# The Fleury Building
## Winchester Cathedral

## Archaeological Recording Report

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**Chapter of Winchester Cathedral**

# *The Fleury Building*

# *Winchester Cathedral*

# *Archaeological Recording Report*

**by Robin Bashford with Carl Champness and Steve Teague**

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## *Summary*

*In January 2010, Oxford Archaeology (OA) undertook archaeological recording at the site of the proposed Fleury Building at Winchester Cathedral, immediately to the east of the north transept. This was followed by a watching brief during the installation of new drainage between May-July 2010. The archaeological work followed on from an earlier evaluation carried out by OA in December 2008. The evaluation partially revealed at least nine supine inhumations, represented by simple earth-cut graves, a number of which were lined with chalk block cists. The site was excavated to the foundation levels of the new building with minimal or no impact on the archaeological remains. Additionally, a trench to incorporate a foul water pumping station was excavated immediately adjacent to the east wall of the north transept. This entailed the re-excavation of an early 20th century underpinning trench that exposed the offset brick footing of the same date which enabled archaeological remains exposed by the cut of the original trench to be recorded to a depth of c 3.1 m below the present ground level (b.g.l).*

*The trench for the pumping station revealed a series of deposits which appeared to represent late Roman and early medieval alluviation. These were found to overlie a possible tufa deposit, possibly part of a floodplain island that is believed to partially underlie the cathedral. A post-Roman gravel surface was identified, possibly corresponding to similar surfaces found that potentially pre-dated the Old Minster to the west. This sequence was overlain by make-up layers and graveyard soils, within which at least two graves were discernible, both of which had a chalk block lining. The chalk lined cists were similar to those excavated on the site of the 13th century St Swithun's chapel in the 1960s, which were thought to be contemporary with the chapel.*

*Three of the burials revealed within the evaluation were re-excavated in order for samples of bone to be taken for C14 dating. The femurs of the three individuals, one from within a chalk lined cist, but the remaining two from earth cut graves were sampled. Whilst the burial within the cist and one of the skeletons from the earth cut graves were dated to the 13th-14th centuries, the third sample appeared to date to the 11th-12th century. This would suggest that the area was in use as a burial ground prior to the construction of St Swithun's chapel.*

*Further evidence for features and structures associated with the underpinning of the cathedral in the early 20th century was also revealed, including evidence for concrete blocks that may have served as thrust blocks to support raking timbers that would have been propped against the buttresses. The concrete skirt between the buttresses of the east arm of the cathedral was also broken out and revealed the Romanesque plinth. This appeared to have been re-used for the construction of the existing presbytery aisle walls during the early 16th century. In places, the footings of the buttresses of the presbytery aisle had been replaced with concrete blockwork, probably of early 20th century date.*

# 1 INTRODUCTION

## 1.1 General

1.1.1 Oxford Archaeology (OA) was appointed by the Chapter of Winchester Cathedral to carry out archaeological excavations and a watching brief at Winchester Cathedral Close, Winchester, Hampshire. The archaeological work was carried out in advance of, and during construction works for, a new building that abutted the existing cathedral.

1.1.2 The new facility, initially known as the Friends' Building and later referred to as the Utilities and Flower Room (UFR), forms part of a wider programme of proposed building works within the cathedral and its close, which are subject to the overall discipline of an integrated 'Cathedral Plan'. The latter evolved from a strategic study known as the 'Close Plan', drawn up in consultation with representatives of the Planning Department of Winchester City Council (WCC), English Heritage (EH), and the Cathedral's Fabric Commission (England). The new installation was formally opened by the Abbot of Fleury on 5 March 2011 and was subsequently renamed The Fleury Building.

## 1.2 Location

1.2.1 The site is situated within the SE corner of the historic centre of Winchester within the Cathedral Close (Scheduled Ancient Monument No: Hants 585) immediately adjacent to the cathedral (Grade 1 Listed Building No:144495)

1.2.2 The excavations were conducted within the external corner formed by the junction of the north transept and the east arm of the cathedral (Fig. 1). The site is centred on NGR: SU 4825 2927 at approximately 36.30 m AOD but slopes down to *c* 36.22 m AOD near to the north wall of the east arm and to 36.11 m AOD near the eastern wall of the north transept.

## 1.3 Scope of work

1.3.1 The proposal for The Fleury Building was the subject of a desk-based archaeological assessment (DBA) by Dr John Crook the archaeological consultant to the Chapter of Winchester Cathedral (Crook 2008a). This document and the results from three archaeological evaluation trenches (Fig. 2, Trench Nos 1-3) undertaken at the site in 2008 (OA 2009a), formed the basis for the archaeological mitigation strategy (Crook 2009a and 2009c) and a brief for further archaeological work (Crook 2009b).

1.3.2 The mitigation strategy, written in consultation with the project engineers, sought to minimise the negative impact of the proposed new-build upon the known archaeological resource (as revealed by the evaluation works in 2008), by the use of a shallow foundation slab incorporating thickened edges, the reuse of the existing buildings floor, and the re-use of non-archaeologically sensitive areas (e.g. existing service runs and 20th century underpinning trenches) for the installation of drainage and services. The depths to which excavation was conducted are presented below in Section 2.2.

1.3.3 The brief set out archaeological methodologies with the aim of maximising the research potential offered by the scheme, and was written in consultation with Tracy Matthews, Historic Environment Officer (WCC), and Dr Richard Massey, Inspector of Ancient

Monuments. This formed the basis of a written scheme of investigation (OA 2009b) that detailed the archaeological methodologies that were to be deployed.

## 1.4 Geology and palaeo-topography

1.4.1 The geology of the site comprises Upper Chalk of the Cretaceous Epoch overlain by floodplain gravels dating from the late Quaternary period (BGS sheet 299D; 1:25,000) which are in turn overlain by peat and floodplain silts. The site lies on a valley floor, where the incipient river systems that were to eventually become the River Itchen cut through the chalk downs. At the end of the last Ice Age (Late Pleistocene, *c* 20,000 to 10,000 BP) meandering river channels fed from melting glacier ice deposited raised gravel bars within the floodplain. These formations were further elevated through the deposition of a calcareous deposit known as tufa to form 'islands', one of which may underlie the site.

1.4.2 The pre-Roman course of the Itchen appears to have established itself into two discrete systems of braided streams either side of this island. These channels were managed, canalised and redirected during the Roman period and after a hiatus, again from the late Anglo-Saxon through the Anglo-Norman and medieval periods, to the form that can be observed today. The Old Minster (mid 7th century) and the New Minster (10th century) were built on the island, but when the present cathedral was constructed, from the late 11th century, its eastern arm extended from this higher ground eastwards into the floodplain. It is the soft nature of the floodplain deposits that probably explains why the eastern part of the cathedral subsided in the 1800s and required comprehensive underpinning work to the foundations during the early 1900s.

## 1.5 Archaeological and historical background

***General (see Figs 7 and 8)***

1.5.1 The archaeological and historical background to the site was fully presented in the DBA (Crook 2008a), and the following section is largely reproduced from that document.

1.5.2 The site lies to the east of the Iron Age enclosure known as Oram's Arbour, but centrally within the defensive circuits of the later Roman *civitas* of *Venta Belgarum*, the late Anglo-Saxon *burh* and the later medieval city.

1.5.3 A major Roman street (Fig. 7) ran east-west beneath the site at a depth of 2.5-2.8 m below the current ground level. It is probable that buildings and their associated land-holdings bordered this road.

1.5.4 An important royal church, later known as 'Old Minster' was constructed in the 7th century, to the north, and partially under, the nave of the present cathedral (Fig. 7). This structure was located *c* 50 m to the west of the site, and was revealed by extensive excavations undertaken during the 1960s by Martin Biddle (Biddle 1966 and 1968). These excavations also identified the site and cemetery of a *c* late 13th century chapel to St Swithun on the site of the earlier minster. The burials within this cemetery comprised a mix of those within chalk-slab cists and those with no such cist.

1.5.5 From the early 10th century the site would have probably lain within the precincts of the 'New Minster', elements of which were revealed by Martin Biddle's excavations, with a

significant multi-phased structure called Building E located immediately to the north of the site.

1.5.6 In 1079, under Wakelin, the first Norman bishop of Winchester, work began on the replacement of Old Minster by the present cathedral, and by 1093 the eastern parts of the cathedral and monastic church were sufficiently complete for the monks to take possession.

1.5.7 It has been suggested that layout and scale of the cathedral must have been known from the outset in 1079, and that the completion of the works and the removal of New Minster to Hyde in 1110 formed part of a long-term design conceived in the 1070s (Biddle 1976, 318).

1.5.8 The later phases of Building E were interpreted as representing the conventual buildings of New Minster in the period 1066-1110, with the earlier phases perhaps belonging to the pre-Conquest configuration of the minster (Biddle 1972).

1.5.9 Burials were recorded to the south of this structure, and it was considered that these may be in an area where "extensions of the Old Minster cemetery might be expected" (Biddle 1972, 122). It has also been suggested that the area to the south of Building E formed a 'rectangular projection' of the New Minster precincts, which may have been used as a burial ground between the monastic reforms of the 960s, and the removal to Hyde in 1110 (Crook 2008a), when Building E appears to have been demolished.

1.5.10 Following the removal of the New Minster to Hyde in 1110, the area between the north transept and the east arm, plus the strip north of the nave, became known as Paradise, the boundary of which was a stone wall by the 14th or 15th century since a door in a surviving fragment to the east of the site appears to be of this date (John Crook pers. comm.). The evidence from Biddle's excavations would appear to suggest that this area was sub-divided into eastern and western sections by a north-south aligned section of wall running off the main east-west structure, and returning to join the north face of the north transept. Paradise Wall appears to have defined the southern limit of the city's graveyard from this time.

1.5.11 It was fairly common for medieval monasteries to create their own representation of the Garden of Eden and call it Paradise - a sort of earthly sanctuary from monastic life. It may well have been encouraged by western monks seeing Moorish gardens in Spain or Italy on their pilgrimages (Alan Hardy, pers. comm.) There are also examples of these gardens being created on former burial sites (e.g. to the west of the Franciscan Priory in Oxford was land which subsequently became known as Greyfriars Paradise, and burials of a different order (the Friars of the Sack) have been excavated from the area.

1.5.12 The east arm of the cathedral has seen several major modifications which have been summarised by Pevsner (2010, 574-5). Four major phases of work are evident:

- The early 13th century retrochoir wall.
- The early 14th century presbytery.
- The late 15th century remodelling of the east chapels.
- The early 16th century reconstruction (by Bishop Fox) of first of the east choir gable, followed by the presbytery walls with the addition of crocketed flying buttresses to support the clerestory above.

1.5.13 Biddle also suggests that 'graves and walled charnel' (Biddle 1972, 124) found in 1970 may imply that in the 14th century and perhaps earlier, the area to the north of the choir and south of Paradise Wall "seems to have been an extension of the great cemetery of Paradise on the north of the nave" (i.e. that of the Chapel of St Swithun). It is unclear how the 'graves and walled charnel' relate to the burials recorded to the south of Building E, which he suggests were associated with the Old Minster cemetery, and whether these are alternative interpretations of the same evidence.

1.5.14 These graves comprised a mix of chalk-slab cists and non-cist inhumations laid out in an orderly arrangement, implying that individual graves were marked on the surface. It was also suggested that the earlier burials were usually deeper, and that later graves were normally shallower, perhaps in order to minimise disturbance to previous burials. The mixed gender and age of the burials from the 1966-7 excavations implied a lay cemetery, which is also consistent with the burials recorded during the evaluation (OA 2009a). It was also noted that the northern limit of the graveyard was marked by Paradise Wall (Biddle 1972).

1.5.15 By the 15th century, the eastern half of Paradise appears to have been used by the Sacrist for grazing (though it may not necessarily have been the ‘Sacrist’s garden’ mentioned in certain medieval documents in the cathedral archives). It was also used from time to time as a works yard for major construction work on the cathedral. In 1532-3, for example, payments are recorded for the carrying of building stone from Paradise to the ‘Hordarian’s porch’ (part of No. 10, The Close). The same obedientiary roll also records the payment by the Clerk of Works to the Sacrist of 6d in lieu of ‘herbage’ (the right to graze animals) for the ‘Lower Paradise’ suggesting that the use of the site as a building yard prevented him from grazing the area as was his right.

1.5.16 Thus the surviving Sacrist’s Roll of John Buriton, Sacrist in 1537, records the receipt of 6d from the Clerk of Works: *Et de vid de Magistro operum domus nostræ pro herbagio Inferioris Paradisi hoc anno.* [‘And 6d from the Clerk of Works of our house for herbage on Lower Paradise this year.’]

1.5.17 After the dissolution of the priory the ‘Lower Paradise’ remained a separate enclave; for many years a perquisite of the Clerk of Works. In 1771 the west end of the great east-west Paradise Wall was demolished, and it was perhaps at that date that the return wall running southwards to the transept was rebuilt so as to meet the corner rather than the centre of the transept. That having been said, the wall shown in that drawing, dating from 1817, looks like an ancient feature, which may cast doubt on the identification of the possible footings of the wall meeting the centre of the transept gable wall.

1.5.18 From 1846 the site formed part of the enlarged churchyard, but by that date burials within the churchyard had almost ceased, none is recorded on the site of the Fleury Building.

1.5.19 In 1886 Dean Kitchin landscaped the churchyard into a level surface, but lowered the ground level in the immediate vicinity of the north transept and north presbytery aisle so that the land slopes towards the wall footings for a distance of about 5 m beyond the walls.

***William Walker (see Plates 4 and 5)***

1.5.20 As mentioned above, the cathedral is constructed on the edge of a tufa island, with the eastern end extending out over the floodplain. It was constructed on a timber raft to spread the weight and prevent the cathedral sinking into the underlying peat. However, it appears to have begun to sink almost as soon as it was constructed, and by the beginning of the 20th century, the walls were leaning to such an extent that the gable of the south transept overhangs its base by more than four feet (Bussby 1970).

1.5.21 Consequently, on the advice of the architect T G Jackson, an engineer was consulted. Francis Fox (possibly a descendant of a former Bishop of Winchester from 1501-1528) who drew up a list of recommendations which included, “walls should be underpinned down to the gravel”, and so the diver William Walker began his work in May 1906.

1.5.22 The work involved excavating through the peat and overlying deposits to a depth of 16' – 20' until hard gravel was reached. Sacks of concrete were then lowered to the diver - working underneath the cathedral and in total darkness - and bonded in courses up to a height of about 3'. The hole was then pumped dry and concrete blocks placed over the sack 'wall', which were in turn overlain by brick. It is estimated that Walker handled 25,800 bags of concrete and 114,900 concrete blocks. In addition some 900,000 bricks were used.

## 1.6 Acknowledgements

1.6.1 OA would like to thank Dr John Crook (Winchester Cathedral Archaeological Consultant) and Carlton Bath for facilitating the works and Tracy Matthews (WCC) and Richard Massey of English Heritage for their advice. Ben Ford managed the project, Robin Bashford supervised the excavations with Chris Richardson and Rowan McAlley. Steve Teague undertook the watching brief.

# 2 AIMS AND METHODOLOGY

## 2.1 Aims

2.1.1 The objectives of the archaeological fieldwork were to:

- Ensure that the necessary ground reduction and other excavations required for the new building were achieved with minimal impact to the in-situ archaeological deposits,
- Excavate and record archaeological deposits where they were unavoidably affected by the new-build,
- Characterise the nature and sequence of the archaeological and palaeo-environmental deposits that were exposed,
- Take the opportunity to obtain human bone samples (whilst leaving the bones in-situ) for AMS analysis from three of the skeletons that had been revealed during the evaluation.

## 2.2 Methodology and trench locations (Fig. 2 and Plate 2)

***General***

2.2.1 The existing stone slabs/former grave stones were removed by hand and stored. This work was undertaken by cathedral staff.

