger farms in the locale, whilst cottagers with smallholdings also occupied the area, cultivating a less diverse range of crops and animal husbandry that the wealthier farmers (*op cit*, 80).

Plate 14: William Yates' map of 1786

Plate 15: Harrison's map of 1789

1.3.22 During the sixteenth and seventeenth centuries, flax and hemp were grown widely in the area, which helped sustain a weaving industry that utilised very little wool (*op cit*, 86). By the eighteenth century many occupants of

Penwortham were being supported by the weaving industry, with numerous others engaging in weaving as a sideline to their main occupations in milling, cobbling, farming, and carpentry (*op cit*, 85). The success of the handloom weaving industry was largely responsible for the population growth in Penwortham, as in the wider area, during the eighteenth and early nineteenth centuries. However, this dependence upon weaving resulted in a dramatic decline in the local economy following the introduction of steam-powered mills in the early nineteenth century and, by the 1850s, handloom weaving had died out in Penwortham (Crosby 1988, 88).

Plate 16: Ordnance Survey First Edition, 6" map of 1849

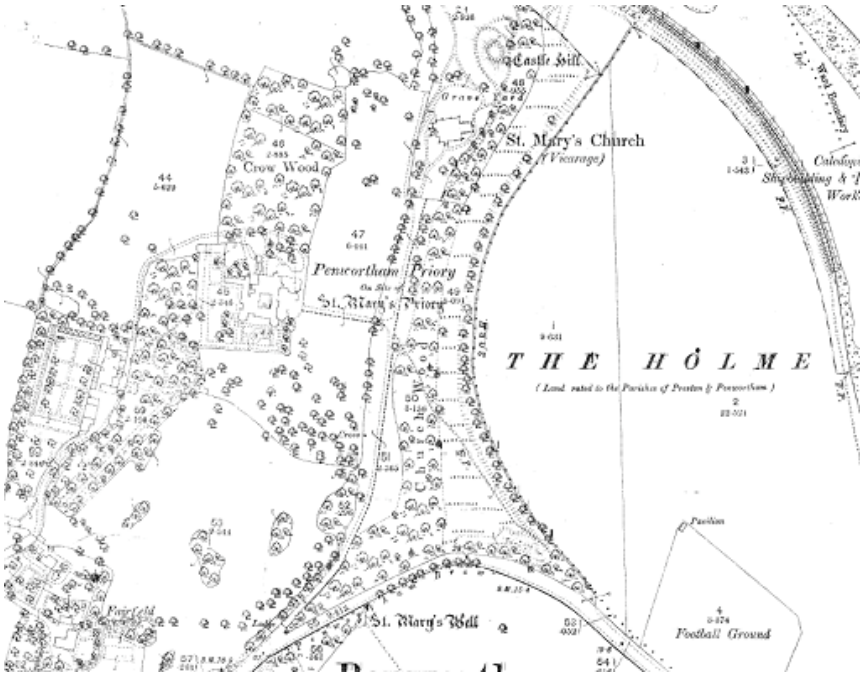

Plate 17: Ordnance Survey First Edition 25" map of 1890

1.3.23 The local fisheries, dependant on the Ribble, also declined during the nineteenth century, as the canalisation of part of the Ribble estuary in 1807–9 aided the reclamation of the wetlands flanking the estuary, and also led to the loss of the expanses of sands fringing the estuary (Crosby 2000, 81). This work was undertaken by the Ribble Navigation Company, which included Lawrence Rawstorne as a shareholder, continuing and inflating the influence of the Rawstorne family in the area. This increased river navigability led to the growth of Preston as a port and, following 1885, facilitated the construction of Preston Dock (*ibid*).

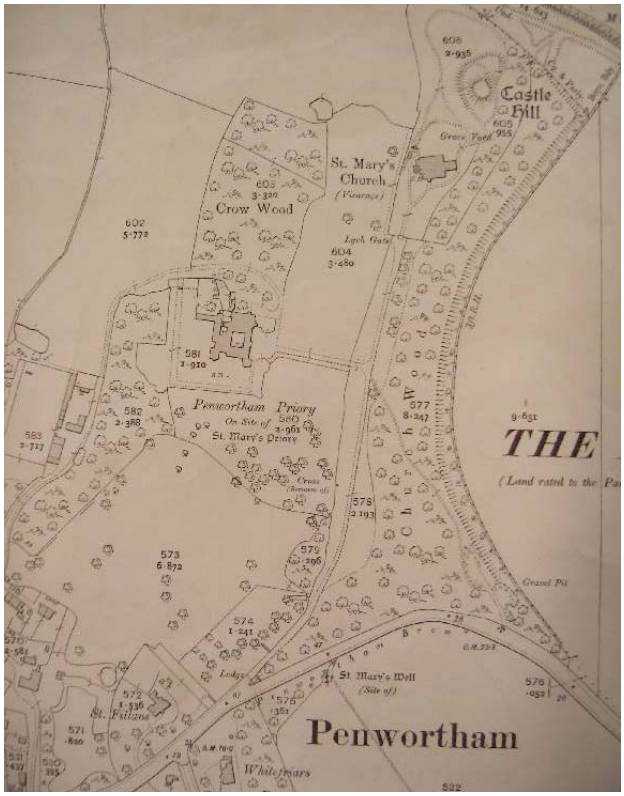

Plate 18: Ordnance Survey map of 1912

1.3.24 Suburban development in the vicinity of the priory was slow during the nineteenth century as a result of the private ownership of the large estate. Most of the properties built in the area prior to the 1920s consisted of large private houses situated within large gardens (Crosby 1988, 119-21; Plate 18), such as 'Fairfield' (see *1.3.14*, above). However, increasing population levels in the Penwortham area continued during the early twentieth century, and in 1925 the remainder of the Penwortham Priory estate was sold for housing by Lawrence Rawstorne (*op cit*, 130-2). The transformation of the area in the vicinity of the priory during the late nineteenth and early twentieth centuries is evident from examinations of the Ordnance Survey (OS) maps of the time; those of 1931 and 1938 (Plates 19 and 20), show a dramatic increase in the volume of houses, with several new estates lining purpose-built access roads. By the time of the OS map of 1938, the extensive area lying between Crow Wood, Church Avenue, Liverpool Road, and Blundell Lane, had become almost entirely filled with housing.

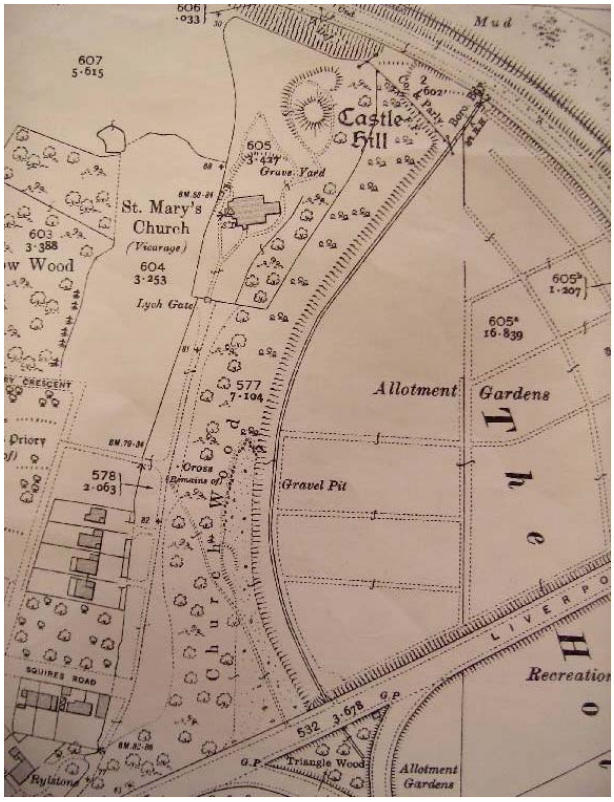

Plate 19: Ordnance Survey map of 1931

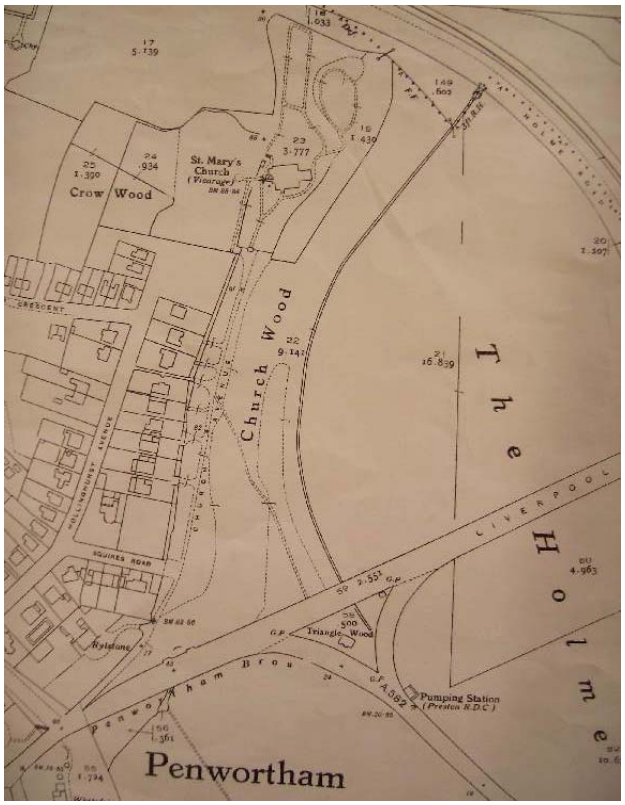

Plate 20: Ordnance Survey map of 1938

1.4 GAZETTEER OF RELEVANT SITES

Site Name Penwortham Castle
Site number **01**
NGR 352440 429070
HER no 284
Site Type Motte and bailey
Period Eleventh to thirteenth centuries
Statutory Designation Scheduled monument (SM 13446)
Source LHER
Description Penwortham Castle was named in the Domesday survey as existing in 1086 and appears to have been allowed to fall into ruins after 1232. The site is a Class E earthwork and stands at the end of a high promontory, 70 yds north-north-east of Penwortham Church, within the area of the extended graveyard. The motte is conical in form and slightly oval in plan with a diameter of 120ft at its longest base, and 25ft across the summit. No ditch now divides the motte from the plateau, which evidently formed the bailey, and it has been suggested that there was a second stockaded bailey on a lower plateau. A fairly careful excavation was undertaken in 1856, which revealed the boulder pavement, timbers, and wattling of what seems to have been a circular palisaded dwelling divided into several chambers, and erected on a low motte. A second pavement was laid 5ft above this dwelling before the mound was subsequently raised at least a further 7ft.

Site Name Church of St Mary the Virgin, Penwortham
Site number **02**
NGR 352388 429000
HER no 1447
Site Type Church point
Period Pre 1140, fourteenth century, fifteenth century, 1855-6
Statutory Designation Grade II listed building (357981)
Source LHER
Description The church of St Mary The Virgin is situated on elevated ground commanding an extensive view of the Ribble valley, slightly to the south of the Castle Hill (LHER 284, Site **01**), from which it is separated by a deep fosse, and about 300 yds to the north-east of the site of the priory (LHER 1447, Site **03**). The building is approached from the south by a fine avenue of trees, and consists of a chancel measuring 30ft by 17ft 9 inches, a nave measuring 60ft 6 inches by 25ft, with north and south aisles 14ft wide, south porch and west tower 12ft 6 inches square; all of these measurements being internal. Only the chancel and tower, however, are old, the nave having been rebuilt in 1855–6, at which date also the chancel roof was restored, the tower arch opened out, and a west gallery removed. Little or nothing can be said as to the development of the plan, but there was probably a building in the fourteenth century covering approximately the present area, with the exception of the west tower, of which the chancel is a portion. The tower is of fifteenth century date, to which period or later the destroyed nave seems to have belonged.

Site Name St Mary's Priory, Penwortham
Site number **03**
NGR 352240 428850
HER no 1449
Site Type Moat, Benedictine cell, and priory
Period Medieval
Statutory Designation -
Source LHER
Description St Mary's Priory was a Benedictine Priory cell, founded *c* 1086 by Warine Bussel who endowed it to Evesham Abbey on condition that they should receive his son, should he become a monk. The Priory was dissolved after 1535, and the property acquired by

the Fleetwood family, who made it their residence. Whittaker described it as a 'humble edifice, three sides of which are still entire, and enclosed by a moat'. He conjectured that the South side had been rebuilt within living memory and had contained the chapel. A modern building was erected partly on the site in 1832, and it is now completely overbuilt by a recent housing estate. Superficial examination of the area has suggested that if this is a site of a moat then it must rate a relatively low survival value. An arm of the supposed ditch was observed running approximately east/west, and although there were faint traces of corners, these were not readily apparent. An island could not be observed with confidence and certainly could not be related to the surface topography.

Site Name Penwortham Priory Cross
Site number **04**
NGR 352360 428830
HER no 1450
Site Type Cross
Period Medieval
Statutory Designation -
Sources LHER
Description The base of Penwortham Priory Cross stands in the avenue leading up to Penwortham Church. It measures 2ft 6 inches square at the base with tapering sides, and the missing stem measured about 10.75 inches by 9.75 inches. It has been restored with a modern latin cross.

Site Name Crow Wood, Penwortham
Site number **05**
NGR 352300 428970
HER no 3475
Site Type Enclosure, moat
Period Uncertain, medieval
Statutory Designation
Source LHER
Description The area was inspected for the site of St Mary's Priory (Site **03**). No trace of identifiable remains were observed, however Crows Wood, to the east of a graveyard, contains some lengths of fairly deep ditches in a possible rectilinear pattern reminiscent of a moated site. These earthworks may relate to a site occupied by the Fleetwood family.

Site Name St Mary's Well, Penwortham
Site number **06**
NGR 352320 428570
HER no 3669
Site Type Holy well
Period Medieval
Statutory Designation -
Sources LHER
Description St Mary's Well, on Penwortham Brow, was described as a spring of water that ran into an oblong stone trough. The water was popularly assigned miraculous qualities. The well no longer exists and is indicated only by a slight depression in the ground.

Site Name Penwortham Motte
Site number **07**
NGR 352420 429080
HER no 4378
Site Type Cropmark

Period Undated
Statutory Designation -
Source LHER
Description An aerial photograph shows the motte and bailey of Penwortham Castle (Site **01**). The motte was heavily obscured by tree vegetation.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A detailed specification for an archaeological watching brief was issued by LCAS (*Appendix 1*). The work was, therefore, begun in accordance with this documents, however, following the discovery of numerous burials within coffin voids within the church, which represented a risk to ground stability, a second phase of more extensive intrusive groundworks was proposed that necessitated mitigative archaeological excavation. Following consultation with the client and the client's representative, a verbal brief was provided by LCAS. A project design (*Appendix 2*) for the excavation was submitted by OA North and approved by LCAS, which was adhered to in full. The work was consistent with the Institute for Archaeologists (IfA) guidelines (2008a; 2008b; 2008c) and *Code of Conduct* (IfA 2010), together with those produced by English Heritage (1991; 2005a; 2005b) and generally accepted best practice.

2.2 WATCHING BRIEF

2.2.1 A permanent archaeological presence was maintained during the reduction of the ground level within the aisles, nave, and chancel of the church. Excavation was undertaken by hand and by a miniature excavator.

2.2.2 Recording was by means of the standard context recording system used by OA North, with watching brief records and supporting registers and indices. A full photographic record in monochrome format was undertaken, together with digital photographs for illustrative purposes.

2.3 EXCAVATION

2.3.1 The location and extent of the six excavation trenches (Trenches 1-6; Fig 2) was determined by the structural engineering requirements for the installation of piles and ground beams. Trench 1 and part of Trench 6 were excavated to a depth of 800mm below the final floor level. Following discussions with the structural engineer with regard to the density of burials being encountered within the trenches, Trenches 2-5 and the remainder of Trench 6 were excavated to a depth of 625mm below final floor level. Charnel deposits encountered during the watching brief were excavated to the general formation level that was required across the whole of the church interior.

2.3.2 The piling locations within the trenches were modified according to the results of the excavations, in order to avoid piling through any graves that had become apparent at the trench formation level, as requested by LCAS. In the areas where piling locations coincided with structural remains, the remains were excavated in an archaeologically controlled manner by digging pre-piling test pits (PPTP; Fig 2), 0.3m square. Where graves or human remains were

revealed below the walling in these areas, the piling locations were then adjusted in order to reduce the impact on any deposits visible at this level.

2.3.3 Excavation was undertaken manually in successive, level spits. Following the discovery of any deposits of archaeological interest, the area was hand-cleaned to define the features and a base plan produced. Any features were then manually excavated down to the required level. Each burial was characterised and its location recorded. The excavation of skeletal human remains was undertaken in a manner consistent with recommendations provided in the *Guidance for the Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England* (English Heritage 2005b).

2.3.4 Where a burial in a void was intersected by the excavation, or where it was so closely adjacent that it was likely that the void would be affected during the construction process and adequate protection could not be arranged, then the remains as a whole were lifted. As the crypts were to be left *in situ*, with the exception of the removal of the roofs to the formation level, these structures were photographed, planned, and recorded descriptively, without the removal of any coffins or any detailed survey or excavation.

2.3.5 ***Recording:*** consistent with approaches taken at similar burial grounds (cf Bashford and Pollard 1998, 155), the grave cut and fill of each burial was assigned a single group number. In order to differentiate between bone within the backfill of the grave and the interred skeleton, individual skeleton numbers were assigned (SK). The cut and fill of each grave has the same number and, therefore, contain the skeletons and coffins in stratigraphic terms. Therefore, coffins, skeletons, and grave numbers from a single grave should be considered to represent a single stratigraphic event and a shared position in a stratigraphic matrix. Specialised recording forms were used for the recording of skeletons and, in addition to the standard monochrome print and digital photographic record, rectified photographs were taken of each excavated skeleton. The context recording system introduced during the watching brief continued in use during the excavation, with a single set of consecutive context numbers being issued for the combined phases of work.

2.4 ARCHIVE

2.4.1 A full professional archive has been compiled in accordance with the project design (*Appendix 2*), and in accordance with the *Standard and guidance for the creation, compilation, transfer, and deposition of archaeological archives* (IfA 2008c) and English Heritage guidelines (English Heritage 1991). The paper and digital archive is to be deposited with the Lancashire Records Office in Preston on completion of the project. The excavated human remains have been boxed and labelled and reinterred in Crypt ***9***, prior to it being sealed over in February 2010.

2.5 ASSESSMENT OF HUMAN REMAINS

2.5.1 All skeletons were examined in accordance with national guidelines for assessing human bone (Mays *et al* 2004). This involved assessing the completeness and condition of the skeletons with particular reference to certain landmarks that may be used to establish biological parameters and explore health status.

2.5.2 Completeness was estimated by recording, as a percentage, how much of the skeleton had survived and assigning it to one of the following categories:

1 = <25% complete

2 = 25-50% complete

3 = >50-75% complete

4 = >75% complete

2.5.3 The condition of the bone was assessed according to the degree of erosion of the bone surface and how much of the epiphyses (the ends of the bones) and cancellous bone (the spongy bone that is beneath the outer layer) had survived. Based on these factors, skeletons were assigned to one of the following categories put forward by Brickley and McKinley (2004):

Grade 0: surface morphology clearly visible with fresh appearance to bone and no modifications.

Grade 1: slight and patchy surface erosion.

Grade 2: more extensive surface erosion than grade 1 with deeper surface penetration.

Grade 3: most of bone surface affected by some degree of erosion; general morphology maintained but detail of parts of surface masked by erosive action.

Grade 4: all of bone surface affected by erosive action; general profile maintained and depth of modification not uniform across whole surface.

Grade 5: heavy erosion across whole surface, completely masking normal surface morphology, with some modification of profile.

Grade 5+: as grade 5 but with extensive penetrating erosion resulting in modification of profile.

2.5.4 All observations were made by rapidly scanning each skeleton. While these observations provide adequate guidance to the potential of the material for further work they are, by their very nature, preliminary and subject to change as a result of any future high resolution examination. The potential of the skeletons to yield information relating to age and sex was estimated by

determining if the appropriate skeletal elements were present to allow standard methods to be employed (*ibid*).

2.5.5 The skeletons were also assessed for their potential to yield metrical data, in particular that which will allow stature estimation and that which will facilitate age estimation for sub-adults and sex estimation for adults. Stature may be estimated from human skeletal remains by applying the maximum length of complete long limb bones to the regression equations set out by Trotter and Gleser (1958), and revised by Trotter (Trotter 1970). Potential for metrical assessment was scored on a scale of 1-5, where '1' denotes skeletons that showed no potential (i.e. no elements could be measured owing to fragmentation/poor preservation) and '5' denotes skeletons that showed high potential (i.e. the full range of standard cranial and post-cranial measurements could be taken).

2.5.6 Other observations pertaining to metrical assessment involved noting which skeletons had sufficiently preserved bones, in particular crania, that will facilitate comparisons between individuals and groups. This may indicate factors such as ethnic affinities, regional micro-evolution, and biological distance, particularly when combined with the chemical analysis of the bones and teeth.

