

Hidden Treasures, Fresh Expressions

Archaeological Surveys, Excavations and Watching Briefs at Rochester Cathedral 2011-2017



Aerial photograph of Rochester Cathedral. The cloister is to the right of centre, with the Chapter House and Old Deanery (now the St Andrew's Centre, partly used by the King's School) to its right. The current Deanery, College Green and Southgate – formerly the Bishop's Palace – are at bottom left. Photograph by kind permission of Adam Stanford.

Graham Keevill and Alan Ward, with contributions by Cathy Keevill
On behalf of the Dean and Chapter of Rochester
March 2019

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Authorial information

Graham Keevill (GK) has been the Dean and Chapter of Rochester's Cathedral Archaeologist since 2006. He is also the Cathedral Archaeologist for Blackburn, Salisbury, and Christ Church Oxford. He directed all stages of the archaeological work during the *Hidden Treasures, Fresh Expressions* project, and carried out much of the work himself. He also commissioned many specialist surveys and reports (through and on behalf of the Dean and Chapter). These are referred to at relevant points in this work.

Alan Ward (AW) has carried out an enormous amount of archaeological work in and around Rochester, including at the Cathedral, since the late 1980s and early 1990s. He knows the archaeology of the town better than anyone, and its history better than most. He carried out much of the excavation and recording work during the main contract phase of the *Hidden Treasures, Fresh Expressions* project in 2014-16 under the direction and on behalf of GK, and prepared a full draft report of this work in 2016-17.

Cathy Keevill is a specialist in archaeological ceramics and other finds. She also participated in the *Hidden Treasures, Fresh Expressions* fieldwork.

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The orientation of Rochester Cathedral and its Precincts

For complex historical and topographical reasons, Rochester Cathedral is oriented from north-west to south-east. This is largely followed by the buildings and grounds within its historic and current estate, known collectively as The Precincts. The orientation largely reflects the pre-existing topography of the Roman town, but can make site descriptions overly cumbersome. It is a broadly accepted convention, however, to describe church buildings with reference to a 'standard' east-west orientation even when the reality is significantly different from this, as at Rochester. This convention - the ecclesiastical compass - is followed throughout this report.



Plate 1: The cathedral seen from Rochester Castle

Executive summary

Chapter 1: Introduction

1.1 Steps and access at Rochester Cathedral

England's cathedrals are among its greatest treasures, displaying a remarkable variety of size, history and architectural character. Their primary purpose and use is of course worship and mission for the Christian community on many levels, from local to national and beyond. It is well recognised (and has been for many years), however, that cathedrals also have a wider role as visitor attractions for people of many faiths – or none. Most of them are important for the local economy, and contribute to community life in myriad ways. Yet they are often challenging places, especially among the older buildings, where access is concerned. They are by no means unique in this: historic buildings often present difficulties of multiple floor levels with awkward means of access and egress between them. In some cases these challenges were deliberate, and were designed to control or manage security and circulation around a building or site: but in a modern world where inclusivity of access is a rightful aim and discrimination is unacceptable, how people are able to enter and use an old building can present real, major issues and conflicts. That was certainly so at Rochester Cathedral in the third millennium AD. How those challenges were addressed, and what discoveries were made as a result, is the subject of this report.



Plate 2: The cloister and eastern arm of Rochester Cathedral looking north-west. The two-storey building at bottom right is the Chapter Library (on the first floor), with the vestry beneath.

Rochester Cathedral has three main floor levels internally: the first covers the nave, its aisles, and the greater transepts. Level access is available directly from the outside via the North Transept: the external ground level of c 9.05m aOD (above Ordnance datum) here is the same as the Cathedral floor.

The topography, however, means that the ground outside the West Door is at c 9.67m aOD, 0.67m higher than the floor in the nave and its flanking aisles, meaning that a flight of four steps is needed here. The interior has a second 'ground floor' level in the eastern arm, although the floors here are not all at the same height: the Quire floor is 1.5m above the nave, requiring a raised dais and ten steps in the crossing to get up to it. The north Quire Aisle starts at the same level as the North Transept but eight steps – the Pilgrim Stairs – are needed to get to the raised eastern part, which is 1.2m higher. The floor then slopes gradually up, but is still 0.5m lower than the lesser north-east transept – so another three steps are needed at the threshold between them. This is also 0.45m higher than the Quire floor, so steps are needed at its east end as well. The South Quire Aisle needs 12 steps (The Kent Steps) to rise almost 2m up to the lesser south-eastern transept. Finally the presbytery, St John the Baptist Chapel to its north, and Chapter Library to its south, are all at a slightly higher level than the lesser transepts – so a few steps are needed at these junctions as well.



Plate 3: The South Quire Aisle and the Kent Steps looking east in 2014, before the main contract began, showing the change in floor levels. The timber structure to the left hid the wheelchair lift.

Such a complex pattern of floor levels (and steps) is needed because the eastern arm is raised over a major historical feature of the Cathedral: its crypt. This has three major historical components. The first and earliest underlies part of the Quire and its aisles, and is of early Norman date (it is often referred to as the Gundulf Crypt after the first Norman bishop of Rochester). The rest of the eastern crypt is about a century later, and was rebuilt after fire severely damaged much of the Norman east end in 1179. The vestry under the Chapter Library, however, is later still (our third phase), belonging to the 14th century. It is accessed from the main crypt underneath the lesser south-eastern transept, and its floor is 1.2m higher – so six steps are needed here. We should also mention here that the Norman part of the crypt has a lower floor than the rest, requiring ... more steps.

Levels are also challenging externally at Rochester Cathedral. We have already seen something of the complex external topography: generally the ground slopes down from west to east and from south to north (as it always seems to have done). This overall pattern does not account for some more dramatic

level changes, especially along the south side of the cathedral. These centre on the site of the monastic cloister. Most unusually, this is located alongside the eastern arm of the church rather than the more conventional position towards the west (here, the nave south aisle and Lady Chapel). The cloister comprises a roughly square central garden (the Garth) with the Cathedral on its north side, the ruined Chapter House and remnants of the Dorter (dormitory) range on the east, the old Roman city wall on the south (the Fraternity would have lain on its other side), and the Cellarer's Range on the west. The history and archaeology of the cloister forms an important part of this report, but for now suffice to say that ground levels in and around it had developed a complexity all of their own: to start with, the whole area was lower than the nave floor – so steps were needed to get down to the cloister level. The north cloister walk then sloped down to the east, but was still higher than the east cloister walk. The west and south walks were roughly level with the Garth, but because of this all of them were substantially (0.7m-0.9m) higher than the east and north walks. Several more flights of steps were needed to counteract these complex changes of level.

1.2 Access to the Cathedral: meeting the challenge

The Dean and Chapter of Rochester Cathedral are responsible for the management and maintenance of the building and grounds. This includes ensuring compliance with the wide-ranging provisions of the Disability Discrimination Act 1995, as far as can be achieved while avoiding unacceptable conflict with or detriment to the historic fabric of the place. Chapter has always been very conscious of its responsibility to the widest possible community of interests in running the Cathedral, not just in recent times but going back decades and even centuries. One recurring theme, however, has been the limits of its available funds: Rochester has always been the 'poor relation' of Canterbury, and is still one of the poorest among England's 42 Anglican cathedrals. The will to tackle access issues in the light of the 1995 Act was not in doubt: but the resources certainly were.

Despite having very restricted funds available to do so, Chapter had begun to address inclusive access soon after the 1995 Act. A chair lift had been constructed on the Kent Steps in 1998, for example, to provide wheelchair and other access between the western and eastern floor levels within the Cathedral. A timber screen was designed by the then Cathedral Architect, Martin Caroe, to reduce the visual impact of the lift on this very fine part of the building. These improvements were funded by the Friends of the Cathedral, then and now one of its most important supporters (and funders). Attempts had been made to improve the accessibility of the cloister as well, although the narrow north walk, the level changes and steps seemed intractable.

The establishment of the Heritage Lottery Fund as a major source of grant aid for historic sites and buildings transformed what could be achieved throughout the conservation and heritage sector. The Dean and Chapter of Rochester recognised this, and commenced a major review of access in and around the Cathedral at the beginning of the new millennium. The first fruit of this was the Hidden Treasures, Untold Stories project in 2008-10, with funding from the HLF and others. As the name suggests, this sought to reveal the many-faceted and fascinating stories that can be gleaned from and of the Cathedral's historic fabric, while also making great improvements to its accessibility. A new fully accessible toilet was provided in a chamber off the South Quire Aisle, for instance, while glazed porches were added inside both the West Door and the North Transept entrance (the latter being formally adopted as the primary entrance for inclusive access). New interpretation facilities were provided, and various other improvements were made within the Cathedral and in the cloister. Archaeological monitoring and recording was an essential part of the project (Keevill 2010; Keevill and Underwood 2010b).

The Hidden Treasures, Untold Stories project was a considerable success, but much remained to be done to improve inclusive access. That project could not address the issue of the varied floor levels

inside the building, or indeed in the cloister. The crypt in particular remained completely inaccessible to wheelchair users and many others. It was also an under-used space, with poor floor finished and lighting, and a far from ideal environment. The HLF supported the idea of a second project, Hidden Treasures, Fresh Expressions, to address these and many other issues. Chapter had also secured several other important sources of funding. Thus a much larger project (planning for which had started actively in 2006-7) commenced, with the initial feasibility and design stages largely taking place in 2009-12. The centrepiece was to be a new vertical lift in the south-east corner of the South Quire Aisle, which would provide fully inclusive access between all three of main floors in the Cathedral: crypt, western arm and eastern arm. Other areas covered included: a complete overhaul of the crypt, with new floors, heating, environmental control, exhibition spaces and a new Served/catering facility; full conservation and refurbishment of the Chapter Library and the vestry beneath it; reconfiguration and landscaping of the cloister and its walks to create step-free access to all sides, though steps at the south-east corner still could not be avoided; replacement of the existing porch at the entrance to the South Quire Aisle (it could no longer function with the new external floor levels); a new external staircase for the Chapter Library inside the Chapter House, replacing one built probably in the early 19th century which made the Chapter House very difficult to use; and various other changes. It was clear that this would be a wide-ranging, complex and difficult project. So it proved to be, for reasons which are described later in this report.



Plate 4: The GSB team carrying out a GPR survey in the main crypt in 2011, looking north. Note the varied floor finishes and poor lighting.

The main contract achieved practical completion in 2016, but due to issues as diverse as asbestos and archaeology the work was well behind programme – and over budget. This meant that some aspects of the scheme had to be postponed until further funds could be raised. Thus two elements were carried out during 2017-18. The first saw the underground heating system in the crypt completed by the introduction of air ducts within an existing shaft on the north side of Gundulf's Crypt. The second established new wash-up and food preparation facilities in a small area on the east side of the main crypt. This had been an external space – colloquially known to all as the Pigeon Parlour, for obvious

reasons – but had been roofed in during the main HTFE contract. A watching brief covered both these pieces of work, but only the shaft is considered here because nothing of note was found in the Pigeon Parlour.

1.3 Archaeology and HTFE

Rochester Cathedral is a Grade I listed building, designated under the Planning (Listed Buildings and Conservation Areas) Act 1991. Like most of England's Anglican cathedrals, however, the building has ecclesiastical exemption from the usual terms of the 1991 Act (and the planning system generally) under the Care of Cathedrals Measure 2011 (this replaced the original 1990 Measure). The Cathedrals Fabric Commission for England (CFCE) nationally, and the Fabric Advisory Committee (FAC) locally, are in effect the cathedrals' local planning authority, determining applications for projects which would normally require planning permission and/or Listed Building Consent. This only covers a specific area defined as the 'Red Line' (at Rochester comprising the whole of the cathedral building), but not the grounds around it, which fall under the usual civil procedures. CFCE therefore dealt with the full application to carry out the HTFE project in several stages, devolving matters of detail to the FAC as appropriate. The first stage took place in the early days of the design process, with the general concept design approved on 10 December 2010; at this stage permission to proceed with the crypt element was reserved for further discussion. Full permission was granted on 23 January 2013, subject to 15 conditions. It is a measure of the Cathedral's (and the project's) archaeological sensitivity that six of these conditions (3-8) directly addressed archaeological issues: some required detailed mitigation of impacts through excavations and watching briefs (Conditions 3 and 4). Condition 5 covered the potential for finding, and how to deal with, human skeletal remains. Condition 7 provided a 'backstop' in case unexpected and significant discoveries were made, in which case work was to cease and CFCE were to be consulted on how to proceed. To a degree this was a standard condition, but it did recognise that it was difficult to gauge archaeological sensitivity in large, complex projects of this sort even after a long process of investigations (see below). Condition 7 proved to be prophetic, however, as described in detail in Chapter 4 (section 4.3.2).

The cloister to the south of Cathedral's eastern arm is a Scheduled Monument (under the terms of the *Ancient Monuments and Archaeological Areas Act 1979*), described as the remains of Rochester Priory cloister (National Heritage List number 1003405). The main contract involved several interventions below ground in this area. The enabling works had also involved ground interventions to the north of the Cathedral, partly within a second Scheduled Monument (one of several open areas within the Roman, Saxon and medieval town to be so designated: National Heritage List number 1003602). Thus application was made to Historic England (on behalf of the Secretary of State for Culture, Media and Sport) for Scheduled Monument Consent (SMC) for these works. In fact two SMCs were required. The first (reference S00055343, 11 March 2013) covered the enabling works and the pre-contract designs for the cloister and the area in front of the Chapter House (its west wall is included in the Schedule, though its interior is not). The second (S00075656, 29 January 2014) superseded the first with respect to the full design of the cloister works. A variation of this was approved in writing on 28 July 2015 to cover the need to excavate a large soakway pit in the cloister garth. Civil planning permission was also needed for some aspects of the project, but archaeological issues were so comprehensively covered by the CFCE approvals and the SMCs that no additional requirements were included in this.