2.2.2 Prior to excavation the trenches were marked out by hand from the engineers drawing, and surveyed in by an OA surveyor.

2.2.3 All services that ran through the site were assumed to be live unless proved otherwise by the statutory authorities or otherwise trained personnel. Services were located and clearly marked.

2.2.4 The footprint of the proposed new building measured approximately 170 $m^2$ in area, (Trenches 4 and 5 combined) and was reduced to a level corresponding to the underside of the proposed floor slab plus the depth of a layer of blinding.

2.2.5 A 1 m strip around the edge, but within the limits of this footprint (Trench 5) was reduced by a further 200 mm below the level of Trench 4, to accommodate the thickened foundation edge-beam plus a layer of blinding.

2.2.6 A trench was also excavated to the north of Trenches 4 and 5 to facilitate the installation of a new pumping station (Trench 6).

2.2.7 Modern levels such as hardcore/make-up layers were removed under constant archaeological supervision using a 360-degree 7.5 tonne excavator fitted with a toothless ditching bucket (hard-standings such as the concrete skirt between the buttresses of the east arm were removed with careful use of a concrete breaker and hand held road-drill). Unstratified topsoil was removed in 150 mm spits and the surfaces scanned by eye and metal detector.

2.2.8 Excavation proceeded with the aim of not disturbing service pipes/drains/cables etc which were left in situ, with the exception of those proved to be dead by the statutory

authority (specifically, armoured electric cable assessed by Scottish and Southern Electricity which was subsequently removed).

***Trench 4***

2.2.9 General reduction was to 35.73 m AOD, although where live services were encountered, it was necessary to excavate below this level in order to avoid disturbing them.

2.2.10 A concrete surface that had been laid between the buttresses of the east arm of the cathedral had to be removed. This was quite thick in places and consequently in this area these works extended to a maximum reduced level of 35.51 m AOD.

***Trench 5***

2.2.11 The trench around the edge of the excavation was generally excavated to 35.53 m AOD. However, where the ground dropped away towards the north transept, it was necessary to deepen the trench to a maximum of 35.10 m AOD. It was also necessary to widen and deepen the trench to approximately 35.00 m AOD where it was crossed by a number of electricity cables, in order for them to be placed within ducting within the new foundation.

***Trench 6***

2.2.12 Trench 6 was positioned within the backfill of a trench that was first excavated during 1908-09 in order to enable the underpinning of the cathedral. This trench had been identified during the evaluation (OA 2009a). The trench measured approximately 4 m in length (north-south), its eastern edge corresponded to the limit of the 1908-09 cut. The western limit of excavation was expected to reveal the Romanesque and Victorian foundations of the north transept. The maximum depth of the excavation corresponded with the top of the concrete blockwork dating from 1908 that formed part of the underpinning process (this was at *c* 32.83 m AOD, or approximately 3 m below current ground level (b.g.l)).

2.2.13 The underpinning trench was re-excavated to the level of the base of the offset brick footing. As excavation progressed, the exposed stratigraphy of the south facing section was drawn prior to the face being obscured by the lowering of the shoring sheets. Once alluvial deposits were reached, incremental soil samples were taken, as contiguous monolith samples proved impractical given the depth of the trench and the instability of the available stratigraphy.

2.2.14 All shoring work was undertaken by suitably trained and experienced personnel and in consultation with the project engineer.

***Watching brief***

2.2.15 To minimise the impact of connecting the new services from Paternoster Row to the new building, new drainage and gas services were designed to reuse an already existing brick duct formally used to carry electricity (see Fig 2 insert). Along its north arm, where it diverted way from this duct, a watching brief was maintained.

# 3 RESULTS

## 3.1 Introduction and presentation of results

3.1.1 The following section summarises the results from the earliest to the latest archaeological deposits encountered during the archaeological works. It draws upon the results of the specialist reports presented in Appendices B - F which are also summarised here. Where relevant, reference is made to the results of the evaluation (OA 2009a). The results of the watching brief are reported separately.

3.1.2 Detailed context descriptions are presented in the context inventory (Appendix A), and within the descriptive text where they are integral to the interpretation of the context in question. Appendix A also includes context descriptions from the evaluation.

## 3.2 Stratigraphic summary

***?Natural and late Roman organic silts (Fig. 6)***

*Trench 6*

3.2.1 The earliest deposit revealed was a off-white calcareous ?gravel (444), possibly natural tufa, though too little was exposed to establish this with any confidence. It occurred at 32.99 m AOD or at a depth of 3.10 m (b.g.l) and continued below the base of the trench at 32.89 m AOD. It also appeared to slope away to the north and thus was exposed for a distance of *c* 0.40 m along the length of the section. Overlying this was a 0.36 m thick sequence of mid-brown organic silt deposits (442, 443 and 428), the nature of which suggests they were deposited as a result of water action and remained in a waterlogged condition. The earliest silt (442) contained fragments from of a Roman grog-tempered jar/dish of 4th century date. Unlike 444, the samples obtained from the organic silts contained abundant un-charred, waterlogged seeds, largely elder, and fragments of cultural debris such as marine shell (see Appendix F).

***Post-Roman alluvium and pre-cemetery deposits (c 5th – 11th century) (Fig, 6)***

*Trench 6*

3.2.2 Overlying the organic deposits was a 0.60 m thick sequence of gleyed silt-clay (429, 430 and 431). These are probably alluvium deposited possibly by episodes of overbank flooding from active channels within the floodplain. However, waterlogged seeds became less prevalent within its upper levels suggesting that it was deposited under drier conditions (see Appendix F, samples 303, 304 and 305). The latest deposit (431) contained an abraded, probable Roman, brick/tile fragment; otherwise no useful dating evidence was recovered.

3.2.3 Sealing the initial alluvial sequence was a compacted gravel deposit (432), probably a surface that may have occupied a shallow trench. It occurred at 33.89 m AOD (2.20 m b.g.l) and was overlain by a 0.04 m thick gravel rich, mid-dark grey silty clay (433), representing use of the surface. These were in turn overlain by a similar deposit, measuring 0.10 m thick (434).

3.2.4 The entire sequence was sealed by a 0.60 m thick deposit of homogeneous mid grey gravelly and silty clay (435) that occurred at *c* 34.63 m AOD. It may represent a deliberate dump, possibly to raise up the general area of the site. No useful dating evidence was recovered, though it pre-dated the earliest graveyard soils.

***Cemetery (c ?late 11th-14th century)***

*Trenches 1-3, 5 and 6 - Graveyard soils (Fig. 6)*

3.2.5 A fairly homogeneous mid grey silty clay deposit was present in all three evaluation trenches, and within the stratigraphic sequence revealed within the Trench 6 (436). This appeared to be truncated by grave cuts, although the similarity in the composition of the grave backfills and this deposit made the identification of grave cuts difficult. It probably represented the re-worked upper element of the possible make-up material described above (435).

3.2.6 Overlying deposit (436) was a predominantly mid brownish grey clay silt (405), although it was quite mixed, with concentrations and lenses of gravel and chalk throughout. This was a graveyard soil which may also have represented earlier make-up deposits re-worked through the use of the area as a cemetery.

*Trenches 1-6 - Inhumations (Figs 3 and 6)*

3.2.7 At least nine partial inhumations were revealed within the evaluation trenches. One each in Trenches 2 and 3 (the latter evidenced by part of a chalk lined cist revealed within a sondage) and seven in Trench 1. An additional four in-situ burials were encountered during the subsequent excavations – two seen in section within Trench 6 (437 and 403) and two partially revealed within Trench 5 (411 and 414). A further two potentially disturbed burials were also revealed within Trenches 4 and 5. No useful dating was recovered from the graves though a shroud pin of 12th century or later date, was noted near the left side of the skeleton from Burial 104 in Trench 1.

3.2.8 The femurs of three re-excavated individuals from Trench 1 were sampled for C14 dating, one from within a chalk lined cist (Burial 104; Skeleton 106), but the remaining two from earth cut graves (Burials 100 and 110; Skeletons 102 and 112).

3.2.9 The calibrated C14 date ranges for these burials (at 95 % confidence) are shown below and on Figure 3 (see also Appendix B).

- Burial 100; Skeleton 102: 1227AD – 1287AD (NZA 34104)
- Burial 104; Skeleton 106: 1292AD – 1395AD (NZA 34105)
- Burial 110; Skeleton 112: 1030AD – 1156AD (NZA 34106)

3.2.10 The stratigraphic relationship between Burials 104 and 110 was uncertain. Both were at a similar level (35.24 m and 35.21 m AOD respectively), although the right torso and skull of the former had been truncated, and it was initially assumed that it had been cut by Burial 110. However, the lower right leg of the latter was also missing, and there was some indication that the lower left leg continued below the right femur of Burial 104. The radiocarbon dates would appear to verify the latter interpretation, although

consequently the origin of the truncation to Burial 104 is uncertain. While it is possible that this truncation is associated with the early 20th century underpinning, the area lay outside the line of the underpinning trench identified in Trenches 1, 5 and 6, and it seems more likely to have been truncated during Dean Kitchin's landscaping works of the late 19th century.

*Trench 4 - Romanesque plinth and early 16th century presbytery aisle (Fig. 3 and Plate 3)*

3.2.11 The base of two of the Romanesque buttresses (425 and 426) of the Norman choir were already visible above the concrete surface that was present between the buttresses of the presbytery aisle. However, once the concrete surface had been removed, the chamfered plinth of the Norman choir - equivalent to that visible at the base of the north transept - was revealed. This had suffered a degree of damage during the underpinning work in the early 20th century, and from being directly under the concrete slab (which may also have been contemporary with the underpinning).

3.2.12 Part of the plinth had been replaced with a re-used gravestone, which appeared to correspond with the blocked up base of a window into the crypt. The blocked up part of the window corresponds with the stepped window embrasure which can be seen in the interior of the crypt, and it is likely that this has been used for access to the crypt at some point prior to the deposition of the concrete in the early 20th century.

***Post - cemetery activity (?15th – 19th century)***

*Trenches 1-6 (Fig. 6)*

3.2.13 A mixed soil (409) overlay graves 403 and 437 in Trench 6. It was 0.42 m thick and contained concentrations of re-deposited charnel and chalk blocks. It probably represented disturbed graveyard soil, probably by 19th century or earlier landscaping. A similar soil was also encountered within Trench 5 (405/406), and its surface revealed intermittently in Trench 4 at the levels excavated. It may also be equated with landscaping deposits found within evaluation Trenches 1-3 (125, 209 and 320-22)

***Early 20th century underpinning***

*Trenches 1 and 3-6 (Fig. 4)*

3.2.14 The underpinning trench (116 and 407) for the east wall of the north transept was identified in Trenches 1, 5 and 6 together with the cut for the possible thrust block (122) for the buttress adjacent to the trench.

3.2.15 Features associated with the underpinning of the buttress to the south of Trench 3 were also revealed, and consisted of the north-eastern extent of the underpinning trench, together with another possible thrust block (308).

3.2.16 A further thrust block was revealed in Trench 4 and is likely to be for the western buttress (424) of the early 16th century presbytery aisle.

*Trench 6 (Figs 5, 6 and Plate 1)*

3.2.17 The underpinning revealed within Trench 6 comprised an offset brick footing, probably built off concrete blockwork (although this was below the brick footing and therefore not

visible). The brick footing comprised 10 steps and was in turn overlain by concrete. This appeared to have been poured behind shuttering as impressions of the planks were visible on the east facing elevation of the concrete. The poured concrete was directly under the chamfered Romanesque plinth at the base of the above ground element of the north transept.

## 3.3 Watching brief (Fig. 2)

3.3.1 The watching brief monitored the excavation of trenches for a new drainage connection to the existing main located in Paternoster Row from the northern extent of the existing duct. Within the Cathedral Green (west of the entrance on Paternoster Row), modern concrete footings were revealed to the depth of the trench. They probably formed part of a boiler house that been demolished during the construction of the former Wessex Hotel in the early 1960s and account for the low mound that is still extant here (John Crook *per. comms.*). Within Paternoster Row (east of the entrance) a mixed dark grey soil was revealed to the maximum depth of the trench (0.63 m below the tarmac surface). It contained ceramic pipe and red brick fragments suggesting a fairly recent date. This was cut by a stone-lined drain that was revealed immediately below the make-up levels for the existing tarmac road. The drain contained a frogged brick in its construction and probably served houses that occupied the site prior to the construction of the hotel.

## 3.4 Finds summary

***Pottery by John Cotter***

3.4.1 A total of 16 sherds of pottery weighing 375 g were recovered from five contexts. This is of mixed Roman, medieval and modern date. Three contexts (408, 413, 442) produced only Roman pottery datable to the 4th century AD. Of the two other contexts, one produced only medieval (13/14th-century) pottery (416) and the other (418) produced pottery as late as *c* 1880-1925. Further details are recorded in the table in Appendix C.

***Clay pipe by John Cotter***

3.4.2 A single piece of clay pipe stem datable to *c* 1690-1750 was recovered from context 418.

***The ceramic building material (CBM) by John Cotter***

3.4.3 The CBM assemblage comprises 22 pieces weighing 6640 g from seven contexts. This comprises a mixture of fresh and worn Roman, medieval and fresh post-medieval pieces. Four contexts produced only Roman material including roof tile while three other contexts produced post-Roman material including medieval roof tile, two worn pieces of decorated floor tile, one of which dates to *c* 1280-1330. Fuller details may be consulted in the table in Appendix C.

***Stone by Ruth Shaffrey***

3.4.4 A single piece each of slate and a fragment of a block of grey sandstone with tooling on one face was recovered (see Appendix C).

***Glass by Ian Scott***

3.4.5 A total of 278 sherds of window glass were recovered from context 408, the backfill of the underpinning trench in Trench 4. They comprised colourless glass and olive green of uniform thickness probable derived from leaded windows and is of 18th century or early 19th century date. Full details are in Appendix D.

***Metals by Ian Scott***

3.4.6 The metal assemblage comprises 15 items, 3 pieces of lead and 12 pieces of iron . The lead included pieces of window came found with the glass is of 18th- or 19th-century date. The ironwork comprises 11 nails, a piece of bar or strip of rectangular section (context 416) and a piece of cast iron pipe or guttering. Full details are in Appendix D.

## 3.5 Environmental summary

3.5.1 Nine incremental samples (0.04-0.20 L) were taken from the deposits exposed in the west facing section of Trench 6 (see Fig. 6) to assess the preservation and diversity of environmental evidence including waterlogged and charred plant remains, insects and snails.

3.5.2 None of the samples contained plant assemblages of enough quantity or diversity to be of interpretable value. Where waterlogged seeds were preserved, they were mostly limited to those of the more robust seed types. Insect remains were observed very rarely in the earlier contexts, and were poorly preserved. Context 443, produced the most abundant flot, but the majority of this material was waterlogged wood, plant stems and root material, though charred grasses and rye were also present. Several other of the floodplain deposits 428, 430 and 431 also contained low numbers of charred cereal grain. Full details are in Appendix F.

# 4 DISCUSSION

## 4.1 Reliability of field investigation and presentation of interpretation

4.1.1 As the foundations of the new building were specifically re-designed to have the minimum impact possible on *in-situ* archaeology, the interpretation of the features and deposits encountered during the excavation does not differ greatly from that of the results from the evaluation. The exceptions to this were:

- The stratigraphic sequence revealed in the south facing section of Trench 6
- The C14 date ranges from three separate stratigraphically associated inhumations
- The Romanesque plinth of the Norman choir beneath the existing 14th century structure
- The additional evidence for the nature of the underpinning of the cathedral in the early 20th century.

4.1.2 As such, the interpretation and discussion presented below incorporates those from the evaluation report, and draws on other sites in the vicinity.