2.5.7 An assessment of the potential for the skeleton to yield non-metrical data was scored on a scale of 1-5, where '1' denotes skeletons that showed no potential for non-metrical analysis (i.e. preservation prevented the observation of all standard cranial and post-cranial sites) and '5' denotes skeletons that showed high potential for non-metrical analysis (i.e. all standard cranial and post-cranial sites could be scored). Non-metric traits are morphological variations in the skeleton. They are influenced by both the environment and genetics, but to variable and unpredictable degrees (Saunders 1989). More readily observable traits were noted (but not formally scored) to give an indication of the level and range of traits present in the population. This will inform a data collection strategy should there be any further full analysis in the future.

3. RESULTS OF THE WATCHING BRIEF

3.1 INTRODUCTION

3.1.1 The objective of the watching brief was to identify any features of potential archaeological interest revealed during the reduction of the ground level within St Mary's church, and record their character and extent, integrity, state of preservation and relative quality. The watching brief was undertaken during the initial works that occurred throughout the whole extent of the chancel, nave, and aisles of the church.

3.2 RESULTS

3.2.1 ***Chancel:*** the depth of the overburden removed to the required formation level varied across the area of the church. Within the chancel, the overburden consisted of layers of sandy-silt (***1-3***, ***14***). Quantities of brick rubble and mortar were present in the lower levels at the eastern end (***1*** and ***3***), and dumps of clay and mortar (***2***) at the western end, which formed make-up and levelling deposits associated with changing floor levels. The removal of these layers revealed: a brick sleeper wall (***5***), aligned north to south and probably associated with the support of an earlier floor; and partially revealed a demolished brick-vaulted crypt (***4***; Plate 21; Fig 4). Both features are likely to have been of nineteenth-century date. An inhumation (SK ***10***) was also revealed in the western part of the chancel. Stone benches were revealed along the northern and southern walls of the chancel, which had been keyed into the masonry (Plate 22). Mortar, or plaster, was seen to adhere to the western portion of the northern bench, and only the western portion of the southern bench survived.

Plate 21: Crypt ***4***, looking east

Plate 22: The northern wall of the chancel, looking north-east

3.2.2 ***Nave and Aisles:*** the overburden present throughout most of the nave and aisle areas also consisted of layers of levelling deposits associated with changing floor levels. The soils in these areas (***20***, ***95***, ***96***, ***97***) included reddish-brown silts and yellowish-grey loose sand. The remains of stone slabs (***85***) representing an earlier floor surface were encountered at the northern edge of the southern aisle. A single grave (***139***) was seen to cut the layers of overburden. These layers were removed to reveal a mortar floor (***15***, ***17***; Fig 2) occupying most of the central and eastern parts of the church interior, across which underlying numerous grave voids began to appear as the floor collapsed (Plate 23). Large quantities of disarticulated bone were discovered within the centre of the nave (***77***, ***80***), at the western side of the nave (***32***), and at the eastern end of the nave.

Plate 23: A coffin void revealed during the watching brief

3.2.3 At the western end of the northern aisle, a rubble layer (***19***) was present, which surrounded a portion of demolished twentieth century walling and the stone-floored conduit (***27***) for the cast iron-piped central heating system. Further, relatively modern, sleeper walls were also observed within the church.

Plate 24: Crypt ***9***, looking south

3.2.4 ***Crypts:*** two nineteenth-century brick-built crypts were encountered beneath the overburden in the nave. One of these (***9***; Plate 24) was aligned north to south, featured a vaulted roof, and lay at the eastern end of the nave. It contained four lead coffins with copper alloy coffin plates. From north to south the plates read:

Coffin 1: Robert Atherton Rawstorne died May 12th 1852 aged 12 years;

Coffin 2: Lawrence Rawstorne Esq died August 26th 1850;

Coffin 3: Elizabeth Goldsmith Atherton Rawstorne died 1823 aged 81 years;

Coffin 4: Lawrence Rawstorne Obiit 6 Decr 1803 AEtatis su de 61.

3.2.5 The second crypt (***29***; Plate 25) was encountered at the western end of the nave, aligned east to west, and featured a flat stone-slab roof held in place by a steel joist. A single lead coffin was present with a coffin plate that read:

Anne Marshall died 8 Sept 1838 aged 38 years.

3.2.6 Crypt ***9*** is likely to have been built to replace the demolished crypt ***4*** within the chancel and might represent the extension of the Rawstorne family crypt in order to provide space for the inhumations in the 1850s. Memorial plaques within the church relate to some of those interred within the crypt, including Elizabeth Goldsmith Atherton Rawstorne.

Plate 25: Crypt ***29***, looking west

3.2.7 ***Test Pits:*** four test pits were excavated by construction ground-workers, in order to examine the depth of sleeper walls and the exterior church walls. Three of these pits were located adjacent to the northern wall of the northern aisle and broke through the mortar floor (***17***) to reveal a layer of silty-clay, with indications of grave voids within two of the pits. The third pit revealed twentieth century walling. A fourth pit was excavated adjacent to the easternmost column in the northern aisle, and revealed a stone base supporting the column and the remains of a brick wall.

3.2.8 ***Possible Robber Pits:*** the removal of overburden in the vicinity of the bases for the arched columns, which marked the transition between the nave and the aisles, revealed six sub-rectangular patches of crushed sandstone and silty-sand (***21-26***; Fig 2) that appeared to represent backfilled robber pits, likely to be associated with sub-surface structural remains. The linear distribution of these pits gave the impression of areas of disturbance at intervals along former walls running lengthways in the vicinity of, and parallel to, the present columns. These appeared to represent the outer walls of the church prior to the extension of the aisles in 1855.

3.3 WATCHING BRIEF CONCLUSIONS

3.3.1 The discovery of numerous voids indicative of graves within the nave and aisles of the church, extensive charnel deposits within the central and western portions of the nave, and several patches of material that appeared to represent sub-surface structural remains, demonstrated that the area contained extensive deposits and remains of archaeological interest. It was considered that any further intrusive ground works would be extremely likely to disturb human remains, as well as deposits associated with earlier phases of the church and potential remains associated with the occupation of the site prior to the

foundation of the church. The remaining areas of charnel deposits were excavated in an archaeologically appropriate manner, down to the formation level prescribed by the development plans. The complexity of the features and deposits that had been uncovered, in what were the early stages of the groundworks, necessitated the change to the remaining proposed groundworks in order that the large majority of the significant remains would be left *in situ*. The remains that were earmarked for removal could, therefore, not be dealt with under watching brief conditions.

4. RESULTS OF THE EXCAVATION

4.1 INTRODUCTION

4.1.1 This phase of work comprised the archaeological excavation of charnal deposits in the centre and western end of the nave, and the excavation of six trenches, numbered 1-6 from north to south (Fig 2). The size, depth, and location of the trenches was prescribed by the structural engineering requirements associated with the construction of the new floor. However, following the excavation of Trench 1 and partial excavation of Trench 6 the structural engineering plans were modified in agreement with LCAS in order to reduce the impact on sub-surface deposits; the depth of the remaining trenches was reduced from 800mm below final floor level to 625mm. The six excavated trenches were 0.5m wide and ran the full length of the nave interior. In addition to the trenches, 26 pre-piling test pits (PPTP), 0.3m square, were excavated through the structural remains encountered within Trenches 2 and 5. Six broad phases of activity were identified during the excavation, spanning from the medieval period to the twentieth century.

4.2 RESULTS

4.2.1 ***Phase 1:*** the demonstrably earliest remains encountered on the site consisted of burials that were stratigraphically earlier than any other features revealed by the excavations (Figs 5a and b). These burials consisted of SK ***208***, which was revealed within PPTP 20 in Trench 2, and grave GR ***201*** found within Trench 4. Stratigraphic associations suggest that these burials pre-date at least one of the medieval phases of the church, prior to the construction of the fifteenth century tower. This phase is, therefore, earlier than the fifteenth century.

4.2.2 As SK ***208*** was found at the base of a narrow test pit (PPTP 20), it was extremely difficult to assess the relationships between the inhumation and associated features (Fig 6). It is possible that the skeleton was situated within a sunken feature, represented by cut ***206***, however it was beyond the remit of the excavation and test-pitting to fully explore the extent and nature of this feature. The cut ***206*** had been filled with tightly-packed stone and might represent a hollow that had been subsequently backfilled, such as a well, or a purposefully-excavated feature, such as a buttress or other type of architectural element. If the feature does represent a purposefully-dug structural element, then SK ***208*** is likely to simply underlie this later structure. If, however, the feature does represent a hollow, such as a well, then SK ***208*** might lie within the feature, rather than beneath it. This could, therefore, represent either the inhumation of a body within a well or other hollow that was subsequently backfilled as part of an unconnected event, or the purposeful deposition of a body within such a feature immediately prior to its decommissioning by being in-filled.

4.2.3 GR ***201*** was directly overlain by SK ***202***, which was overlain by SK ***198*** (Fig 5b), and although these graves and skeletons each represent separate

stratigraphic depositions, they might be considered to belong to a single, although broad, phase of burials. It is only the stratigraphic relationships between each of these burials and later structural elements that allow the burials to be recognised as belonging to an earlier phase, or phases, of burial within the church environs. It should, therefore, be considered that isolated individual burials encountered elsewhere within the building, which did not exhibit clear stratigraphic associations with other burials or structural elements, could also conceivably date to this broad early phase.

Plate 26: Western part of the medieval wall revealed within Trench 2

4.2.4 ***Phase 2:*** this is represented by the walls and column bases encountered during the excavations (Fig 7), which appear to represent a phase of the church pre-dating the extension of the northern and southern aisles in 1855-6. Walls running east to west, and adjacent to the current arched columns dividing the nave from the aisles, were revealed within Trench 2 (***21***, ***22***, ***23***, ***31***, ***58***, ***63***; Plate 26) and Trench 5 (***24***, ***25***, ***72***, ***87***, ***99***, ***155***). Although physically disconnected, the two walls were of similar construction style, mainly utilising sandstone fragments and water-rounded cobbles, with an encompassing matrix of reddish-brown silty-sand. Mortar was present more consistently within the southern wall (Trench 5), whereas the northern wall (Trench 2) only displayed signs of mortar at the western end (***63***) where there were also smaller, more densely-packed, stones than the central and eastern parts of this wall. This was also similar to the character of the western end of the southern wall (***72***). Thus, the northern and southern walls displayed remarkable similarity in form and degree of survival, and were located with bi-lateral symmetry within the current church (Fig 7). The presence of graves pre-dating these walls was demonstrated by numerous finds of disarticulated bone within the central portion of the northern wall, which are likely to have been disturbed during the preparation of the foundation cut for the wall. In addition to these occasional

random fragments of bone, three intact skulls (SF 1-3; Plate 27), without lower jaws, were discovered within the foundation of the northern wall (***23***). The skulls had been carefully deposited with the top of the skull uppermost and side by side across part of the width of the wall.

Plate 27: Three skulls deposited within wall ***23***

Plate 28: Reused masonry from column bases ***158*** (top) and ***180*** (bottom)

4.2.5 In total, seven probable column bases (Fig 7) were revealed within Trench 3 (***81***, ***158***, ***180***), Trench 4 (***191***, ***193***), and the area adjacent to the western nave entrance (***39***, ***194***). All of these structures comprised slabs and blocks of limestone, which measured up to 0.78m by 0.4m by 0.3m. The presence of cut niches, which had been filled with stone or which were present within sides of the blocks that had been laid face-down, demonstrated that several of the limestone blocks had been reused (Plate 28). Several of the bases had been laid on thin bedding deposits of clayey-silt and fragmented limestone patches, such as layer ***185***. Four of the columns (***158***, ***180***, ***191***, ***193***) were exposed at roughly equidistant intervals in east to west alignments along Trenches 3 and 4, but were not consistently placed in opposing pairs. Instead, the bases in each line were staggered, so that the stones within one line would be directly opposite the space between the stones in the opposing line.

Plate 29: Numerous inter-cutting grave voids revealed within subsoil ***156*** in Trench 3

4.2.6 ***Phase 3:*** Phase 3 is represented by the disturbed subsoil layers that were encountered throughout the site (***11***, ***16***, ***18***, ***44***, ***45***, ***60***, ***86***, ***156***, ***169***, ***173***, ***179***), and formed a general burial horizon. It is, therefore, the disturbance of the subsoil by burials that is attributed to Phase 3, and not the initial formation of the soil. As the same disturbed subsoil had been re-deposited as backfill within the graves, the widespread characteristics of this layer appeared fairly homogenous, disguising grave cuts. Consequently, the extent of most of the graves was only represented by the presence of coffin voids. It is extremely difficult to closely date the disturbance of these soils, as numerous phases of burial were represented within these layers (Fig 8; Plate 29). Indeed, there were indications from the presence of lenses of re-deposited natural clay within some of the sub-soil (***173***) encountered in the central-eastern part of Trench 4 that suggested that this particular layer might have been manipulated or deposited as a levelling layer. Alternatively, some of the burials in this specific area might simply have caused a greater degree of disturbance to the underlying natural clay than in other parts of the church. The assignation of

this horizon to Phase 3 has been purely on the grounds of the differentiation between burials that post-dated Phase 2 structural remains, and those areas of burial that recognisably pre-dated Phase 2 remains and so were assigned to Phase 1. However, it must be recognised that several burials were revealed that lay in isolation, at a distance to any structural remains, and can not be confidently determined to post-date Phase 2.

Plate 30: GR ***164*** with column base ***158*** at the top of the frame, looking west

4.2.7 Numerous burials, however, very clearly post-dated the Phase 2 remains, such as GR ***164***, which post-dated column base ***158*** in Trench 3 (Plate 30), and GR ***143*** that cut wall ***21***, in Trench 2. GR ***143*** was the only burial outside of the crypts to provide specific written details about the interred individual. The coffin had been fitted with copper alloy studs, which formed letters and numerals that read 'A R(?R or K) 1753(?3) Ag^{d} 93'. This demonstrates that this horizon dates to at least as early as the 1750s, although some associated burials could be of a much earlier date. One burial that formed part of the disturbance within this horizon was GR ***186***. This grave was directly overlain by a structure (***183***) consisting of stone slabs with ceramic bricks at each end. The space between the bricks had then been filled with a deposit of fuel ash and clinker (***171***). The overall length of the structure matched that of the underlying grave and gave the impression that this was a purposeful construction that marked the grave. The style of this memorial or marker was very unusual and any meaning associated with it is unclear, particularly as, due to the narrow dimensions of the trench, it was only revealed in section.

4.2.8 One conspicuous find from the subsoil (***45***) was a damaged lead shot, found in Trench 6, that appeared to have been fired. It is not clear whether this shot had been formerly associated with human remains, or whether the shot was fired in the vicinity of the church, but it was not demonstrably associated with any specific skeletal remains.

4.2.9 As the insertion of burials was an ongoing, continual process, and this horizon represents the culmination of numerous episodes of burial, rather than a single event, there could be burials associated with the horizon that are actually contemporary with, or post-date, Phase 4. Phase 3 should, therefore, be considered to represent a very broad time-frame that can not currently be tightly defined as a stratigraphic entity. In several places the subsoil directly overlay the natural clay drift geology (***196***).

4.2.10 ***Phase 4:*** this phase represents a series of structural modifications during the first half of the nineteenth century, prior to 1855 (Fig 9). Although a direct stratigraphic relationship was not established between the brick springers ***37*** and ***38*** and the abutting charnel deposit ***32***, the lack of a visible foundation cut for the walls within the charnel deposit suggests that the structures are earlier features. These structures consisted of a pair of short stretches of rectangular walling built with handmade ceramic bricks and measuring between 1.28m and 1.32m in length and 0.48m wide. The practically identical size of the structures, and their locations at either side of the main western doorway into the nave demonstrated that they were associated with each other as part of a larger structure and they are likely to represent springers for an archway that would have formed an earlier phase of the entrance doorway. The current doorway is set slightly further to the west and utilises a wooden partition with a central doorway. The brick springers may have supported a stone arch, as a decorative wooden archway with no supporting function would be unlikely to require such solid foundations.

4.2.11 Of the three crypts present, the earliest is likely to have been the demolished brick-vaulted crypt ***4*** at the eastern end of the chancel (Plate 21). It is assumed that this was built to receive the two earlier coffins found within crypt ***9***, which dated to 1803 and 1823.

4.2.12 Crypt ***29*** (Plate 25), at the western end of the nave, appears to have been the second of the crypts to have been built, as it holds a coffin dating to 1838. This structure was also brick-built, but featured a flat stone slab roof. Charnel deposit ***32*** surrounded the crypt and extended as far as the tower, at the western side, and as far as the first columns associated with the definition of the aisles at the eastern side. This deposit overlay the Phase 3 burial horizon in this area (***156***, ***173***), although the horizontal relationship between these deposits had been obscured as a result of numerous graves and the generally mixed nature of all of the deposits. It is not, therefore, clear whether the charnel deposit was contained within a pit or simply formed a spread of material, although it is likely that it was formed as a result of the disturbance of burials during the construction of crypt ***29***. The crypt was 2.04m deep and 2.6m by 1.92m, which necessitated the removal of approximately 10.18m^3 of soil and clay. One of the skulls discovered within the charnel deposit remained articulated with the lower jaw, suggesting that soft tissue had been present to connect the two elements when the body had been disturbed. Stratigraphically, crypt ***29*** appears to post-date the brick springers (***37***, ***38***), as the charnel deposit (***32***) abutted the springers, which had only resulted from excavations to create crypt ***29***.

4.2.13 The final crypt known to have been built was the vaulted brick crypt (***9***; Plate 24), at the eastern end of the nave. This contained two coffins that are likely to have originally been interred within crypt ***4***, in addition to two coffins dating to 1850 and 1852, all of which were Rawstorne family members (*Section 3.2.4*). It seems likely, therefore, that this crypt was specifically built, during the 1850s, to increase the capacity of the Rawstorne family crypt.

4.2.14 ***Phase 5:*** this phase consisted of the extension of the northern and southern aisles (Fig 10). There are several observable stratigraphic events that have been assigned to this phase and, although sequential chronological relationships are evident between several of these events, they are all attributable to the broad overarching phase of activity that relates to the historically documented expansion of the church in 1855-6 (*see e.g.* Crosby 1988, 26-7). The earliest such event was the demolition of the medieval exterior walls recorded in Trench 2 (***21***, ***22***, ***23***, ***31***, ***58***, ***63***) and Trench 5 (***24***, ***25***, ***72***, ***87***, ***99***, ***155***) (Plate 26). The demolition of the northern wall (Trench 2) was evidenced only by the horizontal truncation of the structure to leave low foundations. In Trench 5, however, the demolition of the southern wall was represented by similar truncation, and also by the presence of a dump of demolition material (***26***) that overlay part of the wall foundations (***99***). At this time, possible robber pits (***57***, ***68***) might also have been excavated through the northern wall (***31***).

Plate 31: North-facing section showing the foundation (***68***) for a column base (left) cutting wall ***23*** (centre), which was overlain by mortar level ***17*** (right)

4.2.15 The next event, stratigraphically, was the erection of the columns that currently form the arches separating the nave from the aisles (Plate 31). This comprised the excavation of pits, such as ***154***, to hold rubble foundations, such as ***55***, ***65***, ***66***, ***67***, and ***98*** (Fig 2), that would support the stone bases of the columns. These bases utilised reused limestone that appeared to be similar in dressing style to the limestone used to form the Phase 2 column bases. Following the construction of the column bases, and possibly the erection of the columns and arches, a large portion of the church was overlain by the laying down of a mortar level (***15***, ***17***; Plate 31). This mortar layer directly

overlay the Phase 3 burial horizon subsoil, although it is possible that the burial horizon was levelled prior to the introduction of the mortar. The mortar was only present within the aisles and the nave. Within the nave, the mortar only extended to the westernmost columns. Where it was present, it did not form a single consistent level. West of the mortar level, in front of the tower entrance, the ground level rose and was composed of charnel deposit ***32***. This gives the impression that there was a step in the level of the church floor at this point. However, it is probable that the mortar level was never used as a floor level and was immediately covered by subsequent layers of make-up and levelling deposits (***95***, ***96***, ***97***) to form a surface that was level with that in the vicinity of the tower entrance. It was this level over which bedding deposits, such as ***93*** and ***94***, were spread and a stone slab flooring, such as ***85***, was laid. It is also probable that the brick and stone conduits (***27***), associated with cast iron central heating pipes, were constructed at this time.

4.2.16 ***Phase 6:*** several archaeologically attributable events occurred following the insertion of the Phase 5 make-up layers (Fig 11). Most of these are likely to have occurred during the twentieth century, although disturbance of the Phase 5 layers associated with the excavation of a grave (***139***) in the southern aisle could date to the later half of the nineteenth century or the twentieth century. During the twentieth century, a concrete slab associated with an organ pit was added to the eastern end of the nave. There also appear to have been intrusive works undertaken within the centre of the nave during the twentieth century. These works were attested by four sub-rectangular charnel pits (***73-6***) that formed an interrupted trench along the centre of the nave. The regular and rectangular form of these pits suggested that they had been excavated by a mechanical excavator. The pits underlay, and may have been associated with, a structure consisting of a pair of parallel walls topped by reused roofing slate, which appeared to represent the westward extension of structure ***06*** (Fig 2). This probably related to structural support for the twentieth-century timber floorboards.