1.3.1 Work leading up to the main contract

Archaeological work leading towards the HTFE project had actually started as early as 2006-7, as part of a feasibility study on wheelchair access to the crypt and around the cloister. This included the hand excavation of three small test pits along the south edge of the north cloister walk to determine the extent to which archaeology might be a constraint on reconfiguring this awkwardly narrow and often

slippery footpath (Keevill 2007). The results from test pit 1 would have a bearing on the main HTFE works, but the 2015 watching brief provided much better data, and the 2007 project needs no further consideration here.

The Dean and Chapter commissioned the Downland Partnership to undertake a point-cloud 3D survey of the Cathedral and the grounds immediately around it in 2006-7. This was not directly related to the emerging access project, but it did produce an extremely valuable 3D model as well as 2D drawings of the building, the cloister and other areas. For the first time, it was possible (indeed easy) to create and interrogate three-dimensional models of any part of the Cathedral, and thus appreciate how its spaces interacted – and might be improved. It is probably fair to say that this revolutionised Chapter's (and their design team's) vision of how the site might be improved, particularly for inclusive access, and with special emphasis on the crypt. The feasibility study progressed further in 2009-10, and the new survey was instrumental in the identification of the site in the south-east corner of the South Quire Aisle where, it was realised, one lift could operate between and provide access to both of the main floor levels in the Cathedral *and* the crypt beneath them. This was one of seven possible lift positions which were rigorously tested on a number of grounds, including archaeology, and it emerged as the favoured location because of the internal position and the unique ability to give one point of access to all three floors.

As noted, CFCE granted what amounted to a preliminary approval of HTFE as a whole in 2010, but reserved a determination on the crypt and lift access pending further feasibility and design work. This included an archaeological evaluation, in two stages. The first of these was to carry out a ground-penetrating radar survey of the entire crypt (Plate 4), and as much of the South Quire Aisle as could be achieved given the constraints imposed by the Kent Steps and the existing late 20th-century chair lift on their south side (GSB 2011). It had been hoped that the crypt survey would provide evidence for the east end of the Norman cathedral, but the results were disappointing – apparently due to the thickness and composition of the late 19th/early 20th-century concrete floor which was still in situ at the time. Modern services beneath the floor also affected the survey response. Fortunately results in the South Quire Aisle were better. At least three graves were clearly visible, and these matched precisely with existing ledger stones on the floor (though there is no certainty that these are genuinely in situ rather than relocated to these positions). The foundations of the south wall of the Norman cathedral were also located successfully, running east-west along the centre of the Aisle. Finally two large anomalies resembling the Norman south wall were located, one running south from it to the wall of the Aisle, and the second returning eastwards from this (Plate 5). It seemed possible that the north-south foundation at least might relate to the 'lesser south tower' (ie a smaller equivalent to the so-called Gundulf Tower on the north side of the Norman cathedral) postulated by Hope (1898, plate II). The full significance of these anomalies would become clearer when work on the lift shaft started in 2014, and is discussed in Chapter 6.

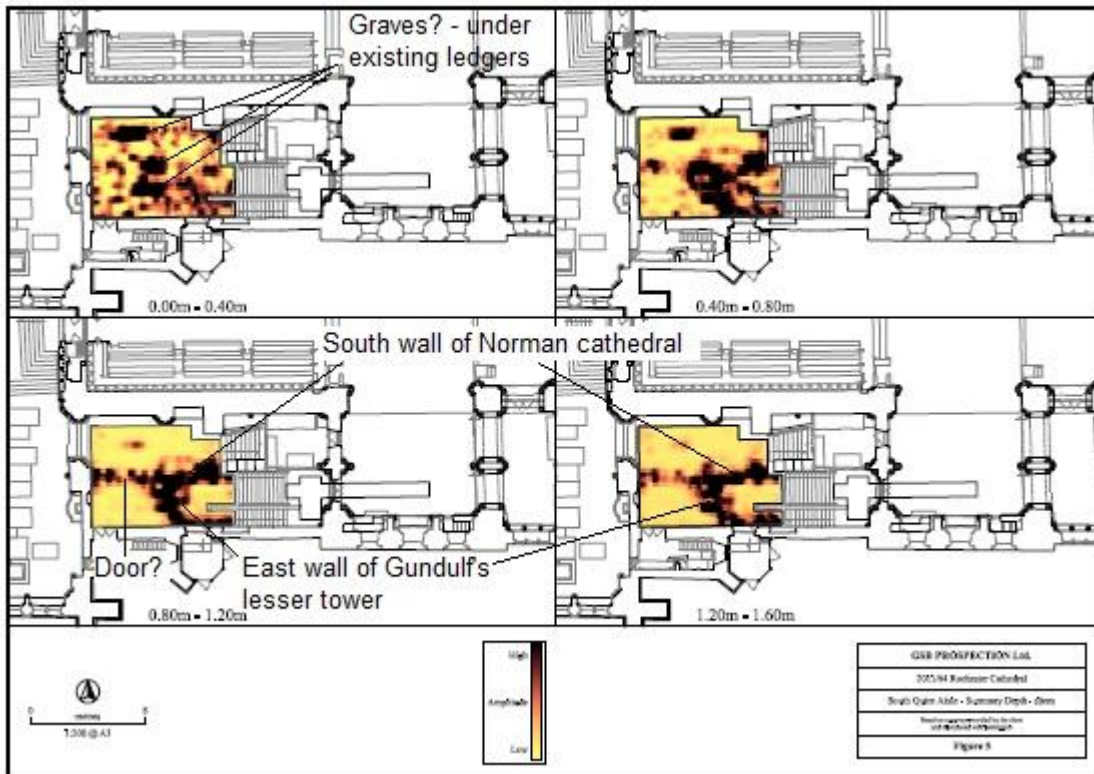


Plate 5: Time slice images of the GPR results from the South Quire Aisle, with provisional interpretation of features added in 2012. The anomaly identified as ‘Gundulf’s lesser tower’ probably relates to the Norman masonry found under the Kent Steps in 2014 - see Chapter 4.

The second stage of the evaluation comprised the excavation of seven small test pits in February 2012 (Keevill 2012). These were located to examine the building’s foundations at various points so that the project’s civil engineer could examine them, but all the pits were excavated under GK’s archaeological direction. Pit 10 was located in the two Norman bays on the west side of the crypt, while three (pits 5, 6 and 8) were in the main area between that and the Ithamar Chapel (underneath the Presbytery). One (pit 4) was in the vestry under the Chapter Library, ie off the south-east corner of the main crypt. The final two pits (1 and 3) were in the north cloister walk. As the pit numbers suggest, several planned pits were not dug. As with the 2007 work in the north cloister walk, the results from these pits were largely superseded by the much more extensive work in 2014-16, and they are only considered further where relevant in Chapters 4-6.

The various consents and approvals gained during 2012-13 meant that the project passed quickly into the detailed design, tender and procurement stages – but these would take more than a year to complete. HLF and other funders therefore agreed that various smaller elements of the project could proceed during 2013 in advance of the main contract. These were broadly described as enabling works – ie stand-alone items which would make the main work easier to accomplish. Alterations to the modern storage area on the west side of the North Transept had no archaeological implications. A new store would also be established for vestments and other items behind the high altar: this was a large timber box mounted over the Arundel Tomb, a fine monument dating to c 1400 with the indent for a memorial brass on its top. This was already inaccessible to the public, so the fact that the new store would hide the tomb was accepted subject, of course, to full protection of the tomb. A laser scan of the tomb was carried out in November 2013 to create a full 3D model of the monument (Edwards 2014). This is part of the project archive. Finally within the Cathedral, a dendrochronology survey was carried out on Chapter Library roof (Arnold and Howard 2013). This successfully dated timbers to 1342-63 and 1355-80. These felling date-ranges overlap, giving rise to the possibility that all timber

was felled in a single operation in 1355-63. Alternatively, the slightly different felling date ranges may indicate the use of stockpiled timber, something which was not uncommon, especially amongst large and wealthy institutions such as cathedrals. Whether the roof was constructed in or soon after felling of timbers in 1355-63, or in 1355-80 utilising some stockpiled timber, the results point to it belonging to the same scheme of work (or one immediately succeeding it) as the magnificent doorway through which access to the Chapter Library is gained. The roof would undergo extensive conservation and repair work during 2015-16, and was the subject of a full archaeological building survey before this started (Jones 2015).

The main archaeological impact during the enabling works comprised much needed improvements to drainage and other service on the north side of the cathedral. A full archaeological watching brief was maintained during this work in July-August 2013. The limited exposures of archaeological remains during this stage are described briefly in Chapter 3.

1.3.2 Archaeology during the main contract

The excavations within the crypt and cloister garth were undertaken intermittently from September 2014 to January 2016. An archaeological presence was only required while ground-works trenching and larger scale ground reduction were being undertaken. A three-week period in 2014 saw the full-time archaeological presence of a small team within the crypt to ensure that the large area then exposed within St Ithamar's Chapel and the area immediately to its west could be fully cleaned and recorded. A series of plans at a scale of 1:50 were drawn on site and then reduced for this report to a scale of 1:100. More detailed plans of specific areas were drawn at a scale of 1:20, with many sections drawn to the same scale. The positions of the latter are shown on the report plans where necessary. More than a thousand context numbers sheets were assigned and recorded during the course of the project. Tables 1 and 2 summarise these, firstly by geographical area and secondly in numerical order.

Useful artefactual dating evidence was sparse. Relatively few contexts produced pottery (the main source of dating). Only one coin was found, but again this did not help in understanding the structures and other stratigraphy. Our only useful source of dating was the stratigraphy itself - how structural elements related to each other and to adjacent layers.

Area	Name	Context numbers		
	Enabling works	1	31	
	Lift pit	201	227	
	Chapter House	401	425	
	North Cloister Walk	501	523	
1	Ithamar Chapel	600	638	
1	Ithamar Chapel	851	858	
1a	Ext E of Ithamar	950	967	
2	Central Crypt	680	692	
2	Central Crypt	714	740	738-9 in Area 6
2	Central Crypt	770		
2	Central Crypt	1050	1055	
3	SE corner Norman Crypt	695	699	
3	SE corner Norman Crypt	860	866	
4	All Norman crypt	639		

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Area	Name	Context numbers	
4	N Aisle Norman crypt	640	651
4	N Aisle Norman crypt	1000	1012
4	S Aisle Norman crypt	652	660
4	N central Norman crypt	661	677
4	Irvine's tunnel	1200	1231
5	Side crypt	700	713
5	Side crypt	760	769
5	Side crypt	900	910
6	NE main crypt	738	739
6	NE main crypt	775	850
6	NE main crypt	870	875
7	Vestry	1100	1176
8	Cloister	1500	1551
8	Cloister Garth	1580	1597
8	Cloister Garth	1600	1630
8	Cloister Garth	1650	1686

Table 1: Context list arranged by area

Area	Name	Start	End
	Enabling works	1	31
	Lift pit	201	227
	Chapter House	401	425
	North Cloister Walk	501	523
1	Ithamar Chapel	600	638
4	All Norman crypt	639	
4	N Aisle Norman crypt	640	651
4	S Aisle Norman crypt	652	660
4	N central Norman crypt	661	677
2	Central Crypt	680	692
3	SE corner Norman Crypt	695	699
5	Side crypt	700	713
2	Central Crypt	714	740
			738-9 in Area 6
6	NE main crypt	738	739
5	Side crypt	760	769
2	Central Crypt	770	
6	NE main crypt	775	850
1	Ithamar Chapel	851	858
3	SE corner Norman Crypt	860	866
6	NE main crypt	870	875
5	Side crypt	900	910

Area	Name	Start	End	
1a	Ext E of Ithamar	950	967	
4	N Aisle Norman crypt	1000	1012	
2	Central Crypt	1050	1055	
7	Vestry	1100	1176	
4	Irvine's tunnel	1200	1231	
8	Cloister	1500	1551	
8	Cloister Garth	1580	1597	
8	Cloister Garth	1600	1630	
8	Cloister Garth	1650	1686	

Table 1: Context list arranged numerically

1.3.3 The research agenda

HTFE would be a challenging project, of that there was no doubt, but archaeologically there was every hope that it would be a rewarding one. It covered some of the Cathedral's most important historic spaces (inside and out), and in particular it offered a unique opportunity to investigate the whole of the crypt. This was the best (perhaps only) place to examine the form and layout of the first Norman cathedral's east end – a vexed question in an academic debate which has endured at least since St John Hope's seminal papers on the historic development of Rochester Cathedral (Hope 1898 and 1900). He wrote that he had found clear evidence that the eastern arm of Gundulf's cathedral had a simple, straight end with a small square chamber extending east from its centre; there were no apses (Hope 1898, 203). Subsequent authors have refined or challenged various aspects of his analysis, but the greatest disagreement has generally been reserved for the east end. Most could not accept Hope's claims for a squared-off east end, and promoted the apsidal concept in its place. The reconstruction of the eastern arm after the fire of 1179 had necessarily destroyed all trace of the earlier version (except that some of the burnt masonry seems to have been re-used in the new build): but the foundations of the first east end were likely to survive under the crypt floor. Indeed Hope claimed to have examined them by probing and excavation – hence his confidence in the model he put forward. What answer would HTFE hold? Chapter 2 explores some of the themes we hoped to address during HTFE, while Chapter 4 describes the fieldwork results in detail.

Chapter 2: Background

2.1 Location and geology

Rochester was established at a crossing point over the River Medway (Figures 1 and 2; Plate 2). This crossing point was in use from at least the Late Iron Age, but was, probably, at that date by ferry rather than a ford. Even with a lower water table the depth, tides and currents would have been too great to cross by foot or animal. Supposedly the nearest ford was four miles further to the south at Lower Halling, although one at Upnor has been suggested (Thornhill 1976, 126).