## 4.2 Interpretation and discussion of the excavation

***?Natural and late Roman organic silts***

4.2.1 A calcareous deposit (444) was partially exposed at 32.99 m AOD at the base of Trench 6 (Fig. 6) and may potentially represent tufa. It is thought to form from a precipitate of calcium carbonate from ground water in a humid, marshy environment, though its date in Winchester is unknown (Zant 1993, 3). It is similar in nature to deposits observed in other excavations at The Square and The Brooks (Teague 1989, 3-5 and Zant 1993, 3) to the north of the site, where it is thought to form one or more islands of higher ground upon the floodplain (Scobie 1995a, 4-6). Indeed its depth corresponds closely with the level of the 'chalk Marly Bed' that overlay peat and river gravels as sketched by architect T. G. Jackson during the underpinning of the cathedral (Crook 2009, fig. 6). At The Brooks, a large part of the western and north part of one island was revealed and it surface was found to vary in height from 35.10 m AOD at its highest point to 33.20 m AOD at its lowest point (Zant 1993, 17-19). At The Square, possibly located close to the western edge of an island, its surface was found at 33.57 m AOD (Winchester UAD Record No. EWC11129). Within Trench 6, the surface of the tufa level lies at 0.21-0.58 m below the lowermost levels found at The Brooks and The Square which could imply that the site occupies a low point on the edge of an island. However the level on this site is also *c* 1.8-2.4 m above that of the immediate pre-Roman floodplain (30.56 – 31.23 m AOD) found at The Pilgrims' School, a site that lies off-island (Champness and Teague forthcoming). Indeed a plot of the surface of floodplain gravel by Jessica Yu compiled from a study of the foundations of the cathedral (Crook 2008a, fig. 8) suggests that the area of the site occupies a level gravel terrace at *c* 31.50 m AOD, which slopes away sharply to *c* 30.25 m about *c* 30 m east of Trench 6. This could also reflect the extent of the tufa island in the vicinity of the site.

4.2.2 Evidence for early Roman activity, such as at The Brooks, has been recorded on the surface of the tufa Islands which is thought to have been adequately dry to allow occupation to occur (Zant 1993, 19-21). Indeed within the immediate locality of the site, streets and public buildings were constructed by the end of the 1st century (see Fig. 7). A building likely to represent the forum and basilica was revealed on Cathedral Green immediately to the north-west of the site (Biddle 1964, 203-6, fig. 6, Teague 1988, 6-7) and another substantial structure, possibly the bath house, was revealed immediately to its west (Teague 1989, 3-5). Both these structures were located on the island and it is surprising that similar substantial remains were not revealed on this site, especially given that it occupied the corner of an *insula* immediately opposite the forum and flanking a major street (Fig. 7). What deposits were found (Trench 6, contexts 442-43) comprise brown organic waterlogged silts, the earliest of which contained 4th century pottery. As evident from the section recorded (Fig. 6) it is feasible they occupied a feature possibly cut into the tufa. Given that Trench 6 lay no more than several metres from the projected northern edge of an east-west street revealed by Biddle (1964, Fig. 6), it is feasible that these deposits may have filled a ditch or channel that ran alongside it. A sequence of deep drainage channels were revealed alongside a east-west street at The Brooks throughout the Roman period, the latest of which had been use during the early-mid 4th century (Zant 1993, 129-31). They were used for run-off from the street, though the earliest also facilitated drainage of the low-lying western area of the site in order to allow for occupation (*ibid*., 25-7).

***Post Roman alluvium and pre-cemetery deposits (c. 5th – 11th century)***

4.2.3 The organic silt sequence was sealed by a significant depth (*c* 0.55m) of alluvial silts (442, 443 and 428) although not closely dated, these were probably deposited some time between the later 4th century until reoccupation of the area from the mid-7th century onwards. They may represent over-bank alluviation taking place perhaps over a prolonged period and supports the probable scenario that formal water management of the former floodplain, apparent during the Roman period, was no longer taking place and had in fact given way to a process of natural floodplain alluvial deposition. Such a scenario has recently been demonstrated at The Pilgrims' School (Champness and Teague, forthcoming) and also at The Brooks (Scobie *et al.* 1991, 34-37; Scobie 1995b, 2-5). At The Brooks an abraded silt-filled channel had removed the floors and foundations of a Roman town-house and dark earth deposits that had accumulated above it.

4.2.4 Conditions eventually became dry enough to allow for a gravel surface (432) associated with overlying occupation silts (433 and 434), to be laid. A cobbled surface found during Martin Biddle's excavation of Trench III (Biddle 1964, 206) was found directly over dark earth and pre-dated the construction of the Old Minster. However, given the lack of dating evidence it would be unwise to suggest any association or contemporaneity between the two surfaces. It could equally be of much later date, perhaps a path that run along the boundary of the Minster with the early 10th century New Minster (James 1997, Fig. 28).

4.2.5 Dump or make-up deposit 434, measuring 0.60 m thick, appears to represent a concerted effort to raise the ground level from *c* 34.0 m to at least 34.60 m AOD. Although no dating was recovered from this deposit, it apparently pre-dates the cemetery, of which one burial has been radiocarbon dated to AD 1030 – 1156 (NZA

34106). How extensive this is beyond the limits of Trench 6 is not known, though it could be associated with the construction of the New Minster or even feasibly the Norman cathedral during 1079-93.

***Cemetery (c ?late 11th-14th century)***

4.2.6 The limited amount of dating evidence recovered from the graveyard soils during the evaluation suggested that the burials encountered may have been contemporary with St Swithun's chapel, excavated by Biddle in the 1960s (see Fig. 8). Though located more than 100 m to the west this seems to represent the extension of the great cemetery of Paradise on the north of the nave (Biddle 1972, 124). The date of the earliest chapel is uncertain, although a few fragments of Purbeck marble and a pot sherd recovered from the fabric of the walls suggested that it was built no earlier than the late 13th century (Biddle 1968, 279). By the 15th century the area immediately north of the choir apparently became the sacrist's garden and burial presumably ceased (*ibid*). The C14 dates for Burials 100 and 104 (1227AD – 1395AD) are broadly concordant with this hypothesis, and the chalk cist of Burial 104 is typologically consistent with the burials recorded during the excavation of the cemetery around the north and east side St Swithun's Chapel in 1966-7. However, Burial 110 (1030AD – 1156AD) appears to be significantly earlier than the earliest possible date for the chapel. Whilst the later end of this date range may suggest a correlation with the existing cathedral, it is just feasible this burial represents the use of this area when it was part of the New Minster precinct. From the late 10th century the New Minster had at least two cemeteries, one to the west of the church and the claustral buildings and a second to the north-east of the church. However, a fire in 1065 had necessitated the reconstruction and enlargement of the claustral buildings, which encroached onto an existing cemetery (Biddle 1976, 316). Additionally, as part of the extension of the Royal Palace, the western third of the New Minster precinct – also part of a cemetery - was acquired by William I in 1069-70, which also drastically reduced the area available to New Minster for burial. As the area of the site lay within the New Minster precinct, it is possible that it was used as a cemetery following the reconstruction of the claustral buildings and the acquisition of the western part of the precinct, but before the construction of the Cathedral in 1079-1110.

4.2.7 However, chalk-lined Burials 100 and 104 date to the 13th – 14th centuries and therefore post-date the removal of New Minster to Hyde in 1110, as could feasibly Burial 110. The New Minster site was returned to the cathedral monastery after which the site appears to have been divided in two along an east-west boundary, later marked by the Paradise Wall, located immediately north of the site. It is unclear when this boundary was first established, and it may have been as early as 1110, but the wall itself appears to have been constructed during the 13th century (*ibid*, 123) and may be contemporary with St Swithun's Chapel. The area to the north of the wall was bounded by a trackway, which marked the southern limit of the town cemetery and south of it by the northern extent of a cemetery containing the chalk lined cists and believed to be associated with St Swithun's chapel (Biddle 1972, 124). It is possible that burials 100 and 104 pre-date this boundary and that prior to its construction the area to its south formed part the town cemetery.

4.2.8 The landscaping of the 19th century appears to have largely removed any evidence for the use of the site following the subdivision of Paradise, and the majority of the

remaining archaeological features and deposits related to the underpinning works of the early 20th century.

***Early 20th century underpinning***

4.2.9 Analysis of the records made during the underpinning in the early 20th century had suggested that the original Romanesque footings had been retained. The fact that they were not present could suggest that they had been replaced with concrete in the location of Trench 6 or are still extant behind the concrete facing. The partial repair to the footings of the buttresses (420, 422 and 424) of the east arm of the cathedral would suggest that localised removal and replacement was carried out during the underpinning, presumably where the footings had deteriorated to such an extent that they were no longer deemed adequate.

4.2.10 It is possible that the Romanesque foundations survive behind the concrete and brickwork, that the shuttering had been erected to prevent the loose flint rubble falling into the trench during the underpinning, and that once the brick footing had been constructed, the face of the Romanesque foundation was then consolidated with concrete. It is unclear how the base of the Romanesque foundation was secured during the underpinning works, although presumably some form of shuttering would have been required to prevent the foundations from collapsing. Alternatively, it is possible that surviving elements of the timber raft upon which the cathedral was originally built would have served this purpose.

4.2.11 The change in alignment of both the offset brick footing and the overlying concrete, strongly suggested that Trench 6 was located at the interface between two episodes of underpinning – which is known to have been carried out in sections, or 'drifts' (Crook 2009c).

4.2.12 The concentrations of glass and fragments of lead within the backfill of the underpinning trench also suggests that some replacement of the window glass in the north transept may have occurred simultaneously. As the glass recovered is of late 18th or later date, it would imply that this either represents glass not used during the possible replacement, or 19th century glass – possibly contemporary with Dean Kitchin's works in the late 19th century – was removed and replaced during the underpinning work.

# 5 PUBLICATION AND DISSEMINATION

5.1.1 The limited nature of the archaeological work undertaken does not warrant a formal article in an academic journal. Oxford Archaeology South annually submits site summaries to Medieval Archaeology and the CBA (Wessex) Newsletter for which this site has been included for its 2010 round-ups. Additionally, summaries are submitted annually by Winchester Museums Service on receipt of this report to Archaeology in Hampshire, an annual on-line journal compiled by the Hampshire Field Club and Archaeological Society (http://www.fieldclub.hants.org.uk/hants-archaeology-report.html)

5.1.2 The site archive will in due course be deposited with Winchester Museums Service. The Accession number is WINCM:AY378

# Appendix A. Context inventory for evaluation and excavation

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| **EVALUATION** | | | | |
| **TRENCH 1** | | | | |
| 100 | Group | | Grave group | |
| 101 | Cut | | Arbitrary cut number for grave group 100 | |
| 102 | Skeleton | | Adult skeleton partially revealed at the southern end of trench | |
| 103 | Fill | | Fill of grave cut 101 - indistinguishable from graveyard soil 129 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 104 | Group | | Grave group | |
| 105 | Cut | | Arbitrary cut number for grave group 104 | |
| 106 | Skeleton | | Adult skeleton partially revealed within trench | |
| 107 | Structure | | Chalk block lining along southern and possibly northern edge(s) of grave 105 | |
| 108 | Fill | | Fill of grave cut 105 - indistinguishable from graveyard soil 129 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 109 | Coffin | | More humility soil immediately under skeleton 106 - possibly coffin remnants | |
| 110 | Group | | Grave group | |
| 111 | Cut | | Arbitrary cut number for grave group 110 | |
| 112 | Skeleton | | Adult skeleton partially revealed within trench | |
| 113 | Fill | | Fill of grave cut 111 - indistinguishable from graveyard soil 129 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 114 | Cut | | Cut for antiquated electric cable | |
| 115 | Fill | | Backfill of service trench | |
| 116 | Cut | | North-south aligned cut for underpinning of east wall of north transept | |
| 117 | Fill | | Fill of underpinning trench | loose, mid-light brown grey crushed sandstone and mortar |
| 118 | Fill | | Fill of underpinning trench-contained L19-20C brick | friable laminated dark red brown and dark grey brown sand and sandy silt laminations |
| 119 | Fill | | Fill of underpinning trench | friable, mottled yellow/orange/brown crushed mortar and occasional sandy silt |

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| | | | | patches |
| 120 | Cut | | Cut for probable thrust block for supporting buttress on east wall of north transept | |
| 121 | Fill | | fill of cut for probable thrust block | loose, dark grey brown gravelly sandy silt |
| 122 | Structure | | probable thrust block for timber shoring installed during underpinning of buttress on east wall of north transept | |
| 123 | Layer | | deposit very similar in composition to graveyard soil (129) but higher concentration of gravel inclusions and marked by an intermittent mortary layer at the interface with the latter | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) and c5% gravel fragments |
| 124 | Layer | | probably the same as deposit 123 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) and c5% gravel fragments |
| 125 | Layer | | possibly post-underpinning landscaping | mixed |
| 126 | Layer | | topsoil | |
| 127 | Layer | | hardcore - fire path | |
| 128 | Layer | | mortar lens at interface between graveyard soil and overlying deposit | |
| 129 | Layer | | graveyard soil – contained decorated floor tile fragment (AD1250-1330) | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 130 | VOID | | VOID | |
| 131 | Skeleton | | Left leg overlying cist grave | |
| 132 | Fill | | grave backfill | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 133 | Group | | Grave group | |
| 134 | Cut | | Arbitrary cut for skeleton 131 (Group 133) | |
| 135 | Group | | Grave group | |
| 136 | Cut | | Arbitrary cut number for grave group 135 | |
| 137 | Skeleton | | Adult skeleton partially revealed within trench | |
| 138 | Fill | | Fill of grave cut 136 - indistinguishable from graveyard soil 129 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 139 | Structure | | Eastern end of stone cist | |
| 140 | Group | | Grave group | |
| 141 | Cut | | Arbitrary cut number for grave group 140 | |
| 142 | Skeleton | | Adult skeleton partially | |

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| | | | revealed at northern end of trench | |
| 143 | Fill | | Fill of grave cut 141 - indistinguishable from graveyard soil 129 | friable, mid brownish grey clay silt with chalk and flint fragments (c5%) |
| 144 | Finds Ref | | Charnel | |
| 145 | Finds Ref | | Charnel | |
| 146 | Structure | | Western end of stone cist | |
| **TRENCH 2** | | | | |
| 200 | Layer | | graveyard soil | predominantly mid grey clay silt but with variations in inclusions throughout - concentrations of flint, chalk fragments, gravel, occasional charnel |
| 201 | Cut | | grave cut | |
| 202 | Fill | | grave backfill - barely discernible difference in composition to graveyard soil | same as 200, but slightly paler in colour |
| 203 | Layer | | mortar rich interface between graveyard soil and overlying deposit | predominantly yellowish brown ?sandy mortar, mixed with underlying graveyard soil |
| 204 | Layer | | possibly a re-deposition of graveyard soil?? possibly seals grave backfills? | mixed but predominantly mid grey clay silt with concentrations of flint, chalk mortar gravel and occasional charnel |
| 205 | Cut | | possible pit of uncertain function, upper fill comprised mortar and limestone/flint rubble and is presumably associated with a construction phase of the cathedral? | |
| 206 | Fill | | lower fill of possible pit | mid brownish grey clay silt with 5% chalk fragments and occasional lenses and concentrations of mortar |
| 207 | Fill | | fill of possible pit – contained medieval glazed floor tile and ridge tile (AD 1250-1400) | yellowish white lime based mortar and limestone/chalk and flint blocks |
| 208 | Cut | | interface between ?re-deposited graveyard soils and overlying ?landscaping deposit. undulates to west of trench to incorporate electric cable | |
| 209 | Fill | | early 20th century landscaping deposit, also fills trench for antiquated electric cable suggesting the cable is contemporary with the construction of the existing flower room/underpinning | predominantly purplish grey 'hardcore' / cinder |
| 210 | Layer | | modern made ground - fire path | hardcore |