5. ASSESSMENT OF HUMAN REMAINS

5.1 INTRODUCTION

5.1.1 Human skeletal remains exposed and removed during the fieldwork consisted of fourteen inhumations as well as disarticulated bone from a variety of contexts. These remains were assessed in order to discover their potential for any detailed analysis. It was agreed with LCAS that a basic assessment would be undertaken prior to the remains being re-interred within the church, with the remains being available for further analysis in the future. A summary of the assessment results is presented in *Appendix 3*.

5.1.2 The aims of the assessment were as follows:

- to explore the potential of the material to yield biological information (for example, age, sex, and stature);
- to explore the potential of the material to yield palaeopathological information;
- to establish the potential of the collection to contribute to archaeological knowledge at local and national levels;
- to explore the potential for further specialist analysis, including the application of biomolecular techniques (for example, stable isotope analysis) and other analytical approaches (for example, radiography).

5.2 RESULTS

5.2.1 ***Completeness of articulated skeletons:*** completeness was spread very evenly across the articulated skeletons but the majority were less than 50% complete (Table 1). There had been a great deal of disturbance of the burial horizon and numerous intercutting graves were present, which could account for the poor level of completeness.

Completeness	Total
1 - <25%	5
2 - >25-50%	3
3 - >50-75%	3
4 - >75%	3

Table 1: Completeness of articulated skeletons

5.2.2 ***Condition of articulated skeletons:*** the condition of the skeletons was fairly consistent, with no individuals being completely well-preserved or completely fragmented (Table 2). However, the majority had very little surviving joint surfaces or epiphyses and very few bones survived whole, with no post-mortem breaks.

Condition	Total
0	0
1	4
2	4
3	5
4	1
5	0
5+.	0

Table 2: Condition of articulated skeletons

5.2.3 ***Estimation of biological age:*** enough bone remained to determine whether each of the skeletons represented an adult or a sub-adult. All five sub-adult individuals had further traits that would allow a more refined estimation of age-at-death (Table 3). Only three of the nine adults had one or more relevant surviving indicators that could provide a more precise estimate of age, to within ten years (Table 3). Preliminary assessment of the individuals with surviving age indicators shows an even spread throughout, and no age group demonstrated significantly more indicators than any other. One individual, SK ***69***, was found with a partially legible coffin plate, which stated the age of death as 93. Unfortunately, this skeleton had no surviving age indicators, so it is not possible for blind test-of-ageing techniques to be conducted.

Skeletons with potential for ageing	Sub adults	Adults	Total
Number of skeletons	5	9	14
% of sample* (n/N)	100% (5/5)	33.3% (3/9)	57.1% (8/14)

Table 3: Potential for estimation of skeletal age
*(*percentage of the sample that has one or more surviving age indicators)*

5.2.4 ***Estimation of biological sex:*** very few of the adult skeletons had remaining features that would allow the determination of biological sex (Table 4). The individuals that did demonstrate such features represented an even number of males and females. However, the potential for sex estimation in this sample is quite low, as greater than 50% of the individuals did not have surviving features that can be used for estimation of biological sex.

Number of adult skeletons	9
% of sample with features suitable for sexing (n/N)	44.4% (4/9)

Table 4: Potential for the estimation of biological sex

5.2.5 ***Metrical analysis:*** the potential for metrical analysis, both cranial and post-cranial, is generally very poor (Table 5). Indeed, half of the assessed

individuals did not demonstrate potential for metrical analysis and it is not possible to complete a full metrical analysis on any of the skeletons.

Metric data score	Total
1	7
2	3
3	3
4	1
5	0

Table 5: Potential for metrical analysis

5.2.6 ***Non-metrical analysis:*** the potential for non-metrical analysis is poor, with ten out of fourteen skeletons offering limited or no potential (Table 6). The poor preservation and fragmentation of the crania and the long bone epiphyses has limited any future non-metrical analysis. One instance of a retained metopic suture and another of a retained *sutura mendosa* were recorded. Overall, though, this assemblage would provide a weak base for studying non-metric traits.

Non-metric data score	Total
1	4
2	6
3	2
4	2
5	0

Table 6: Potential for non-metric analysis

5.2.7 ***Potential to yield palaeopathological data***

5.2.8 ***Skeletal pathology:*** all skeletons survived well enough for macroscopic observation of pathological conditions to be undertaken. A total of four individuals provided palaeopathological information which could contribute to investigations of the health status of the population from St Mary's church. The most common of these conditions was osteoarthritis, which is the most common form of joint disease, but non-specific infections and metabolic diseases were also noted. This range of pathological conditions is typical for the post-medieval period. The density of observed pathological conditions in this population was low, but a full analysis, should it be undertaken in the future, may increase the frequency of such conditions as it will allow a more detailed and thorough examination of the skeletons.

5.2.9 ***Dental pathology:*** indicators of oral pathology were much more widespread within the population and over half of individuals with teeth were affected.

Caries and ante-mortem tooth loss were common and one instance of an abscess was noted. Tooth infection and loss was common in the post-medieval period, therefore, this range of conditions is not unusual. Further future analysis may confirm and fully characterise the dental pathology observed in this assessment.

5.2.10 ***Disarticulated human remains:*** large quantities of disarticulated skeletal remains, from numerous contexts, were found and some of this material had been disturbed during construction work in the twentieth century. The value of disarticulated material is very limited, as any collected data cannot usually be related to age or sex and the exact position and date of individual remains is difficult to determine. The disarticulated material from this site was scanned for any unique or unusual pathologies or information that might be worthy of further comment and analysis.

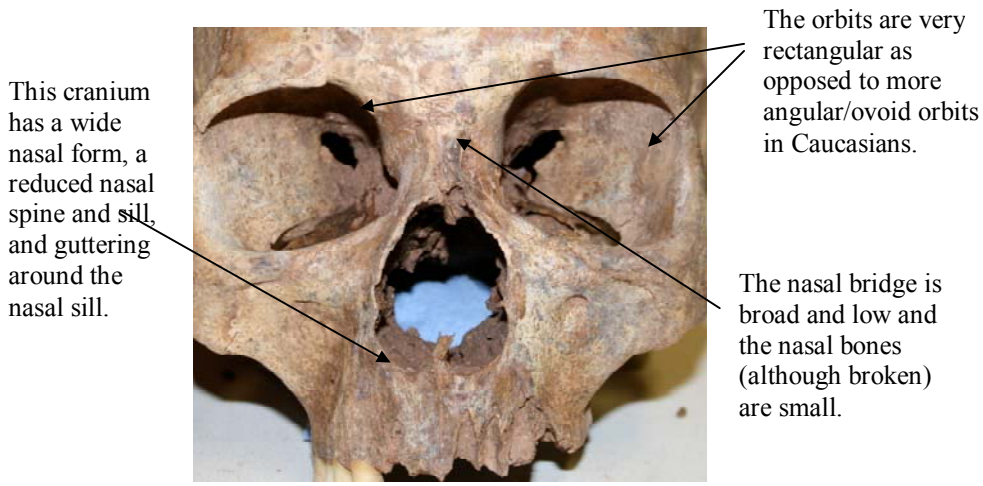

Plate 32: Craniofacial traits associated with the orbits and nasal area of a skull from charnel deposit ***28***

5.2.11 One cranium from charnel deposit ***28*** was considered a suitable candidate for further analysis. It was noted that this skull could possibly be non-Caucasoid and a thorough macroscopic and metric analysis was undertaken. All standard cranial measurements were taken and entered into the CRANID 6 computer programme, which performs linear discriminant analysis on cranial measurements by undertaking comparisons with cranial datasets derived from specific geographic regions. This analysis concluded that this individual was a Caucasoid (*Appendix 3*: Table B). However, the craniofacial trait expression displayed greater diversity, with Negroid and Mongoloid features being observed. The area around the nose and the orbits suggest a Negroid ancestry (Plate 32), whereas the forward projection of the face is a more Mongoloid trait, and the lack of facial or alveolar prognathism is a Caucasoid feature (Plate 33). The results of this cranial assessment are, therefore, inconclusive, particularly in the absence of measurements and observations from the post-cranial skeleton. This skull either represents a individual of mixed race; most likely Caucasoid and Negroid, or a Caucasoid skull with an atypical facial bone structure.

5.2.12 ***Potential for analysis:*** the potential for further work on this assemblage is very limited. Even though the degree of preservation is fair, most skeletons are

less than 50% complete. Moreover, the sample size is very small for a detailed population study. However, further analysis in the future would be beneficial as such work on skeletal remains from the medieval period is an under-researched area. It is also recommended that this assessment report should be archived and referred to if any future work is undertaken on the remains, or if further work is undertaken in the vicinity of the church.

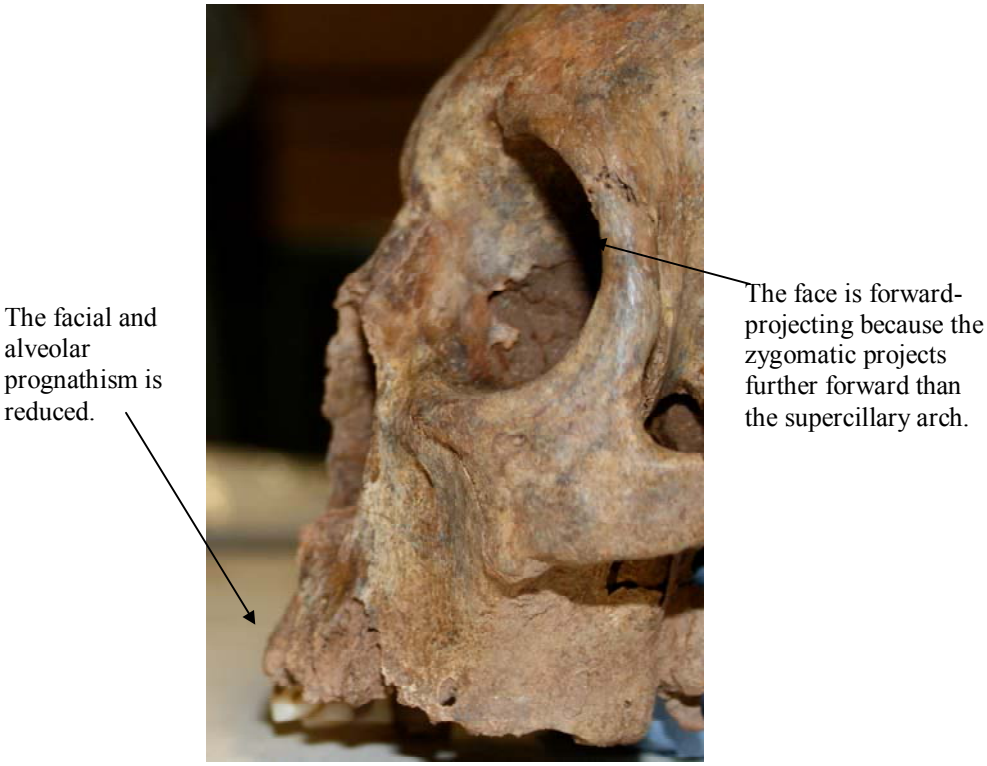

Plate 33: The degree of facial projection displayed by a skull from charnal deposit ***28***

6. CONCLUSION

6.1 INTRODUCTION

6.1.1 The excavation revealed six broad phases of activity associated with the development of St Mary's church. These phases spanned from the medieval period to the twentieth century, and some of the phases represented several consecutive sequential events that appear to have occurred within relatively close time frames. No evidence of structures pre-dating the construction of the church was encountered, and the most numerous type of feature that was revealed was the inhumation burial. The historical record of the development of St Mary's church has been significantly enhanced as a result of the excavations. Detailed descriptions of the features associated with each phase are given in *Section 4*.

6.2 DISCUSSION

6.2.1 ***Phase 1 (Fig 5):*** the earliest historical accounts of a church in this area date to 1140 (Farrer and Brownbill 1908, 104-6; 1911, 52-6), although no remains were encountered that could be confidently attributed to this period. Few artefacts were recovered during the excavations, and the stone walls and column bases that were revealed were not characteristic enough to allow a precise date to be posited, although they are likely to be of medieval date. It is possible that some of the burials found beneath this masonry could date to the twelfth century or earlier, although this has not been demonstrated, and the limestone blocks comprising the column bases within the nave had been reused from an earlier structure of unknown date (Plate 28). Some of the limestone blocks used to form the bases for the nineteenth-century columns were also pieces of reused architectural stone, although these were not closely dated.

6.2.2 A hollow (***206***; Fig 6) that pre-dated the construction of the northern wall was not fully excavated, as a result of the restrictions of the current investigations. This might represent a feature that was dug as part of the construction of the outer wall, such as a foundation for a buttress, or it could represent an infilled hollow, such as a well. There was, however, no indication of an opposing counterpart in association with the southern wall, which might be expected if the church was built according to a parallel plan. Two wells are known in the local area; St Mary's well (Site **06**), on the southern side of Liverpool Road, and St Anne's well, which is said to have been sited 150 yards to the north-west of the church, at the edge of Crow Wood (Crosby 1988, 105). Even if a deep well shaft had not been purposefully excavated, the possibility that the church site is geologically suitable for a spring-fed well to occur naturally is supported by the fact that the nearby St Anne's well was fed by a natural spring (*ibid*). In addition, when a new river channel was cut at the foot of Castle Hill in 1884, the disturbance resulted in the occurrence of springs on the hill slope near the church (*op cit*, 139). This suggests that, under the

correct environmental conditions, the local area has the capacity to allow springs to form.

6.2.3 Beneath the stones that had been used to infill hollow (***206***) was an articulated inhumation (SK ***208***). Some of the stones were blackened, giving the appearance that they might have been subject to burning, although the relevance of this is not known. It is possible that this skeleton simply represents a prior inhumation that was revealed during the excavation of a buttress foundation pit, or it could represent the purposeful deposition of a body within a well prior to the well being put out of use by being backfilled in advance of the construction of the church wall. Although the notion of a votive or ritualistic deposition of human remains in a Christian context might seem unfamiliar, and evocative of pre-Christian belief systems, it should be remembered that some human remains, such as saints' relics, were afforded veneration in Christian contexts in the British Isles from the early Christian period and into the medieval period (Edwards 2002, 130). The association of human bones and supernatural qualities, occurrences, and related rituals was not, therefore, unfamiliar to medieval Christianity, and it is possible that the placing of a body in a holy well might have been undertaken as an act of propitiation prior to the effective destruction of the site.

6.2.4 Further evidence of superstitious or ritualistic behaviour, in association with the construction of the northern wall of the church, is suggested by the discovery of three carefully deposited human skulls within the wall (***23***; Plate 27). It is likely that these skulls were disturbed during the excavation of the foundation trench for the wall, as suggested by fragments of bone found within this portion of the wall. Skulls are clearly unsuitable as stable components of walling, and it is possible that these skeletal elements were selected as being representative of the whole body and either placed within the wall in an attempt to show respect to the disturbed bodies, or as a superstitious act attempting to sanctify, or to bestow supernatural protection on the structure or the builders. Indeed, it has been suggested that during the medieval period there was a tendency to translate spiritual beliefs into physical manifestations, and that foundation or threshold burials might provide one expression of such practices although, to date, there has been little exploration of such ideas in the context of the north-west of England (Newman and Newman 2007, 106). It is, therefore, possible that these deposits were associated with vernacular religious practices or aspects of popular belief. The existence of popular beliefs that associated supernatural qualities with ecclesiastic sites in the local area is demonstrated by the treatment of St Mary's well during the post-medieval period. This well was attributed with miraculous properties and was eventually covered over as a result of sanitation issues arising from people washing in the water (Taylor 1899, 5-6).

6.2.5 ***Phase 2:*** the walls within Trench 2 (***21***, ***22***, ***23***, ***31***, ***63***) and Trench 5 (***24***, ***25***, ***72***, ***87***, ***99***) appear to represent the extents of the outer walls of the church (Plate 26), prior to the extension of the northern and southern aisles in 1855 (Fig 7). Although an engraving of 1728 (Crosby 1988, 109; Plate 7) gave the impression that the nave was the same width as the chancel at this time, a burial from the 1750s (GR ***143***), which cut the northern wall, demonstrates

that this wall, which projects beyond the width of the current chancel, certainly pre-dates the recorded alterations of 1812. This suggests that the nave was wider than the current chancel at least as early as the 1750s, unless there was an earlier phase of the chancel that was wider than the current structure. Without further, targeted, excavation it is not possible to say whether these walls represent the only earlier phase of walling that connected the tower to the chancel, or whether additional episodes of nave widening might have occurred. It appears likely, however, that these walls represent the original medieval walls of the nave.

6.2.6 Similarly, the probable column bases exposed in Trench 3 (***81***, ***158***, ***180***) and Trench 4 (***191***, ***193***) were revealed as a result of the incidental positioning of the trenches and represent only what was encountered during the current excavations, and not necessarily the total number of such features present. The orientation of the two lines of columns appears to be convincing, as it mirrors the orientation of the outer walls and the current arched columns. However, the narrow form of the trenches, and their east to west orientation, would inevitably give the impression of parallel straight lines. The accurate alignment of the three stone bases within Trench 3 certainly confirms that they were constructed on a shared alignment, as part of a commonly conceived 'grid'. Two additional column bases at the western end of the nave (***39*** and ***194***) lay slightly wider apart than the bases that were revealed within Trenches 3 and 4 and are likely to have represented structural elements that framed the entrance into the nave from the tower.

Plate 34: Southern side of All Hallows Church at Mitton, demonstrating the use of nave walls that sit lower than those of the chancel

6.2.7 The column bases appear to have formed two parallel lines that were indeed aligned east to west and that, in conjunction with the wall foundations encountered in Trenches 2 and 5, they represented an earlier and narrower version of the current church plan. The columns, therefore, would have

defined the central nave, with the areas between the lines of columns and the demolished walls representing the aisles. As the church tower is suggested to be of fifteenth-century date, and the tower would not have been built as a free-standing structure at a distance from the chancel, parts of which were built during the fourteenth century, the walls must date to at least as early as the fifteenth century. The only way that they could post-date the tower would be if additional, undiscovered walls representing an earlier and narrower phase of the nave exist. Although not impossible, there is no current evidence for the presence of such walls. As the nave was wider than the chancel, prior to the raising of the nave roof in 1812, and shared the same pitch of roof as the current chancel roof, as suggested by the former roof line on the interior wall of the tower (Plate 13), then the nave walls, by necessity, would have had to have stood slightly lower than the current chancel walls. Precisely this design of church plan is represented by All Hallows' Church at Mitton, which is also a medieval church that overlooks the River Ribble (Plate 34). It is, of course, also possible that the walls might pre-date the construction of the tower, and that a chancel and nave might have stood prior to the addition of the tower.

6.2.8 ***Phase 3:*** in line with the verbal brief agreed between LCAS and the client, it was beyond the scope of the post-excavation work at this stage to provide a full analysis of the burials encountered during the excavations. The range of periods represented by the numerous disturbances to the Phase 3 sub-soil horizon can not be fully understood in the absence of dating evidence that might provide a chronological framework. In contrast to the lead coffins interred within the crypts, the burials within the sub-soil did not feature coffin plates or any other form of marker that might provide details relating to the identity of the individuals represented by the skeletal remains. As the trenches were only reduced to approximately 400-500mm below the level of the mortar floor, the full stratigraphic sequence of burials was not revealed and only the burials at the higher levels were excavated.

6.2.9 It is clear that the burials within the northern and southern aisles were not originally positioned within the church building, but were located within the former graveyard, outside but close to the exterior walls of the earlier, narrower, nave (Fig 8). Following the extension of the church in the nineteenth century, these areas were brought inside the footprint of the modified building. Many of the burials situated within the current nave, however, in addition to that revealed within the chancel (SK ***10***), are likely to have been deliberately buried within the extents of the church. The locations of these burials might be indicative of personal status or wealth, or opportunities might have existed for long-standing members of the congregation to have been buried in the vicinity of their pews. The provision of interior burial plots may have changed over time, given that the graveyard associated with St Mary's church became increasingly populated and was subject to several phases of expansion, including an extension in the 1880s (LRO XPR3164/4/69).

6.2.10 The location of several burials adjacent to the exterior of the northern and southern Phase 2 walls demonstrates that burial plots close to the church were sought after. Several of these burials were not only adjacent to the wall, but were so close that they cut into the side of the wall foundations (Plate 35).

This not only demonstrates the congregation's desire to be buried close to the church, but that they were buried prior to the demolition of the earlier walls. There was no indication of any burials disturbing the central part of the walls, which had been levelled in the mid-nineteenth century. All of the burials disturbed only the outer edges of the wall, suggesting that when they were interred when the wall was still standing, and that the sub-surface foundations stepped out slightly from the visible walls. This means that although the grave plot was apparently sited abutting the exterior wall, it would cause disturbance to the projecting lower levels. All of these graves, therefore, pre-dated the church modifications of 1855-6.