The Geological Survey of Great Britain shows that the Cathedral site occupies bedrock of the Lewes Nodular Chalk Formation.¹ No superficial (drift) geology is noted, but in and around Rochester to the south of the High Street, the chalk bedrock is usually covered either by Brickearth, sand or sandy

¹ Map Sheet 272. See also www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html

gravel, or 'brash'. The latter material is a buff-coloured eroded mix of sand, grit, chalk and flints, forming a solifluction deposit.² Alluvial clay predominates to the north of the High Street within the area of the Roman town walls, but because of its depth (c 2.5m below ground near the town wall) it is rarely seen.

Brickearth was the only geological deposit seen in most of the excavations, but sandy gravel and flints in sandy clay were observed under this in the new cloister garth soakaway. Somewhere between the south cloister walkway and the road to its south known as The Precincts, there is a geological break between the Brickearth and sandy gravel/sand deposits. The latter are over 1m thick at the west end of the road where it meets St Margaret's Street (Ward 2004a) and presumably directly overlie the solid chalk bedrock. The King's Orchard Ditch in which the King's School Assembly Hall was constructed c 1965 had been dug through gravel (Harrison and Flight 1968, 74-75; Flight and Harrison 1986, 15). The break in the geology takes place more or less along an east-west line just to the south of, or under, Garth House (built on the site of the monastic refectory), with the sandy gravel over solid chalk to the north and brickearth in the cloister to the south. A deposit of gravel of unknown thickness lies between them in a conjectural buried valley. This would have been created by water, ice or both, perhaps cutting through the brickearth after that was formed c 60,000 years ago or earlier. Chalk bedrock was seen by James T Irvine below the south wall of the cathedral in 1874 (Figure 4).

The High Street is orientated from west to east. It might be expected that the cathedral would be laid out parallel to the High Street (or that a more accurate east-west alignment might have been used). Instead it is parallel to the Roman town wall at a distance of c 40m).

2.2 Historical and archaeological background

This report is not the place to enter into a detailed description or discussion of the overall history or archaeology of Rochester, but some background knowledge of a settlement is always advisable prior to embarking on a study of one specific structure or theme within an area, whether that area be rural or urban. Deep archaeological stratigraphy extending back to the Late Iron Age exists in Rochester, but there are considerable problems in understanding that stratigraphy. This is due to a number of factors. These include the restricted nature of many (but not all) of the excavations, excavators' often inadequate comprehension of the urban context within which individual sites were set, provision of limited or no location plans or section drawings, and a common failure to complete and publish. The following sections summarise current knowledge of the site's development on this basis.

2.2.1 The town

Iron Age: Despite claims implying the presence of a tribal centre or even an *oppidum* at Rochester (Cunliffe 1982, 43; Philp 2014, 111), little has been found that can justify the claim (Figure 7). Ten fragments of a coin mould and some potin coins (Chaplain 1962; 1969: Harrison 1991) and, apparently, a gold *stater* (Philp 2014, 106) were found on or adjacent 50-54 High Street during excavations in 1961-2. Around 1200 sherds of Iron Age pottery were found on the same site, but unfortunately this material does not appear to have been the subject of specialist analysis. The site also contained the town's only definite Iron Age feature: a 1m-wide and 1m-deep ditch exposed for a length of c.6.50m (Harrison 1991, 42, figure 1). Philp (2014, 113 and figure 1) shows another ditch surviving for a length of c 2m at right angles to the south.

² Solifluction deposit: the process of slow flowage of the surface rock waste downslope when saturated with ground water, frequently under a periglacial climate (Trueman 1971, 371). Deposits of this type can be misinterpreted as an archaeological formation.

Ward (2004a, 23) suggested that a large ditch at St Margaret's Mews (between Boley Hill and Love Lane) that was in use in the medieval period was of Iron Age origin. Excavation apparently produced no Iron Age pottery (Dulley 1960, 197-8). This and the sheer size of the feature makes a medieval origin is much more likely.

There is little doubt that an Iron Age settlement existed at Rochester, but its extent and date-range are unknown. No buildings have yet been found, despite implications to the contrary (Chaplain 1962, l-li) no buildings have been seen (Harrison 1991, 45; Philp 2014, 116). Proto-urban status cannot be assumed on this basis.

Roman: Hardly surprisingly we have more knowledge of Roman Rochester (Figure 7), but it is still not possible to elucidate much of its plan or historical urban development. Its Roman name, *Durobrivae*, is known (Burnham and Wachter 1990, 76; Brooks 1994, 3); the name means 'the fort by the bridges' (Rivett and Smith 1981, 346). That meaning alone creates problems. Where were the fort and bridges, and given that only bridge is known historically, why the plural? The town is first mentioned in the early 3rd-century Antonine Itinerary (Rivett and Smith 1981, 346; Ward 1997a, 199), so *duro* could derive from its earthen defences dating to the last quarter of the 2nd century or the early 3rd-century masonry town wall. If that is accepted, however, what was the name of the settlement up to c AD 200? That may never be known. The 'bridges' element is easier to explain: it probably refers to the separate sections or spans between the piers of the bridge, literally a 'bridge' between two points which, when looked at as a whole, become 'bridges' (Rivet and Smith 1981, 349; Brooks 1994, 3).

Some writers (Harrison 1968, 76; Harrison and Williams 1979, 21) suggest that the town wall dates to the early third 3rd rather than later, but the date is not secure (Detsicas 1987, 57), and the circuit may not be all of one period. At least one tower was present, at the north-west angle (Payne 1905, lxvi), which may have been a later addition (Ward 2011). The finding of the South Gate was mentioned by Payne (1895, 6) in his article on Roman Rochester, but apparently he did not see it himself. It was uncovered again in 1998 and was regarded as being contemporary with the earthwork defences (Ward 2002). The cobbles marking its position on Boley Hill represent only part of its length: the wall would probably have extended southwards for at least another 1.5m but were cut back, more probably in the Norman than in the Roman period.

The modern High Street more or less follows the Roman east-west route through the town. At East Gate³ it is probably on the same line, but it moves slightly to the north once it nears the bridge and, presumably, a West Gate. The suggestion that it was a dual carriageway for part of its route (Chaplain 1962, l-li; Philp 2014, 116) is incorrect. Buildings were present on both sides of this supposed road widening (Ward 2017). There is no reason to believe that a dual carriageway preceded any buildings later built upon its supposed course. This widening would form a gravelled open area between buildings and the road leading southwards from Watling Street (Figure 7).

The main north-south route is usually depicted as being on the line of the Boley Hill roadway (Figure 2) and the 19th-century King's Head Lane and Northgate (correctly Pump Lane). No Roman road was found in Northgate when service trenches were dug in 2009, however, and a Roman building exists between Chertsey's Gate and the King's Head Hotel (Ward in prep a). The north-south Roman street

³ The Roman East Gate is probably, but not certainly, on the site of the medieval gate, parts of which have been found. The Roman ditch comes to an end a few metres to the north of Watling Street, perhaps implying that the gate would have been further north as well, but the rampart and the masonry wall both extend across the gap where such a gate would be situated. It is possible that the earthwork here was a 3rd-century bank behind the wall rather than a late 2nd-century rampart. More likely, the ditch came to an end to prevent flooding from the marshes and a possible creek in the area to the north-east of the town, both present in the medieval period.

has to be that shown on the 1717 Bridge Warden's Map of Rochester to the west of the King's Head, not as now to the east. The latter route was constructed some time between 1717-72 (Figures 8 and 9). What is known in medieval documents as Cheldergate Lane almost certainly continued the line north across Watling Street to the Roman North Gate, called the Great Gate in the Anglo-Saxon period (Ward 1949; Ward 2005; 2011a; 2017). Cheldergate Lane was replaced probably c 1225 by Northgate, formerly Pump Lane.

Cemeteries are known to south and east of the town defences. The former, on Boley Hill, appears to have been largely for cremations, but one lead coffin is also known to have come from the area (Wheatley 1927, 159-164). Boley Hill has seen much disturbance from buildings and landscaping. No doubt some burials still remain in situ, but locating them will be difficult and probably a matter of chance. The cemetery outside the East Gate is also poorly represented. The area where inhumations are known was used for Brickearth quarrying (probably to make the bricks for Restoration House) in the late 16th century (Ward and Anderson 2003). A burial to the south of the East Gate observed in 1905 may also be part of this inhumation cemetery (Payne 1909, xc). Two burials are known from inside the town wall (Harrison 1981, 101; Cool 1981, 125-131; Gollop 2009). The presence of family burial plots seems likely, for the Roman law in relation to burial outside Roman towns does not seem to have been systematically applied to the smaller urban settlements (Esmonde Cleary 2000, 129). A burial c 3.4m below ground was also found in the basement of the former cathedral registry office on College Green, opposite the south-west corner of the cathedral (Payne 1902, lix-lx). This burial may be medieval, but its depth perhaps hints at a Roman date (although it does not fit easily with either of the two cemeteries just mentioned).

As far as buildings are concerned one probable and eleven definite masonry buildings have been observed to date. Another three possible or conjectured masonry structures may also exist and no doubt others remain to be found. Four timber buildings, one on dwarf walls, are also known. It is very likely that many more timber buildings would have existed (see Appendix 1). The known masonry and timber structures mostly lie to the west of the Cathedral and Northgate; none have been found in the north-east quadrant of the town. The buildings are only dateable to the Roman period as a whole, and no specific functions can be identified. Some at least would be domestic properties. No civic buildings can be identified at the moment.

Possible Roman structures had been identified at the Cathedral before HTFE. In 1898 Hope suggested that masonry found below the nave south wall was an apsed Anglo-Saxon church (Figure 10). This structure had been found and recorded by Irvine in 1876 during underpinning work (Figure 4). Irvine suggested that the remains were Roman in his notes. They are shown on Irvine's 1876 sketch plan, along with a short length of straight wall to the west, passing below the nave wall.⁴ Despite what Hope shows, the latter was not seen internally. Furthermore no definite walls of this building were seen in an excavation to the south of the nave in 1937 (Figure 11; Cobb 1938). There does not appear to be much (if any) evidence for Hope's 'Anglo-Saxon' apse: the building is at least as likely to be of Roman date. Livett observed another Roman structure (possibly part of the same building) inside the nave while underpinning the west door. This is not shown on his plan, but is stated in his text (Livett 1889, 266-7). Externally, and cut by the foundations of the Anglo-Saxon church, Livett found the corner of a Roman wall and its foundation (Figures 12 and 13). There was c 0.9m of soil between this masonry and the Anglo-Saxon church: it is therefore most likely that the lower one was Roman. The levels of the masonry found by Irvine and Livett are more or less the same and the materials observed in their construction are typical Roman. Another Roman building may exist within the Sextry (or Deanery) Gate garden. In 1973-4 a mortar floor was found 5ft (c.1.55m) below the modern ground surface (Hayes 1974), at about 7.60m aOD: Roman floor levels along the High Street are found at c 7.15m aOD. There has to be an element of doubt in regard the date of the floor found in the Sextry Gate garden trench.

⁴ Medway Archives, document DRc/Emf 77/26, published in McAleer 1999, figure 13.

Anglo-Saxon: Archaeologically, knowledge of Anglo-Saxon Rochester is sketchy at best (Figure 15). The Anglo-Saxon cathedral (see below), a few pagan burials to the south of the town (Payne 1893, 121-4; 1895, lv; 1897, liv-lvii; 1900, liv; Williams and Payne 1979, 284-6), a 7th-century bronze worker's die from a 12th-century pit (Hawkes 1979), a *sceatta* (coin) from a 1976 excavation at Prior's Gate House, and seven sherds of pottery (before HTFE) represented the sum total of knowledge. Six of the pot sherds came from two pits within the cathedral crypt (Ward 1995 and 1998) and one from grave fill in the Chair Store excavation west of the North Transept (Ward and Anderson 1990). Sherds of Anglo-Saxon pottery may have been found in a 1961-2 High Street excavation, but the estimated total of 7000 sherds (of all dates) has never been looked at by a pottery specialist (Philp 2014, 114). Much the same can be said of an excavation that took place in 1986 adjacent to the Friends' Meeting House (Daniels 1986, 2012), where nearly 9000 pottery sherds were found and have only been briefly reported. Both assemblages should be the subject of specialist analysis and reporting.

Historically, Rochester only appears occasionally in documents. Perhaps surprisingly most of our information comes from the earliest text, that of the Venerable Bede writing c 730. He uses the old Roman place-name, *Durobrivae*, as well as *Hrofescaestir*. We are told about the founding of the Anglo-Saxon cathedral in 604, and the sacking of the settlement in 676. We also learn that the cathedral church had a porticus (possibly two) in the 8th century. He also provides some notes on the early bishops.

Few other documents provide useful information in archaeological terms. Charters refer to a road on the inside of the Roman town wall on the site of the castle, and another road to the north of the High Street, perhaps continuing that line and leading to Liaba's Cottage (Figures 2 and 15). Three gates – the South, East (= Broad) and Great (= North Gate or Chelder Gate) are mentioned (Campbell 1973; Ward 1949, 37-47; Ward 2005, 311-322; 2011a, 142-154; 2017 plan). By 762 another 'north gate' led into the cathedral precinct and was probably on the site of the 15th-century Cemetery Gate (Brooks 2006, 11). Whether this structure was of timber or stone is not mentioned. There was presumably a boundary wall or fence attached and (presumably) a road leading into the cemetery area (Green Church Haw) to the south (Ward, forthcoming a). A church dedicated to St Mary, presumably of timber, existed outside the East Gate c 850, but was never heard of again (see below).

The sack of Rochester in 676 by the Mercians was followed by further attacks by King Caedwalla of Wessex (reigned 685-8) in 686 and 687. More were carried out by the Mercians again, probably, in 798, by the Vikings in 842, probably in 986 by Aethelred II (reigned 978 to 1014 and 1016) and by the Vikings again, probably, in 999. No archaeological trace of these events has been found so far. The Anglo-Saxon Chronicle (Whitelock 1965: Garmonsway 1972) entry for the year 885 implies that the Roman walls were still in good enough condition to repel a Viking attack until help came. It hardly needs to be said that nothing is known of the fortification the Vikings built around themselves.