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| 211 | Cut | | possible cut in south facing section. uncertain function but cuts modern made ground - ? wheel rut | |
| 212 | Fill | | variation in fire path deposit | |
| 213 | Skeleton | | face and cranium of adult inhumation | |
| 214 | Structure | | chalk block lining around w and s grave edges | |
| **TRENCH 3** | | | | |
| 300 | Layer | | topsoil | |
| 301 | Cut | | cut for fire path | |
| 302 | Fill | | hardcore of fire path | |
| 303 | Cut | | cut for electric cable(s) | |
| 304 | Fill | | backfill of service trench | |
| 305 | Cut | | cut for earthing rod | |
| 306 | Fill | | backfill of cut for earthing rod | |
| 307 | Cut | | cut for underpinning trench for buttress | |
| 308 | Structure | | thrust block for shoring installed during underpinning of buttress | |
| 309 | Fill | | fill of underpinning trench | friable, mid-dark purple brown silty sand with frequent fragments of crushed clinker/coke and burnt flint |
| 310 | Fill | | fill of underpinning trench | friable/loose, mid brown grey, silty sand with occasional charcoal flecks |
| 311 | Fill | | fill of underpinning trench | friable, light grey brown, sandy mortar with frequent stone fragments |
| 312 | Fill | | fill of underpinning trench | friable dark grey brown sandy silt with light grey brown laminations |
| 313 | Fill | | fill of underpinning trench | mid-light brownish grey mortar and crushed stone |
| 314 | Fill | | fill of underpinning trench | compact-friable mixed dark brown and purple brown clayey silt |
| 315 | Fill | | fill of underpinning trench | compact-friable mixed dark brown and light brownish grey clay silt with frequent lenses of sandy mortar and charcoal and burnt stone |
| 316 | Fill | | fill of underpinning trench | friable-loose mixed mid to dark purple brown and light grey brown clay silt with frequent burnt stone and charcoal and occasional concentrations of mortar |
| 317 | Layer | | graveyard soil – Medieval decorated floor tile (AD 1250-1330) and residual Roman and late Saxon pot. | firm, dark grey brown clay silt with chalk fragments and sub-angular flints |
| 318 | Layer | | mortar horizon between graveyard soil and overlying deposit | compact mid-light brownish grey mixed mortar and stone |

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| 319 | Layer | | possibly re-deposited graveyard soil – contained modern red brick | firm, dark grey brown clay silt with chalk fragments and sub-angular flints and c5% gravel fragments |
| 320 | Layer | | ?post-underpinning landscaping deposit | compact dark grey brown clay silt mortar and chalk fragments throughout |
| 321 | Layer | | ?post-underpinning landscaping deposit | compact mid-dark grey brown clay silt with sub-angular flints and chalk fragments |
| 322 | Layer | | ?post-underpinning landscaping deposit | loose, dark purple brown clay silt with burnt stones and flint |
| 323 | Cut | | grave cut | |
| 324 | Fill | | grave backfill | firm, dark grey brown clay silt with chalk fragments and sub-angular flints |
| 325 | Structure | | chalk block lining of cist burial/partially collapsed | |
| 326 | Group | | grave group | |
| 327 | Cut | | possible pit | |
| 328 | Fill | | possible pit fill | friable, mid grey clay silt chalk flecks and occasional gravel |
| 329 | Fill | | possible pit fill | friable grey silty clay c5% gravel fragments |
| **EXCAVATION** | | | | |
| **TRENCHES 4-6** | | | | |
| 401 | Structure | | Concrete block footing of buttress on NE corner of north transept | |
| 402 | Structure | | Chalk block lining of grave | |
| 403 | Cut | | Grave cut | |
| 404 | Deposit | | Grave backfill | Mixed, but predominantly mid grey clay silt |
| 405 | Deposit | 436 | Graveyard soil | Predominantly mid brownish grey clay silt |
| 406 | Deposit | 417, 435 | Possible reclamation deposit | Mixed mid grey silty clay |
| 407 | Cut | | Cut for early 20th century underpinning | |
| 408 | Deposit | | Back fill of underpinning trench | Mixed, with concentrations of mortar, stone, brick and glass throughout |
| 409 | Deposit | 416 | Disturbed graveyard soil – cut by underpinning trench – possibly re-worked during 19thC landscaping | Mixed with concentrations of re-deposited charnel and chalk blocks suggesting disturbed graves |
| 410 | Deposit | | Grave backfill | Friable brownish white calcareous silt with 5% chalk fragments |
| 411 | Structure | | Chalk block lining of grave | |
| 412 | Cut | | Grave cut | |
| 413 | Deposit | | Grave backfill | Friable light brownish white calcareous silt with 5% chalk fragments |
| 414 | Structure | | Chalk block lining of grave | |
| 415 | Cut | | Grave cut | |
| 416 | Deposit | 409 | Disturbed graveyard soil | Friable mid grey brown sandy silt with 5% gravel and 1% chalk fragments |

| Winchester UFR Building | | | | |
|---|---|---|---|---|
| **Context** | **Type** | **Same as** | **Interpretation** | **Description** |
| 417 | Deposit | 405, 436 | Graveyard soil | Friable, dark grey brown sandy silt with 1% chalk fragments |
| 418 | Finds Ref | | Finds reference | Charnel from service trenches |
| 419 | Structure | | North wall of early 16th C presbytery aisle | |
| 420 | Structure | | Eastern buttress of early 16th C presbytery aisle within excavation area | |
| 421 | Structure | | Foundation for eastern buttress | |
| 422 | Structure | | Middle buttress of early 16th C presbytery aisle within excavation area | |
| 423 | Structure | | Foundation for middle buttress | |
| 424 | Structure | | Western buttress of early 16th C presbytery aisle within excavation area | |
| 425 | Structure | | Western Romanesque buttress base under early 16th C presbytery aisle | |
| 426 | Structure | | Eastern Romanesque buttress base under early 16th C presbytery aisle | |
| 427 | Structure | | Chamfered Romanesque plinth under early 16th C presbytery aisle | |
| 428 | Deposit | | Alluvial deposit | Mid brown organic silt |
| 429 | Deposit | | Alluvial deposit | Gleyed silty clay with *c*10% limestone fragments |
| 430 | Deposit | | Alluvial deposit | Gleyed silty clay |
| 431 | Deposit | | Alluvial deposit | Gleyed silty clay |
| 432 | Deposit | | Possible surface | Very compacted gravel |
| 433 | Deposit | | Possible trample over surface | Mid-dark grey silty clay |
| 434 | Deposit | | Alluvial deposit | Mid-dark grey silty clay |
| 435 | Deposit | | Land reclamation | Mid grey clay silt with 5% gravel and 1% chalk fragments |
| 436 | Deposit | 405, 417 | Graveyard soil | Friable, dark grey brown sandy silt with 1% chalk fragments |
| 437 | Cut | | Possible grave cut | |
| 438 | Deposit | | Backfill of possible grave | mid-pale grey clay silt |
| 439 | Structure | | Chalk lining of grave | |
| 440 | VOID | | VOID | VOID |
| 441 | VOID | | VOID | VOID |
| 442 | Deposit | | Alluvial deposit | Mid brown organic silt |
| 443 | Deposit | | Alluvial deposit | Mid brown organic silt |
| 444 | Deposit | | Tufa | Off white calcareous ?gravel |
| 445 | Finds Ref | | Finds reference | Finds reference |
| 446 | Deposit | | ?Variation in graveyard soil | Mid-pale grey white silty clay with mortar throughout |

# APPENDIX B. RADIOCARBON DATING

## RAFTER RADIOCARBON LABORATORY

R32402/1

INSTITUTE OF GEOLOGICAL AND NUCLEAR SCIENCES LTD.
PO Box 31312, Lower Hutt, New Zealand
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### RADIOCARBON CALIBRATION REPORT

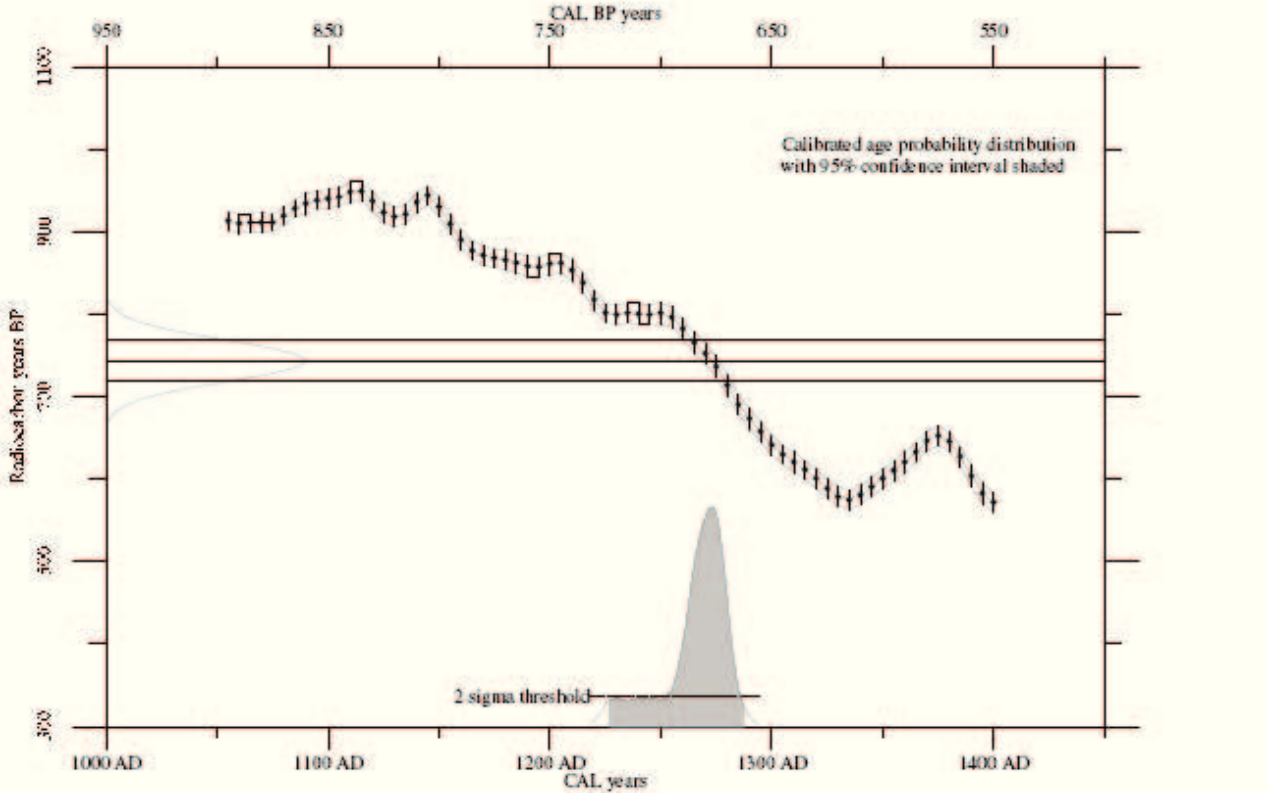
NZA 34104 CONVENTIONAL RADIOCARBON AGE 744 ± 25 years BP

Atmospheric data from Reimer et al (2009);
PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell,
C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes,
TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer,
FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo,
CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111-1150.

CALIBRATED AGE in terms of confidence intervals (Smoothing parameter: 0, Offset: 0)

68% confidence interval is 1262 AD to 1282 AD 688 BP to 668 BP (67.4% of area)

95% confidence interval is 1227 AD to 1287 AD 723 BP to 663 BP (94.9% of area)



## RAFTER RADIOCARBON LABORATORY

R32402/2

INSTITUTE OF GEOLOGICAL AND NUCLEAR SCIENCES LTD.
PO Box 31312, Lower Hutt, New Zealand
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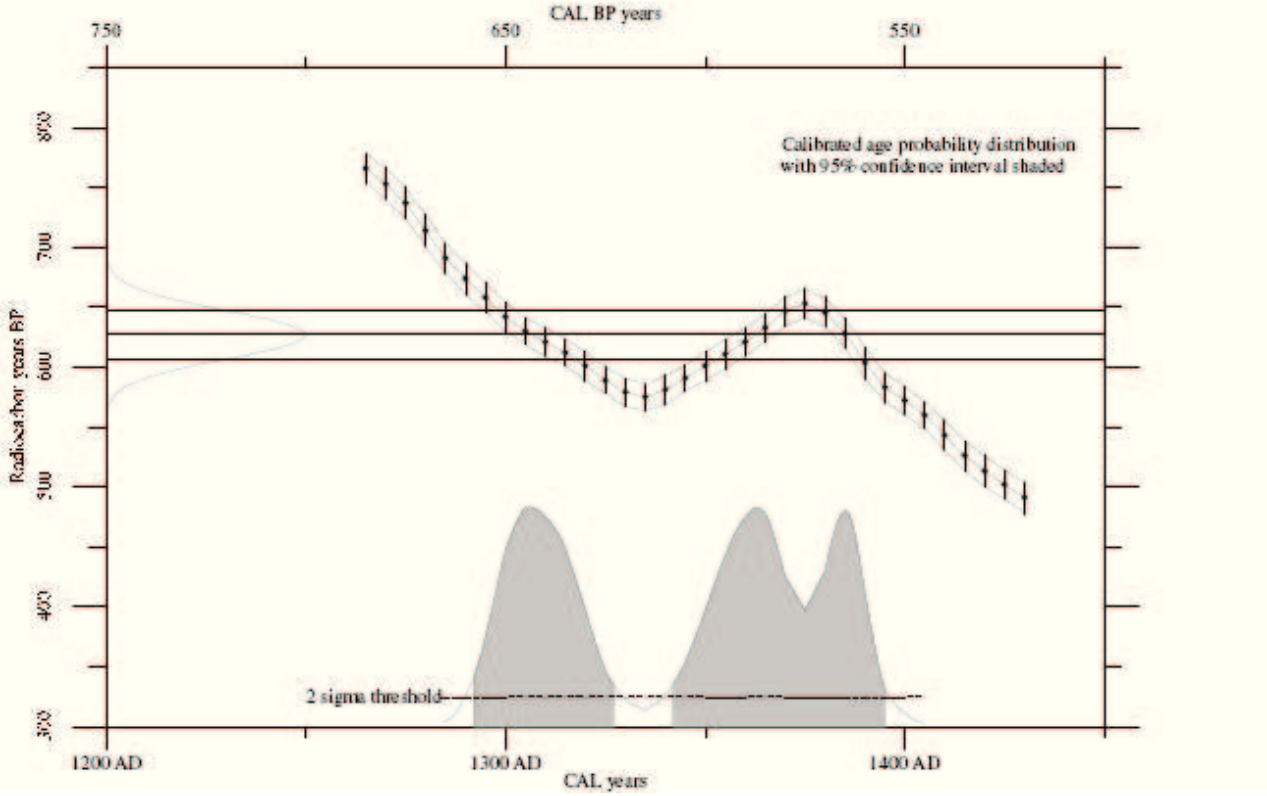
### RADIOCARBON CALIBRATION REPORT

NZA 34105 CONVENTIONAL RADIOCARBON AGE 627 ± 20 years BP

Atmospheric data from Reimer et al (2009);
PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell,
C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes,
TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer,
FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo,
CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111-1150.