Plate 35: Graves ***143*** and ***144*** cutting wall ***21***, looking east

6.2.11 ***Phase 4:*** it is not clear precisely when the brick springers (***37***, ***38***; Fig 9), associated with the main entrance into the nave from the tower, were built. However, it is possible that this feature formed part of the sequence of modifications that took place in 1812, prior to the extension of the aisles in 1855. If this assumption is correct, then the doorway springers would be of a broadly similar date to the three crypts that were encountered, which, according to the dates on the coffins, appear to have been constructed between 1803 and 1850. It seems very likely that the springers became derelict in 1855-6, at which time the tower arch was reportedly opened up (Baines 1891, 206; LRO PR3164/14/57), presumably to form the wide entrance that has now been filled by a wooden partition and door. The widely-scattered charnel deposit (***32***) that was spread around the edges of crypt ***29***, and probably produced as a result of the excavation of the pit for this structure, reflects an apparently scant regard for the human remains within the church during the mid-eighteenth century. This presumably reflected contemporary attitudes towards the consideration of the importance, or lack thereof, of the immaculate

preservation of the body in anticipation of literal human resurrection on Judgement Day. It should, however, be considered that the sensibilities of those engaged in ground-works or grave-digging within church grounds need not reflect those of the wider congregation or parish. Indeed, the disturbance of apparently fleshed remains without formal re-burial, as appears to have occurred during the formation of the charnel deposit, is unlikely to have been deemed acceptable by many local people, regardless of their theological stance. Although attitudes towards the importance of the preservation of human remains might have changed over time, it is clear that some individuals interred within the vicinity of the church might have been concerned with literal resurrection. This is suggested by the inscription on the gravestone (LHER 9075) of Peter Taylor, who died in 1682, which included the lines: 'Death did areast and heare I lye and must remaine untill the iudgment day' (unconventional spellings from original text).

6.2.12 Conspicuously absent from the immediate vicinity of crypt ***9***, were indications of associated charnel deposits. This large crypt would have displaced approximately 14.66m^3 of underlying deposits, which are extremely likely to have included numerous burials. It appears, therefore, that the deposits excavated from the crypt area were removed from the interior area of the church.

6.2.13 ***Phase 5:*** the mortar surface that was laid within the nave and aisles (Fig 10) presented an interpretative dilemma. Although an initial inspection suggested that this represented a floor associated with the nineteenth-century expansion of the church, the mortar did not cover the whole of the nave and aisle area and lay adjacent to soil layers at the western side of the nave that were at a higher level. Indeed, had the mortar level formed an early floor surface, it would have left numerous nineteenth-century column bases exposed that had been constructed from re-used limestone masonry. Although stable, these bases presented a non-uniform appearance that was out of character with the style of the rest of the mid-nineteenth century architecture, such as the arches and window furniture, which was clearly intended to lie above ground level and within view. This, in addition to the inconsistency of the level of the mortar and the difference in levels between the mortar and charnel deposit ***32***, suggests that the mortar level was an artefact of the construction process, rather than an intended floor level. Only one burial encountered within the church was demonstrably later than the modification of 1855-6. This was an inhumation at the western end of the southern aisle, which cut the mortar floor and the overlying levelling deposits. The only other possible explanation for this burial appearing to cut the mortar floor would be if it had been in place prior to the laying of the floor and then accessed at a later date. The lack of interior burials during the nineteenth century is likely to reflect changing views, in relation to public hygiene, with national concerns for the sanitary nature of burial areas having been expressed in the publication of the Burial Act in 1853 (UK Parliament 1853), which allowed the enforced discontinuation of burials within certain churches, chapels, and graveyards in England.

6.2.14 ***Phase 6:*** during the twentieth century, there have been a small number of interventions or disturbances representing this phase, mainly representing internal alterations in the form of an organ pit and support for the timber floor. The presence of charnel around or associated with these features attests to further disturbance of burials internal to the church, within the nave.

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Ordnance Survey 1930 *Lancashire Sheet 61.SW*, 6" : 1 Mile

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0 250 m
1:10,000 @ A4

oxford archaeology north

EM*L10179*APS*08.10.09

Figure 1: Site location

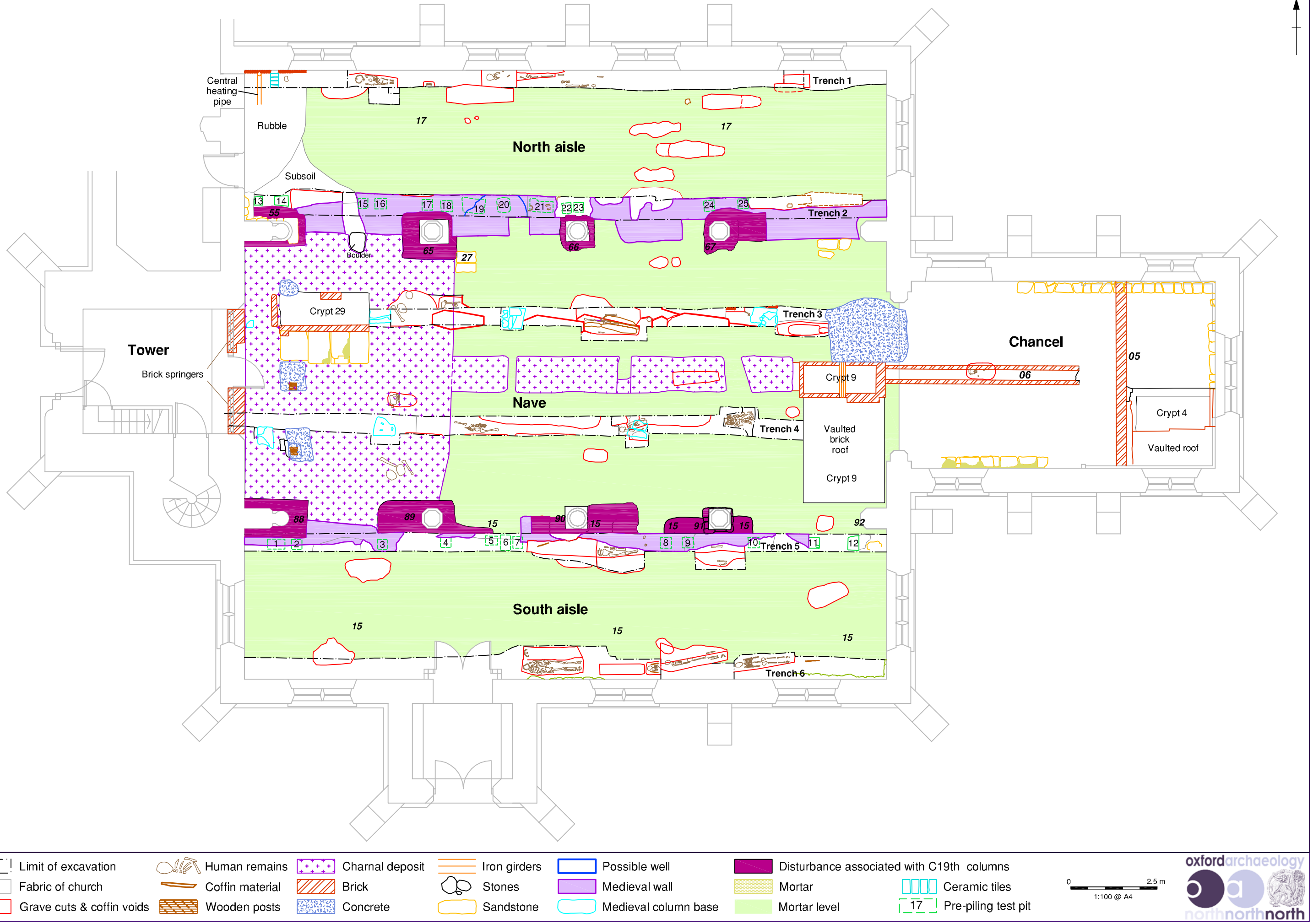

Figure 2: Site overview

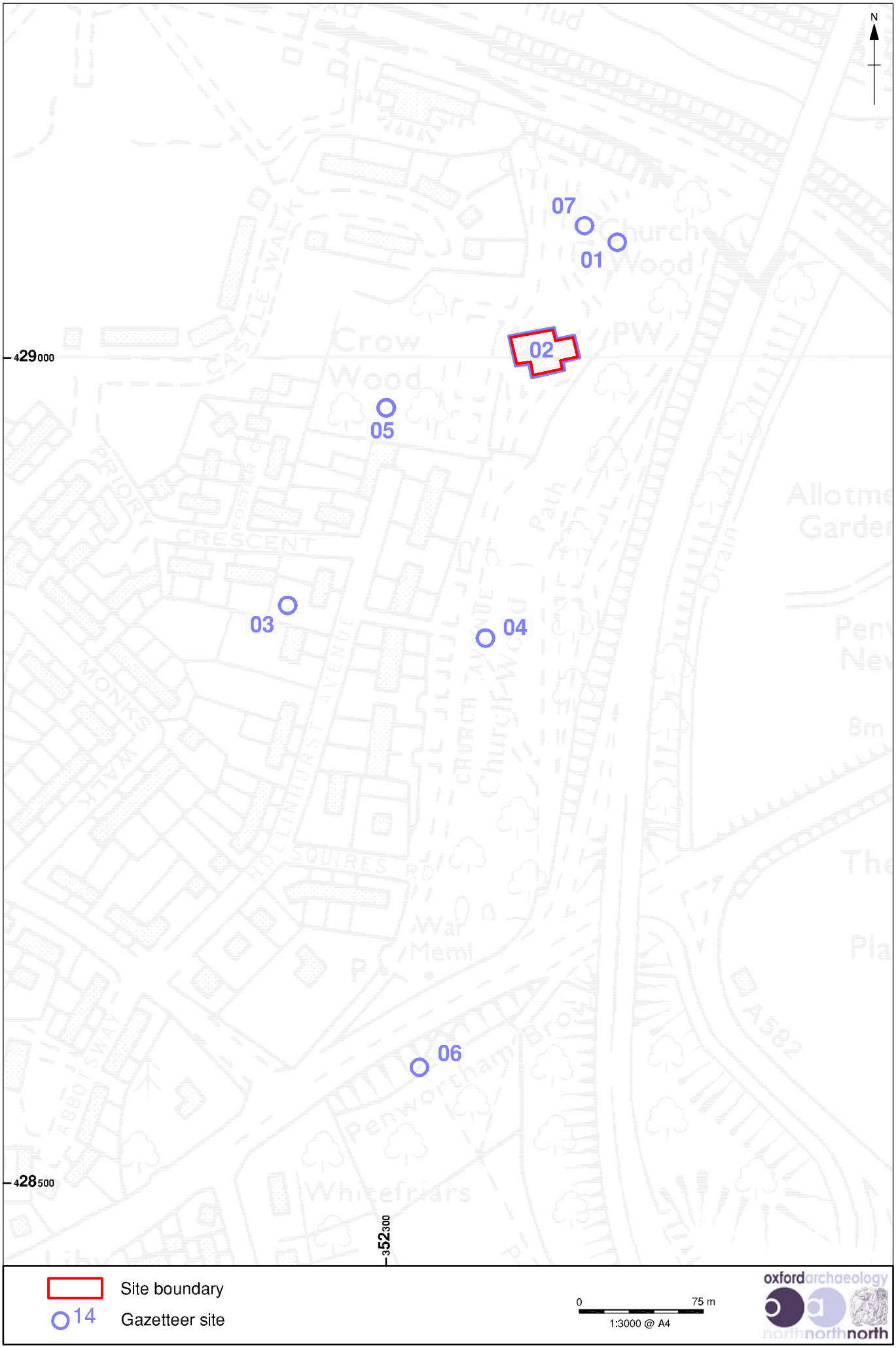

Figure 3: Location of pertinent historical and archaeological sites

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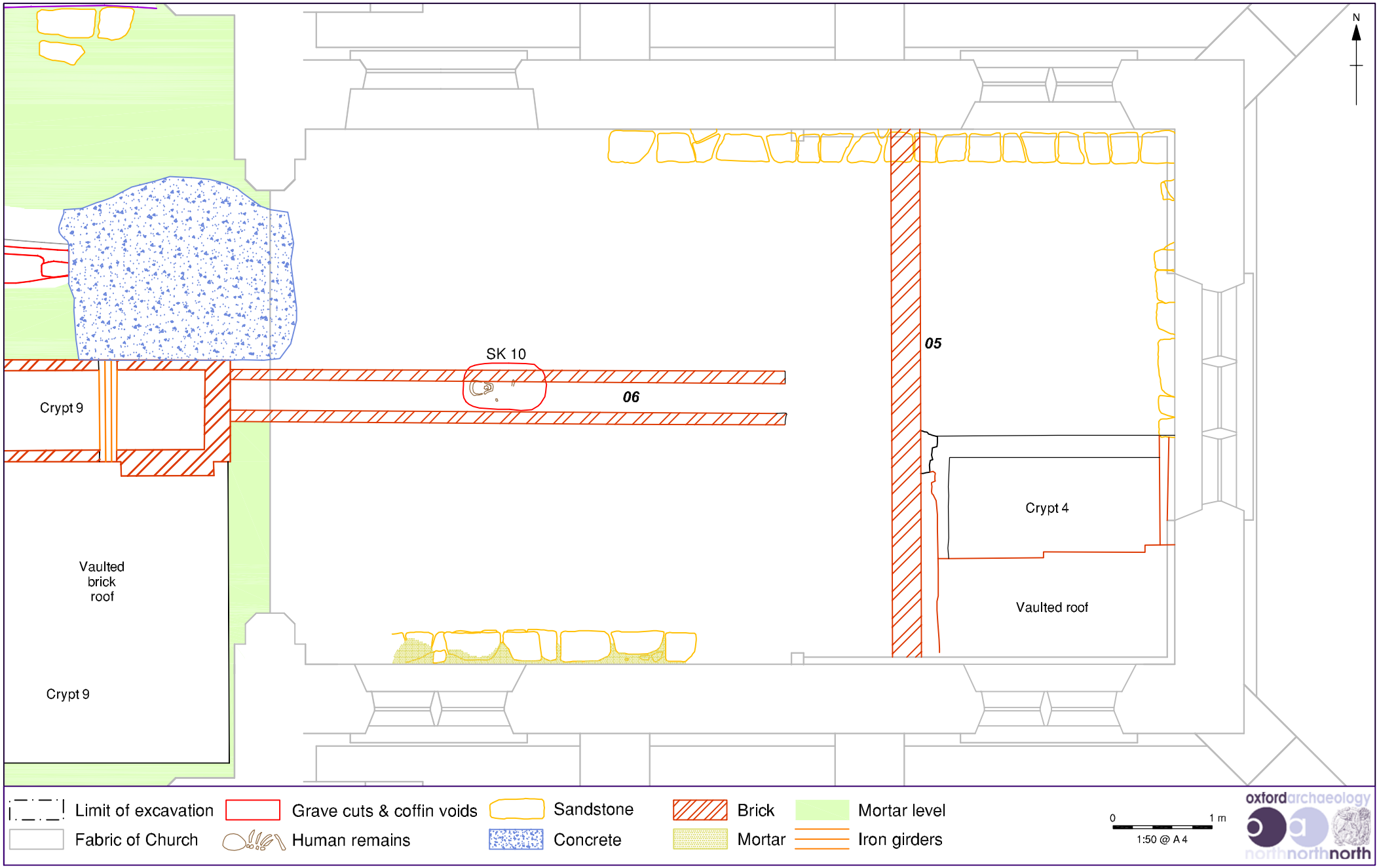

Figure 4: Detail of the chancel area

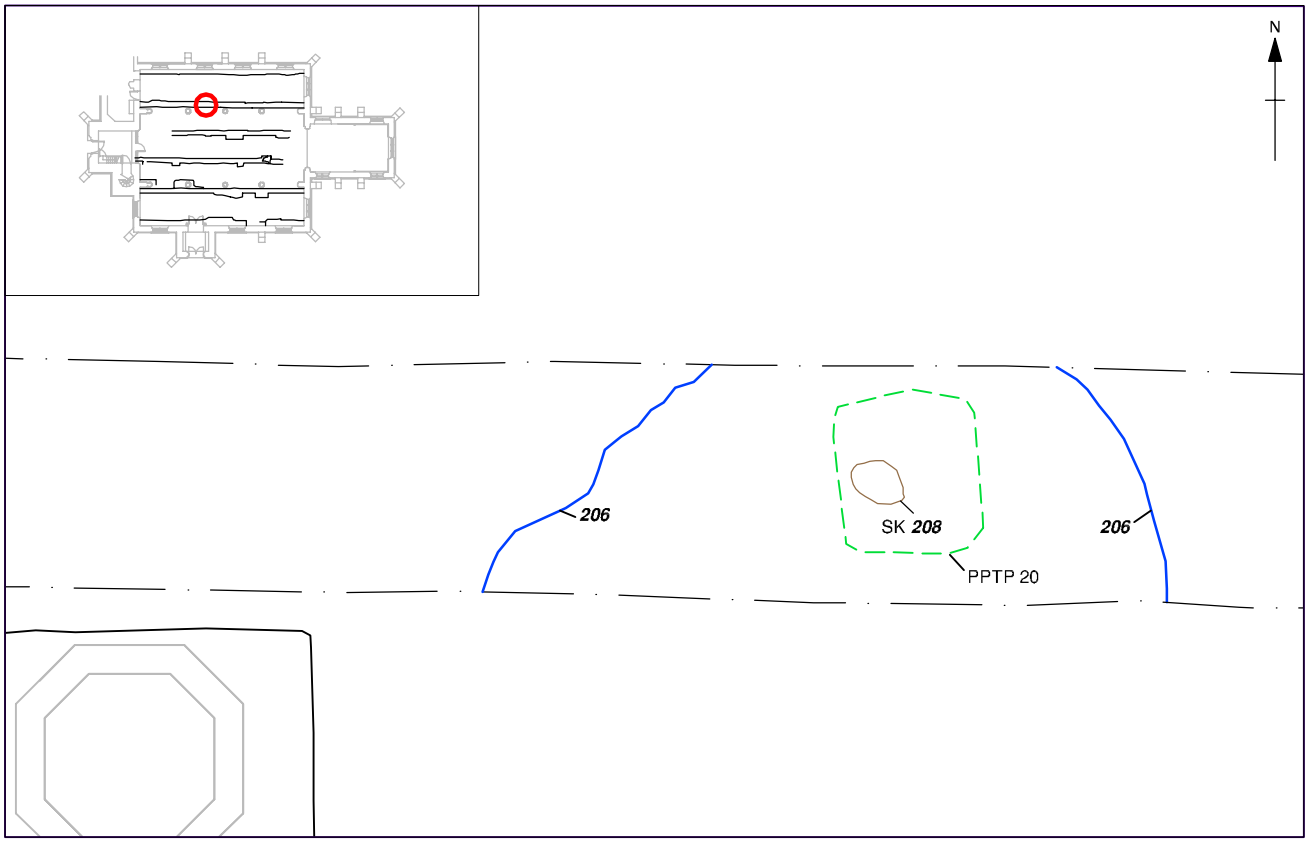

Figure 5a: Phase 1 features in, Trench 2

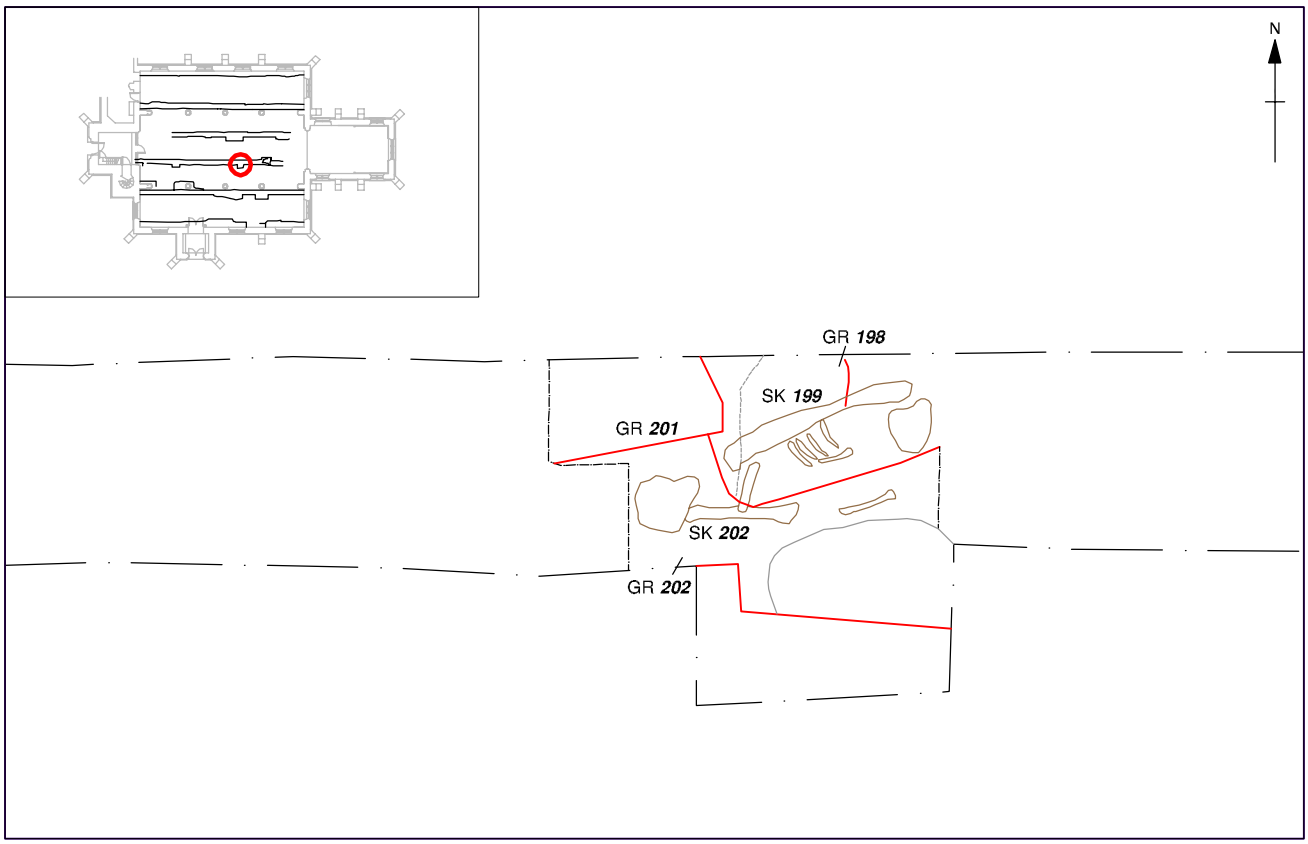

Figure 5b: Phase 1 features in Trench 4

Limit of excavation
Fabric of church
Grave cut
Human remains
Possible well
Sandstone
Stones
0
0.5 m
1:20 @ A 4