Medieval: Hardly surprisingly we have more archaeological knowledge from the late 11th century onwards (Figure 16). Most is known about the cathedral, castle and the town defences, but very little about the development of the town itself or specific buildings within it. Only the 15th-century and later town can be studied in any detail, and that mainly its standing buildings (Bacchus 2010; Austin 1997; Ward 2004b, 2010a) rather than below ground archaeology. Indeed, no medieval house either inside or outside the town wall has yet seen any extensive excavation.

2.2.2 The cathedral

The Anglo-Saxon period: The beginnings of the bishopric and cathedral of Rochester are well known, but there is little detail about either before the end of the 11th century. Very few documents survive,

and only a small part of the Anglo-Saxon cathedral has been uncovered (Figures 10, 12-13). There is little or no doubt that this structure was the (or at least a) cathedral church. In the 8th century Bede related that in 604 Augustine, the first Archbishop of Canterbury (597-604), consecrated Justus as the first Bishop of Rochester (604-24; he became the Archbishop of Canterbury 624-31). Bede gave both the Roman and English names (see above) for what he described as a 'city'. The term may have been used due to the presence (and to enhance the prestige) of the bishop, his entourage and church, rather than for any perceived or real urban attributes.

Bede states that King Aethelberht of Kent (reigned c 585/c 590 to 616/618), built a church dedicated to St Andrew the Apostle within the old Roman town (Bede Bk 2, Ch 3). Later, we are told that when Paulinus (third Bishop of Rochester 633-44) died he was buried in the *secretarium* (see below) of the church which King Aethelberht had built 'from its foundations' (Flight 1997, 193). Bishop Ithamar, his successor (c 644-655/664), was Rochester's first native Anglo-Saxon prelate. The church is likely to have been damaged in Aethelred's attack of 676 (see above). The bishopric was impoverished in the time of Cwichhelm (Bishop 676-8), presumably due to the Mercian pillaging. Nothing more is heard of the buildings until the time of Tobias (Bishop c 699-726). He was buried in the porticus of St Paul, 'which he had built within the church of St Andrew as his own burial place' (Bede, book 5, ch 23). After the Norman Conquest the church was described by William of Malmesbury as being 'utterly forsaken, miserable and waste, from lack of all things within and without' (McAleer 1999, 28). This may be Norman propaganda connected with the replacement of four or five secular clergy by the 22 monks brought in by Gundulf (Bishop 1076/7 to 1108) to start a new monastic establishment in c 1082. The east end of the Anglo-Saxon cathedral was uncovered by Livett in 1888, and a short length of the nave walls in 1998 (Figure 12. Ward 1999a; 1999b; 2002).

At least one structure, presumably of stone, adjoined the Anglo-Saxon church (Flight 1997, 173, note 9; Bosanquet 1964). Nothing else is known of any buildings associated with the pre-Conquest cathedral. The only point which may have some relevance is that the old Roman South Gate showed evidence of having been blocked. This blocking was presumably of late Roman date, but must have been removed in the Anglo-Saxon period when the gate is mentioned in a charter traditionally dated to 604, but more likely of post-Conquest date (Campbell 1973, xxii; Ward 1949; Ward 2001; 2002; 2005; 2011). This unblocking may have been connected with access either to any buildings to the south of the church or to the west door of the church itself.

Several writers have suggested that other Anglo-Saxon churches would have been built adjacent to (and perhaps in line with) the known one (Hope 1898, 214-5; McAleer 1999, 17; Radford 1969; Tatton-Brown 1984a, 1988; Ward 2015a). Examples existed at Canterbury, Glastonbury and Winchester. While the churches postulated by Hope and McAleer can be dismissed (Figure 10), that proposed by Radford cannot be so easily discounted (Figure 17).

The Norman cathedral church: Gundulf built a new cathedral church after the Conquest. Parts of this survive (Figure 18). There is no reason to believe that this church was left incomplete by Gundulf. Also despite what many writers have stated there is no evidence to support the view that any of Bishops Radulf (1108-14), Ernulf (1114-24) or John (1125-37) rebuilt the nave. Architecturally it is generally accepted that the nave we see today dates to the 1140s, the west end to the 1160s, the east end to c 1185/90, the quire by 1227 and the transepts in the course of the 13th century, probably by the 1240s. The Lady Chapel was added in the early 16th century.

The Norman monastic buildings: Gundulf also built a cloister (Figure 6); most writers have assumed that this would be in the normal position to the south of the nave (Hope 1898, plate 1, 1900, 6; Livett 1895, 39, 47; Palmer 1899, 56; Fairweather 1929, 192; Tatton-Brown 1984b, 186), and some have suggested that it was of timber (Flight 1997, 149). An East and South Range on a new site were built

by Ernulf c.1120. These are usually considered to be the remains that we see today on the east and south of the cloister garth (Plate 6), replacing the ranges constructed by Gundulf to the west. It has been suggested that the West Range is also of the time of Ernulf (McAleer 1993, 20). Up until the date he was writing McAleer had been the only dissenter regarding the position of Gundulf's cloister, placing them in the area of the existing garth (ibid, 13).



Plate 6: The East Range of the cloister. The red brick structure to the right, Garth House, stands on the site of the former Fraternity (refectory) range on the south side of the cloister, behind the Roman town wall.

The Infirmary Range lay to the east of Ernulf's cloister (Keevill and Underwood 2010b). It has been suggested that the Bishop's Palace lay to the north-east of the church (Flight 1997, 185, 222, figures 21 and 23), but we argue that it has always been on the site of the later palace (now the Deanery, College Green and Southgate; see Chapter 6).

2.2.3 The cathedral and its historiography.

A history of the study of Rochester Cathedral would be a major undertaking, and is beyond the remit of this project. All that is necessary here is to mention a few points from the hundreds of published books and articles. It is necessary to go into greater detail in a few instances that are relevant to the archaeological work of 2014-16.

There is a brief reference to pre-Norman churches (the plural is important) at Rochester in a late 14th-century manuscript (MS Vit E. xiv) written by William Thorne, a monk of St. Augustine's Abbey, Canterbury. He appears to have taken information from a 13th-century work by another monk, Thomas Sprott (Davis 1934, xx-xxvi). Bede did not refer to multiple churches at Rochester, as he surely would

have if they had existed in (or before) his day. The multiple churches could be later than Bede but still pre-Conquest, perhaps referring to the 'parish' churches. One is known for certain, St. Mary's outside the East Gate dating to c 850 (Figure 15) but never mentioned again (Tatton-Brown 1984a, 15; 1988, 222). St Margaret's and St Clement's may have been in existence by the mid-11th-century.

For the 12th century we have a few references to building work, but notably none for the rebuilding of the nave in the 1140s or for the east end and transepts from c 1185 onwards, let alone for the supposed rebuildings of east end and nave that were undertaken by Radulf (Flight), Ernulf (Hope) and John (Livett). Little more information for the buildings is given by later medieval writers. Students are left to use archaeological and architectural evidence to assess the development of the cathedral and monastery against this meagre historical background until the 17th century, when more and better documentary evidence becomes available. A Parliamentary Survey of 1649 in the Medway Archives (DRc/Esp 1/1 to 1/5), for example, describes a long (apparently medieval) building to the south of the refectory (Hope 1900, 52, 75; Ward 2002). This document deserves a detailed study, but several structures are mentioned in its precis alone; there could be more regarding the medieval and early post-medieval buildings within the monastic precinct.

Hope, Fairweather and the eastern arm of the Norman cathedral

William St John Hope was one of the foremost scholars of his day, and the two detailed papers he published in 1898 and 1900 are still required reading for any student of Rochester Cathedral – whether they agree with him or not. Many later authors have disagreed with Hope, of course, with regard to the plan form, development and dating of the building's development. Fairweather (1929) published an early critique, focussing on what he saw as errors in Hope's plan (and dating) of the Norman and later church. For example, Hope had stated (with no clear evidence) that the Norman transepts were only 15ft (c 4.5m) wide, and from this he deduced that there could not have been a central tower. Fairweather realised that this width was unacceptable and that evidence did exist for a mid-12th-century crossing tower. He did not postulate the existence of a late 11th-century equivalent, but his suggestion that the Norman transepts were wider at least implies it. Even if the early Norman piers were in slightly different positions, they were so spaced that a central tower braced by transepts could have existed in the time of Gundulf.

Fairweather (1929, 188) had 'always regarded' Hope's square-ended plan for the late 11th-century church as being 'highly unsatisfactory'. He suggested that Hope's conclusions were unsubstantiated and that an apsidal church had been constructed (Figures 19-21). Hope's square end was of later date. These ideas were later refined by McAleer and Tatton-Brown (Figure 21). Fairweather (1929, 189) identified three reasons why Hope had rejected an apsidal-ended Norman church: i) Gundulf's 'local' and 'English' influences; ii) restrictions on the site from earlier structures; and iii) the form of termination of the existing Norman crypt. Hope himself (1886, 325), had classified matters differently: "the considerations influencing this singularity of plan are (1) The existence of earlier structures, (2) The two-fold division of the church onto monastic and parochial. (3) The possession and acquisition of relics". Hope hardly mentioned (let alone discussed) the last two points, and Fairweather suggested (1929, 189) that they were of no relevance to the plan of the church anyway.

Hope insisted on Rochester's insular rather than continental influences: "this remarkable plan seems to have been made, as were those of other buildings erected by Gundulf in Kent, on an English rather than foreign model, and it is interesting to find the native idea reasserting itself so early" (Hope 1886, 325). A few years later he wrote "all is abnormal and all is distinctly local, and herein lies the explanation" (Hope 1898, 204). The 'other buildings' are not mentioned by Hope and of those known or suspected as being built by Gundulf only St Mary's Abbey, West Mailing (Figure 22a) is stylistically comparable to (but not on the scale of) the cathedral. It seems certain that St Mary's did have a

squared east end of c 1100 (Ward in prep). The Church of St Gregory, Canterbury (Figure 22b), also has a securely dated squared east end (see Chapter 6). In contrast, apsed east ends exist for the chapels in the White Tower at the Tower of London and the Hospital of St. Bartholomew, Chatham, both associated with (but not necessarily built by) Gundulf. Obviously the most local example available to Gundulf would have been the Anglo-Saxon cathedral, assuming that it was still standing at the time the Norman east end was started. That apsed example, his supposed use of apsidal east ends at Chatham and London, and the Norman tradition of their use all supposedly imply that he would have used one in the new church. But did he?

As for restrictions on the site, the Anglo-Saxon cathedral did not create any space problems for the Norman builders and there was no other building (or at least none that we know of) to constrain the works. Hope thought that the so-called Gundulf's Tower was earlier than the church, thus creating a constraint on laying out of an east end of normal design (Hope 1898, 201; Fairweather 1928, 192). As Fairweather pointed out, however, this did not mean that the creation of an apsidal east end became impossible: the building simply needed to be moved. Space appears to have been available, as Hope's plan of the medieval precinct shows (Figure 6). The builders could have laid out the church and cloister parallel to Watling Street rather than the old Roman town wall, although this would have thrown the axis of the church even further to the south from east-west. Alternatively the whole complex could have been skewed to a correct eastern setting, with just enough space for a church of the same length as built in the 13th century (Figure 5).

As Fairweather states (1929, 192), the layout and the limits of the site were those chosen by the builder. He, of course, was pressing the case for an apsidal east end. Neither lack of space nor local building practices had anything to do with the creation of a squared east end. Fairweather was on the way to an explanation, for he pointed out that Gundulf's mentor Lanfranc (Archbishop of Canterbury 1071-89) paid for the new Rochester Cathedral to be constructed. Canterbury itself had been rebuilt in 1071-7, and part of that work may have been supervised by Gundulf (Plant 2006, 39) – but at both sites Lanfranc was the instigator of this rebuilding. It was he, not Gundulf or the Rochester diocese, who paid for the rebuilding of Rochester Cathedral. This must be the fundamental point.

The east end of Canterbury Cathedral is always regarded as being of apsidal plan, but as recently as 2006 it was stated that the east end of that cathedral had never been fully examined and the only comment from an 1888 excavation was that there was a '(doubtfully) apse-like curve' (Plant 2006, 48). Bearing that comment in mind it is usually assumed that the cathedral at Canterbury was an orthodox early Norman apsidal church. Fairweather argued that this was so and therefore, the church at Rochester would also have been built in the same style. Such an assumption was unsafe, because we now know that Lanfranc did build a square ended church c 1085 in Canterbury. This became St Gregory's Priory in the mid-12th century (Figure 22b).

'Gundulf's Tower'

The Cathedral's north tower has been known as Gundulf's Tower since the 18th century. It resembles a small Norman keep (Figure 23; Plate 7), with walls seven feet (c 2.25m) thick at the base and still standing over forty feet (c 12.3m) high. Hope believed that the tower was begun before the church (1898, 201), soon after Gundulf's consecration took place in 1077. This was "proved by the existence of a tall, narrow window (now blocked) in each side of the ground story, two of which became useless when the church was erected". Fairweather agreed that the tower was the earlier structure, for 'it was probably Gundulf's first building (1929, 194; although he also mentioned the lack of dating evidence for this - *ibid*, 212). He pointed out that "it is shown on the accompanying plan that the adoption of a normal building [ie an apsidal church with apsidal side chapels] leaves ample light for these windows". Fairweather's plan (Figure 19) shows that his apsidal chapel passes below the south-

west corner of the tower: therefore the apsed church had to be the earlier of the two, contradicting his own (and Hope's) assertions.



Plate 7: Gundulf's Tower with its massive clamping buttresses, to the right of the War Memorial, in 1936. Historic England Archive image AA52/5142.