CALIBRATED AGE in terms of confidence intervals (Smoothing parameter: 0, Offset: 0)

| | |
|---|---|
| 68% confidence interval is | 1298 AD to 1318 AD 652 BP to 632 BP (27.9% of area) |
| plus | 1353 AD to 1372 AD 597 BP to 578 BP (25.9% of area) |
| plus | 1379 AD to 1390 AD 571 BP to 560 BP (14.8% of area) |
| 95% confidence interval is | 1292 AD to 1327 AD 658 BP to 623 BP (37.5% of area) |
| plus | 1342 AD to 1395 AD 608 BP to 555 BP (57.3% of area) |



## RAFTER RADIOCARBON LABORATORY

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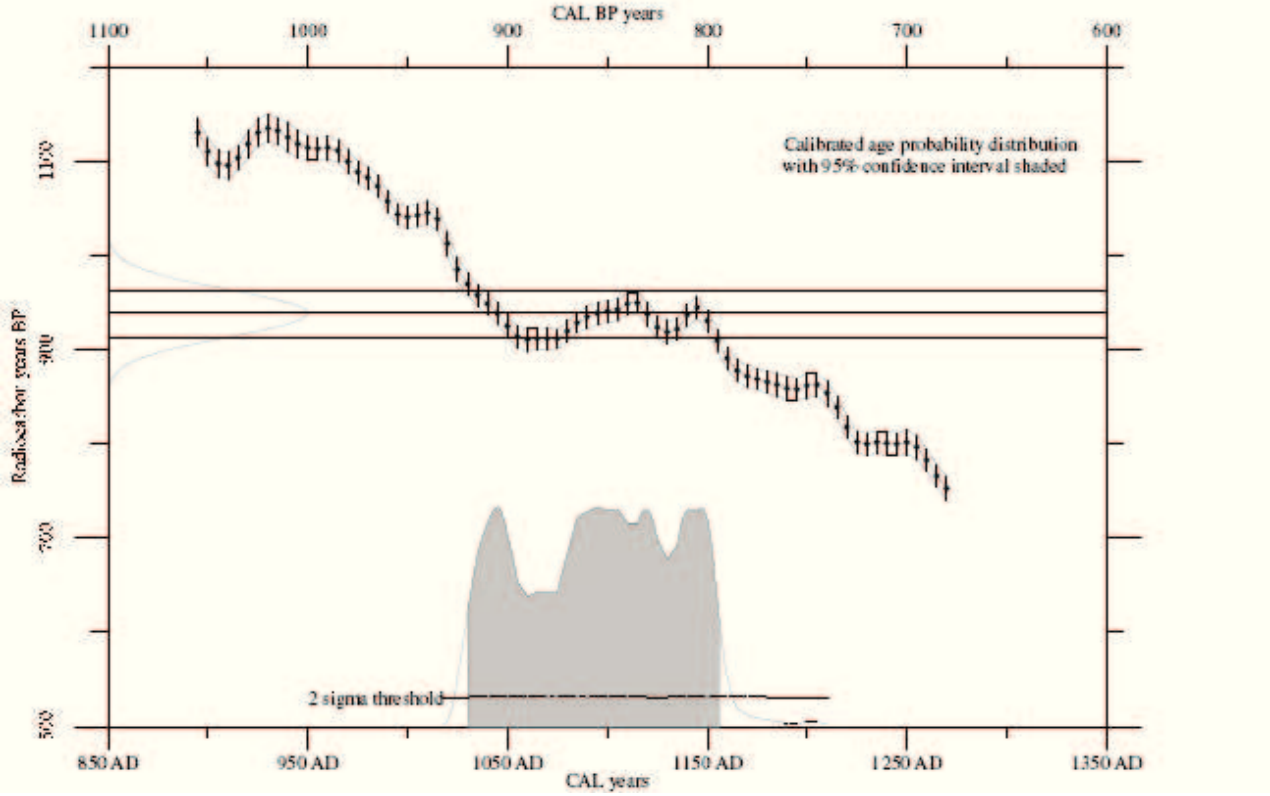
### RADIOCARBON CALIBRATION REPORT

NZA 34106 CONVENTIONAL RADIOCARBON AGE 939 ± 25 years BP

Atmospheric data from Reimer et al (2009);
PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell,
C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes,
TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer,
FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo,
CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111-1150.

CALIBRATED AGE in terms of confidence intervals (Smoothing parameter: 0, Offset: 0)

| | |
|---|---|
| 68% confidence interval is | 1036 AD to 1052 AD 914 BP to 898 BP (13.1% of area) |
| plus | 1081 AD to 1128 AD 869 BP to 822 BP (39.6% of area) |
| plus | 1135 AD to 1153 AD 815 BP to 797 BP (15.2% of area) |
| 95% confidence interval is | 1030 AD to 1156 AD 920 BP to 794 BP (94.8% of area) |



# Appendix C. Summary of the pottery, clay pipe, ceramic and stone building material

## Pottery
*by John Cotter*

A total of 16 sherds of pottery weighing 375 g were recovered from 5 contexts. This is of mixed Roman, medieval and modern date. All the pottery was examined and spot-dated during the present assessment stage. For each context the total pottery sherd count and weight were recorded on an Excel spreadsheet, followed by the context spot-date which is the date-bracket during which the latest pottery types in the context are estimated to have been produced or were in general circulation. Comments on the presence of datable types were also recorded, usually with mention of vessel form (jugs, bowls etc.) and any other attributes worthy of note (eg. decoration etc.).

| Context | Spot-date | Sherds | Weight | Comments |
|---|---|---|---|---|
| 408 | 4C | 2 | 61 | Large bs late Rom grog-tempered ware with lattice burnish. Small fresh bs white sandy ware - prob Verulamium or Portchester D (Ed Biddulph) |
| 413 | 4C | 2 | 8 | Bs late Rom grog-tempered ware with lattice burnish. Worn flake of fine buff sandy ware |
| 416 | c1250-1400 | 2 | 32 | 1x Roman (5g) New Forest black coated ware. 1x high medieval pink sandy ware - probably a jug handle (one edge missing) with central thumbed strip and ext green glaze |
| 418 | c1880-1925 | 8 | 193 | Base cylindrical late whiteware preserve jar poss with '[MALLI]NG' stamp underside. Bs blue Willow pattern. Base Border ware dish. 1x 16C redware. 2x med incl prob 15C glazed pink ware & 13/14C glazed S Hants Redware with slip dec |
| 442 | 4C | 2 | 81 | 1x flat base late Rom grog-tempered jar or deep dish, worn. 1x v coarse grog-temp bs poss from base/lower wall of another vess with deep finger tip impressions inside |
| **TOTAL** | | **16** | **375** | |

Three contexts produced only Roman pottery datable to the 4th century AD. Of the two other contexts, one produced only medieval (13/14th-century) pottery and the other (418) produced pottery as late as *c* 1880-1925. The pottery types present are fairly unremarkable.

## Clay pipe
*by John Cotter*

A single piece of clay pipe weighing 7 g was recovered from Context 418 (and is therefore residual). This has not been separately catalogued but is recorded here. It consists of a fresh

piece of pipe stem with a trace of an oval or round heel. The pipe has a very good quality all over burnish and a stem bore of *c* 2 mm. These features suggest a date of *c* 1690-1750.

### Ceramic building material (CBM)

*by John Cotter*

The CBM assemblage comprises 22 pieces weighing 6640 g from 7 contexts. This comprises a mixture of fresh and worn Roman, medieval and fresh post-medieval pieces This was examined and spot-dated during the present assessment stage following standard Oxford Archaeology procedures and the data recorded on an Excel spreadsheet. As usual, the dating of broken fragments of ceramic building materials is an imprecise art and spot-dates derived from them are necessarily broad and should therefore be regarded with caution.

| Context | Spot-date | Sherds | Weight | Comments |
|---|---|---|---|---|
| 408 | 19C | 2 | 3285 | 1x complete unfrogged red brick (2896g). 1x Roman tegula frag with flange, orange sandy fabric, fairly fresh |
| 413 | 43-400AD | 6 | 230 | Worn frags red/orange Roman brick & tile. 1 = 50mm thick |
| 416 | 13-15C | 3 | 367 | 2 frags from 1 unglazed med peg tile in coarse orange fabric with grey core. 1x Roman tegula flange (267g) in creamy buff fabric |
| 418 | L19-20C | 6 | 2236 | End frag machine-made frogged red brick c1900 with part of maker's stamp in the frog incl words 'COLTH[…] BR[ICK ….]'. Corner frag similar brick. 1 frag 19/20C brown glazed stoneware drainpipe. End frag 18/19C yellow floor brick. 2x medieval floor tiles incl frag 'stabbed Wessex' type c1280-1330 with worn traces of inlaid white slip design in orange fabric with v deep circ keying scoops on underside. Incl 1 x 2/3 complete tile with complete width 134mm x 30mm thick, bevelled edges, traces allover white slip & clear glaze on light orange marly fabric - poss 14/14C? |
| 428 | 43-400AD | 2 | 249 | Roman. 1x frag red imbrex. 1x worn corner frag yellowish tegula with truncated/broken flange showing cut-away |
| 431 | 43-400AD? | 1 | 38 | Prob Roman. V worn frag (lacking surfaces) cream sandy brick/tile |
| 435 | 43-400AD | 2 | 235 | Roman. 1x frag fresh light orange imbrex corner. 1x fresh light orange corner frag tegula with flange |
| **TOTAL** | | **22** | **6640** | |

Four contexts produced only Roman material including roof tile (*tegula* and *imbrex*) pieces in light orange-red and pale creamy-buff fabrics. Also orange-red brick and other undiagnostic scraps. The three other contexts produced post-Roman material. This included pieces of medieval red roof tile (416) and in the other contexts 19th-century and possibly early 20th-century brick. One of these contexts (418) also produced two worn pieces of medieval decorated floor tile including a piece decorated with ‘inlaid’ white slip in the ‘stabbed Wessex’ tradition datable *c* 1280-1330. In general, however, the CBM assemblage is not particularly remarkable for a site in the centre of historic Winchester.

## The stone
*by Ruth Shaffrey*

| Context No. | Description |
|---|---|
| 416 | 1 fragment slate, weight 24g |
| 418 | 1 fragment stone, weight 705g |

Two pieces of stone were retained. These consist of a piece of unworked slate (416) and a fragment of a block of grey sandstone with two corners remaining and tooling on one face. Mortar survives on one face.

## The flint
*by Geraldine Crann*

One piece of flint was recovered from context 413 on the site.

| Context No. | Description |
|---|---|
| 413 | Small fragment of flint nodule, with thick white powdery cortex (30%), weight 17g. Relatively flat-surfaced reduction of nodule. |

*Technology and Dating*
As an isolated find the material is not diagnostic.

### Discussion
The relatively flat-surfaced reduction of the nodule indicates the possible preparation of flint for building stone, though it may be of natural origin. The small quantity of worked flint recovered limits the interpretation of the material beyond illustrating the possible use of flint as a building material in the area of excavation.

# *Appendix D. The glass and metals*

*by Ian Scott*

## Glass

The glass from context 408 comprises some 278 sherds of window glass. Much of the window glass is colourless (although some sherds have a very slight blue tint) but there are 59 sherds of olive green glass. Many of the sherds are small, but a number are quite large and show clearly that much if not all the glass was cut into diamond-shaped quarries and was therefore from leaded windows. Many of the sherds also show clear signs of puttying.

It is not easy to date plain window glass. The sherds of both the colourless glass and olive green glass are uniform in thickness, although there are variations in thickness between sherds from *c* 1.5 mm to *c* 2 mm. Most if not all the colourless glass is very flat and regular suggesting that it is comparatively modern (dating to the late 19th-century or later, or more probably to the 20th century). The sherds of olive green glass are more variable; some olive green sherds clearly have flat regular surfaces, but a few have more irregular surfaces and are perhaps to be assigned a date as early as the 18th century or early 19th century. Although there as a small number of sherds with grozed edges, the overwhelming majority of larger sherds have very straight cut edges, which again suggests a late date.

## Metals

The metal assemblage comprises 15 items, 3 pieces of lead and 12 pieces of iron.

The lead comprises 2 pieces of window came (context 408) and a piece of narrow lead strip (context 416). The two window cames are probably of similar form, although one is twisted and partially encased in mortar. The latter has the widely spaced milling of Knight's Type G came. The second piece is certainly of Type G, which is of 18th- or 19th- century date (Knight 1985, 154-56, Type G, & fig. 48: 2g).

The ironwork comprises 11 nails, a piece of bar or strip of rectangular section (context 416) and a piece of cast iron pipe or guttering (context 418). In addition to the length of bar or strip, Context 416 produced 8 nails and a fragment of nail stem. The nails included 3 wood nails with small heads, and another with a flat circular head, 3 cut nails (1 quite large: L: *c*. 160 mm), and a large nail with a thick square section tapering stem and large head (L: *c* 140 mm). A similar nail with large head and square section tapering stem was found in context 413 (L: *c* 145 mm). From context 418 is a nail or spike with an L-shaped head, square section stem and chisel point (L: 130 mm). The latter could be a rail spike.

# *APPENDIX E. SHELL*

*by Geraldine Crann*

Two fragments of shell were recovered from contexts 416 and 418 on the site.

| Context No. | Description |
|---|---|
| 416 | Lower valve of oyster shell, weight 13g. |
| 418 | Upper valve of oyster shell, weight 27g. |

# Appendix F. An assessment of nine waterlogged incremental samples from Winchester Cathedral

*by Julia Meen*

## INTRODUCTION

This report describes nine incremental samples taken from a sequence at Winchester Cathedral in June 2010 to assess the sample composition and preservation and diversity of waterlogged plant remains (WPR).

## AIMS

Sampling was undertaken to:

- Determine whether ecofacts and environmental evidence (particularly waterlogged plant remains) are present.
- Determine the quality, range, state and method of preservation of any ecofactual evidence.
- Recover and identify any small artefacts

## METHODOLOGY

A 50 g sub-sample was taken from each sample prior to processing for pollen and further sedimentary description. The remainder of each sample (a quantity never exceeding 1 L) was hand-floated for the recovery of WPR. The flot and the residue were collected separately on 250 µm meshes and stored in water-filled containers in cold storage, except in cases where little material was produced, in which instances the flot and residue were combined. Any finds greater than 10 mm in size were extracted during processing and dried separately. The waterlogged flots were scanned for WPR and insects using a binocular microscope at approximately x15 magnification. Identifications were made by the author with guidance from Dr Wendy Smith but without reference to Oxford Archaeology's reference collection and, therefore, should all be seen as provisional. Nomenclature for the plant remains follows Stace (1997).

## RESULTS (Fig 6)

### Sediment

Sample 400 (444) was a light yellowish brown, wet, gritty, sandy clay, with abundant coarse sand and approx. 15% pebble sized, subrounded/subangular calcareous stone. 0.1L was processed for WPR.

Sample 401 (442) was a very dark greyish brown sandy silty clay, very moist, sticky and gritty. It contained approx. 5% angular/subangular pebble sized flint and 5% subangular, pebble sized calcareous stone, plus abundant calcareous granules and coarse sand. 0.85L was processed for WPR.

Sample 402 (428) was a very dark greyish brown slightly silty, sandy clay. It was wet, gritty and sticky, and contained abundant calcareous granules and coarse sand, as well as approx. 10%

subangular, large pebble sized calcareous stone and 5% angular flint. 1L was processed for WPR.

Sample 403 (429) was an olive sandy clay, very moist, very sticky, quite firm and gritty. It contained abundant calcareous granules/coarse sand, as well as approx. 20% calcareous pebble/small cobble sized subangular stone and 5% angular, pebble sized flint. 1L was processed for WPR.

Sample 404 (430) was an olive grey, wet, gritty, very sticky, sandy clay. It contained abundant calcareous granules and coarse sand, as well as approx. 5% angular/subangular pebble sized flint and 5% subangular large pebble sized calcareous stone. 1L was processed for WPR.

Sample 405 (431) was a dark greyish brown, sticky, very moist, gritty, slightly silty sandy clay, containing abundant calcareous coarse sand and granules, angular/subangular pebble sized flint, and subrounded/subangular pebble sized calcareous stones. 0.9L was processed for WPR.