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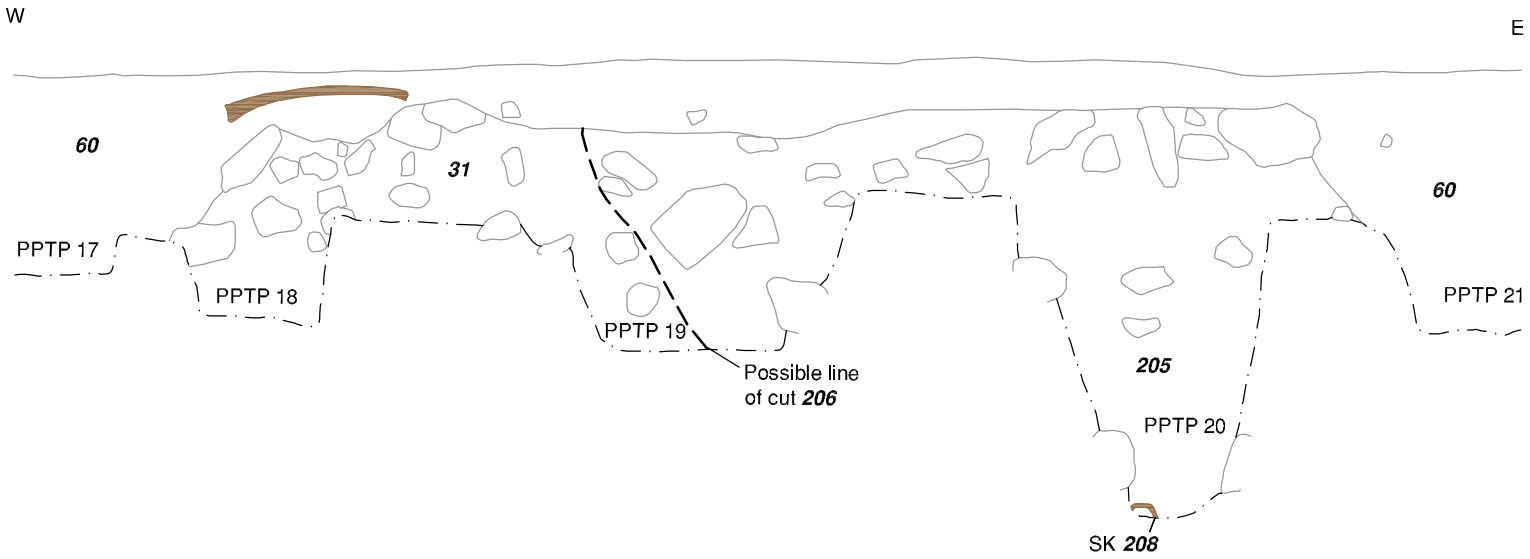

Limit of excavation
Deposit
Cut
Stones
Human remains
PPTP 18 Pre-piling test pit
SK 208 Skeleton
31 Context

0 0.25 m
1:15 @ A4

Figure 6: South-facing section of possible well *206*

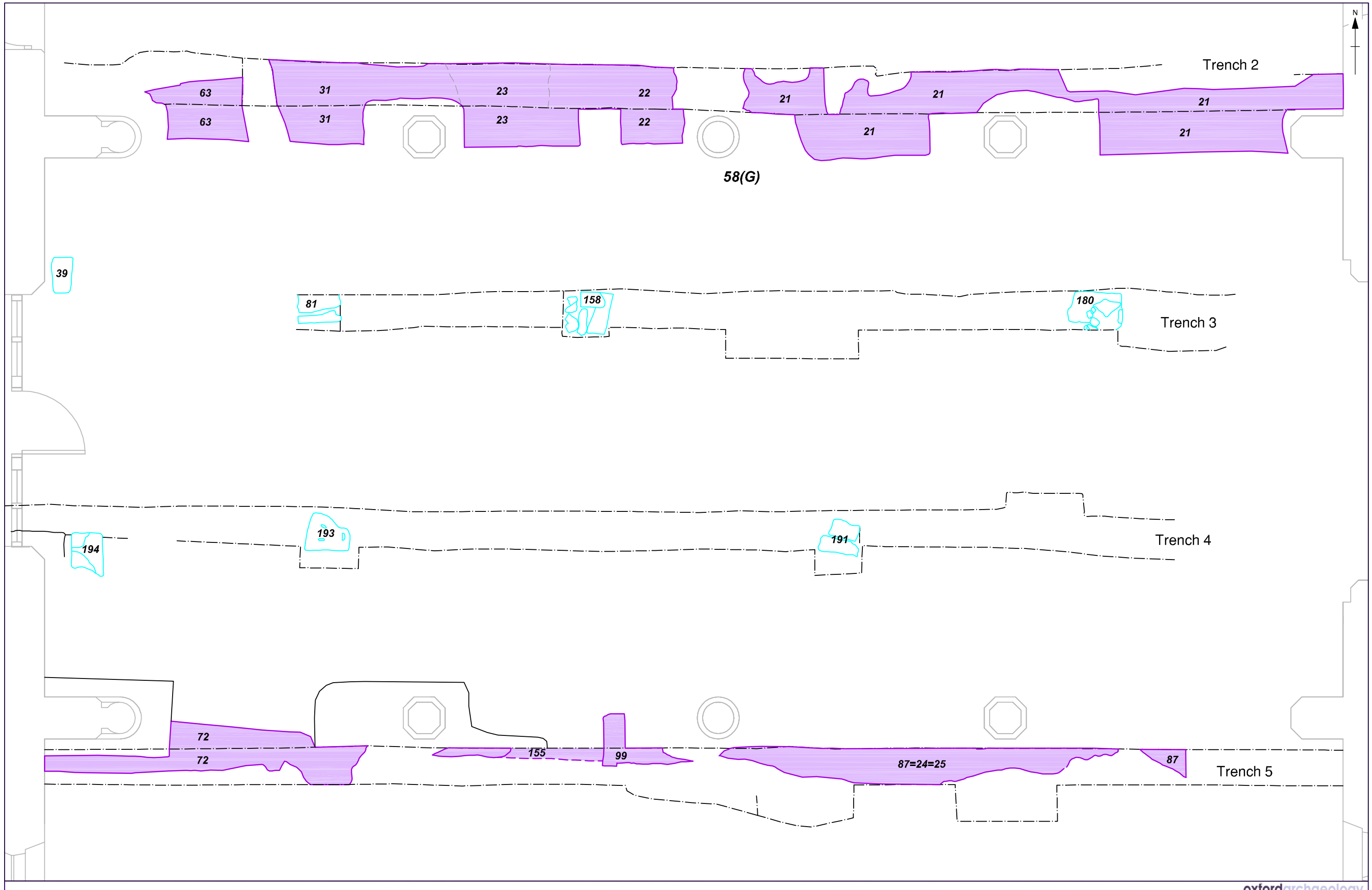

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Figure 7: Phase 2 features

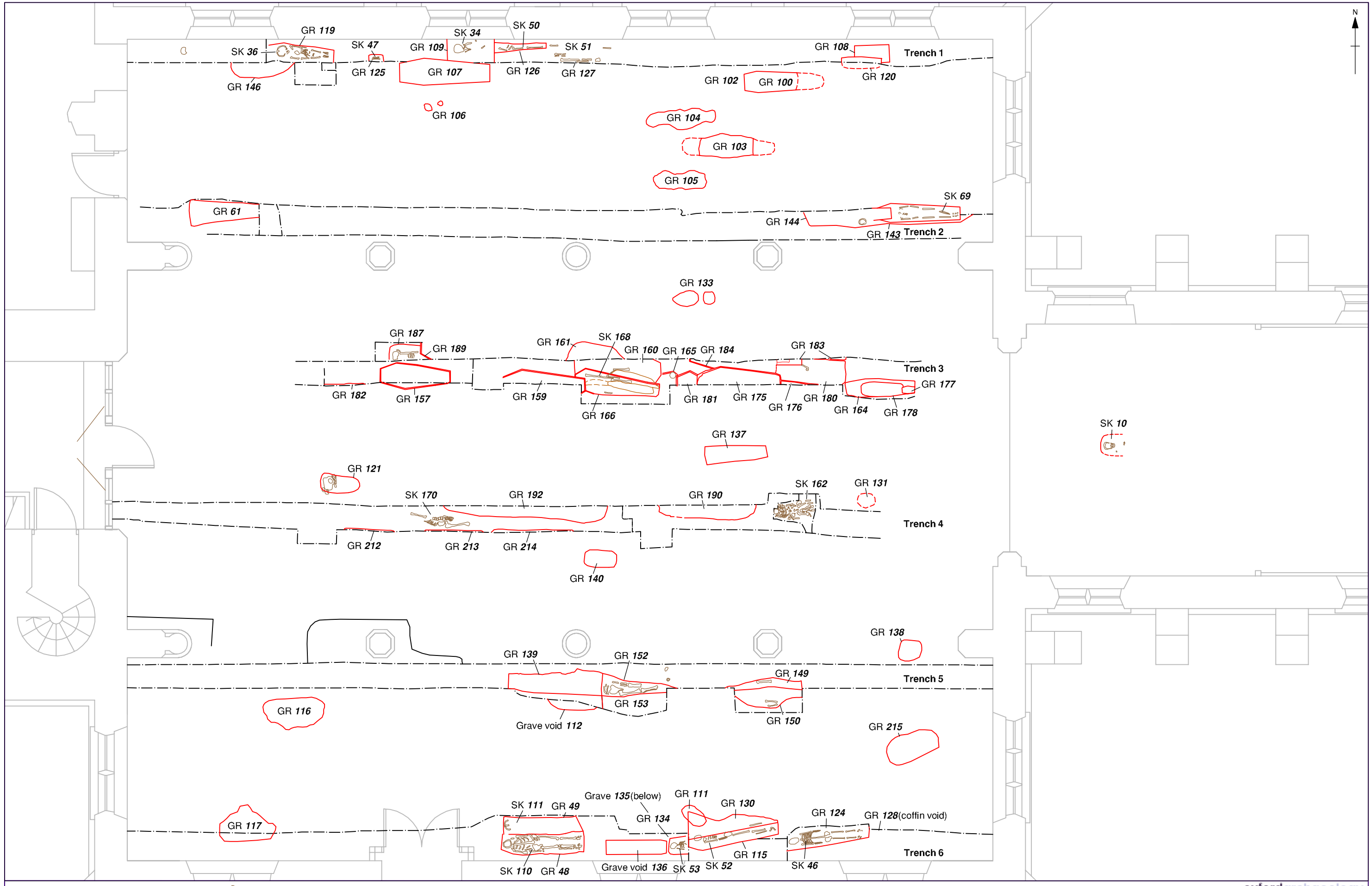

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Figure 8: Phase 3 features

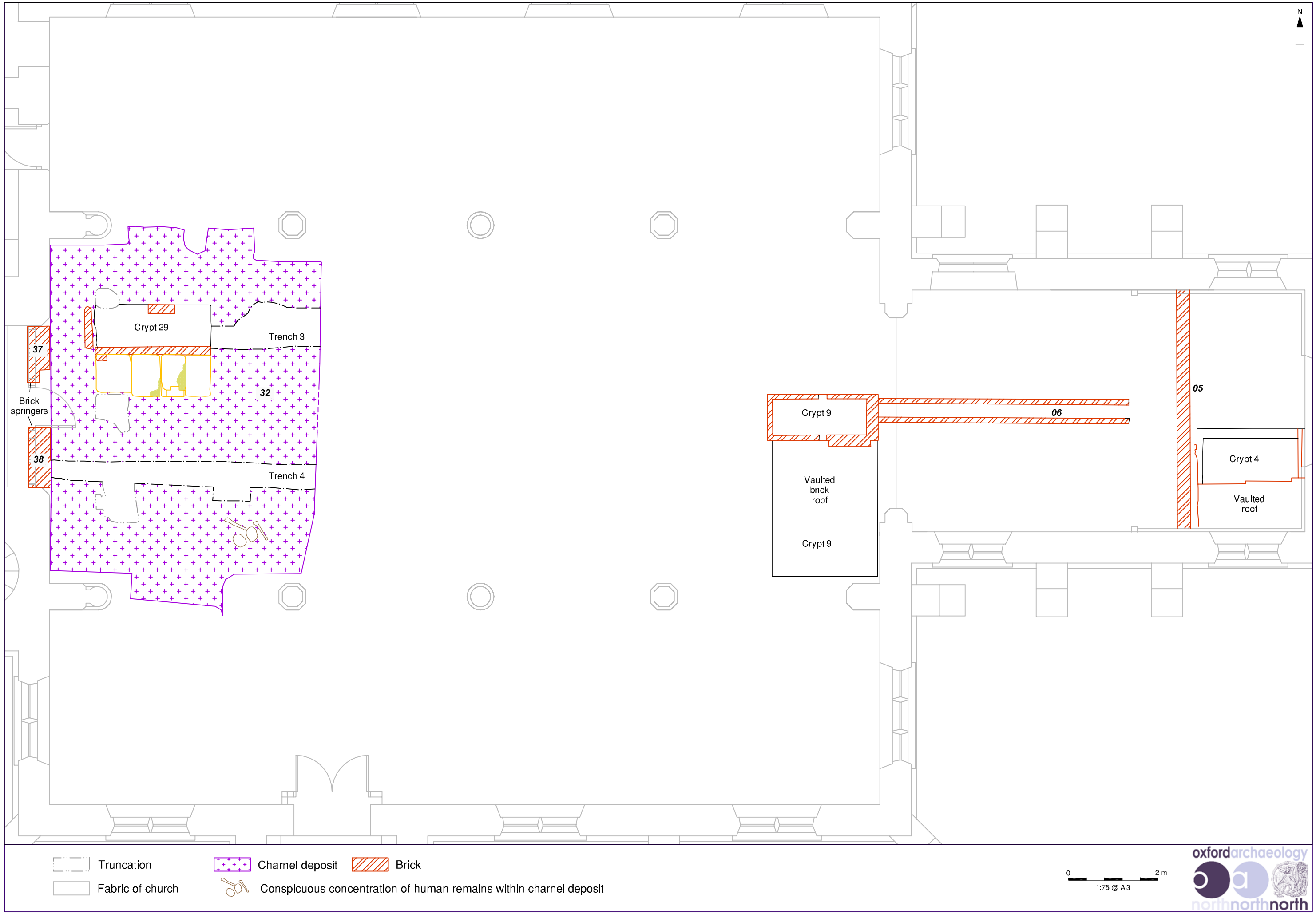

Figure 9: Phase 4 features

Figure 10: Phase 5 features

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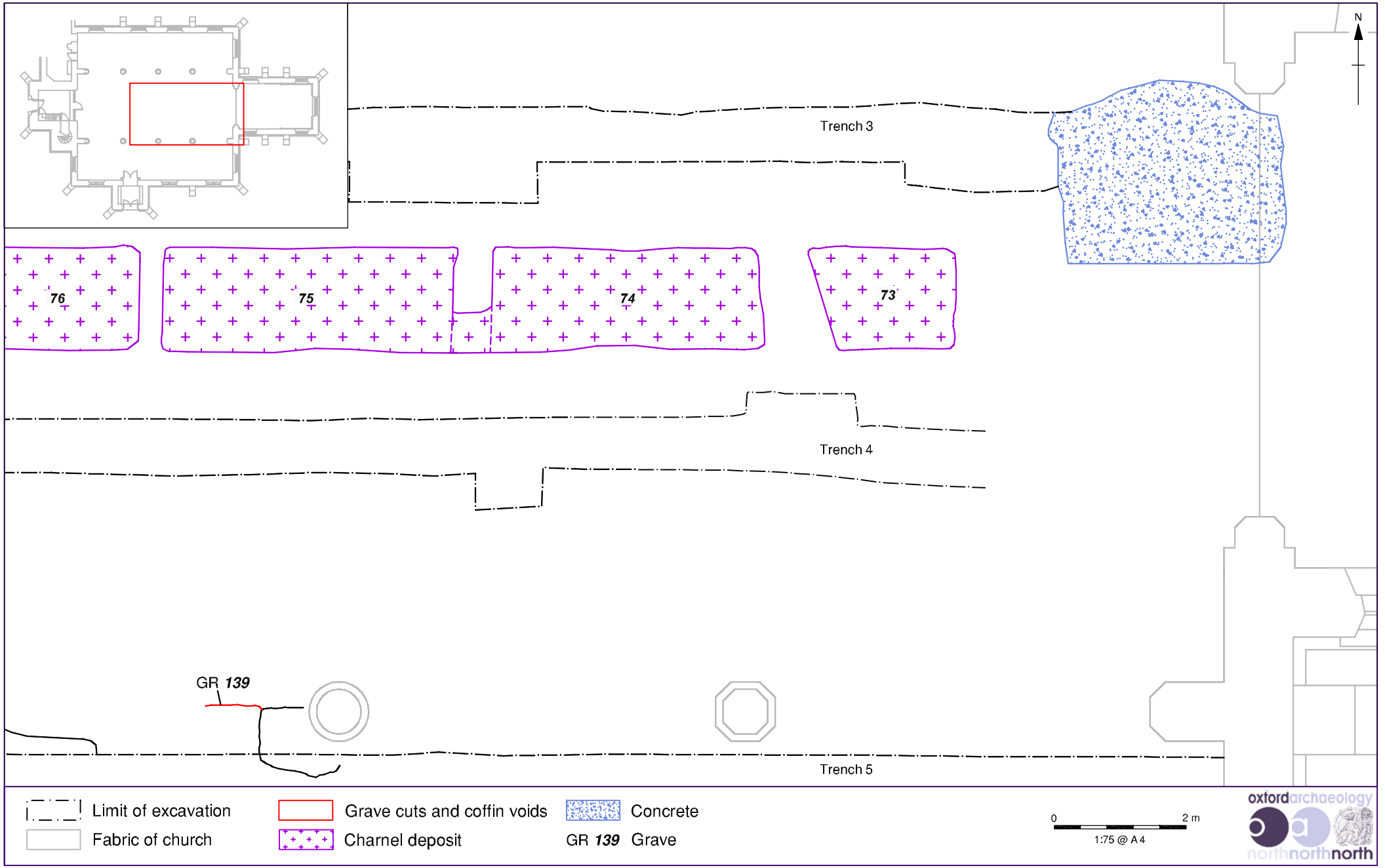

Figure 11: Phase 6 features

APPENDIX 1: PROJECT BRIEF

Specification for an Archaeological Watching Brief at The Church of St Mary, Penwortham SD 52388 29000

Prepared by LCAS on behalf of Fish Associates

1. Introduction

1.1 As part of a scheme of improvement at the Church of St Mary, Penwortham, a new floor and an underfloor heating system are planned. As part of the development an archaeological watching brief is required.