As far as the window in the south wall of the tower is concerned, today we obtain a false impression of its lighting capabilities. The gap between the external face of the north aisle wall and the external face of the south wall of the tower is now roofed over, but at the time the tower was constructed this c 2.5m-wide gap was open to the sky. The sun in the east would provide daylight into this space, at least in summer. The south window, which McAleer perhaps implies was not present anyway (1999, 20), was altered into a narrow and steep passage when rooms were constructed between the tower and the exterior face of the north aisle wall. There is no reason why a window on this side of the structure should not have existed.

On the west side, what we see today on Hope's plan of the later cathedral (Figure 18) is the east wall of the 13th-century North Transept with the Jesus Chapel projecting eastwards and butting up to the west wall of Gundulf's Tower. The east wall of the transept probably aligned with the north-east

respond of the crossing, which was seen by Irvine at the west end of the solid quire wall (Hope 1898, 228-9, figures 11 and 12). The sleeper wall on which the respond sat was also seen by Irvine in his tunnel below the quire (Figure 14). Fairweather (1929, 198-9) states that “beneath the responds of the arch between the quire and tower on the north side, the remains are those of a broad pilaster respond 3ft 9.5in wide and 21in projection”. These must pre-date 1227, by which date the standing structure had been built. He noted that the remains seen by Irvine and noted by Hope were of plain type and could have dated anywhere between 1135-1200. There is no reason why, therefore, the earlier respond (with an implied date to after the fire of 1137) should not also have supported a tower (see above), just as the responds of much the same size dating to the 13th century still do today. McAleer (1999, 41), however, points out that “since no base mouldings were uncovered, there is no reason why the simple pilaster form of the respond could not indeed date to the 11th century”. This could therefore be the north-east pier of the crossing and support for a tower for Gundulf’s church. Tatton-Brown (1991, 8-9) believed that the tower was later than the Norman church, and was of mid-12th-century date (he now dates it to c 1110-20 - pers comm). Excavations in 1999 proved that the tower was later than the church (Ward 1999, figure 7 section A-B, redrawn with amendments and additions as Figure 24).

The tunnel which today provides access to the ground floor of the tower has been inserted through the walls of the North Quire Aisle and the tower; it seems safe to assume that access was not originally obtained at this point, nor via the other later doorways through the aisle wall further to the east. Ground-floor access may have been through a door (still present, albeit much altered) through the north wall and then by timber stairs or perhaps via a spiral stair in the north-east corner, of which the door, but no actual stair, is visible at first-floor level (Tatton-Brown 1991, 11). The door may have given access to nothing more than a large cupboard or perhaps a privy, however, and McAleer points out that any spiral stair certainly did not reach to ground level (1999, 184 note 38). Alternatively access to the upper levels may originally have been from a timber staircase against the wall face from ground level to a door at first floor level in the south-west corner (McAleer 1999, 21), or via the same door from a gallery in the putative late 11th-century transept. Later, when the upper storey was added, a bridge (presumably giving access to a door) was constructed from the north-west turret of the lesser north transept (Figure 23).

A putative lesser or south tower appears to be imaginary. First suggested by Ashpitel, the idea was followed by Irvine and then in turn by Hope and Fairweather. At first it was merely an attempt to provide symmetry with the northern tower, and later to explain walling found by Irvine during the course of underpinning the South Transept during the 1870s (see below). Hope (1898, 202-3) regarded the northern tower as the greater, and the southern as the lesser tower. This provided a reason to suggest that no central tower had existed. Flight (1997, 148) and McAleer (1999, 40-1, 54) pointed out that a central tower had almost certainly existed from the outset, and Fairweather (1929, 198-9) puts forward such structure for c 1140, with perhaps a hint that he believed one could have been present from the time of Gundulf. This would have been the structure mentioned as the greater tower in a document of c 1150, not ‘Gundulf’s Tower’.

The 'southern tower', South Transept and South Quire Aisle

Irvine had found four walls during underpinning of the transept, and, as shown on Figure 26 (top plan), Hope concluded that

- A wall from a straight joint (A) in the south wall of the transept to its south-east corner (B) was of Gundulf’s time;
- Wall B to C was the east wall of the Norman transept;
- Wall C-D was the south wall of the putative Norman south tower; and
- Wall D to E was the east wall of this tower.

He stated that “the foundations of the east and south walls of the older [transept] were met with” (Hope 1898, 210) but gave no reason for assuming this. No dating evidence survives, and they could (as Fairweather pointed out) be of the time of Ernulf (1114-24), after the fires of 1137 or 1179, or later still. Flight (1997, 155) also dated these walls to the time of (or after) Bishop Ernulf. For the south wall of the transept, Fairweather (1929, 198, 205) pointed out that its axis did not align with the church of Gundulf, suggesting that this change of alignment took place in the 12th century (ibid, 203). He also suggested (ibid 198), as did Flight (1997, 154 and figure 17), that Gundulf’s transept lay inside the foundations observed by Irvine (Figure 20). The walls were no more than 4ft (c 1.25m) wide, compared to the 7ft (c 2.2m) of Gundulf’s Tower.

Hope (1898, 210) also described “still to be seen in the [South Quire Aisle] wall above a straight joint with tufa quoin stones”. Fairweather (1929, 197) suggested that it is not a straight joint, but a ‘dovetail repair’ which he believed to be a repair of a demolished pilaster buttress. He suggested that this had occurred in the 12th century (ibid, 197), implying that the aisle wall itself is of that date, and that the buttress had been removed for some reason. In fact the repair is a stitch repair, perhaps filling a crack within the wall or, more likely, stitching together two walls of different dates. This repair exists within a much refaced and repointed mid-13th-century wall (but see Chapter 4). It has an offset foundation, which Fairweather regarded as the base for a pilaster buttress (1929, 197). This cannot be correct, as the ‘stitch’ is not wide enough (west to east) to take the place of a supposed buttress. The repair is immediately above a deep and steep-sided feature found by Irvine and described by him as a ditch (Medway Archives DRc/Emf 77/97-99; Figure 27). Irvine’s interpretation may be incorrect: the feature is too steep-sided for its width, and may have been a collapsed well. Such a weak spot could cause subsidence, and a consequent crack in the south wall; the repair would be the manifestation of this. Irvine also showed three ashlar blocks c 0.75m below ground level, and interpreted these as a quoin. He also believed that the foundation here turned to the north and formed the west wall of a very narrow transept. He notes the blocks as being the ‘quoins of Gundulf’s transept’, and Figure 27b certainly implies that there is a corner at this point. McAleer and Flight considered the foundation to be later in date.

Given that an earlier respond between quire and aisle existed on the north side of the crossing, it seems reasonable to suggest that one would also exist on the south side. Fairweather believed (and there is little reason to doubt) that such footings were strong enough to support arches between the transepts and quire and, by implication, a tower. The west end of the solid southern wall of the quire would correspond with the east wall of the 12th-century south-west transept and, by implication, the 11th-century one as well. The foundation for both would be on the same line as the existing transept. Locating its west wall is more difficult (Figure 20). Only Irvine and Hope accepted the earlier quoin below the existing south wall as representing the west wall of a Norman transept. There should then be another wall further to the west. Alexander (2006, 149) argues that the south-west pier of the crossing has an earlier pier either at its base or embedded within it; if correct, the south-west pier of the crossing would be in the same position as (and fossilise) its 11th/12th-century predecessor.

The crypt

Ever since the time of Ashpitel those interested in the architecture and layout of the cathedral had realised that the western, earliest part of the crypt had originally extended further to the east. Two bays of this early structure are extant, and Hope believed there were another two bays which ended in a squared east end with an eastern annex (Figures 18 and 21). This basic design was duplicated above at the level of the presbytery, and was Gundulf’s work of c 1082. Hope’s model, however, was challenged by many during the 20th century. Clapham (1934, 24), for example, suggested that Hope’s interpretation “rests on little or no evidence and is neither reasonable nor probable”. McAleer (1996,

152) states that “in the light of subsequent developments not only in Early English Gothic architecture, but especially at Rochester, [it] appears both implausible and inexplicably precocious”. Flight (1997, 131-141) also questioned Hope’s late 11th century plan.

The east end of the early crypt was found by Ashpitel's probe in 1853. He had expected to find an apse (Plant 2006, 52, note 46), but found a straight wall. Hope believed he had found the chord across the apse, and in 1881 he dug trenches (how many, or their positions, are unknown) and found “a small rectangular chapel, about 6ft 5in long by 9ft wide, which projected from the middle of the front”, with the whole width of the crypt being square-ended (Hope 1898, 204). There was no sign of the apse which he had also expected to find. Hope believed that he had found Gundulf’s east end. His reasons appear to have been based on the tradition of Gundulf’s work at Rochester, the archaic appearance of the work and extensive use of tufa in it, and the apparent absence of any other form of eastern termination. If tufa is reused, it normally has to be reduced in size and irregular shape to rubble rather than ashlar blocks. Most of the tufa in the early part of the crypt is ashlar, whereas it is only present as rubble in later parts of the crypt. Kentish tufa went out of use c 1150, so its widespread presence in the Norman elements crypt is strong dating evidence. As for any other form of eastern termination, Fairweather pointed out that “no exploration has ever been carried out where the proofs of a normal church would be found” (1929, 201). The same point could have been made at any time up to 2014.

Many arguments have been put forward against Hope’s suggestion that the early crypt was Gundulf’s work, especially by Fairweather (1929, 201-4). His first criticism was based on Hope’s plan. Nothing of the sort, he suggested, appeared in England until c 1150. He also examined the building materials. Firestone (now referred to as Reigate Stone) would normally be assigned to the ‘Traditional Period’ (c 1150 at the earliest) in the Medway area (Fairweather 1929, 201), a date with which Mary Berg agrees (Berg and Jones 2009, 50). Fairweather also noted that Reigate stone was also used in Edward the Confessor’s church at Westminster c 1065. Worssam makes no mention of Reigate Stone in the earliest part of the crypt in a 1995 paper (29), but later noted this stone type at the top of pilaster buttresses (2000, 1; 2006, 242). In contrast, Worssam identified the use of Marquise from northern France in the Norman crypt. Its use was largely confined to East Kent and to the very early Norman period, eg the 1080s (its appearance in Rochester could reflect the Lanfranc connection). The supplies were then cut, perhaps due to silting of the estuary from which it was exported (Worssam 1995, 2000, 2006). The petrological evidence as well as architectural detail therefore suggest a date of before 1090 for the construction of the crypt (Plant 2006, 44).

Fairweather and Flight pointed out that Gundulf’s nave and the early crypt have different alignments (Figures 10, 18 to 20). “The axis of the crypt thus diverges southwards from that of Gundulf’s known nave axis. Moreover the south wall of the crypt is laid parallel to the north side of Ernulf’s cloister, distinctly suggesting that it was laid down when the cloister was already a known quantity in design and probably in completion. This suffices for the suggestion that difference of axis predicates difference of date in nave and crypt” (Fairweather 1929, 202-3). “The builders of the Early English presbytery got the east end out of line, and their successors endeavoured to pull all the later additions straight within the new work. Consequently when the centre of the church was reached, the result was clumsy join. The building, therefore, has two axes, one of the Norman church, the other of the later rebuilds” (Flight 1997, 132 quoting Hope 1884, 239). Fairweather’s comment about the cloister can be dismissed because of the HTFE results (see Chapters 4 and 6). As for alignments, there are at least four changes in the nave walls alone (Figure 18). A further alignment exists in what is now the western part of the south aisle wall (Figure 26c). The latter, at the very least, has to be of medieval date, for there was no post-Dissolution rebuilding in this area. This wall was constructed no later than c 1140 and perhaps as early as c 1100. There are also three different alignments in the north wall of the nave, admittedly rebuilt in the western portion. The discrepancy at the far east end in relation to Gundulf’s nave is less than 3ft (c 0.9m). This could be nothing more than a surveying/setting out error.

Some of the 'discrepancies' may also be because of the age of the surveys being used to assess such matters. The Downland Partnership 3D survey shows that similar variations occur between the late 12th-century re-built crypt and the piers/walls above them as have been suggested for the Norman parts of the crypt. In short, it must be doubtful whether relatively minor differences in alignment have much (or any) significance when determining who built what, and when. Further, even with a change of line between the nave and the crypt, there is no logical reason why the crypt cannot be the earlier element (it would obviously be built before anything else was erected on top of it, after all – and it needs to be stressed that the western arm never seems to have had a crypt).

Alexander (2006, 149) noted that “the southward deviation [of the piers] does not continue into the choir and it can only have been connected with the need for an aligned crossing”. In a footnote she also states that “the divergence of the nave south arcade was noted by Fairweather, but interpreted as part of an elaborate realignment of the choir and its crypt, and his theory has not been widely accepted” (ibid, note 4).

A difference in axis between the nave and the crypt does not necessarily mean a difference in date. The large abbey church of St Peter at Whitby has an east end diverging by 3.75m southwards from the line of the north wall of the nave (Clapham 1952, plan). Here the deviation occurred over a length of 90m (250ft) and must have been visible within the building. It probably would not at Rochester. At St Edmundsbury Abbey (Suffolk) the north-east crossing pier is about 4ft (1.3m) out of alignment with the north-west pier and those of the north aisle of the nave, but in alignment with the piers in the presbytery (Whittingham 1971 plan). A line drawn down the centre of the northern crossing piers, as at Rochester, is not parallel to the line drawn down the centre of the southern crossing piers. This takes place in a church nearly 500 feet long, twice the size of Rochester. At St Edmundsbury it is notable that the presbytery walls are offset inwards from the nave by about the same measurement as the walls at Rochester are offset outwards. The changes of alignment in these churches do not seem to have been interpreted as the result of major rebuilds. The walls in question for each building are of one (but quite possibly long) structural phase. At both churches building began, as was normal practice, at the east end (Clapham 1952, 14; Whittingham 1971, 13).