Sample 406 (433) was a light olive brown, wet, gritty, gravelly sandy clay, containing approx. 5% subrounded/subangular pebble sized calcareous stone and 5% angular, pebble sized flint. 0.15L was processed for WPR.

Sample 407 (435) was a light yellowish/olive brown gravelly sandy clay, very gritty, wet, and fairly sticky, with abundant calcareous granules and coarse sand, plus occasional flint. 1L was processed for WPR.

Sample 408 (443) was a black, highly organic peaty silt, largely composed of waterlogged plant material, with charcoal also visible. A moderate quantity of coarse sand was present, plus occasional subrounded, pebble sized calcareous stone. 0.75L was processed for WPR.

**Bones and artefacts**
Finds greater than 10 mm were recovered from the residue during processing and are detailed in Table 2.

**Charred Plant Remains**
Table 1 summarises the assessment results for waterlogged plant remains (WPR) from each sample.

None of the waterlogged flots contained assemblages of great enough quantity or diversity to be of interpretable value, but the very small size of the samples should be borne in mind. Where waterlogged seeds were present, they were mostly limited to those of elder (*Sambucus* sp.), suggesting that conditions were favourable only for the preservation of this particularly durable seed type. Insect remains were observed only very rarely, and in those cases were present only as very small fragments. Sample 408 produced the most abundant flot, having come from a context observed to be highly organic, but the majority of this material was waterlogged wood, plant stems and root material. This context did, however, produce a fair charred assemblage, including grasses (*Poaceae*) and rye (*Secale cereale*) chaff and rye grain. Several other samples - 402, 404 and 405 - also contained low numbers of charred grain.

## CONCLUSIONS

The sampled deposits comprised a series of deposits which may represent Roman alluviation and possibly a dark earth deposit. While the small samples did not produce material in itself of interpretable value, it is clear that waterlogged and charred material survives in several of the alluvial layers as well as in the putative dark earth deposits. The presence of marine shell, ceramics and charred material indicating a degree of refuse dumping in the channel.

Should the opportunity arise, larger samples should be taken, particularly from context 443 where the sample size should ideally be 40 L in order to produce interpretable assemblage of charred plant remains in addition to a more diverse waterlogged assemblage. In an overview of plant remains from Winchester, with the exception of a 9th-11th century deposit of grain at Trafalgar House, Frank Green noted a general lack of rye in Winchester assemblages, although documentary records from the Bishop of Winchester's estate note that rye was grown during the medieval period at least (Green 1979; Green 2009, 17). A radiocarbon date on the rye would be warranted if this deposit is suspected to pre-date the medieval period.

*Table 1: Summary the assessment results for waterlogged plant remains*

| Sample No | Context | Provisional Phase | Site Purpose | Flot | Residue | Mesh size | Sample Volume (L) | Cereal | Chaff | Weed/ Wild | Other WPR | MPR | Bone | Insects | Molluscs | Charcoal >2mm | Charcoal <2mm | W/L Wood | Comments on WPR | WPR Potential | WPR Analyse | Insect Potential | Insect Analyse |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400 | 444 | | WPR | Yes | Yes | 250 | ~ 100 ml | | | + | | | | | | + | ++ | | Flot/residue combined - dominated by gravel. Abundant waterlogged root material. One waterlogged elder (*Sambucus* sp.) seed. Low quantity of charcoal present. No insects observed. | NO | NO | NO | NO |
| 401 | 442 | | WPR | Yes | | 250 | ~ 100 ml | | | ++ | | | + | + | + | + | ++ | | Flot dominated by root material; fragments of waterlogged wood also occur commonly. Waterlogged seeds of elder (*Sambucus* sp.) are common, also 2 examples of nettle (*Urtica* sp.) observed. Occasional fragments marine shell. One fragmented insect sclerite. One partial fish bone. Charcoal occurs only sparsely. | NO | NO | NO | NO |
| 402 | 428 | | WPR | Yes | | 250 | ~ 100 ml | + CPR | | +++ | | | | | + | ++ | ++ | +++ | Abundant waterlogged seeds of elder (*Sambucus* sp.) plus 2 goosefoot (*Chenopodium* sp; no other waterlogged seeds or insects observed. One snail shell present. Waterlogged wood fragments common. Charcoal frequent, with pieces greater than 2mm in size occurring commonly. Rare fragments of marine shell. One very abraded grain cereal grain cf. barley *(Hordeum* sp.) | NO | NO | NO | NO |
| 403 | 429 | | WPR | Yes | | 250 | ~ 50 ml | | | ++ | | | | + | ++ | ++ | +++ | ++ | Waterlogged seeds mostly elder (*Sambucus* sp.) although occasional fragments of other species including one goosefootseed *(Chenopodium* sp.). One arthropod case (?spider) observed. Rare marine shell fragments. Assemblage dominated by charcoal. Frequent small fragments of waterlogged wood and one snail shell. | NO | NO | NO | NO |

| Sample No | Context | Provisional Phase | Site Purpose | Flot | Residue | Mesh size | Sample Volume (L) | Cereal | Chaff | Weed/ Wild | Other WPR | MPR | Bone | Insects | Molluscs | Charcoal >2mm | Charcoal <2mm | W/L Wood | Comments on WPR | WPR Potential | WPR Analyse | Insect Potential | Insect Analyse |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 404 | 430 | | WPR | Yes | | 250 | ~ 40 ml | + CPR | | ++ | | | | | | ++ | +++ | | Waterlogged seeds limited to low number of, mostly fragmented, elder (*Sambucus* sp.) seeds. No insects observed. Charred material common - 1 grain barley (hulled) (*Hordeum* sp.), abundant charcoal although majority highly fragmented, with low number of pieces >2mm in size. | NO | NO | NO | NO |
| 405 | 431 | | WPR | Yes | | 250 | ~ 50 ml | + CPR | | + | | | | | | +++ | +++ | | Waterlogged seeds limited to rare elder (*Sambucus* sp.), some of which are charred. No insects observed. Charcoal frequent, including common pieces greater than 2mm in size. Occasional very small fragments of waterlogged wood. 2 grains of charred wheat (*Triticum* sp.), including one probably germinated. | NO | NO | NO | NO |
| 406 | 433 | | WPR | Yes | | 250 | ~ 80 ml | | | | | | + | | + | + | + | | Flot/residue combined - dominated by sand and gravel. Waterlogged material limited to very rare, very small fragments of wood/plant stem - no seeds or insects observed. One fragment of marine shell and one slug plate noted. One fragment indet. bone. Charcoal occurs only rarely. | NO | NO | NO | NO |
| 407 | 435 | | WPR | Yes | | 250 | ~ 50 ml | | | | + | | | | | + | +++ | | Very sandy flot. No waterlogged seeds or insects observed. One fragment moss, rare very small fragments of waterlogged wood. Charcoal fairly sparse, mostly limited to fragments <2mm l size. No other charred material observed. | NO | NO | NO | NO |

| Sample No | Context | Provisional Phase | Site Purpose | Flot | Residue | Mesh size | Sample Volume (L) | Cereal | Chaff | Weed/ Wild | Other WPR | MPR | Bone | Insects | Molluscs | Charcoal >2mm | Charcoal <2mm | W/L Wood | Comments on WPR | WPR Potential | WPR Analyse | Insect Potential | Insect Analyse |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 408 | 443 | | WPR | Yes | Yes | 250 | ~ 200 ml | + CPR | + CPR | ++ (++ CPR) | | | + | | | ++ | ++ | ++ | Abundant waterlogged wood fragments/plant stem/root material. Waterlogged seeds limited to fairly frequent elder (*Sambucus* sp.). 1 fish bone observed. Charcoal fairly common, also charred dock (*Rumex* sp.) one campion (*Silene*), one rye (*Secale*) rachis, one rye grain, one probable *Bromus sp.* seed plus occasional medium grasses. | NO | NO | NO | NO |

*Key: + = <5 ++ = 5-10 +++ = 10-25 ++++ = 25-50*

*Table 2: Assessment of finds >10mm recovered from the waterlogged residues from WINCM:AY378*

| SAMPLE NUMBER | CONTEXT NUMBER | Mammal Bone | Marine Shell | Mortar | CBM | Pottery |
|---|---|---|---|---|---|---|
| 400 | 444 | - | - | - | - | - |
| 401 | 442 | - | 1 | - | - | 1 |
| 402 | 428 | 2 | - | - | - | 1 |
| 403 | 429 | 1 | - | - | - | 1 |
| 404 | 430 | 1 | 1 | - | - | 1 |
| 405 | 431 | 1 | - | - | 1 | - |
| 406 | 433 | - | - | - | - | - |
| 407 | 435 | - | - | 1 | 2 | - |
| 408 | 443 | - | - | - | - | - |

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# Appendix H. Summary of Site Details

| | |
|---|---|
| **Site name:** | The Fleury Building, Winchester Cathedral, Winchester Cathedral, Close |
| **Site code:** | WINCM:AY378 |
| **Grid reference:** | SU 4825 2927 |
| **Type:** | Archaeological Recording |
| **Date and duration:** | January-February 2010 for 2 weeks (WB: May-July 2010) |

**Summary of results:** In January 2010, Oxford Archaeology (OA) undertook archaeological recording at the site of the proposed Fleury Building at Winchester Cathedral, immediately to the east of the north transept. This was followed by a watching brief during the installation of new drainage between May-July 2010. The archaeological work followed on from an earlier evaluation carried out by OA in December 2008. The evaluation partially revealed at least nine supine inhumations, represented by simple earth-cut graves, a number of which were lined with chalk block cists. The site was excavated to the foundation levels of the new building with minimal or no impact on the archaeological remains. Additionally, a trench to incorporate a foul water pumping station was excavated immediately adjacent to the east wall of the north transept. This entailed the re-excavation of an early 20th century underpinning trench that exposed the offset brick footing of the same date which enabled archaeological remains exposed by the cut of the original trench to be recorded to a depth of c 3.1 m below the present ground level (b.g.l).

The trench for the pumping station revealed a series of deposits which appeared to represent late Roman and early medieval alluviation. These were found to overlie a possible tufa deposit, possibly part of a floodplain island that is believed to partially underlie the cathedral. A post-Roman gravel surface was identified, possibly corresponding to similar surfaces found that potentially pre-dated the Old Minster to the west. This sequence was overlain by make-up layers and graveyard soils, within which at least two graves were discernible, both of which had a chalk block lining. The chalk lined cists were similar to those excavated on the site of the 13th century St Swithun's chapel in the 1960s, which were thought to be contemporary with the chapel.

Three of the burials revealed within the evaluation were re-excavated in order for samples of bone to be taken for C14 dating. The femurs of the three individuals, one from within a chalk lined cist, but the remaining two from earth cut graves were sampled. Whilst the burial within the cist and one of the skeletons from the earth cut graves were dated to the 13th-14th centuries, the third sample appeared to date to the 11th-12th century. This would suggest that the area was in use as a burial ground prior to the construction of St Swithun's chapel.

Further evidence for features and structures associated with the underpinning of the cathedral in the early 20th century was also revealed, including evidence for concrete blocks that may have served as thrust blocks to support raking timbers that would have been propped against the buttresses. The concrete skirt between the buttresses of the east arm of the cathedral was also broken out and revealed the Romanesque plinth. This appeared to have been re-used for the construction of the existing presbytery aisle walls during the early 16th century. In places, the footings of the buttresses of the presbytery aisle had been replaced with concrete blockwork, probably of early 20th century date.

**Location of archive:** The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES, and will be deposited with Winchester Museums Service in due course, under the following accession number: WINCM:AY378.