1.2 This specification has been prepared by Lancashire County Archaeology Service (LCAS).

2. Archaeological Interest

2.1 The Parish Church of St Mary at Penwortham is first mentioned in 1140, when it was granted to Evesham Abbey. The existing building is a product of multiple rebuildings, with a chancel of the fourteenth century, a west tower of the fifteenth century and a nave mainly of 1855-6. It is suggested that the fourteenth century church is completely encompassed by the later rebuildings (Farrer, W and Brownbill, J 1911, *Victoria History of the Counties of England: Lancaster* **6** 53-55). The structure is a Listed Building, Grade II*, and the churchyard contains three graves and a sundial which are Listed Grade II (DCMS, List of Buildings of Special Historical or Architectural Interest: South Ribble, Lancashire).

2.2 The church is, however, located within the bailey of a Norman motte and bailey castle (which was itself extant by 1086) and as such is likely to represent a late eleventh century religious foundation associated with the first imposition of Norman rule on the North West. The castle was the head of a Barony held by originally Warine Bussel, and included a large part of what became Leyland Hundred. In 1205 it was acquired by the De Lacy family, eventually descending to the earls and dukes of Lancaster and thus to the Crown (Farrer and Brownbill **6** 56-61).

2.3 At the same time that the church was granted to the Abbey of Evesham, a priory cell was established, which seems to have continued in existence until the dissolution, when the lands were taken by the Fleetwood family who made their home in the old priory buildings. The building most recently known as Penwortham Priory was, however, a new structure of 1832, erected on part of the priory site. It has been suggested that the original priory was enclosed by a moat (Farrer and Brownbill **6** 59-60 footnote 17), but no trace is now known of this.

2.4 Place name evidence suggests an earlier settlement of some importance existed hereabouts which may be of Celtic, rather than Saxon, origin (Ekwall, E, 1932 *The Place-names of Lancashire* 135), and relate to its

presence on the prominent promontory above the crossing point of the river Ribble.

2.5 Given the early origin of the church, and its presence within the Norman castle bailey, it is possible (even probable) that archaeological remains will survive in this area and be revealed or damaged by the proposed development.

3. General Considerations

3.1 Prior to the commencement of *any work,* the archaeological contractor should confirm in writing adherence to this specification, or state (with reasons) any proposals to vary the specification. Should the contractor wish to vary the specification, then written confirmation of the agreement of LCAS to any variations is required prior to work commencing. The archaeologist carrying out the watching brief should be appropriately qualified and experienced. Any technical queries arising from the specification detailed below should be addressed to LCAS *without delay*.

4. Fieldwork Methodology

3.1 An archaeologist should be present on site during the removal of the existing flooring (but need not attend for the simple removal of coverings such as carpet, linoleum, etc.) and all the excavation works required to prepare the site for the insertion on the new floor and heating system. The archaeologist should view the area as it is being dug and any trench sections after excavation has been completed. Where archaeology is judged to be present, the excavated area should be rapidly cleaned and the need for further work assessed. Where appropriate, any features and finds should then be quickly hand excavated, sampled and recorded, within the confines of the excavated trench.

4.2 Excavated soil should be searched as practicable for finds. The presence and nature of 19th and 20th century material should be noted (quantified and summarily described) but finds of this date need not be retained for processing. Finds judged to be 18th-century in date or earlier should be retained. Note - Because this work is being undertaken in an historic church, it is probable that significant quantities of disturbed and disarticulated human remains may be encountered, although the shallow nature of the proposed works should preclude the discovery of intact and in-situ burials. All human remains encountered should be recorded, recovered and retained for assessment and reporting purposes and should be treated with appropriate care and consideration (English Heritage and The Church of England 2005 *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England*). Reference should also be made to the requirements set out in paragraphs 5.2 and 5.3 below.

4.3 The actual areas of ground disturbance, and any features of possible archaeological concern noted within these areas, should be accurately located on a site plan and recorded by photographs, scale drawings (including

height above O.D.) and written description sufficient to permit the preparation of a report on the site.

4.4 The intention of the archaeological watching brief is not to unduly delay the work of other contractors on site. This work should not, therefore prejudice the progress of the main or subsidiary contractor's work, except by prior agreement and on-site co-operation.

4.5 The archaeologist on site will naturally operate with due regard for Health and Safety regulations. In this case, where archaeological work is carried out at the same time as the work of other contractors, regard should also be taken of any reasonable additional constraints that these contractors may impose. This work may require the preparation of a Risk Assessment of the site, in accordance with the Health and Safety at Work Regulations. **LCAS and its officers cannot be held responsible for any accidents that may occur to outside contractors engaged to undertake this survey while attempting to conform to this specification.**

5. Unexpectedly Significant or Complex Discoveries

5.1 Should there be, in the professional judgement of the archaeologist on site, unexpectedly significant or complex discoveries made that warrant more detailed recording than possible within the terms of this specification, then the archaeological contractor is to urgently contact LCAS with the relevant information to enable the matter to be resolved with the developer.

5.2 Where any intact burials or other articulated human remains are encountered, they should initially be left in-situ, covered and protected and their discovery notified to LCAS as above. If removal is deemed necessary, following consultation this must comply with the relevant guidelines noted above.

5.3 The terms of the Treasure Act, 1996 must be followed with regard to any finds, which might fall within its purview. Any such finds must be removed to a safe place and reported to the local coroner as required by the procedures laid down in the "Code of Practice". Where removal cannot be effected on the same working day as the discovery, suitable security measures must be taken to protect the finds from theft.

6. Monitoring

6.1 The recording exercise will be monitored as necessary and practicable by the LCAS Advisory Service in its role as 'curator' of the county's archaeology. LCAS should receive **as much notice as possible in writing** (and certainly not less than one week) of the intention to start the watching brief. **A copy of the archaeological contractor's risk assessment of the site should accompany the notification.**

7. Post-Excavation/Post-Recording Work and Report Preparation

7.1 On completion of the fieldwork, any samples shall be processed and all finds shall be cleaned, identified, assessed, dated (if possible), marked (if appropriate) and properly packed and stored in accordance with the requirements of national guidelines. Any human remains (4.2 and 5.2 above) should be assessed by an appropriately qualified specialist and a formal report produced. Where these remains are not considered to be of more than local importance, they should be placed into an appropriate container and returned to the Church authorities for reburial within St Marys Church or churchyard. Where it is proposed that any human remains be retained for study, an appropriate written agreement should be reached with the Church authorities for their storage, treatment, and eventual reburial. Only in exceptional circumstances should any such remains be retained indefinitely for a museum collection, and this will also require the agreement of LCAS.

7.2 A fully indexed field archive shall be compiled consisting of all primary written documents, plans, sections, and fully labelled photographs. Labelling should be in indelible ink on the *back* of the print and should include film and frame number; date recorded and photographer's name; name and address of site; national grid reference. Photographic prints should be mounted in appropriate archivally-stable sleeves. **A quantified index to the field archive should form an appendix to the report**. The original archive is to accompany the deposition of any finds, providing the landowner agrees to the deposition of finds in a publicly accessible archive (see Section 8.1 below).

7.3 A report should be produced to provide background information, a summary of the works carried out, a description and separate interpretation of any features and finds identified. Details of the report's style and format are to be determined by the archaeological contractor, but it should include a full bibliography, a quantified index to the site archive and as an appendix, a copy of this specification. The report illustrations should include, as a minimum, a location map at a reasonable scale plus any drawings and photographs.

7.4 If nothing of archaeological interest is identified during the course of the watching brief, then a summary report will be adequate, as long as sufficient details are supplied for SMR purposes. Illustrations would not be required, although it would be anticipated that black and white prints would form part of the archival record. A summary record should include: (1) details of the commissioning body; (2) the nature of the development and resultant ground disturbance; (3) the approximate position of any ground disturbance viewed with relation to adjacent existing fixed points; (4) the date(s) of fieldwork; (5) name(s) of fieldworker(s); (6) written observations on the nature and depth of deposits observed (this may include annotated sketch sections); (7) the conditions under which they were observed (for example, details of weather conditions, ease of access and views, attitude of other organisations *etc.);* (8) a quantified index to the field archive; (9) details of the archives present location and intended deposition and (10) a copy of this specification.

7.5 The report should be produced within three weeks of completion of the fieldwork, unless otherwise agreed with the LCAS. Copies of the report should be supplied to the client and the Lancashire SMR. The report will become publicly accessible once deposited with the Lancashire Sites and Monuments Record.

7.6 Archaeological contractors must complete the online OASIS form at http://ads.ahds.ac.uk/project/oasis/. Contractors are advised to contact Lancashire HER prior to completing the form. Once a report has become a public document by submission to or incorporation into the HER, Lancashire HER may place the information on a web-site. Please ensure that you and your client agree to this procedure in writing as part of the process of submitting the report to the case officer (Ken Davies) at Lancashire HER.

8. Deposition of Archive

8.1 Before commencing any fieldwork, the archaeological contractor must contact the relevant District museum archaeological curator in writing (copied to LCAS) to determine the museum's requirements for the deposition of an excavation archive. In this case the contact is Dr David Hunt, South Ribble Museum and Exhibition Centre, The Old Grammar School, Church Road, Leyland PR25 3FJ, dhunt@southribble.gov.uk t.01772 422041.

8.2 Only if Dr Hunt does not wish to or cannot take on the archive, may it be deposited with the Museum of Lancashire. Contact details for the MoL can be obtained from LCAS.

8.3 It is the responsibility of the archaeological contractor to endeavour to obtain consent of the landowner, in writing, to the deposition of finds with the Museum.

8.4 It is the responsibility of the archaeological contractor to meet the Museum's requirements with regard to the preparation of fieldwork archives for deposition.

8.5 The museums officer named in 8.1 above should be notified in writing of the commencement of fieldwork at the same time as LCAS.

9. Further Details

9.1 Any queries about the contents of the specification should be addressed to Lancashire County Archaeology Service, Lancashire County Council, Highways & Environmental Management, Guild House, Cross Street, Preston PPR1 8RD Tel 01772 531550, fax 01772 533423

10. Valid period of specification

10.1 This specification will remain valid for up to one year from the date of issue. After that time it may need to be revised to take into account new

discoveries, changes in policy or the introduction of new working practices or techniques.

Lancashire County Archaeology Service **September 2008**
Peter Iles
Specialist Advisor (Archaeology)
E-mail: Peter.iles@lancashire.gov.uk

APPENDIX 2: PROJECT DESIGN

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Groundworks are currently being undertaken in preparation for the installation of a new floor and underground heating system at the Church of St Mary's in Penwortham, Lancashire (NGR centred SD 52388 29000). During the groundworks, a watching brief has been maintained by an archaeologist from Oxford Archaeology North (OA North), on behalf of the client, Rev. Chris Nelson. During the observations, numerous burials, many within voids associated with now disintegrated coffins, have been discovered. Many of these burials will remain *in situ* and will be recorded in plan and photographed, and covered with neutral pH sand. However, the ground conditions revealed during the removal of floor deposits have led to a change in design to the installation of the floor, namely piling. Whilst planning guidance notes, PPG 16 (DoE 1991) would look to preserve the remains *in situ*, this is not always practical, but this situation is made more complex by the need for piling. The following proposals to undertake the work in accordance PPG16 have been informed by English Heritage guidelines on piling (English Heritage 2007) and guidance on best practice in the treatment of such remains (English Heritage and the Church of England 2005).

1.1.2 In order to facilitate the piling, six trenches will be excavated, measuring approximately 500mm in width, to a depth of 400-500mm below the finished stripped level (to be determined by the structural engineer, Mike Lomax of Abbott and Lomax, working on behalf of the client). These trenches will run along the length of the church, with trenches abutting the north and south aisle walls, and four equidistant across the nave. Due to the disturbance of burial remains that will be encountered during excavation of these trenches, Peter Iles of Lancashire County Archaeology Service, monitor of the archaeological work, has requested that these trenches are excavated in a more formal archaeological manner rather than under watching brief conditions.

1.1.3 It has been agreed that once the remains have been recorded and lifted, a basic assessment will be undertaken if a relatively small number is recovered, and the remains will be reinterred within the vault inside the church. The following document provides a methodology for the excavation work and details of the basic, or rapid, assessment.

2. OBJECTIVES

2.2.1 The following programme has been designed to preserve by record any archaeological deposits or features that may be present within the trenches required for the insertion of a number of beams, in particular the burial remains. The fieldwork will be carried out in line with current IfA guidelines and in line with the IfA Code of Conduct. It will be conducted in accordance with the current English Heritage guidelines.

2.2.2 ***Archaeological Excavation:*** to excavate six trenches measuring 0.5m in width, four within the nave and two along the external aisle walls.

2.2.3 ***Post-Excavation and Report Production:*** following completion of the fieldwork, the remains will be assessed at a basic level, the results of which will be incorporated into a report that also includes the watching brief results. At this stage, no analysis is anticipated. An archive will be produced to English Heritage guidelines (1991).

3. METHOD STATEMENT

3.1 RISK ASSESSMENT

3.1.1 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers

(1997). OA North will liase with the client to ensure all health and safety regulations are met. A detailed risk assessment will be completed in advance of any on-site works, with continuous monitoring and updating during the fieldwork. This can be supplied to all interested parties on request.

3.1.2 Open archaeological sites, especially in the event of deep excavations, will be inspected by the Site Director or other appointed and competent person. These inspection records will be signed and dated, and form part of the on-site Health and Safety folder, which will always be available to all interested parties on request.

3.2 LOCATION/EXTENT OF THE EXTERNAL ARCHAEOLOGICAL INVESTIGATION

3.2.1 The location and extent of the six excavation trenches will be determined by the structural engineers The requirement is to excavate to the level required for the ground beam (approximately 400-500mm), whilst recording and lifting those burial remains that will be impacted by the proposed work. The trenches aligning the north and south aisles external walls have been reduced previously under watching brief conditions by approximately 100-200mm. Therefore, it is anticipated that these will require an additional reduction by 200-300mm.

3.3 EXCAVATION

3.3.1 Excavation will be undertaken in successive, level spits, manually by a suitably experienced archaeologist. The area will then be hand cleaned to define the archaeological features and a base plan produced. Any features identified will then be manually excavated down to the required level. Each burial will be recorded in terms of burial position, any grave goods etc. Burials will be characterised and their location recorded. The human remains will be lifted and contained within lidded cardboard boxes or opaque burial sacks with attached identification/location tags, and removed from the immediate vicinity for storage prior to their assessment.

3.3.2 Whilst burials will not normally be chased horizontally into the trench sides (English Heritage and the Church of England 2005, paragraphs 183-7) where a burial in a void will be intersected by the excavation or it is so closely adjacent that it is likely that the void will be broken into during the construction process and adequate protection cannot be arranged, then the whole burial in that void will be lifted. The depth to which the trench is excavated will depend upon the requirements of the construction process and professional judgement will be exercised as to the depth to which human remains will need to be excavated and which can be left in situ and protected. Particularly deep or complex 'stacked' or intercutting burials may require individual consultation with the structural engineer and LCAS as the extent of excavation required.

3.3.3 ***Recording:*** all information identified in the course of the site works will be recorded stratigraphically, using a system adapted from that used by the Centre for Archaeology Service of English Heritage and in accordance with IfA guidelines. From this a complete stratigraphic sequence and Harris Matrix can be compiled during the process of the site work.

3.3.4 A single context recording system is usually employed in traditional burial excavation using separate context sheets for the grave cut, fill and skeleton. Experience on similar burial grounds, however, has shown that this is not necessarily informative (cf Bashford and Pollard 1998, 155). For example, grave cuts vary only in their dimensions, and grave fills are generally of a fairly uniform character. It is considered more useful to record the grave and its contents on a single burial sheet, with additional sheets for recording osteology and coffins, for instance. Thus, the grave cut, fill and skeleton of a burial will be assigned a single group number. Specialised recording forms will be available for the recording of both coffins and skeletons.

3.3.5 Should any additional vaults, crypts or cists be present (than that discovered on the south-east end of the nave), a scaled plan of each will be produced. Location, dimensions and method of construction will be noted. Any memorials discovered beneath the present ground surface in

the course of excavation will need archaeological recording. Each buried memorial will be accorded an individual context number. They will also be included as part of the grave group, if the association with the burial is clear. Such buried memorials will be recorded on *pro-forma* context sheets, based on and following the guidelines set out by Mytum (2002) and will include details of

- Shape
- Dimensions
- Type of stone used
- Iconography (an illustration may best describe these features)
- Inscription (*verbatim* record of inscription; font of the lettering)
- Stylistic type

Following recording, the memorial will be carefully removed by a mechanical excavator, and relocated.

3.3.6 A register of plans will be kept. Plans will be drawn at a scale of 1:20 or 1:50 as appropriate. The location, depth and orientation of each articulated burial will be recorded using EDM, by noting the relative position of the skull and feet, and recorded using rectified photography. Long sections of trenches showing layers will be drawn at 1:10 or 1:20 as appropriate. A register of sections will be kept.

3.3.7 OA has developed a specific CAD programme (Crossbones) into which survey data may be entered. A three-dimensional image of the spatial distribution of the burials may thereby be generated. This has proved particularly useful in the analysis of complex burial stratigraphy, and may be utilised if similar conditions are encountered. A demonstration of the Crossbones programme is available on the OA website (www.thehumanjourney.net). If the sequence of burial proves very complex, the Crossbones programme may be implemented to assist interpretation in the excavation and post-excavation phase, although at his stage it is not anticipated.

3.3.8 A monochrome print and colour digital photographic record, illustrating in both detail and general context the principal features and finds discovered, will be maintained. The photographic record will also include working shots to illustrate more generally the nature of the archaeological work. Photographs will be recorded on OA Photographic Record Sheets.

3.3.9 Following archaeological recording, each skeleton will be removed and placed within an opaque plastic bag and marked with its unique burial number. These will be removed back to OA North's offices.

3.3.10 Charnel will be collected for reburial but will not undergo systematic osteological analysis. In accordance with LCAS requirements, the disarticulated remains need simply to be quantified numerically and, like the articulated skeletons, will be retained at OA North's offices pending reburial.

3.3.11 ***Fleshed or partially-fleshed bodies:*** excavation may reveal the presence of fleshed or partially-fleshed burials, or coffins containing liquor or other corruption products. This would require informing the Environmental Health Officer to agree a suitable strategy for their recovery and disposal; all further works would conform to any requirements that the EHO may set. Detailed archaeological recording of recent burials is not desirable, and only their location will be noted. OA does not remove fleshed human remains, but will be happy to recommend a recognised exhumation company who will undertake this work at a cost agreed with the Client and charged as a variation. Any lead coffins would not be opened, but would need to be removed, stored and deposited by a specialist contractor, the costs of which would be agreed with the Client as a variation.

3.4 OSTEOLOGICAL ASSESSMENT

3.4.1 All skeletons will undergo rapid osteological assessment on return to OA North's offices. Although not anticipated at present, but depending on the numbers of burials, it may be

decided that an appropriate sample is selected for more detailed analysis should it take place I the future. This would be dealt with under a separate project design.

3.4.2 ***Rapid osteological assessment:*** rapid skeletal assessment of the entire articulated assemblage will allow the most accurate and representative reconstruction of the demography of the buried population, including age, sex and stature. To include the entire assemblage is preferable to selecting a sample, however representative it is judged to be. Assessment of all articulated skeletons will be carried out by a suitably qualified OA osteologist.

3.4.3 This rapid assessment employs the same osteological methods set out by the IfA and BABAO (Brickley and McKinley 2004), and is described more fully in *Appendix 1*. Wherever bone survival permits, this will include:

- Minimum number of individuals
- Preservation and completeness (including dental inventory)
- Full age and sex estimation
- Stature estimation
- Gross skeletal pathology

3.4.4 In addition to this palaeodemographic data, a rapid assessment of the dentition of each skeleton will be made. In addition, the skeletons will be rapidly scanned for pathological conditions, and the location and general appearance of any lesions described.

3.4.5 ***Storage of Remains and Reinterment:*** OA will be responsible for the individual bagging or boxing of skeletons. The excavated assemblage will be transported to OA North's offices at Lancaster on a regular basis, where they will reside whilst being assessed. Once complete it is envisioned that reburial will be undertaken soon after within the vault within the church. EH scientific advisors are being consulted as to the most appropriate methods and containers for the placement of the remains in the crypt. However, these costs have not been included and will be subject to variation should the client wish for OA North to organise this.

3.4.6 ***Finds:*** all finds recovered during the investigation will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the recipient museum's guidelines.

3.4.7 All material will be collected and identified by stratigraphic unit during the excavation process. Objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded as individual items, and their location plotted in 3-D.

3.4.8 Finds will be administered at regular intervals and removed from the site in order that they can be processed as the excavation proceeds back at OA North offices. All finds will be treated in accordance with OA standard practice, which is cognisant of IfA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from OA North's consultant conservator.

3.4.9 Should waterlogged finds be again encountered they will be treated as appropriate. In the case of large deposits of waterlogged environmental material (e.g. unmodified wood), advice will be sought with the OA North consultant and English Heritage Regional Science Advisor with regard to an appropriate excavation and sampling strategy.

3.4.10 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.