It might be argued that the area where the termination of a shorter 11th-century church would lie has never been explored. Two projects have now been undertaken in that area, one in 1999 (Ward 1999) and HTFE in 2014-16. In neither project was there any indication of an earlier east end under or to the sides of the Norman bays. It could be argued that the excavation of this crypt had destroyed any earlier structure, but that is implausible: in situ Roman and Anglo-Saxon features have been found (in some areas with intact stratigraphy above them - see Chapter 4), but no earlier foundations.

McAleer suggested that the standing masonry contained evidence for an earlier apse. Describing the junction between the early crypt and its late 12th-century successor, he states that “at this point there are no signs of Romanesque pilaster responds on the aisle sides of the remaining easternmost pair of piers as there are on the piers at the west” (McAleer 1999, 36). This is simply because the pier sides in question had been cut back and/or refaced at the time of the late 12th-century alterations. He continues: “the existing responds are Gothic from the ground up to their abaci, which are set at a higher level than the Romanesque respond impost. Yet the vault that springs from them is the original Romanesque groin vault of this bay. The absence of Romanesque responds at the east end of the aisles suggests that the aisles may originally have ended at this point in semi-circular apses, rather than continuing with one or more bays with piers identical to those at the west”. In fact the east part of the groin vault had also been altered in the late 12th century, and the original fabric was removed; the Romanesque abaci had to be re-set when this was done. The embedded capitals in the central piers show that there had to be standing shafts between which, in turn, establishes the former existence of at least one more bay to the east (Plant 2006, 47).

Fairweather admitted (1929, 206) that 'destructive criticism' of Irvine and Hope's interpretations needed to be replaced with constructive arguments for his idea that there was an apsed east end of late 11th-century date. He believed that Gundulf planned and completed an apsidal church, with a cloister to the south of the nave. It was shorter than the square-ended church found by Hope and had a central apse with flanking apsed chapels. Ernulf demolished the early cloister and constructed a new one to the east of the South Transept. He suggested that this cloister diverged slightly to the south of Gundulf's, but did not present evidence for this. According to Fairweather Ernulf probably intended to follow this by the erection of a new presbytery parallel to the new cloister, which involved the widening of the crossing and a change in angle southwards of the two eastern bays of the nave to accomplish this. Fairweather suggested that this work was partially completed and survives now in the western bays of the crypt. He also agreed that the standing wall of the three eastern bays of the nave north aisle were also Ernulf's. Supposedly the work was only half-heartedly carried on by his successor John (1125-37), and to be completed after the fire of 1137. The foundation in the crypt that was found by Ashpitel and Hope might cover the earlier foundation of Ernulf.

One would hope there would be some mention of all this work in the historical sources. There is a document, after all, confirming that Ernulf rebuilt the dormitory, Chapter House and refectory. It is difficult to believe that the rebuilding of those structures would be mentioned while the rebuilding of the more important east end and nave would not.

Irvine's tunnel

James Thomas Irvine was the clerk of works for the architect George Scott from 1874-6 (Flight 1997, 125). His work under the South Transept has already been noted. Late in 1874 he dug a tunnel below the floor of the quire westwards of the crypt to insert the wind trunking for the organ bellows (Flight 1997, 126). His section drawing of the north side of this c 10m long tunnel below the quire floor was published by Hope in 1886. The original of this drawing, and one of the south side of the tunnel, are amongst the Irvine Collection of documents housed in the Medway Archive Office. Annotated versions of his sections (and Hope's version) have been published (Ward 2014b) and are reproduced here at a larger scale (Figures 14a-b) with Hope's (Figure 14c).

The tunnel extended from the west wall of the crypt for virtually the whole length of the quire. Two vertical shafts were dug through the latter's floor down to the tunnel to allow debris to be removed. Irvine drew the stratigraphy that he saw and noted at least three floors, the lowest of which he regarded as being of the time of Gundulf. He regarded this floor as being contemporary with the west wall of the crypt, which cut the soils below the floor. At the west end of the tunnel, he found what is usually regarded as Gundulf's sleeper foundation binding the eastern piers of the crossing. This rubble foundation was at least 1.5m wide seems to have been sealed by chalk concrete passing beyond its eastern edge by c 1.75m. At the east end of the tunnel this floor (forming the roof of his tunnel) met the west wall of the crypt. Irvine 'carefully examined the junction', and thought that wall and floor were contemporary. Flight disputed the contemporaneity and suggested that the wall cut the floor. In either case, the crypt would have to be later than the sleeper foundation. If that was dated to the time of Gundulf, it follows that the crypt had to be later. It is possible, of course, that Irvine omitted details and/or made mistakes in his recording. The conditions he was working in must be taken into consideration: a narrow tunnel no more than c 1.5m high with no shuttering and poor lighting. As luck would have it, HTFE unexpectedly provided an opportunity to re-examine the east end of his tunnel.

The cloister

Tatton-Brown (1989b, 1994) describes the history and archaeology of the cloister's East Range. It has been regarded as Ernulf's work of c 1120, but stylistically the sculptured figures are c 40 years later.

Three solutions have been put forward to explain this. Firstly, Ernulf's range survives as a stone rubble core behind the added Caen stone blind arcade. Second, there is earlier sculpture of Ernulf's time. The later panels are an insertion. Finally, archaic as well as contemporary styles of sculpture were used in the wall c 1160. McNeill (2006) suggested that all the Caen stone dates to c 1160, earlier architectural details merely being a 'throwback'.

Very little of the West Range is now visible, and only McAleer has attempted to date this. Based on the architectural detail of the responds in the southern room and the Romanesque window shown in a pencil drawing of c 1800 (Figure 28a), he suggested a date in the first quarter of the 12th century (McAleer 1993, 20). It could be of the time of Ernulf, but such a date range also allows it to belong to Gundulf's last years as bishop. As it can now be shown that there was no early Norman cloister to the south of the nave, this suggestion can be given considerable support.

A small excavation took place at the south end of the range in 1938 and revealed the room with the responds. They showed that the West Range (or at least this room) must have had a stone vault. This must have been broken through when the 14th-century gateway was built. The 1870s underpinning of the south wall of the transept exposed three soakaways (Figure 27) belonging to a prebendal house, built in 1805 partly over the West Range (which had been demolished to make way for it). One of the soakaways was found to be 14ft (c 4.5m) deep: it was emptied and backfilled with concrete. The house was built demolished in 1937 (Forsyth 1939).

Chapter 3: The enabling works 2013

Excavations during 2013 concentrated entirely on areas to the north of the Cathedral. Two distinct elements were required. Firstly, electrical and water feeds were needed for a small compound to the north of the Old Deanery (St Andrew's Centre), where the offices and stores for the main contract would be situated. These trenches were only 0.75m deep, and 0.3m wide. The opportunity to examine and understand any archaeological stratigraphy was limited because of this. The second excavations were much more substantial. Much of the existing drainage around the Precincts is still of Victorian origin, and frequently causes problems through blockages. Perhaps surprisingly, the crypt also had drains running out from it, and similar issues affected these. Thus a new manhole was established in the roadway to the north of the Ithamar Chapel (the eastern portion of the crypt) to intercept the existing deep sewer there, and a new drain run was excavated from this to another new manhole on the north side of the chapel. These excavations were up to 2.5m deep; they were dug in sections (the roadway could not be closed for long as it is the only means of access to the St Andrew's Centre), and were backfilled as rapidly as possible. No trench shoring or other support was used because of this, and the excavations were not safe to enter because of this. Though far from ideal, the only significant archaeological remains were found at the deepest point of the trenches and could be left in situ. The limited recording possible was therefore not a serious problem. Shallow excavations were also carried out around the north-west clasping buttresses of the North Transept to refurbish existing drainage from the Chair Store. This only exposed the buttresses bases and c 25 small pieces of disarticulated human bone.

Two walls were found in an 17m-long trench on the north edge of the car park to the north of the Old Deanery. Brick wall 4 was 11.8m west end of the fence along the east side of the area, immediately outside the gate to 82 High Street/Phelip's Lodge, and lay at right-angles to the excavation. The wall was a single brick wide (0.23m), and its top was 0.3m below the tarmac surface: five courses were visible, but it continued beneath the base of the trench. The bricks were hand-made and appeared to be of 17th/18th-century date. A second masonry structure (7) was found 3.6m further east along the trench, running along its south edge for c 1.25m 0.35m below the tarmac. It used a mixture of stone,

brick and chalk rubble set in a grey mortar containing crushed shell and charcoal – so-called salt and pepper mortar. This and the bricks suggested an 18th or early 19th-century date. The length of the masonry suggested that it might have been one side of an old manhole. No structures are shown in these locations on historic Ordnance Survey maps, or on a generally accurate and reliable survey of the Precincts dating to c 1800.



Plate 8: Top, wall 4 looking north (note that the kerb has moved slightly on its east edge). Bottom, wall 7 looking east.

The new manhole in the roadway was 2.5m long (at right-angles to the road), 1.7m wide and 2.5m deep onto the existing sewer. A homogenous mid to dark brown silty clay (22) occupied the bottom 1.1m of the excavation. It contained much stone, mortar and chalk, with some large pieces of the latter in the lowest 0.3m-0.4m. None of this was in situ, but it probably represented remnants of a former building in the vicinity. Unfortunately the only dating evidence was very mixed: a piece of Roman tile was found almost at the bottom of the trench, but 15h-century red fineware jug sherd was also found in the same context. Moreover, c 150 disarticulated human bones were found in the layer at a depth of 2.2m-2.4m below ground. Given the location, it is highly unlikely that the bones would be of Roman date – but Anglo-Saxon or medieval origins are both possible. The latter is perhaps the more plausible given that this area was within the monastic cemetery area in the medieval period. A possible chalk wall (25) was found in the subsequent trench excavation 2m south of the manhole at the base of the trench (c 6.25m aOD). A second possible chalk wall was found in the new manhole just to the north the Ithamar Chapel at c 7m aOD: the different height suggest that these two structures were not contemporary, but little more can be said of them. The chalk rubble from the north manhole might derive from demolition of either wall.

The remaining stratigraphy between layer 22 and the stone bedding (16) for the tarmac road surface (15) comprised five horizontal layers of mortar and gravel (21-17), mostly mixed with silty clay, and very distinct. The lowest of these (21) was 0.35m thick (its top being 1.05m below ground) and may have been a demolition deposit. The other layers formed 'made ground' but they were all cut by the sewer trench and therefore pre-date its insertion (which is assumed to have occurred in the mid-later 19th century).



Plate 9: The excavation for a new manhole in the roadway, with the existing sewer just visible at the bottom, looking north-west. The edge of the pipe trench can be seen quite clearly in the long section, cutting through all the layers except for the tarmac and its bedding.

The new manhole outside the Ithamar Chapel and the trench running north from it exposed a number of features of interest. The most important were two skeletons close to the Chapel wall. These both

lay at the maximum depth of the excavation, and could therefore be left in situ. Unfortunately little can therefore be said about them – even their alignment in the ground could not be proved (although they appeared to be parallel with the Chapel). The first was found toward the south edge of the new manhole, while the second was in its north-east corner: both were at c 6.5m aOD, c 0.6m below the floor level inside the crypt. They are considered to be of medieval date, although this is not proven.

The trench between the two new manholes had to be expanded when parts of it collapsed where a brick culvert (27) was found running at an angle to it. The culvert was about 0.6m wide, with a similar height to the crown of its arched roof. The floor was flat. It was aligned on the corner between the lesser north-east transept and the presbytery, suggesting that it had taken rainwater from the high roofs over these structures away from the building. A second culvert (28) joined it from the south-east, perhaps having emanated from the north-east corner of the presbytery/Ithamar Chapel (where it too could have collected rainwater). This culvert was completely clogged with earth, and both had been broken in antiquity. Evidently they pre-dated the Victorian drainage system: the brickwork suggested an 18th-century date for them.



Plate 10: The remnants of culvert 27, with the opening for the adjoining culvert 28 visible.

Chapter 4: The 2014-16 excavations

The cathedral and pre-cathedral deposits and features are considered here separately. As far as could be judged the latter had no impact on the construction of the church itself or the buildings within the cloister area. For the most part the different areas belonging to the medieval cathedral are looked at separately, but the pre-cathedral deposits are looked at as a unified entity over all the areas observed, both internal and external. We then look at the medieval deposits, first in St Ithamar's Chapel

(originally called the Chapel of the Holy Trinity), then the main crypt which provided the most challenging, and interesting, aspects of the excavation, we then turn to the archaeology within the large vestry to the south of the east end, and finally the cloister area.

4.1 Iron Age and Roman

The natural Brickearth was found in most of the Norman and later crypt, and sporadically elsewhere. It is assumed that construction of the successive crypts truncated some earlier archaeological remains, but in spite of this pre-medieval features were found to survive under the crypt floor in most areas. No Iron Age features or layers were found during the excavation (Figure 31), however, neither was any Iron Age pottery identified. A few sherds of local wares probably began use in the 1st century AD, but these are much more likely to be Roman, and probably of late 1st or early 2nd, rather than early 1st century date. Given the large overall scale of the HTFE excavations, and the fact that Roman features were found across the crypt area, this absence might suggest that the Iron Age occupation of Rochester was restricted to areas further to the west.

For the Roman period a number of pits were encountered, most of which were more likely dug as clay quarries rather than rubbish or cess pits. Nearly all of these were within the main body of the crypt (Figure 31) or St Ithamar's Chapel. Surprisingly no Roman certain pits were encountered in the 5.5m x 4.5m trench (Trench 1) dug by machine for a new soakaway in the cloister garth.



Plate 11: Roman pits in the north aisle of the Norman crypt. The nearer scale is in pit 1002, with pit 1005 just in front of it.