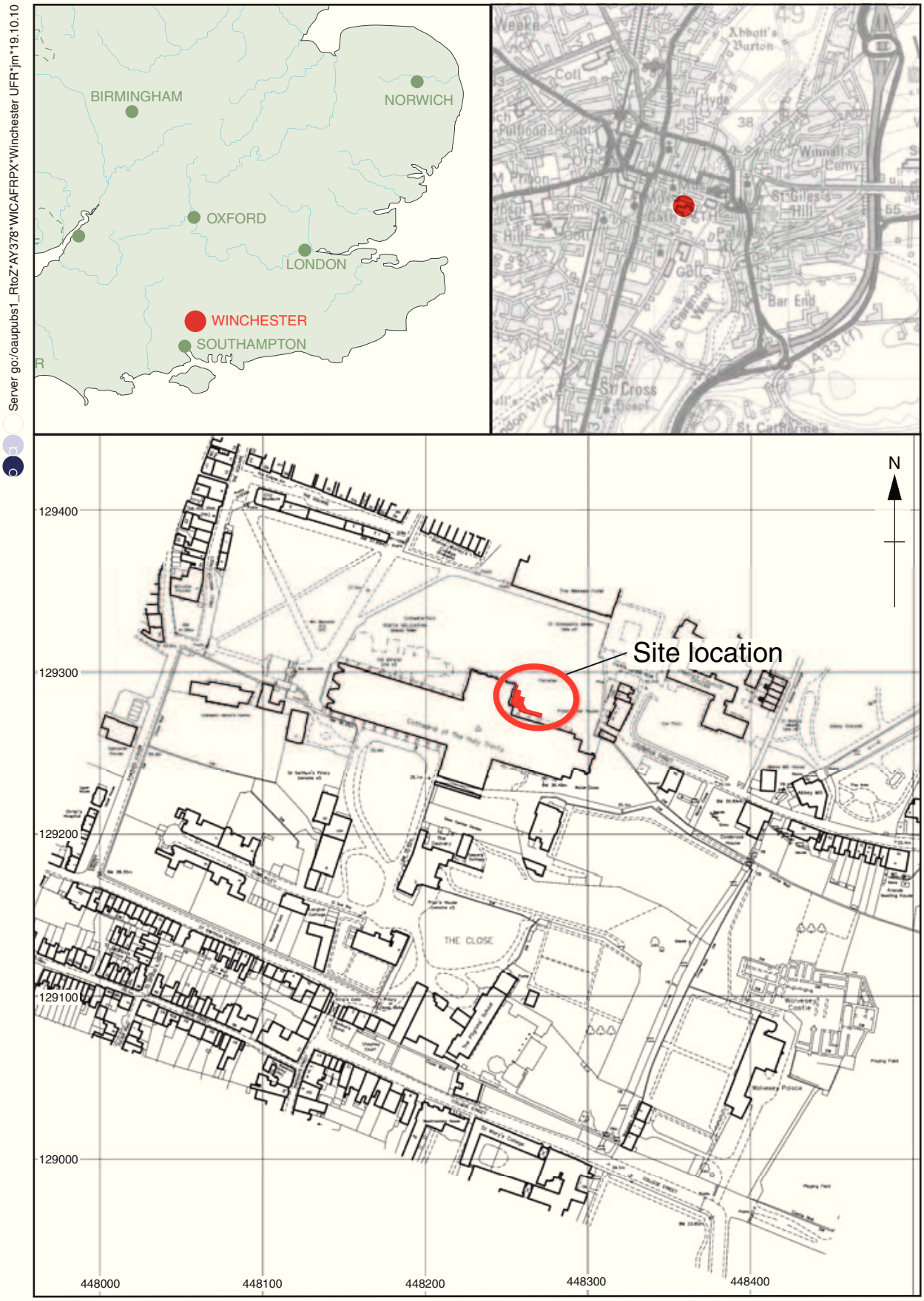






Figure 1: Site location

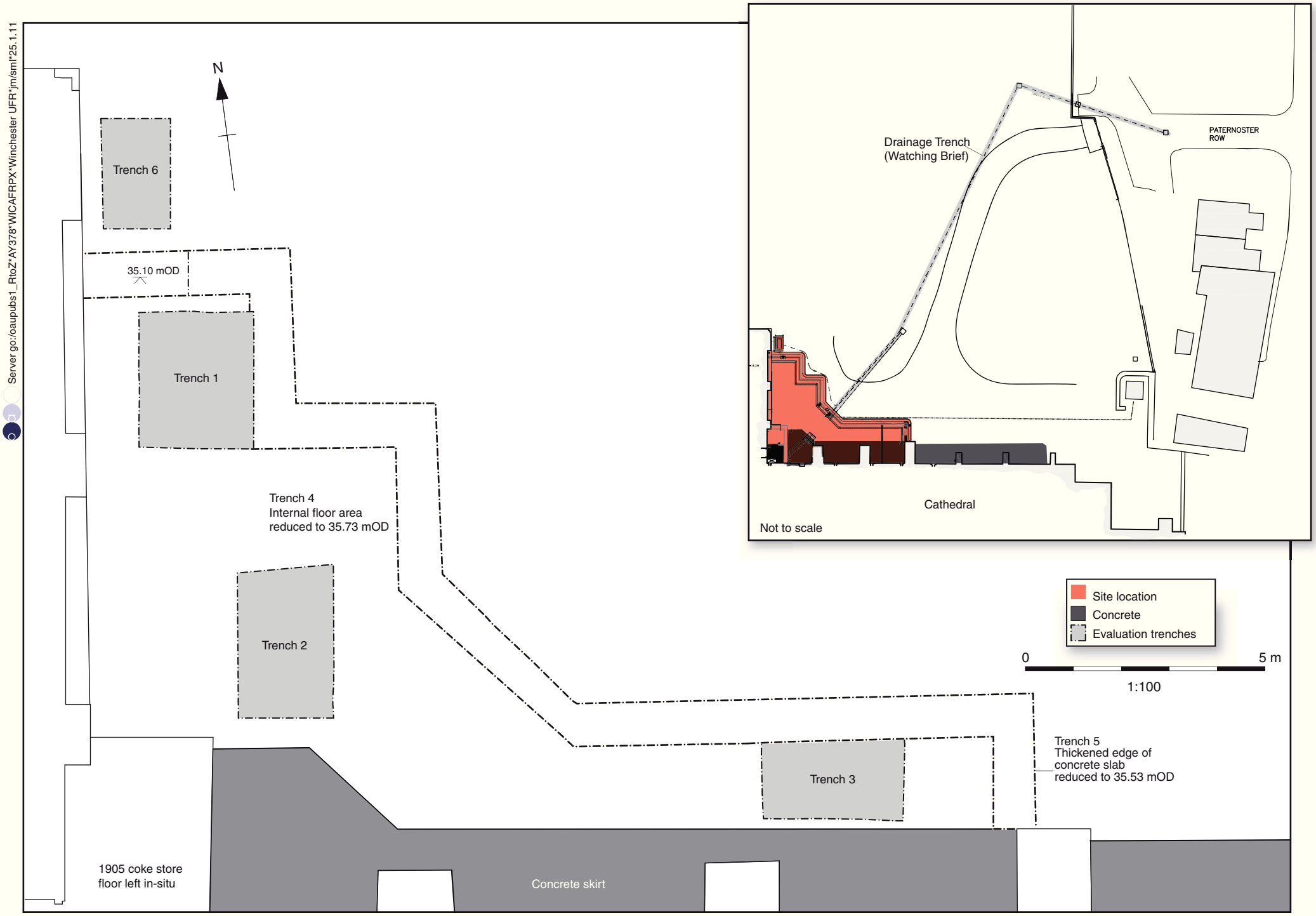


Figure 2: Trench locations

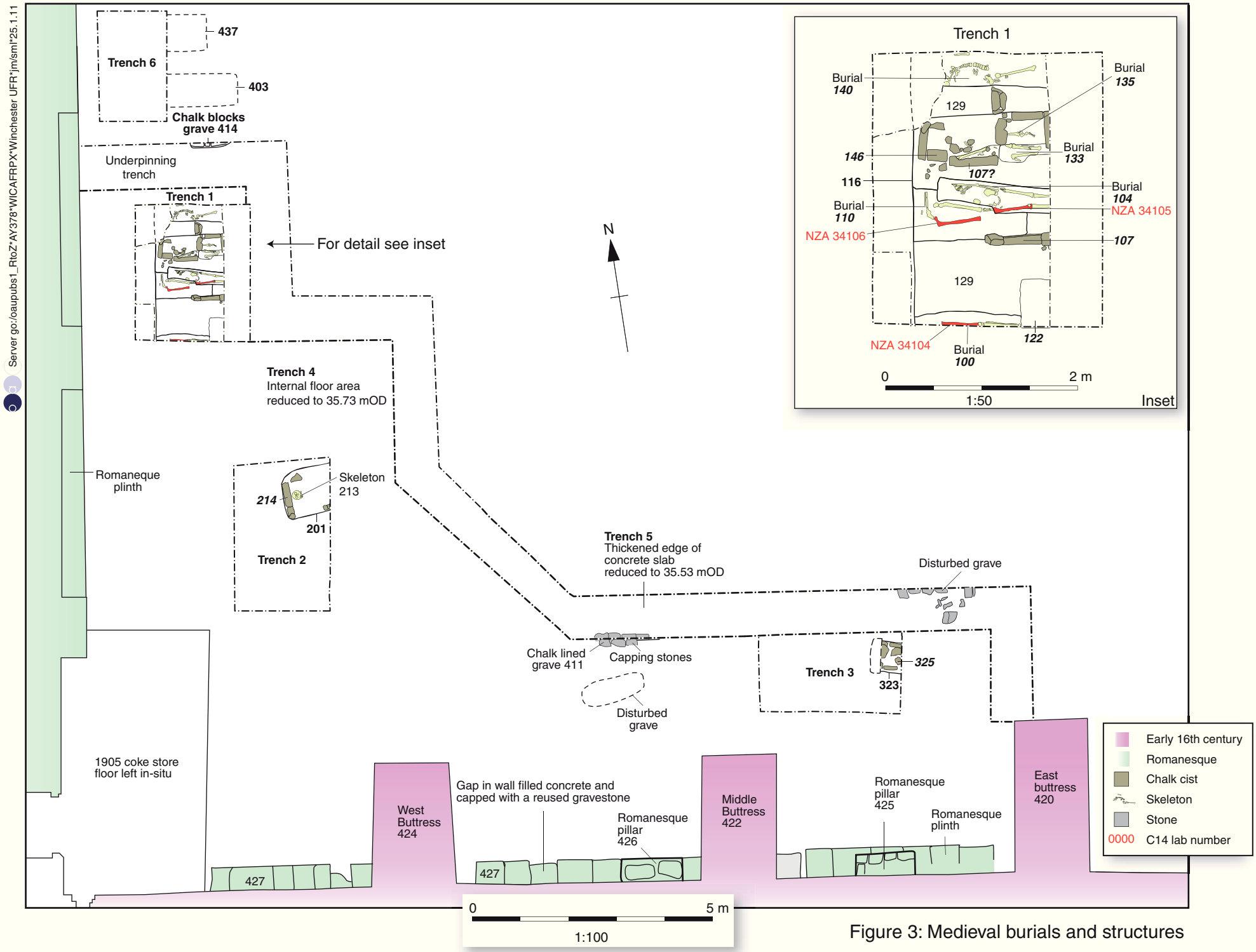


Figure 3: Medieval burials and structures

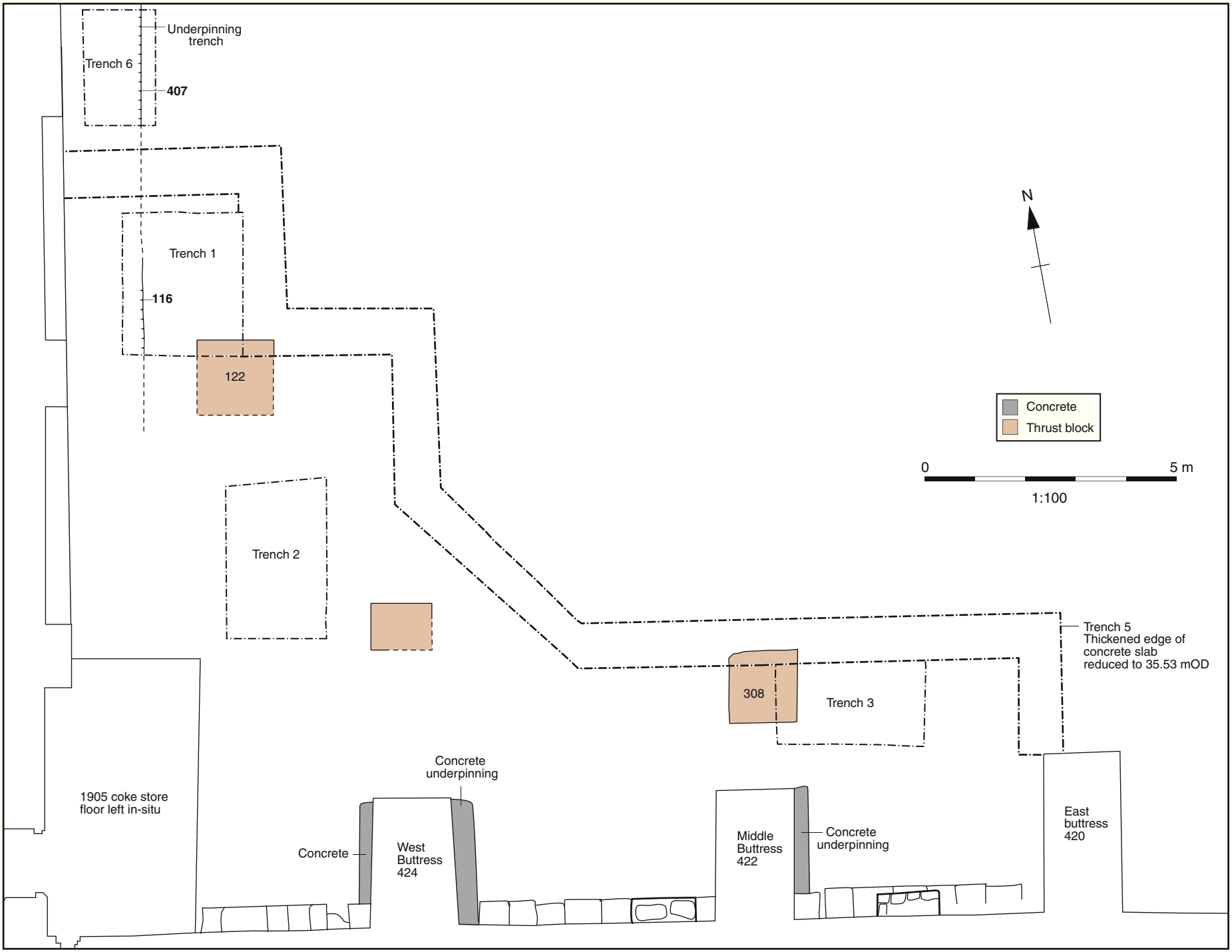


Figure 4: Early 20th Century underpinning and thrust blocks

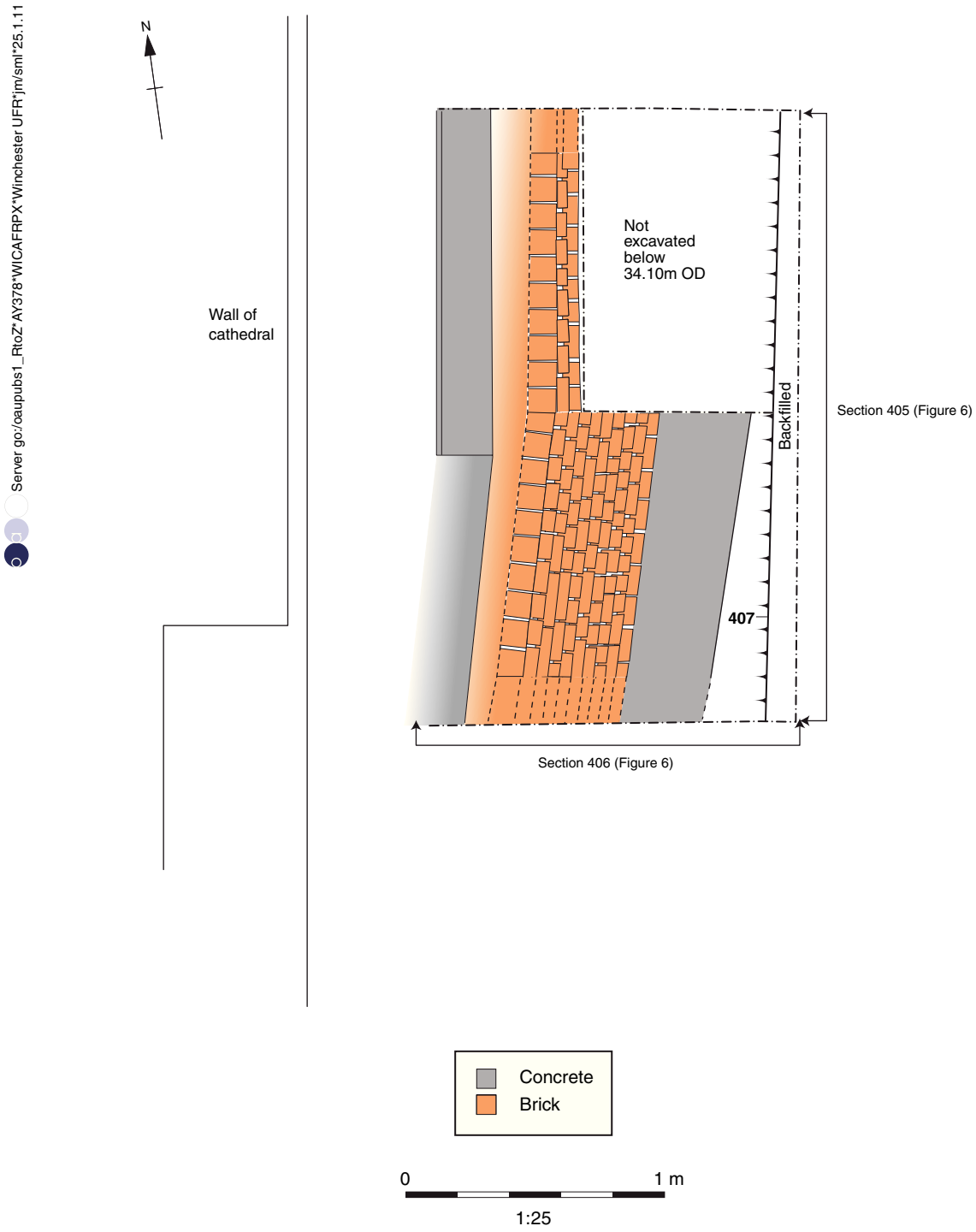


Figure 5: Plan of Trench 6 (shoring not shown)