4. ARCHIVING, POST-EXCAVATION AND PUBLICATION

4.1 ARCHIVE

4.1.1 On completion of the fieldwork the site archive (paper and photographic record, artefacts and environmental samples) will be prepared for long-term storage in accordance with *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990), *Standards in the Museum Care of Archaeological Collections* (Museums and Galleries Commission 1992), and current English Heritage guidelines. Except for items subject to the Treasure Act, all artefacts found during the course of the project will be donated to the museum, unless otherwise requested by the church. A synthesis (in the form of the index to the archive and a copy of the publication report) will be deposited with the Historic Environment Record.

4.1.2 As part of the archiving phase, the online OASIS form will be completed.

4.2 POST-EXCAVATION ASSESSMENT

4.2.1 A post-excavation assessment of the archive will be undertaken. An appraisal of the available primary and secondary documentary sources pertaining to the site will be undertaken in order to set the results of the excavation into context, and facilitate an assessment of their significance. The stratigraphic data and the finds assemblage will be quantified and assessed, and the environmental samples processed and a brief assessment of their potential for further analysis made. The assessment results will be presented within a post-excavation assessment report, which may make recommendations for analysis should the resources become available in the future.

5. PROGRAMME AND STAFFING

5.1 PROGRAMME

5.1.1 It is anticipated that the work will commence on Monday 26th October 2009.

5.1.2 ***Excavation:*** a team of three people will undertake the excavation. Due to the unknown quantities of burials requiring excavation, it is not possible to predict the length of the fieldwork at this stage.

5.1.3 ***Post-Excavation Assessment:*** the project archive will be compiled and an assessment report will be undertaken within three months of completion, and including all elements, of the fieldwork. Copies will be sent to the client and to the Historic Environment Record, and English Heritage, as well as completion of the online OASIS form. The assessment report will outline any requirement for further analysis, although it is understood that this will not be completed until sufficient resources have been obtained by the client.

5.2 STAFFING

5.2.1 The project will be under the direct management of **Emily Mercer** (OA North Senior Project Manager) to whom all correspondence should be addressed. The programme of osteological assessment would be undertaken by **John Griffiths** (OA Project Assistant) who is very experienced in this field.

5.2.2 **Christine Howard-Davis** (OA North finds manager) has extensive knowledge of all categories of artefacts of all periods and will undertake the assessment of all artefacts recovered during the course of the investigation.

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APPENDIX 1: OSTEOLOGICAL METHODOLOGY

INTRODUCTION

Osteological methodology will be undertaken using two different levels of detail: rapid osteological analysis and full osteological analysis. Both will use the same ageing, sexing and stature methodologies described below, as set out by the IfA and BABAO (Brickley and McKinley 2004).

Rapid osteological analysis

It is proposed that the entire assemblage of articulated burials will undergo rapid osteological analysis. This analysis will be performed on unwashed material, although judicious washing of specific skeletal features will be undertaken as the osteology requires. Rapid osteological analysis comprises full age, sex and stature estimation that is set out below.

Except in the cases where samples have been taken from unwashed material for biochemical analysis, a full dental inventory will be made, and dental pathologies fully recorded, making calculation of true prevalence possible. A skeletal inventory will not be made, although completeness and preservation of the skeleton will be recorded. The bones will be rapidly scanned for pathological changes, and their site and location will be recorded. From this crude prevalence will be calculated.

Full osteological analysis

An appropriate sample of the assemblage will be selected during rapid analysis, according to the demographic profile and also to the criterion set out above, in order to achieve a representative cross section of the buried population in terms of demography and burial treatment. The type and intensity of analysis will be dependent upon the results of the MoRPHE assessment, which will consider the significance of the assemblage within a local and regional research framework.

Except for those elements selected for biochemical analysis, these skeletons will be washed, but not marked, and will undergo full osteological analysis, as set out by Brickley and McKinley (2004). This will be a more detailed analysis than the above, including the same ageing, sexing and stature techniques and dental inventory, but also a detailed skeletal inventory, metrical analysis, recording of non-metric traits, and more detailed description of pathological lesions.

General terminology and equipment used

The anatomical terminology used in this report will be in accordance with international nomenclature. The descriptive teeth formula used will be based on the Zsigmondy system (Zsigmondy 1861 in Hillson 2003, 8-9). All bones and teeth will be analysed macroscopically.

Preservation and completeness

Bone preservation and completeness of the assemblage will be rated on a four-point scale, ranging from 1 (poor) to 4 (excellent). Likewise, skeletal completeness will be scored on a scale of 1 - 4 : 1 (< 25 %); 2 (25- 50 %); 3 (50- 75 %); and 4 (> 75 %). Possible causes of the differential bone survival and diagenesis on the site will be discussed.

Estimation of age at death

Diaphyseal long bone lengths will be used as the basis for ageing foetuses and neonates using methods developed by Fazekas and Kósa (as adapted in Scheuer and Black 2000). Subadults will be aged by the stage of dental eruption (Mooreess *et al.* 1963a and b)), stage of epiphyseal fusion (Scheuer and Black 2000) and diaphyseal length of the major long bones (Maresh 1970).

The adult skeletons will be aged by degeneration of the auricular surface of the pelvis (Lovejoy *et al.* 1985), the sternal end of the ribs (İşcan and Loth 1986 a and b) and the pubic symphysis (Brooks and Suchey 1990; Todd 1921a and b); epiphyseal fusion of the medial clavicle (Scheuer and Black 2000); dental attrition (Miles 1962), and suture obliteration (Meindl and Lovejoy 1985).

All individuals will be assigned a suitable precise age group as defined in Table 1.

Age group	Age range
Foetus	< 0 years
Neonate	0-1 months
Infant	0-1 years
Young child	2-5 years
Older child	6-12 years
Adolescent	13-17 years
Young adult	18-25 years
Prime adult	26-35 years
Mature adult	36-45 years
Older adult	> 45 years
Child	2-12 years
Subadult	< 18 years
Adult	> 18 years

Table 1. Age groups employed in analysis

Estimation of sex

Sexually dimorphic features of the pelvis and cranium will be used to diagnose osteological sex based on standards set out in Buikstra and Ubelaker (1994) and Schwartz (1995).

Estimation of stature

Calculation of body stature will be estimated from the maximum length of the major long bones will be based on the method for Caucasians developed by Trotter and Gleser (Trotter 1970). Combined measurements of the femur and tibia will be utilised wherever possible, and in the absence of one of these bones the femur and then the tibia will be used. The major bones of the upper limb will be used if no lower limb bones are present. The left side will be used preferentially in keeping with standard osteological practice.

For comparative studies on stature between populations, it is recommended to use the actual bone measurement rather than the calculated estimates (Brothwell and Zakrzewski 2004, 33). The raw long bone lengths will be given as an appendix to the specialist report.

Skeletal and dental pathologies

The terminology and descriptions of the skeletal pathologies used in the report will be based largely upon palaeopathology texts, such as Ortner (2003) and Aufderheide and Rodríguez-Martín (1998).

Dental pathologies will be described in accordance with Hillson (2003), Ortner (2003) and others. Dental calculus will be recorded according to Brothwell's methods (1981), and dental enamel hypoplasia according to Hillson (2005). The location on the tooth and severity of the carious lesions will also be described in the primary record.

Reporting

The results of the full analysis will be detailed within a report or publication draft, detailing the demography of the burial population, prevalence of skeletal and dental disease limited osteometrics. The data will be considered in its archaeological context, taking into account phasing and burial practices.

The osteological analysis will be compared with osteological work undertaken on contemporary skeletal assemblages, such as those listed in *Section 4.1.3*. The prevalence of pathologies will also be compared to rates calculated for the period by Roberts and Cox (2003).

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APPENDIX 3: SUMMARY OF HUMAN REMAINS ASSESSMENT

Skeleton number	Sex Y/N	Age Y/N	Preservation	Completeness	Potential for metrics	Potential for non-metrics	Number of teeth	Dental pathology	Skeletal pathology
34	N/A	Y	2	1	1	2	10		
35	N/A	Y	1	2	2	2	0		
36	N/A	Y	3	3	1	2	14	C	
46	Y	N	2	4	3	3	8	Ca, P, C, A and *amtl*	OA in both clavicles and spine. Schmorl's nodes and Bilateral sutura mendosa.
47	N	N	3	1	1	1	1		
50	N	N	4	1	1	1	0		
51	N	N	3	1	1	1	0		
52	Y	Y	2	3	3	3	16	P, C and *amtl*	OA in cervicals and TMJ. Metopic suture.
53	N/A	Y	1	2	2	2	3		
69	N	N	3	2	1	2	5	C and *amtl*	
162	N/A	Y	1	4	4	4	19		Periostitis on both tibiae. Labryrithine lesions on endocranial surface and lesion in L eye orbit.
163	Y	Y	1	4	3	4	31	Ca, P, C and EH	Mild *cribra orbitlia*. Asymmetric occipital bunning, more pronounced on L side.
168	N	N	2	3	2	2	0		
170	Y	Y	3	1	1	1	0		

Key: Ca – Calculus, P – Periodontal, C – Caries, A – Abscess, EH – Enamel Hypoplasia, *amtl* – *Ante-mortem* tooth loss, L – Left, R – Right, OA – Osteoarthritis, TMJ – Temporomandibular joint

Table A: summary of the results of the assessment of the human remains

Origin of Comparative Samples	Sex of Comparative Samples	Probability of being the place of origin of the current sample (as a proportion of 1)
Norse: Norway	M	0.32546
Zalavar: Hungary	F	0.30431
Norse: Norway	F	0.19504
Zalavar: Hungary	M	0.04450
Patagonian	F	0.03022
Poundbury: England	F	0.02411
Berg: Austria	F	0.01599
London: Medieval	M	0.00994
Egypt: 26th to 30th dynasties	F	0.00870
Italian	M	0.00652
Poundbury: England	M	0.00518
Egypt: 26th to 30th dynasties	M	0.00429
Arikara: Dakota	F	0.00288
Italian	F	0.00253
London: Medieval	F	0.00218
Ainu: Hokkaido	F	0.00202
Berg: Austria	M	0.00196
Zulu: South Africa	F	0.00191
Bushman: Africa	M	0.00190
Kyushu: Southern Japan	F	0.00131
Hokkaido: Northern Japan	F	0.00126
Atayal: Taiwan	M	0.00123
Hokkaido: Northern Japan	M	0.00114
Philippines	M	0.00069
Santa Cruz Island: California	F	0.00051
Bedouin: Western Asia	MF	0.00051
Denmark	F	0.00049
Lachish: Western Asia	M	0.00048
Patagonian	M	0.00029
Hainan: China	M	0.00029
Youyos: Peru	M	0.00028
Kyushu: Southern Japan	M	0.00021
Bushman: Africa	F	0.00019
Zulu: South Africa	M	0.00019
Hainan: China	F	0.00016
Atayal: Taiwan	F	0.00015
Mokapu: Hawaii	F	0.00015
Guam: Latte period	F	0.00012
Youyos: Peru	F	0.00012
Denmark	M	0.00011
Santa Cruz Island: California	M	0.00010
Sydney	F	0.00008
Buriat: Siberia	F	0.00006
Anyang: China	M	0.00005
Moriori: Chatham Island	F	0.00005
Teita: East Africa	M	0.00003
Tolai: New Britain	F	0.00002
Ainu: Hokkaido	M	0.00001
Punjab	M	0.00001
Teita: East Africa	F	0.00001
Arikara: Dakota	M	0.00001
Dogon: West Africa	M	0.00001
Mokapu: Hawaii	M	0.00001
Andaman Islands	M	0.00001

South Australia	F	0.00000
Tolai: New Britain	M	0.00000
Eskimo: Greenland	F	0.00000
Easter Island	F	0.00000
Sydney	M	0.00000
Lachish: Western Asia	F	0.00000
Dogon: West Africa	F	0.00000
Buriat: Siberia	M	0.00000
Easter Island	M	0.00000
Guam: Latte period	M	0.00000
Tasmania	M	0.00000
Moriori: Chatham Island	M	0.00000
South Australia	M	0.00000
Tasmania	F	0.00000
Maori: New Zealand	M	0.00000
India	M	0.00000
Eskimo: Greenland	M	0.00000
Punjab	F	0.00000
India	F	0.00000
Andaman Islands	F	0.00000

Table B: summary of the results of linear discriminant analysis (LDA) of the cranial measurements from a skull from charnal deposit ***28***

APPENDIX 4: CONTEXT INDEX

Context	Interpretation	Description
1	Make-up deposit	Loose brownish-yellow sandy-silt, with fragments of modern brick, mortar, and stone, less than 0.4m in diameter.
2	Levelling layer	Loose brownish-yellow sandy-silt, with some dumps deposits of clay, mortar, and sand.
3	Make-up deposit within crypt ***4***	Loose brownish-yellow sandy-silt, with fragments of modern brick, mortar, and stone, less than 0.4m in diameter.
4	Crypt	Demolished vaulted brick crypt. The rectangular tomb measured 2.3m long by 1.1m wide, and 0.65m deep, as excavated, and comprised handmade, unfrogged bricks. Not fully excavated.
5	Sleeper wall	Aligned north to south, and comprising handmade unfrogged bricks.
6	Sleeper walls	Aligned east to west, and comprising handmade unfrogged bricks.
7	Stone bench	The stone bench lined the northern wall of the chancel, into which it was bonded. The stones ranged between 290mm by 100mm by 160mm, to 460mm by 200mm by 220mm. Mortar, or plaster, adhered to the western half.
8	Stone bench	The stone bench lined the southern wall of the chancel. The stones ranged between 300mm by 230mm, to 600mm by 240mm, by 160mm. Sandy-lime mortar was present.
9	Crypt	A north to south aligned brick-vaulted crypt containing four lead coffins. The interior measurements of the crypt were 3.7m by 2.13m and 1.86m deep, and comprised handmade unfrogged bricks bonded with hard sandy, pale grey lime-based mortar. The coffins were not disturbed.
10	Human skeleton	An articulated skeleton buried within the chancel, which was not fully excavated. A skull and vertebrae were revealed. The skeleton was not removed.
11	Layer	Firm greyish-brown silty-clay, with mortar, clay, and pebble inclusions. Exposed but not excavated.
12	Fill of construction cut ***13***	Mortar-rich deposit.
13	Construction cut	Cut associated with wall ***5***.
14	Levelling layer	Loose brownish-yellow sandy-silt, with fragments of modern brick, mortar, and stone.
15	Mortar level	Indurated whitish-grey surface of sandy lime-based mortar, with fragments of limestone up to 5mm in diameter and angular stones measuring between 5-10mm in diameter. Clay fragments were present that measured between 10-20mm. This levelling layer was

		present within the southern aisle.
16	Subsoil burial horizon	Firm brown silty-clay, with occasional fragments and flecks of lime-based mortar and occasional angular stones, between 10-30mm in diameter. This layer was encountered within the southern aisle. Excavated to a maximum depth of 200mm. The soil had been disturbed as a result of a high density of burials.
17	Mortar level	Indurated whitish-grey surface of sandy lime-based mortar, with fragments of limestone up to 5mm in diameter and angular stones measuring between 5-10mm in diameter. Clay fragments were present that measured between 10-20mm. This levelling layer was present within the northern aisle.
18	Subsoil burial horizon	Firm, brown silty-clay with occasional fragments and flecks of lime-based mortar and occasional angular stones between 10-30mm in diameter. This layer was encountered within the northern aisle. Excavated to a maximum depth of 200mm. The soil had been disturbed as a result of a high density of burials.
19	Rubble layer	Loose brownish-grey sandy mortar matrix forming a rubble layer 0.32m thick at the western end of the northern aisle.
20	Make-up layer	Loose reddish-brown sandy-silt, with 40% fragments of mortar and plaster sheets, 0.54m thick.
21	Medieval wall foundations	A firm, reddish-brown silty-sand matrix surrounded randomly-coursed water-worn cobbles between 100-150mm in diameter, and sandstone rubble 80-120mm in diameter. The cobbles and sandstone formed 90% of the deposit and the matrix appeared to result partially from the degradation of these elements. Positioned within the northern aisle.
22	Medieval wall foundations	A firm, reddish-brown silty-sand matrix surrounded randomly-coursed water-worn cobbles between 100-150mm in diameter and sandstone rubble 80-120mm in diameter. The cobbles and sandstone formed 90% of the deposit and the matrix appeared to result partially from the degradation of these elements. Positioned within the northern aisle.
23	Medieval wall foundations	A firm reddish-brown silty-sand matrix surrounded randomly-coursed water-worn cobbles between 100-150mm in diameter, and sandstone rubble 80-120mm in diameter. The cobbles and sandstone formed 90% of the deposit and the matrix appeared to result partially from the degradation of these elements. Positioned within the northern aisle.
24	Medieval wall foundations	Randomly-coursed sub-rounded pebbles and sub-angular fragments of red sandstone, mostly measuring 40-120mm in diameter, with a maximum diameter of 260mm. Located at the southern side of the nave. Traces of white lime-based mortar were present.
25	Medieval wall foundations	Randomly-coursed sub-rounded pebbles and sub-angular fragments of red sandstone, mostly measuring 40-120mm in diameter, with a maximum diameter of 260mm. Located at the southern side of the nave. Traces of white lime-based mortar were present. The upper layers were loose, possibly as a result of disturbance during demolition.

26	Demolition layer	Loose, reddish-grey silty-sand with 10% sandstone fragments up to 300mm in diameter. The deposit was 0.15m thick.
27	Conduit base	Stone flag base for conduit associated with central heating pipes. The split and squared flags measured up to 500mm by 700mm by 30mm thick, and formed a single course 0.5m wide and 4.15m long, as excavated.
28	Charnal deposit	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was positioned around crypt ***29***, and featured large quantities of disarticulated human bone. Part of group ***32***.
29	Crypt	An east to west-aligned brick crypt with a flat stone-slab roof that contained a single lead coffin. The external measurements of the crypt were 2.6m by 1.92m and 2.04m deep.
30	Charnal deposit	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was located around crypt ***29*** and featured large quantities of disarticulated human bone. Part of group ***32***.
31	Medieval wall foundations	A firm, reddish-brown silty-sand matrix surrounded randomly-coursed water-worn cobbles between 100-150mm in diameter, and sandstone rubble 80-120mm in diameter. The cobbles and sandstone formed 90% of the deposit and the matrix appeared to result partially from the degradation of these elements. Located within the northern aisle.
32	Group for charnal deposit at western end of nave.	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was located around crypt ***29*** and featured large quantities of disarticulated human bone. Includes deposits ***28***, ***30***, ***33***, ***41***, and ***83***.
33	Charnal deposit	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was located around crypt ***29*** and featured large quantities of disarticulated human bone. Part of group ***32***.
34	Human skeleton	Skull and upper abdomen with fragments of bone possibly representing a femur and humerus.
35	Human skeleton	Disturbed and fragmented skeleton with a partial skull and long bone fragments surviving.
36	Human skeleton	Disturbed skeleton beneath SK ***35***. Fragmented bones present from the skull to the lower legs.
37	Brick springer	Rectangular brick structure, measuring 1.28m by 0.48m and 0.2m high, as excavated. Handmade unfrogged bricks measuring 70mm by 250mm by 110mm formed this short structure, which was as wide as a single header and stretcher. The northernmost of two such springers at the eastern side of the tower.
38	Brick springer	Rectangular brick structure, measuring 1.28m by 0.48m and 0.2m high, as excavated. Handmade unfrogged bricks measuring 70mm by 250mm by 110mm formed this short structure, which was as wide as a single header and stretcher. The southernmost of two such springers

		at the eastern side of the tower.
39	Probable medieval column base	A single, roughly-squared stone slab measuring 0.59m by 0.25m and 0.2m thick, as excavated, lying to the north-east of the nave doorway.
40	Make-up layer	A deposit of loose, brownish-grey sandy-silt with 5% crushed lime-based mortar and 5% crushed brick rubble that measured up to 60mm in diameter. The layer was approximately 0.2m thick and surrounded crypt ***29***.
41	Charnal deposit	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was located around crypt ***29*** and featured large quantities of disarticulated human bone. Part of group ***32***.
42	Coffin void	A coffin-shaped void, aligned east to west, that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
43	VOID	VOID
44	Subsoil burial horizon	Firm mid to dark brown silty-clay, with occasional fragments and flecks of lime-based mortar, and occasional sub-rounded and sub-angular stones between. This layer was encountered within the southern aisle. Excavated to a maximum depth of 500mm. The soil had been disturbed as a result of a high density of burials.
45	Subsoil burial horizon	Firm to tenacious mid greyish-brown silty-clay with occasional small fragments and flecks of lime-based mortar, and occasional sub-rounded and sub-angular stones. This layer was encountered within the southern aisle. Excavated to a maximum depth of 0.44mm. The soil had been disturbed as a result of a high density of burials and the construction of the southern wall of the southern aisle.
46	Human skeleton	Practically complete supine human skeleton.
47	Human skeleton	Disturbed and fragmented skeleton, with partial ribs and a humerus fragment surviving.
48	Grave	A sub-rectangular grave associated with SK ***110***. Some coffin fragments and small nails were present, and the infilled soil contained a pipe stem and a post-medieval pottery sherd. The grave was aligned east to west and was filled with firm mid brown silty-clay.
49	Grave	A sub-rectangular grave associated with SK ***111***. The grave was aligned east to west and was filled with firm mid brown silty-clay. This grave underlay grave ***48***, which had partially collapsed into the lower grave.
50	Human skeleton	Disturbed and fragmented skeleton associated with grave ***126***.
51	Human skeleton	Disturbed and fragmented skeleton associated with grave ***127***.
52	Human skeleton	Disturbed and fragmented skeleton associated with grave ***115***. Most of the left side of the skeleton had collapsed into the underlying coffin void ***130***.