For the most part, only the Roman pits were found beneath the modern concrete floors in the area of the late 11th-century western crypt. Only in its north aisle did medieval and later floor levels survive. Some of the pits had originally been uncovered in 1999 in a trench to take new organ trunking to Irvine's tunnel (which was not re-opened at that time). They were then excavated to the formation level for the new floor. At most 0.25m of their depth was excavated. As in the 1999 project most of these pits produced only a few pottery sherds. Only one pit produced a substantial amount of ceramic

material, along with a considerable quantity of animal bone, but this feature (Cut 674) also produced a few Anglo-Saxon sherds and will be mentioned below.

A few of the pits within the crypt intercut one with another, providing some stratigraphic relationships, but only a limited amount of pottery was recovered. Most of the potsherds dated to the 2nd and 3rd centuries, but with a few sherds of earlier and later date. Some of the pits did not provide any form of artefact dating evidence and they could, conceivably, be of Anglo-Saxon date rather than Roman. Most were filled with brown (rather than grey) soil, usually a good indicator of a Roman date in Rochester. Details of all these pre-cathedral pits and their date (where known) are available in the project archive.

No definitely Roman features were encountered in the 5.2m x 3.8m x c 1.5m deep lift pit dug at the west end of the vestry. Those seen are regarded as being more likely Anglo-Saxon in date, but in one instance (Cut 1153) a late 12th-century (or later) date is certain (see below). It is likely, however, that areas of Roman topsoil cut by these pits survived within the vestry and more clearly outside in the cloister garth where brown soil could be seen in the machine-dug pit in the cloister lawn (Trenches 1 to 3) and below 'dark earth' along the north cloister walkway. Similar brown soils had been noted in test pits 4 in the vestry and 3 at the north-east corner of the north cloister walk in 2012, again overlain by dark earth layers. None of these contexts contained pottery or other finds either, but the lower soils had been interpreted as being of Roman date (and the dark earth as Anglo-Saxon) if only because they had been cut by the medieval foundations. No pottery or other dating evidence was recovered from the north cloister walkway area in 2015-16, but eight sherds of Roman pottery were found in layer 1596 in the Garth soakaway trench. They had a date range of between c AD180-300.



Plate 12: Irvine's tunnel being re-excavated, January 2016. The 1m scale rests against Roman layer 1226, which Irvine had left largely in situ - the grey backfill of his trench is clearly visible above it.

Nearly 200 Roman potsherds dating from AD120-260 were recovered from context 1226 excavated from Irvine's tunnel below the quire (Figure 32; Plate 12). This 2.4m long by 1.5m wide and 2.4m high trench mostly removed the backfill of 1874 tunnel, but the floor had to be deepened; the lowest c 1m

was undisturbed Roman or Anglo-Saxon soil. At least two pits existed, but these could only be seen at the base of the tunnel where they cut into geological Brickearth (Figure 33). No cuts could be seen at a higher level within the hard and dry brown soil; its slight variations in hue from light and dark brown to red-brown and orange-brown were insufficient to distinguish features. Irvine's section drawings of the tunnel (Figure 14) show a substantial tile deposit. At its west end this material was c 0.2m thick. Irvine himself realised that the tile must be Roman given its location beneath the Cathedral floor. It is unlikely that it would have been moved very far. It suggests that a Roman building lay quite nearby.



Plate 13: The Roman building in the main crypt space looking east. The 1m scale rests on the clay floor, 775. The flints in front of it are part of the thickened wall/possible threshold, 809. The floor had been cut by a pit - the darker area in its upper right corner here; the building was also cut to the south (right) by the sleeper foundation for the late 12th-century piers of the crypt.

Two walls, or rather foundations, of a Roman building were encountered within the main crypt area (Figures 34a, 34c-g, and 35a-c). The position of a third wall of this structure can be approximately plotted. More correctly, for the most part it was the robber trenches of this structure which were found rather than the foundations themselves. These (Cuts 798 and 803) surrounded an orange-brown clay floor (775) within the interior of the building (Plate 13). Straight edges to the north and west were clearly visible, and demarcated the extent of a building in those two directions. At first this clay floor was regarded as belonging to a timber Anglo-Saxon structure, but this was quickly rejected when small areas of masonry appeared during further cleaning. Four fragments of masonry protruded through the robber trench infill in three areas. On the west the masonry showed an expansion inwards into the floor area and may represent a door threshold, although no discernible wear pattern could be seen within the floor. Adjacent to this possible threshold a small sondage was dug through the dry, very dark grey silty loam and a foundation of tiles and flints was encountered. The same material was also found in another sondage across the north wall of the building. The clay floor and robber trenches

were c 0.1m below the reduced level needed for the new crypt floor, and only the excavations were limited because of this. A few sherds of pottery were recovered from the robber trench infill, indicating a period of robbing in the 9th-11th. The most obvious period would be in the late 11th century when the crypt was dug and the Roman building must have been rediscovered (it seems improbable that it still stood at that late date). There was no sign of any earth floor build-up over 775, which may suggest the structure was only in use for a short period. Unfortunately there is little clear evidence for when it was in use within the Roman period, but a very broad date range of c AD125-320 would fit in with the available evidence for Roman masonry buildings elsewhere in Rochester. It would also be appropriate given the general date range of the broadly contemporary Roman features elsewhere in the HTFE excavations. A large industrial pit had cut through the clay floor. Unfortunately there was no dating evidence from this feature, but it is assumed to be of Anglo-Saxon date and is mentioned in that context below.

The 0.85m (maximum) width of the mortar, flint and tile foundation (801) hints at walls c 0.6m wide. In theory such a width could support a two-storey (or more) stone structure. Unfortunately it is not possible to provide a reliable indication of the size (or even date) of the building as a whole. It was cut by one of the sleeper wall foundations (776) for the Norman piers and shafts. In situ geological Brickearth (811) was present beyond (south of) wall 776. Nor did the clay floor continue to the south of this late 11th-century wall. The south side of the Roman building therefore has to be below (and probably completely cut-away) by this Norman foundation (Figure 31). The robber trench (798) and its fill for the north wall (but not the foundation itself) was seen below the main east wall (684) of the Norman church where the shallow footing of the latter was dug away for a service trench. Any further continuation eastwards was not seen in the 'Side Crypt'; this may be due to the presence of a large feature (revealed by a series of tip-lines, 910; Figure 35e) destroying any Roman structural deposits in this area, or because the wall did not extend that far. Certainly no robber trench or foundation representing an east wall was seen in a service trench cut in front (south) of the ledger slab path (852), but again any sign of such a feature may have been destroyed by pit or grave cutting. Also, no certain sign of a robber trench or foundation forming a continuation of the south wall line was seen in the same service trench. A considerable amount of burnt Roman tile and burnt daub was encountered (fill 874) within Cut 875 (Figure 35d), but this cannot categorically be said to come from a construction or robber trench: indeed it is regarded as a pit of Anglo-Saxon date. Deeper excavation might have confirmed whether this feature was a pit or a wall trench. It may be that the Roman building measured no more than 5m east-west and 3m north-south, but this is difficult to accept with 0.6m-wide walls. All that can be said for certain is that no sign of this structure was seen in the limited trenching to the east or north, while the presence of natural Brickearth seems to preclude its continuation to the west or south. The main part of the building might lie to the east, but in the areas observed the large pit represented by the tip-lines (910) mentioned above would have destroyed the north wall. Its south wall here would have been destroyed by the early Norman and later crypt foundations. It seems very likely that the building was larger than the elements which could be observed in the restricted area available for excavation.

A flint layer (904) in the northern service trench may be of Roman date, and resembled a yard surface (Figures 35f and 35g). Layer 838 (Figure 35b) some 3m to the west was of similar character. These flint deposits were c 0.25m lower than the floor of the Roman building found to the south, but could be a courtyard associated with it. Alternatively these areas may represent a path or hard standing which had nothing to do with that structure.

It is possible that the wall foundation of another Roman building was found in the cloister garth. Certainly the large amount of floor tile (some almost complete) found in layer 1595 in the soakaway pit suggested that a Roman building had stood nearby. At first 0.6m-wide wall 1590 in the same excavation was regarded as representing the outer wall of the earlier Norman east range found below

the Garth (see below). The materials used were different to the Norman work, however, and varied within the foundation trench: loose mortar fragments with a few flints were found to the north, with loose chalk fragments and areas of sandy mortar to the south. These factors cast doubt on that interpretation, but did not disprove it. The available evidence cannot prove either a Roman or Norman date for 1590.



Plate 14: Rubble and mortar foundation 1590 on the east edge of the soakaway pit in the Cloister Garth. A modern feature in the south-east corner of the excavation had removed the south end of the foundation.

4.2 The Anglo-Saxon period

Areas of 'dark earth' and some pits represented the limit of Anglo-Saxon remains revealed during the HTFE excavations. Only 13 certain sherds of Anglo-Saxon pottery were recovered, while another nine have a date range from the 10th to the 12th century. Among the 13 certainly Saxon sherds only one can certainly be dated to the 5th-7th century, one to the 7th-9th, two the 8th/9th and the remainder are either 10th/11th-century or have a wider/uncertain date range. Very few of these sherds help in dating deposits accurately.

The most interesting feature, which is assumed to be of Anglo-Saxon date, was a large pit cutting through the clay floor of the Roman building within the crypt (Figures 34b, 34d and 34f; Plate 13). This feature (Cut 796) had itself been cut into by Norman foundations to the south and east, so its full original extent is unknown. The surviving part measured at least 1.2m north-south and 1.5m east-west. A c 0.1m-wide band of burnt clay (795) was present around the whole of its edge. This clay had been subject to intense heat, suggesting that industrial activity of some sort was taking place here. A similar feature at Canterbury with a scorched clay lining to a large and deep feature (over 2m) was regarded as a bell casting pit, probably of 12th or 13th-century date (Ward et al 1998). Whether or not this feature served the same purpose could only have been determined by complete excavation, which was unnecessary given that the feature lay beyond the maximum depth of excavation required for the

new floor. As with so many of the excavated features no dating evidence was recovered. It must have gone out of use before the rebuilding after the 1179 fire, and probably before c 1082.

A soil layer (794) covering the pit edge and part of the Roman floor produced three early medieval sherds: two of the 10th-12th century and one of the 12th/13th. As most of this deposits was not removed these sherds came from on or nears its surface during cleaning; it is possible that the later sherd is intrusive (perhaps the earlier ones) from when either the Norman or later crypts were built. The two earlier sherds do not create any stratigraphic problem, because they could represent the time when the crypt was first dug and levelling was taking place. If this deposit was laid down at that time it is just possible for the industrial feature to be of early Norman date, but it would be immediately in advance of construction of the new cathedral. The later sherd must be intrusive (or placed in the wrong context), because neither this layer nor the feature below can be as late as the 12th century (let alone the 13th): they are cut by the Norman crypt foundations. Given the amount of soil movement that has taken place within the crypt in the past, contamination need not come as a surprise. The Norman floor were dug away in the late 12th century (when the standing walls were removed as well), while further excavation and disturbance occurred during the 16th, later 19th and early 20th centuries. Remarkably little archaeological evidence for these documented events was actually evident: for the most part, the modern concrete floor directly overlay the Norman and Roman archaeology.

Further north, immediately in front (south) of the ledger slab path another pit (875 – see above) is also regarded as being of Anglo-Saxon date, but again no pottery sherds to confirm this were recovered. In the small excavated area of its fill (874; Figure 35d) a considerable amount of burnt Roman tile and burnt daub was observed, but it was not possible to determine whether this had seen use in an industrial feature or was simply clearance of demolition material from a former structure.

The soil infill (910) forming a series of tip-lines within a large feature (presumably a pit) observed in the Side Crypt is also regarded as Anglo-Saxon (Figure 35e). A few metres to the north an earth floor (902) and earlier flint surface (mentioned above) were seen in section. The earth floor is probably at too high a level (in Ordnance Datum terms) to be Roman, and therefore is presumably of Anglo-Saxon date. If correct, this is the first Anglo-Saxon floor surface recognised in Rochester (Figures 35c and 35d). Unfortunately there was no sign of any structural components to this possible building.

Two pits (CAT context 120/95 and CAT context 10/99) excavated in 1995 and 1999 respectively had produced sherds of Anglo-Saxon pottery. CAT 10/99 had produced four 10th-century local-ware sherds along with one Frankish sherd; CAT 120/95 produced just one sherd of 7th/8th-century pottery. The 1995 excavation was in the Ithamar Chapel; the 1999 trench was in the north aisle and central bay of the Norman crypt. Although the pit excavated in 1999 had been removed entirely in the organ blower trench, an adjacent pit in the HTFE excavations (Cut 674) was also infilled with the same type of dark grey soil, completely different from the brown soils of the adjacent Roman pits. It produced 31 sherds of Roman pottery in the 0.1m depth excavated, but also six sherds of Anglo-Saxon pottery, including one of the 5th-7th century and another of the 7th-9th (Ipswich-Type Ware). These sherds were decorated with incised lines, combing, stamped rosettes or punched dots. This is probably the most impressive group of Anglo-Saxon sherds excavated in Rochester to date. The amount of Roman pottery deposited with the Anglo-Saxon material is intriguing, and may represent deliberate selection of archaic material.

Further south within the vestry under the Chapter Library, five pits were excavated in the deep trench for a wheelchair (Figure 36). No dating evidence was recovered from the pits, but with one exception regarded as Anglo-Saxon. This is due to their very dark grey (almost black) fills, very different to all brown fills in all the Roman pits to the north-west within the Norman crypt and the cross-hall of the late 12th-century crypt. The presence of oyster shells and animal bone showed that they had been used for rubbish disposal, but the absence of pottery (of any era) was unusual. Not a single sherd of

pottery was recovered from the five pre-vestry pits observed (Fig. 36). Pit 1153 produced a Caen stone architectural fragment and some peg-tile, which dates this feature to after c 1200; it was probably associated with the construction of the mid-late 14th-century vestry itself.