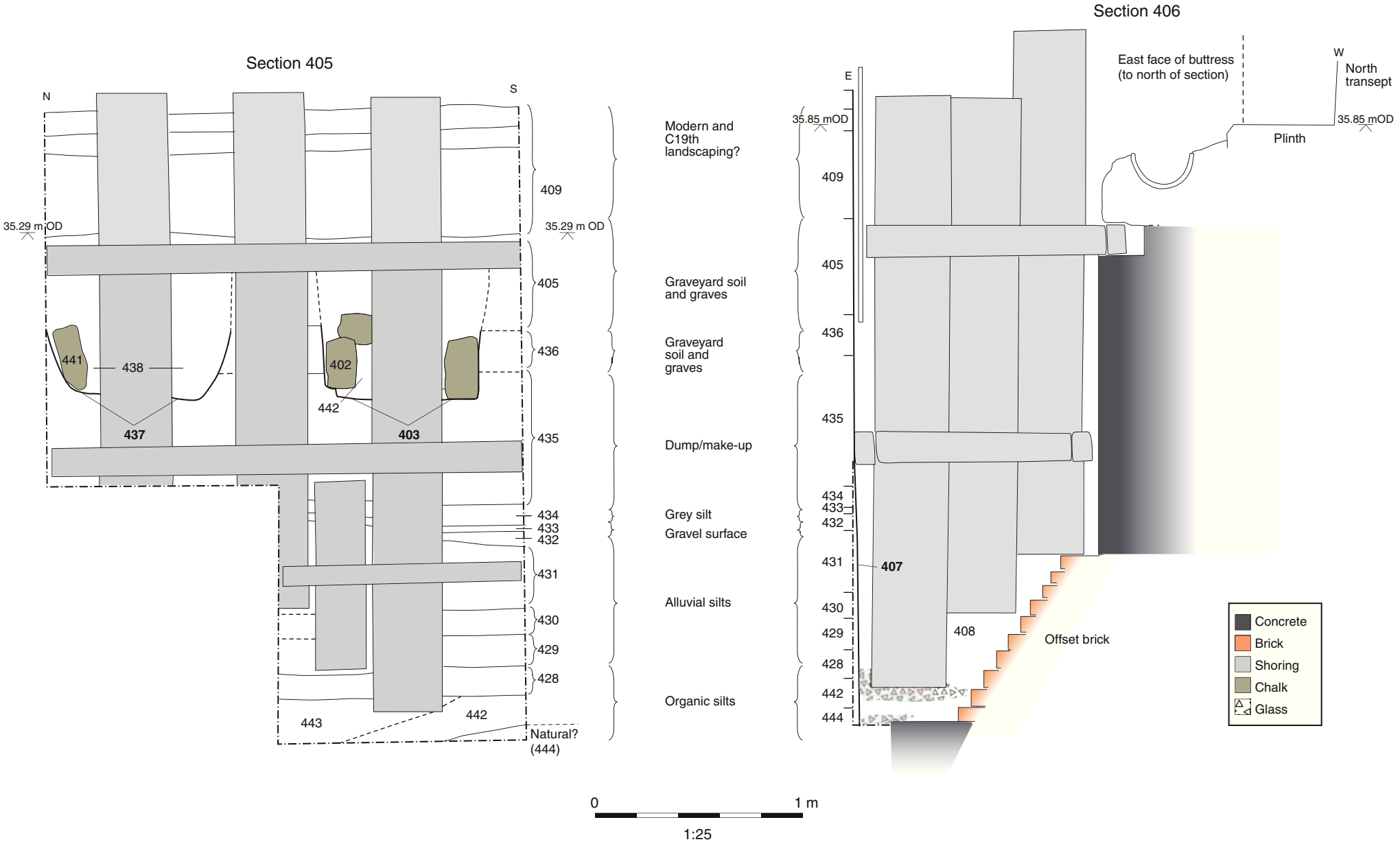


Figure 6: Sections through Trench 6

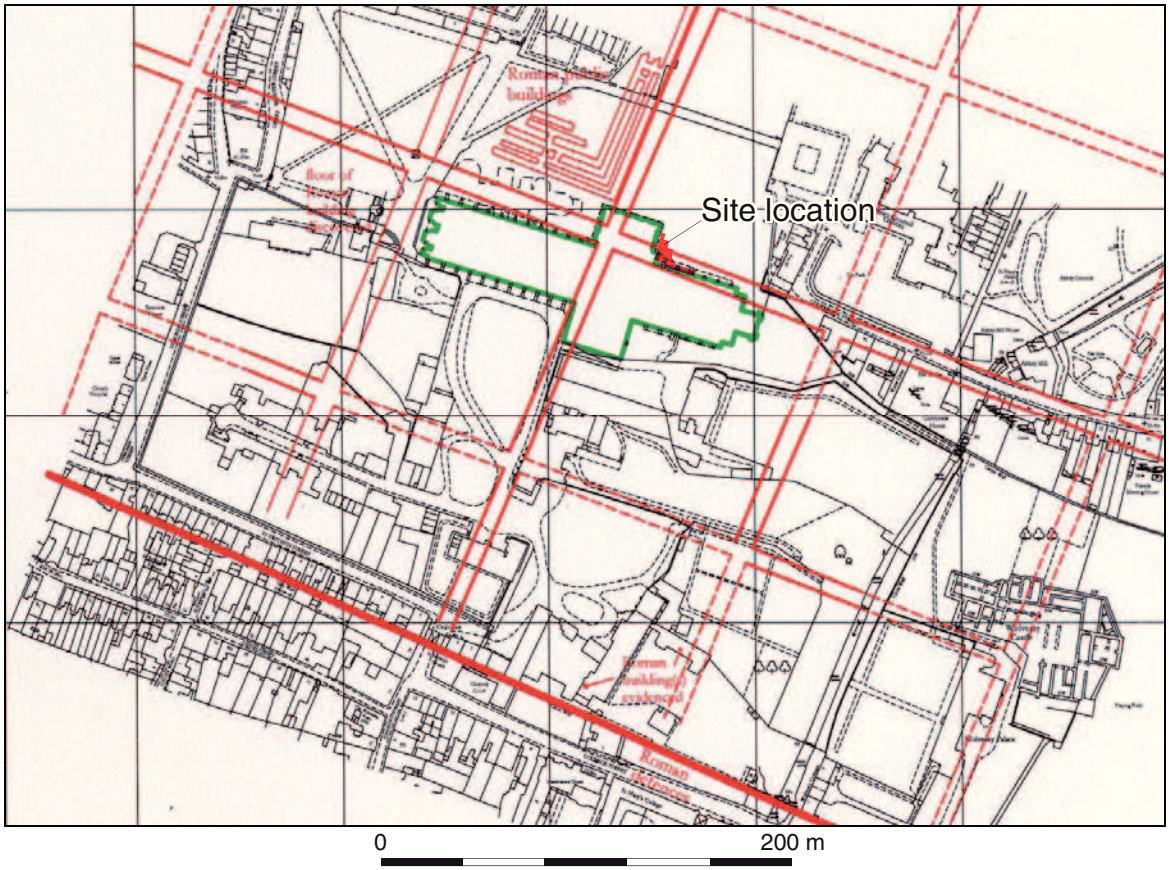


Figure 7: Location of Roman streets (after Crook 2008)

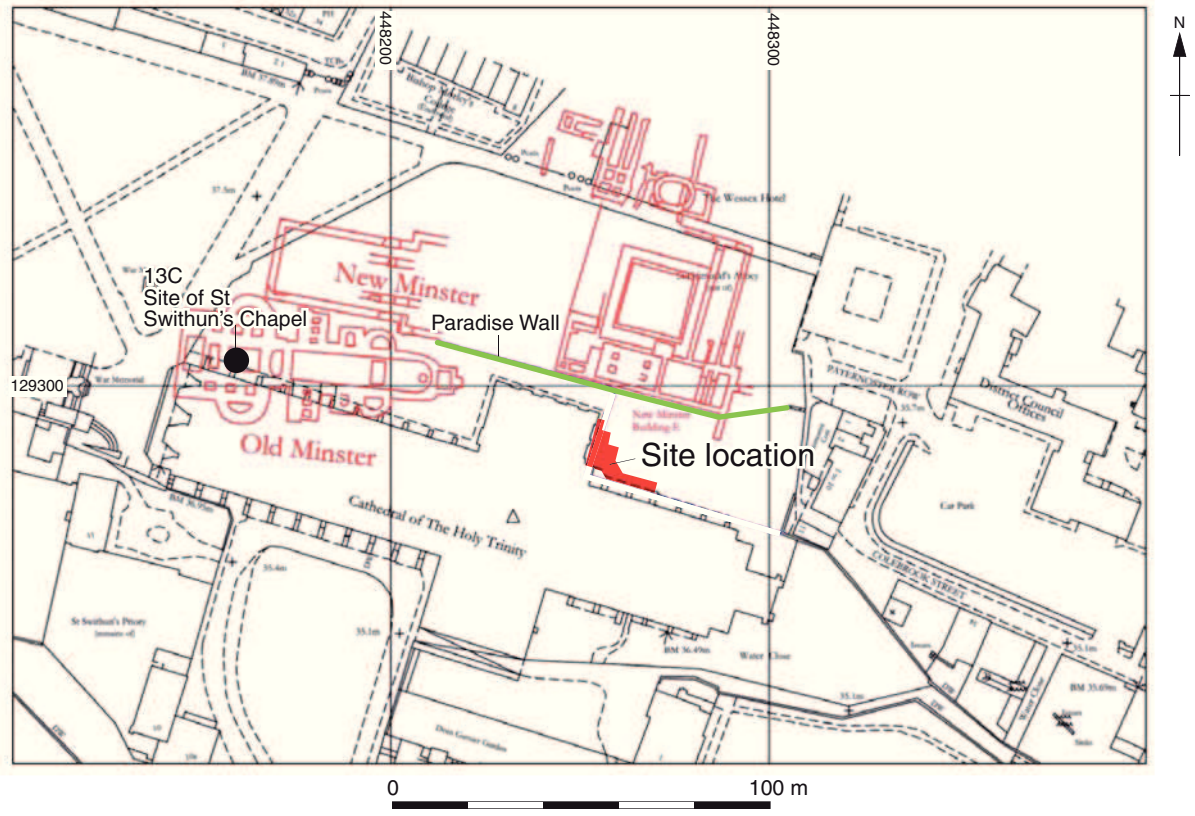


Figure 8: Outline of excavated foundations of Old and New Minsters superimposed on present plan of the cathedral and Outer Close. The blue line indicates the boundary between the Old and New Minster precincts, including the southwards projection that includes the site (Crook, 2008).

Plate 1: Stepped brick underpinning of north transept

Plate 2: General shot of site

Plate 3: General shot of Romanesque plinth under 16th century presbytery aisle walls

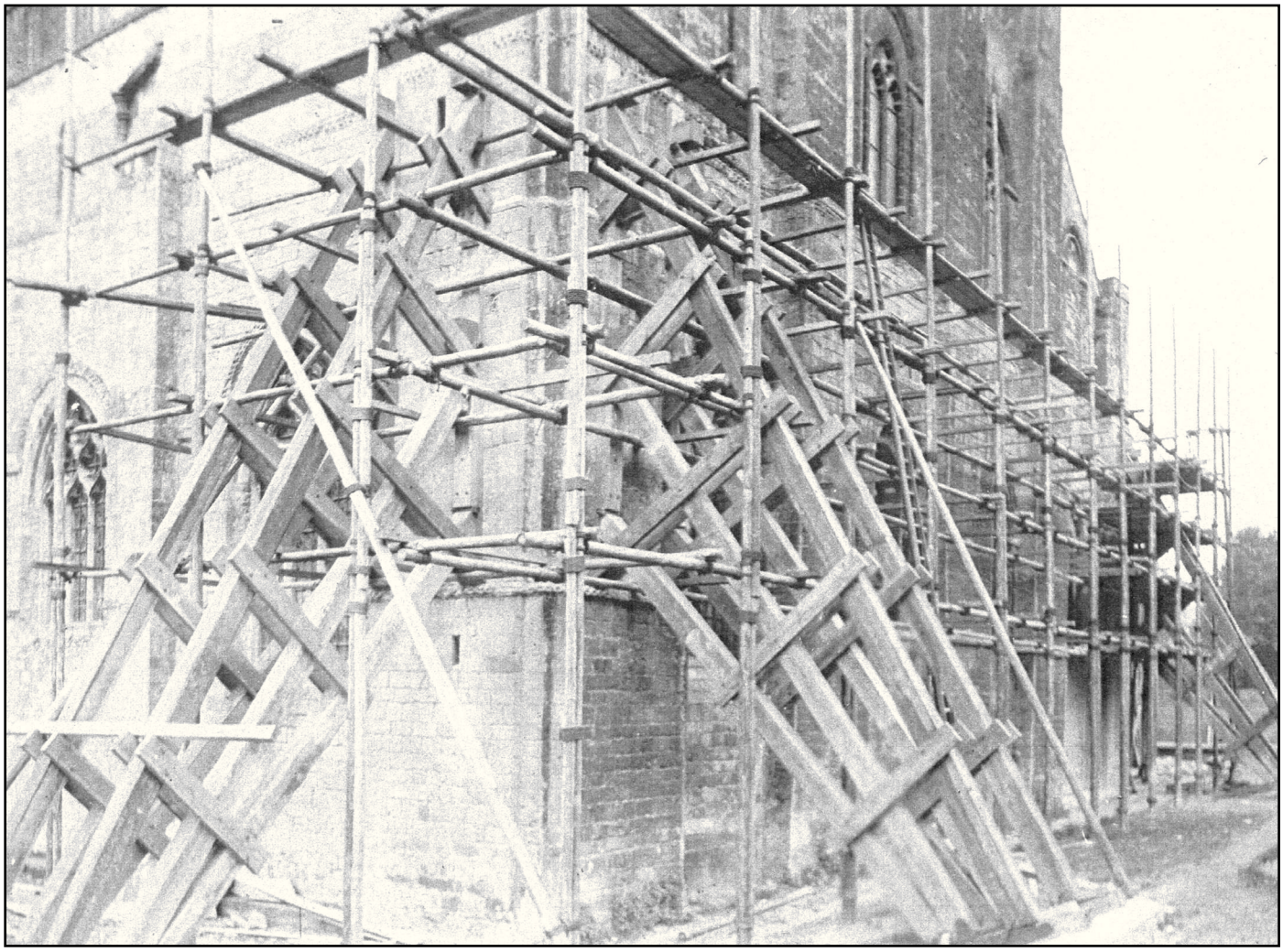

Plate 4: Early 20th century shoring of the north transept

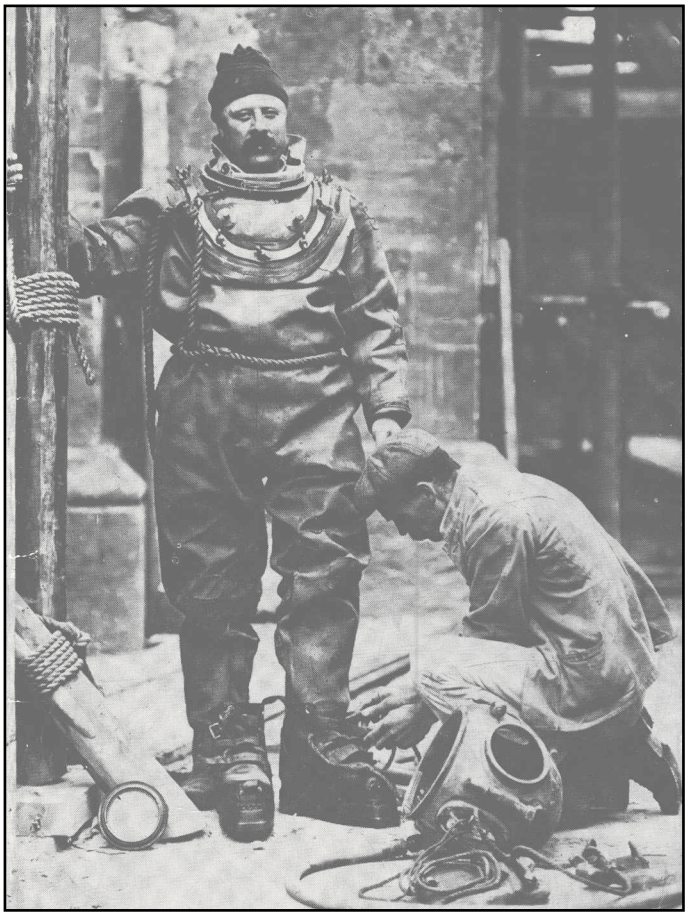

Plate 5: William Walker


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