53	Human skeleton	Disturbed and fragmented skeleton associated with grave ***134***. Only the skull, torso, and arms were present.
54	Make-up deposit	A layer of loose, orangey-brown fine sand that was 0.2m thick as excavated.
55	nineteenth century column base	A rubble and mortar column base within the northern aisle.
56	Fill of possible robber trench ***57***	Friable to firm, dark greyish-brown humic clayey-silt with occasional sandstone and brick fragments. The deposit appeared to have been wet and subsequently dried out, producing a clumping effect.
57	Possible robber trench	A sub-rectangular linear feature, measuring 1.2m by 0.5m and 0.76m deep, and aligned north to south. The feature had almost vertical sides and cut through medieval wall ***58***. A large boulder was located at the southern end of the trench.
58	Group number for northern medieval wall foundations	A firm reddish-brown silty-sand matrix surrounded randomly coursed water-worn cobbles between 100-150mm in diameter, and sandstone rubble 80-120mm in diameter. The cobbles and sandstone formed 90% of the deposit and the matrix appeared to result partially from the degradation of these elements. Located within the northern aisle. Includes ***21***, ***22***, ***23***, ***31***, and ***63***.
59	Levelling layer	A layer of firm mid brown sandy-clay beneath medieval wall ***58***, within the northern aisle.
60	Layer	A layer of firm mid reddish-brown sandy-clay within the northern aisle.
61	Coffin void	An east to west-aligned coffin-shaped void measuring 1.4m long and 0.32-0.54m wide. Not excavated.
62	Grave	An east to west-aligned coffin-shaped void measuring 0.5m long and 0.5m wide, as excavated. An articulated pelvis was visible, although the grave lay beneath the formation level and was not excavated.
63	Medieval wall foundations	A firm, reddish-brown silty-sand matrix surrounded randomly coursed water-worn cobbles and sandstone rubble. The cobbles and sandstone were smaller and more compact in this area than in other portions of the same wall. Located within the northern aisle.
64	Layer	Firm mid to dark grey sandy-clay with evidence of moderate bioturbation. This might represent a deposit of disturbed natural clay.
65	nineteenth century column base	A rubble and mortar column base within the northern aisle.
66	nineteenth century column base	A rubble and mortar column base within the northern aisle.
67	nineteenth century column base	A rubble and mortar column base within the northern aisle.

68	Possible robber cut	The edge of a feature apparently cutting wall ***31***. This feature was not excavated.
69	Human skeleton	Disturbed and fragmented skeleton associated with grave ***143***. The limbs and a partial skull were present.
70	Deposit	A deposit of friable reddish-brown sandy-silt containing 50% fragmentary stones that were up 60mm in diameter. The deposit appeared to represent a mixture of subsoil and fragments of wall ***87***, and probably represented disturbance during the construction of crypt ***9***.
71	Levelling layer	A layer of loose mid orangish-brown silty-clay with lenses of fine sand. Sub-angular stones 10-80mm in diameter were present.
72	Medieval wall foundations	A wall foundation formed by randomly coursed red sandstone, hard grey sandstone or gritstone, and water-worn cobbles. The grey stone measured between 80mm and 200mm in diameter, and the red stone measured between 40mm and 110mm in diameter. The stone was roughly hewn and bonded with a very light grey lime-based mortar. The sandstone fragments were smaller and more compact in this area, and featured higher quantities of mortar, than in other portions of the same wall. Located within the southern aisle.
73	Charnal pit	A sub-rectangular, machine-excavated trench filled with a soil deposit rich in human bone (***79***).
74	Charnal pit	A sub-rectangular, machine-excavated trench filled with a soil deposit rich in human bone (***80***).
75	Charnal pit	A sub-rectangular machine-excavated trench filled with a soil deposit rich in human bone (***77***).
76	Charnal pit	A sub-rectangular machine-excavated trench filled with a soil deposit rich in human bone (***78***).
77	Fill of charnal pit ***75***	Friable to loose mid brown sandy-silt with 2% sub-rounded and sub-angular stones measuring up to 30mm in diameter. Partially excavated.
78	Fill of charnal pit ***76***	Friable to loose mid brown sandy-silt with 2% sub-rounded and sub-angular stones measuring up to 30mm in diameter. Partially excavated.
79	Fill of charnal pit ***73***	Friable to loose mid brown sandy-silt with 2% sub-rounded and sub-angular stones measuring up to 30mm in diameter. Partially excavated.
80	Fill of charnal pit ***74***	Friable to loose mid brown sandy-silt with 2% sub-rounded and sub-angular stones measuring up to 30mm in diameter. Partially excavated.
81	Medieval column base	Two limestone slabs measuring up to 0.62m by 0.32m, and at least 30mm thick, although they were not fully excavated. The slabs lay within the northern part of the nave.
82	VOID	VOID

83	Charnal deposit	A deposit of friable mid brown sandy-silt with 5% stones that measured up to 100mm in diameter. The deposit was located around crypt ***29*** and featured large quantities of disarticulated human bone. Part of group ***32***.
84	VOID	VOID
85	Floor	A single, roughly quarried and split stone slab measuring 350mm by 350mm and 30mm thick.
86	Subsoil burial horizon	Firm mid to dark brown sandy-silt, with occasional lenses of clay and moderate to frequent occurrences of sub-rounded and sub-angular stones. This layer was encountered within the southern aisle. The soil had been disturbed as a result of a high density of burials.
87	Medieval wall foundations	Randomly coursed, sub-rounded pebbles and sub-angular fragments of red sandstone mostly measuring 40-120mm in diameter, with a maximum diameter of 260mm. Located at the southern side of the nave. Traces of white lime-based mortar were present.
88	nineteenth century column base	A rubble and mortar column base within the southern aisle.
89	nineteenth century column base	A rubble and mortar column base within the southern aisle.
90	nineteenth century column base	A rubble and mortar column base within the southern aisle.
91	nineteenth century column base	A rubble and mortar column base within the southern aisle.
92	nineteenth century column base	A rubble and mortar column base within the southern aisle.
93	Bedding layer	A 10mm thick layer of loose, blackish-grey silty-sand with 5% charcoal fragments up to 5mm in diameter. The layer supported stone slab ***88***.
94	Levelling layer	Loose, yellowish-grey sand forming a 20mm thick band.
95	Make-up layer	Firm, reddish-brown clayey-silt with 2% angular stones up to 50mm in diameter and 2% crushed limestone granuals up to 3mm in diameter. The layer was 0.13m thick and was one of the levelling deposits used to raise the floor of the church in the mid-nineteenth century.
96	Make-up layer	Loose yellowish-grey sand forming a 110mm thick band The layer was one of the levelling deposits used to raise the floor of the church in the mid-nineteenth century.
97	Make-up layer	Loose, reddish-brown sandy-silt with 40% fragments of mortar and plaster sheets. 0.54m thick.

98	Fill of nineteenth century column foundation cut ***154***	A deposit of loose greyish-brown sandy-silt that was 0.18m thick.
99	Medieval wall foundations	Randomly coursed sub-rounded pebbles and sub-angular fragments of red sandstone measuring up to 150mm in diameter. Located at the southern side of the nave and measuring up to 0.26m wide and 100mm thick, as excavated.
100	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
101	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
102	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
103	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
104	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
105	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
106	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
107	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
108	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
109	Grave	A grave without a visible cut, which was associated with SK ***34***. The grave was aligned east to west and was filled with friable mid to dark brown silty-clay.
110	Human skeleton	Practically complete supine human skeleton within grave ***48***.
111	Human skeleton	A skull was observed within grave ***49***. As the skeleton lay beneath the formation level it was not excavated.
112	UNUSED	UNUSED
113	UNUSED	UNUSED
114	UNUSED	UNUSED
115	Grave	A coffin void, which was associated with SK ***52*** and measured 1.81m by 0.28m wide and 0.15m deep, as excavated. The grave was aligned east to west and was filled with friable reddish-brown sandy-silt. The grave had partially subsided into underlying grave ***130***.

116	UNUSED	UNUSED
117	VOID	VOID
118	UNUSED	UNUSED
119	Grave	A coffin void, which was associated with SK ***36*** and measured 1.25m by 0.5m wide and 0.2m deep, as excavated. The grave was aligned east to west and was filled with dark greyish-brown silty-clay.
120	Coffin void	An east to west-aligned void that was revealed within the eastern end of the nave as a result of the collapse of overlying deposits. Not excavated.
121	Skeleton	An articulated skull revealed at the western end of the nave. The skull lay beneath the formation level and was not excavated.
122	Coffin void	An east to west-aligned void that was revealed within the western end of the southern aisle as a result of the collapse of overlying deposits. Not excavated.
123	Coffin void	An east to west-aligned void that was revealed within the western end of the nave as a result of the collapse of overlying deposits. Not excavated.
124	Grave	A coffin void, which was associated with SK ***46*** and measured 1.88m by 0.46m wide and 0.35m deep, as excavated. The grave was aligned east to west and was filled with friable mid brown sandy-silt.
125	Human skeleton	Disturbed and fragmented skeleton found within the northern aisle. Only three bones were present.
126	Grave	A coffin void, which was associated with SK ***50*** and measured 1.1m by 0.22m wide and 0.1m deep, as excavated. The grave was aligned east to west and was filled with dark greyish-brown silty-clay.
127	Grave	A grave plot associated with SK ***51***. The grave was aligned east to west and was filled with dark greyish-brown silty-sand, although the extents of the grave could not be discerned from the surrounding subsoil.
128	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
129	Construction cut	A rectlinear cut associated with the construction of the nineteenth century northern aisle wall.
130	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
131	Coffin void	An east to west-aligned void that was revealed within the eastern part of the nave as a result of the collapse of overlying deposits. Not excavated.
132	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
133	Coffin void	An east to west-aligned void that was revealed within the eastern part

		of the nave as a result of the collapse of overlying deposits. Not excavated.
134	Grave	A coffin void, which was associated with SK ***50*** and measured 320mm by 220mm wide and 50mm deep, as excavated. The grave was aligned east to west and was filled with firm brown silty-clay, with occasional fragments and flecks of lime-based mortar, and occasional angular stones between 10-30mm in diameter.
135	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
136	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
137	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
138	Coffin void	An east to west-aligned void that was revealed within the eastern part of the nave as a result of the collapse of overlying deposits. Not excavated.
139	Grave	A sub-rectangular cut, which was associated with a coffin void, and measured 2.37m by 0.6m wide and 0.63m deep, as excavated. The grave was aligned east to west and was filled with firm reddish-brown clayey-silt, with 2% crushed limestone granuals up to 3mm in diameter and 2% angular stones up to 50mm in diameter.
140	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
141	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
142	Coffin void	An east to west-aligned void that was revealed within the eastern part of the nave as a result of the collapse of overlying deposits. Not excavated.
143	Grave	A grave cut and coffin void, which was associated with SK ***69*** and coffin ***147***, measured 1.8m by 0.46m wide and 0.33m deep, as excavated. The grave was aligned east to west and was filled with firm mid greyish-brown clayey-silt with 5% angular sandstone fragments.
144	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
145	Rubble	A layer of modern rubble at the western end of the northern aisle. Not excavated.
146	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
147	Coffin	A partially preserved timber coffin that appears to have been subject to better preservation in the vicinity of copper studding that adorned the coffin. In addition, to an apparent plate at the foot end of the coffin, a large part of the coffin was preserved in the chest area of the grave and featured studs forming letters and numerals that read 'A

		R(?R or K) 1753(?3) Ag[d] 93'.
148	Grave	A grave cut and coffin void that measured 1.6m by 0.35m wide and 0.25m deep, as excavated. The grave was aligned east to west, and was filled with friable mid orangish-brown silty-clay and fine sand with 10% angular stone inclusions up to 10mm in diameter. The grave lay beneath the formation level and was not excavated.
149	Grave	A grave cut that measured 1.45m long and was associated with a single arm bone.
150	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
151	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
152	Grave	A grave measuring 1.6m long that contained a disturbed and fragmented skeleton. Only the lower part of the skeleton was present, although the upper half might have been represented by a deposit of disturbed and disarticulated bones within grave ***139***.
153	Coffin void	An east to west-aligned void that was revealed within the southern aisle as a result of the collapse of overlying deposits. Not excavated.
154	Cut of foundation for nineteenth century column	A flat-bottomed U-shaped cut. A very limited part of the cut was exposed.
155	Medieval wall foundations	A wall foundation formed by randomly coursed red sandstone, measuring between 40mm and 120mm in diameter. The stone was roughly hewn and bonded with traces of a lime-based mortar.
156	Subsoil burial horizon	Friable reddish-brown sandy-silt with 2% sub-angular stones up to 20mm in diameter. This layer was encountered within the nave. Excavated to a maximum depth of 0.26m. The soil had been disturbed as a result of a high density of burials.
157	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
158	Medieval column base	Split and roughly-squared limestone blocks and slabs measuring up to 0.29m by 0.55m by 0.3m, and arranged to form a sub-rectangular structure. The base lay within the northern half of the nave.
159	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
160	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
161	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
162	Human skeleton	This skeleton was largely complete but had been disturbed.
163	Human skeleton	Practically complete supine human skeleton within grave ***164***.

164	Grave	A grave cut and coffin void that measured 1.55m long and 0.49m wide, and was associated with SK ***163***. The grave was aligned east to west.
165	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
166	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
167	Coffin	A partially preserved timber coffin within grave ***166***. The coffin surrounded SK ***168***, and was visible as fragments of wood and timber impressions on the underlying soil. The area occupied by the coffin was a maximum of 1.56m long by 0.5m wide and 0.4m deep.
168	Human Skeleton	A partial supine skeleton within grave ***166***. The skull and the left portion of the pelvis were missing and few hand or foot bones were present.
169	Layer	A layer of moderately firm mid greyish-brown clayey-silt with less than 2% fragments and flecks of sandstone, limestone, and water-rounded cobbles.
170	Human skeleton	Severely disturbed and fragmented skeleton found within the nave. Only part of the right side of the torso was present.
171	Layer	Layer of loose to friable dark greyish-black silt with 50% slag, clinker, and ash. The layer was 1.41m long by 0.2m wide, and 0.12m thick as excavated. The deposit filled a brick and stone structure (***183***).
172	VOID	VOID
173	Burial horizon	A mixed layer of loose and friable reddish-brown clayey-silt, with patches of grey clay. Fragments and flecks of crushed limestone and degraded sandstone were present. The layer was disturbed by grave cuts and the presence of redeposited natural clay suggests the disturbance of the underlying geology.
174	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
175	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
176	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
177	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
178	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. The void measured 0.9m long and 0.32m wide and appears to have been associated with a child's coffin. Not excavated.
179	Burial horizon	A layer of loose and friable mid reddish-brown clayey-silt with less than 2% fragments and flecks of degraded sandstone and flecks of

		crushed limestone.
180	Medieval column base	Roughly-squared limestone blocks and slabs measuring up to 0.78m by 0.4m by 0.14m and arranged to form a sub-rectangular structure measuring 0.78m by 0.57m by 0.2m thick. The base lay within the northern half of the nave.
181	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
182	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
183	Structure	This structure comprised stone slabs measuring up to 0.52m long by 0.1m thick, forming a layer 1.43m long that was only visible in section. The eastern and western extents of the slabs were defined by paired ceramic bricks laid as headers. The space between the bricks, overlying the slabs, was filled by fuel ash ***171***. The structure appears to have marked a grave (***186***).
184	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
185	Bedding layer	A layer of soft and loose mid to dark reddish-brown clayey-silt, with frequent flecks and fragments of crushed limestone. The deposit was 0.9m long, 0.45m wide, and 0.12m thick and underlay column base ***180***.
186	Grave	A coffin void measuring 0.96m long and 0.32m deep, as excavated, that was only visible in section. The void had become filled with compact, dark reddish-brown silty-clay with flecks and fragments of crushed limestone.
187	Grave	A grave cut and coffin void that measured 1.4m by 0.39m wide and 0.17m deep, as excavated. The grave cut was aligned east to west and was filled with friable mid brown sandy-silt, with 2% angular stone inclusions up to 20mm in diameter and 2% limestone mortar flecks. The coffin void was filled with friable greyish-brown sandy-silt, with 2% angular stone inclusions up to 20mm in diameter and 2% limestone mortar flecks. The grave was associated with SK ***188***.
188	Human skeleton	Severely disturbed and fragmented skeleton represented only by a skull and spine, with some rib fragments. Within grave ***187***.
189	Coffin void	An east to west-aligned void that was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
190	Coffin void	An east to west-aligned void that was 2.09m long and was revealed within the nave as a result of the collapse of overlying deposits. Not excavated.
191	Medieval column base	Roughly-squared, limestone blocks and slabs measuring up to 0.6m by 0.25m by 0.2m thick, and arranged to form a sub-rectangular structure. The base lay within the southern half of the nave.
192	Burial disturbance	A 3.5m long, east to west-aligned deposit of firm dark blackish-brown clayey-silt. The deposit appeared to represent a series of inter-cutting burials, but was not excavated.

193	Medieval column base	Roughly-squared limestone block measuring 0.67m by 0.5m by 0.25m thick. The base lay within the southern half of the nave.
194	Probable medieval column base	A single roughly-squared limestone block, measuring 0.6m by 0.41m and 0.32m thick, as excavated, lying to the south-east of the nave doorway.
195	VOID	VOID
196	Natural drift geology	Firm dark grey and brownish-grey clay.
197	Bedding layer	A layer of bluish-grey stones, measuring up to 0.15m in diameter and 10mm thick. The layer was 0.3m wide and 0.66m long and underlay column base ***158***.
198	Grave	A grave that measured 0.55m long and 0.29m wide, as excavated. The grave was aligned east to west and associated with SK ***199***. The soil around the skeleton was friable reddish-brown sandy-silt, although the extent of the grave could not be ascertained with certainty.
199	Human skeleton	A disturbed and fragmented skeleton associated with grave ***198***. Only a partial torso survived. The skeleton lay beneath the formation level and was not excavated.
200	VOID	VOID
201	Grave	A grave that measured 0.42m long by 0.46m, as excavated. The soil within the coffin void was friable, reddish-brown sandy-silt, and the grave was not fully excavated.
202	Human skeleton	A disturbed and fragmented skeleton observed overlying grave ***201***. Only a partial leg was revealed and the skeleton was not fully excavated.
203	Backfill of medieval column base	A deposit of firm reddish-brown silty-clay that was a maximum of 0.24m thick, as excavated.
204	Construction cut for medieval column base	A flat-bottomed U-shaped cut forming a sub-rectangular pit with vertical sides. The pit was not fully exposed.
205	Infill of possible well	Deposit of loose, mid greyish-brown sand with 60% sandstone fragments measuring between 100m and 300mm in diameter. 30% of the deposit comprised sub-rounded stones measuring between 100mm and 200mm in diameter. Not fully excavated.
206	Cut of possible well	Very steep-sided feature that was partially exposed within a narrow trench, and a test pit measuring 0.3m by 0.3m. The sides of the feature appeared to curve in plan, and it is possible that it was sub-circular. It was excavated to a depth of 0.81m, which is unlikely to have represented the full depth of the feature.
207	Bedding layer	A layer of friable greyish-brown sandy-silt with sub-angular and sub-rounded sandstone fragments up to 60mm in diameter. The layer underlay column base ***191***.

208	Human skeleton.	The skeleton was not fully exposed and only the skull was revealed. The skull was located within possible well ***206***. Not excavated.
209	Human skeleton.	The skeleton was not fully exposed and only fragments of four lower leg bones were revealed. Not excavated.
210	Foundation cut for medieval wall	This cut was partially exposed and formed half of a U-shaped profile, with concave sides and base. The cut was filled by wall ***72***, and demonstrated that the wall foundation in this area became narrower towards the base.
211	Coffin void	An east to west-aligned void that was revealed within the northern aisle as a result of the collapse of overlying deposits. Not excavated.
212	Coffin void	An east to west-aligned void that was revealed at the southern edge of Trench 4 as a result of the collapse of overlying deposits. Not excavated.
213	Coffin void	An east to west-aligned void that was revealed at the southern edge of Trench 4 as a result of the collapse of overlying deposits. Not excavated.
214	Coffin void	An east to west-aligned void that was revealed at the southern edge of Trench 4 as a result of the collapse of overlying deposits. Not excavated.
215	Coffin void	An east to west-aligned void that was revealed to the south of the eastern end of Trench 5 as a result of the collapse of overlying deposits. Not excavated.