In the north cloister walkway, a small pit (1616) was found containing burnt clay and gravel (1614 and 1615; Figure 37c, Plate 15). Scorching of the soil (1619) into which the pit had been dug suggested that the burning took place within the pit itself. Unfortunately there was no direct evidence for what that use was. This feature was cut into a 'dark earth' layer at about the same level as an early Norman gravel foundation less than 1m to the south, but an Anglo-Saxon date is preferred. If it was Norman it would have to be very early, no later than c 1085, for the cloister buildings would have been under construction by then (see below).

Plate 15: Two views of pit 1616 [needed from AW]

The 0.8m thick deposit of 'dark earth' (1619 and 1621; Figures 37a-c) did not contain any Roman pottery (usually associated with this type of layer). A few fragments of bone and oyster shell were noted, and two sherds of early medieval pottery were recovered from layer 1619. Both sherds were much later than expected, one of the 10th-12th centuries and the other of the 11th/12th, but neither create a problem with the overall stratigraphy. The pit (1616) could conceivably be of early Norman date. An intermittent layer of charcoal (1620), cold when thrown down, separated the two dark earth deposits and hints at a build-up process over at least decades and probably centuries. A similar build-up of 'dark earth' was observed in a small trench in the St Andrew's Centre car park in 1990 when a large stake hole could be seen cutting a lower layer of grey soil, but was overlain by an identically coloured layer (Ward 1996, 12 and figure 5b).

A dark brown clayey loam deposit was found beneath the floor within St Ithamar's Chapel (Figures 36 and 38-40). At first this was regarded as an Anglo-Saxon 'dark earth', but the excavations in the cloister walk showed the latter deposit to be the more normal dark grey silty loam. The soil found in the chapel (Plate 16) was a mixture of Roman top-soil, and the earth infill of pits, construction and underpinning trenches (see below). For the most part the cuts for these features could not be recognised on the surface despite careful cleaning during ground reduction. That pit cuts were present was known from the 1994 excavation where they had appeared in the sides of service trenches. In the 2014-16 project, cuts were again seen in trenches dug for services and supporting foundations for the shafts within St. Ithamar's Chapel, but not in plan.

Part of a 1995 test pit dug within St Ithamar's Chapel was again re-excavated in 2014-15, but no further Anglo-Saxon pottery was found in its fill (638). Indeed no further Anglo-Saxon pottery was found from any other pit or layer within the chapel. As stated above most pits did not produce any dating evidence at all. In 1995 one of the pits (CAT context number 120) produced a 7th/8th-century decorated sherd., Only the upper portion of the fill had been removed, however, and the sherd may have been intrusive in an earlier feature (Ward 1996, 25), but at least it did show that there was some Anglo-Saxon activity in the area. The small amount of pottery found in the other pits was of Roman date, but all of this could be residual and the pits could all, conceivably, have been Anglo-Saxon. This seems unlikely, and given the generally low quantities of finds, they are more likely to have been clay quarries for the extraction of the Brickearth for daub and clay floors than rubbish or cess pits.



Plate 16: Excavation within St Ithamar's Chapel looking south-west, with the dark brown clayey loam exposed between (and cut by) the late 12th-century foundations for the chapel vault.

4.3 The medieval period

The major part of the excavation was, for obvious reasons, centred on the medieval period. Considerable structural evidence in regard the cathedral's development was recovered and forms the main body of this report. The text on the medieval period has been divided up into the following sections:

- The medieval and later archaeology within St Ithamar's Chapel
- The Norman crypt, itself divided into two parts
- The late 12th-century Crypt
- The Vestry, divided into vestry and pre-vestry masonry
- The Cloister Garth
- The East Range
- The Chapter House

4.3.1 The medieval and later archaeology within St Ithamar's Chapel.

St Ithamar's Chapel was the first part of the crypt to be excavated. This was a practical necessity, because all the excavated material had to be removed by hand through the Engineers' Door in the north-west corner of the main crypt: it would not have made sense to excavate that area first. Once the modern tiled floor and its bedding had been removed from the chapel, the exposed surface was cleaned and recorded by the archaeological team. Few obvious features of interest were noted; it was therefore agreed that subsequent excavations for service trenching and the light general reduction of ground level needed for the new floor would be carried out by the groundwork team under close archaeological supervision. Precious budgetary resources could therefore be saved for other areas

while ensuring that an appropriate (and detailed) archaeological record was still made (Figure 38). Little or no information was lost in this way.

After removal of the modern (1995) tile, the exposed fragmentary chalk, earth and mortar floors were rapidly cleaned back, drawn on a multi-context plan and photographed. These surfaces were then taken down in two 'spits' of soil c 0.26m and 0.1m deep by the ground-works team. Section drawings were made while this process was underway (Figures 39 and 40). Earth and mortar floors occupied just the uppermost 0.1m (at most) of this reduction with the fill of features, buried former topsoil and geological Brickearth forming the rest of the material being excavated.

Only mortar surfaces 603 and 605 are regarded as being of medieval date (Plate 17); it is no surprise that neither produced any dating evidence given their thinness and sporadic survival (Plate 17). Although no scars were seen, these are regarded as the bedding deposit for a tile floor. Only a few fragments of floor tile were recovered, all from earth floors or levelling deposits further to the west (see below). The tile floor (if it existed) may only have covered the eastern part of the chapel. The earth floors and occasional patches of crushed and compacted chalk are all regarded as being of post-medieval date, ie from the time of the Dissolution and later. In some instances the floors, or rather patches of flooring, may even have been as late as the 19th century. Truncation of these surfaces would have taken place in the period 1825 to 1841 when the earth floors were dug away so the column bases could be levelled (Worssam 2000, 11). Some of the column bases were also supposedly under-pinned then, but no definite sign of this was recognised.



Plate 17: Excavations in St Ithamar's Chapel at an early stage, with the foundations for the High Altar support walls (615) and patches of mortar floor/bedding (605) exposed.

Layer 613, a compacted soil at the base of the patched floor deposits, produced a glazed floor tile fragment, as did earth floor 620 at the west end of the chapel (along with two sherds of residual Roman pottery). Two glazed floor tile fragments dateable to the 15th/16th centuries, a possibly 16th-century brick, and a residual sherd of Roman pottery were found in compacted orange brown clay

629, also at the west end of the chapel. Soil levelling deposit 630 also contained a glazed floor tile fragment as did the upper 'spit' 631 (along with a doughnut-shaped loom weight). The lower 'spit' (632) produced Roman pottery and tile along with one early medieval shelly ware sherd.

The difficulties in identifying cut lines were amply shown by the failure to see the construction cut (634) for the east wall of the crypt when the floor surfaces were first removed. Only with the removal of the lowest spit of soil was a straight line seen cutting through geological Brickearth on the south side of the structure. That the cut continued all the way across was confirmed by the excavation of a small trial trench which revealed a very wide mortared foundation (Figures 36 and 38a). A peg-tile fragment with residual Roman pottery and tile were found in the fill (633) of this wide construction trench produced. The peg-tile would be coming into Rochester c 1200 so would just about fit in with the building of the chapel c 1185. The 14th-century foundations for walls built up to the vaulted ceiling to support the High Altar in the presbytery above were also found (615; see Plate 17). The walls had been removed in 1963.

A deep trench dug against the inside of the south wall of the chapel showed that it been built on a relieving arch, or an 'arch of construction'. Such arches can be seen in the east wall of Rochester Castle, there dating from the 1360s. Pits were dug on either side of intact Brickearth and then infilled with mortared Ragstone; the clay was left in place, spanned by the arched masonry. This method was not seen in any other location in the crypt. It is possible, therefore, that this feature served a specific purpose. There is no reason to believe it acted as a drain, but no other specific function can be put forward. It is possible that it represented an otherwise unknown instance of localised rebuilding adjacent to the vestry under the Chapter Library, built during the mid/late 14th century (which would fit in with the dating of the similar features at the Castle).

Externally the base of the east wall was exposed in a 1.75m deep and 1.25m wide trench (Figure 41). No relieving arches were present, but a differently mortared footing (964) was seen at the base of the southern part of the foundation. Initially this was thought to represent an earlier building, but this was dismissed because the lower material butted up to the main part of the foundation. Holbrook (1996, 203) notes that underpinning in this area was undertaken c 1825. In this case, however, a skeleton in a medieval stone-lined cist grave (952) overlay 964 by c 0.5m. The latter must therefore represent medieval underpinning. No sign of 19th-century concrete underpinning was seen for the whole length of the wall (in contrast, for example, with the mass underpinning of the lesser south-east transept seen in the north cloister walk).

4.3.2 The Norman Crypt

The western part of the crypt (Figure 42) has long been recognised as being earlier in date than the minor transept (cross-hall) crypt and St Ithamar's Chapel. This early crypt measured approximately 22m externally x 19.50m (from the inside face of the west wall to the outside face of the eastern annex). The standing two bays of the early crypt are divided into three portions. A north aisle is separated from the central space by large piers (see Plate 11). The central area is, in turn, divided by two shafts made from Marquise Stone (Worssam 2000, 1 – see Plate 12), and separated from a south aisle by further large piers. Of the four large piers of this early structure that survive, two are complete and two were partly refaced in the late 12th-century alterations. Two intact half piers attached to the west wall face into the central space. These and the curved quarter-columns in all the wall corners are made primarily from tufa blocks. The two eastern piers have capitals of the early crypt surviving, but embedded within late 12th-century refacing: they demonstrate that further free-standing shafts had existed to the east, and hence that the crypt was at least one bay longer originally (McAleer 1996, 151). The sleeper wall for the northern piers was found in the HTFE excavations, but unsurprisingly neither the piers nor any sign of the missing shafts was seen: they had been removed completely in

the 12th century. The sleeper wall on the south was not exposed, because not all of the 19th-century rubble was removed in this area. Nevertheless, the overall length between the surviving west end of the early crypt and the east wall found in the 2014-16 project shows that Ashpitel and Hope were correct in their conclusions with regard to the original number of bays in the Norman east end.

The face of the west wall of the crypt is made mainly from Ragstone rubble, with some tufa rubble and rare flint nodules. In places what may be original render still survives. The core is made almost entirely of angular flints. Fragments of Roman tile were noticeable by their absence from both wall face and core (the latter having been exposed when Irvine's tunnel was re-opened). No Caen Stone was used in the early part of the crypt or, more correctly, there was none surviving in the visible upstanding parts. What was believed to have been Caen Stone rubble was found in the north wall foundation, but this may have been a mistaken ascription caused by staining. Other than that, the stone does not appear to be present in the identified parts of the first Norman church. This suggests that this material was not yet being brought up to Rochester from Canterbury in any quantity.

The 'Gundulf Shaft' in the north aisle of the Norman crypt



Plate 18: The partially blocked arch in the outer wall of Norman crypt's north aisle was used as the route to get the new heating ducts from under the crypt floors into the 'Gundulf Shaft' behind the arch. The area of blocking between the two 1m scales is easily recognisable on the left (west) side of the arch in this photograph, taken just before work started in June 2017.

The new under-floor heating throughout the crypt needed to be connected to a fresh air supply. The route for this would be via a duct in an existing shaft on outer (north) side of the north aisle wall, which rises into an area at Cathedral floor level formerly used as the candlemakers' area (and hence generally known by that name). The original proposal was to take the new duct under the wall to make the necessary connection, but this would have required enormously expensive underpinning of the surprisingly shallow foundations of the wall (which had been built on Brickearth, a very solid base in the dry conditions of the crypt). This had to be abandoned on cost grounds, and the heating therefore

remained unconnected and inoperative when the main HTFE contract was completed in 2016. An alternative means of connection using one of the existing (but partly blocked) Norman openings was approved by CFCE, and this work was carried out in June 2017 under close archaeological supervision. Areas of late medieval and post-medieval stone and brick blocking were removed back to the original tufa jambs and sill of the Norman arch. The ducts were then inserted through the re-opened base of the arch, and a timber cabinet was built in front of this to hide the necessary but scarcely attractive equipment. The original Norman fabric was exposed on both sides of the arch during the work, and was fully recorded before the plant was installed.



Plate 19: The tufa jamb stones on the east side of the arch were exposed during the work. The area of render in the centre of this photograph is original, ie Norman. The blocking of the arch, though all but solid, peeled away from the render surprisingly easily.

The excavated (eastern) portion of the Norman crypt

The outer walls of the Norman crypt lay c 3m inside the standing north and south walls of the late 12th-century building, the walls of which largely survive intact (Figure 42). The east wall of the Norman building was found c 1m to the west of the screen division between the main cross-hall and St Ithamar's Chapel. In the 2014-16 work, the foundations of the north and south wall of the earlier crypt were revealed for much of their length. Although there was some variation, these foundations were c 2.2m wide.

The north foundation (wall 684) was initially revealed for a length of 3.5m. The uppermost portion of the foundation overlapped its construction cut internally by c 0.3m (Figures 34b, 34e and 42). This overlap did not occur in the more limited exposures of the southern foundation (wall 860). Either this shows a difference in the way the two foundations were laid or a greater reduction of the southern

area in the late 12th century or subsequently (Figure 43a). Certainly there were distinct differences between the two foundations, as well as with that of the east wall. The north foundation (684) was over 0.65m deep (its base was not seen - Plate 20) and consisted of loose flints in the lower portion, with a mix of flints, small fragments of Ragstone and chalk rubble in a fine sandy buff mortar for the uppermost 0.2m (Figures 43b and 43c). One would normally assume that the mortar would have been poured as a liquid slurry into the foundation trench, but its soft nature may indicate that the upper materials were placed into the trench in a dry state and then compacted down. The small rubble content was reminiscent of finely sorted demolition material, perhaps from the Anglo-Saxon cathedral or a Roman source. The lower material consisted entirely of angular flint, largely unmortared and thus with voids between the nodules. At its east end the southern foundation, consisting of crushed mortar with fragmented tufa and chalk, was only c 0.45m in depth. At its west end where it joined with the east wall it was considerably deeper, c 0.65m (but again the base was not reached).



Plate 20: The north wall foundation of the Norman crypt was re-used as the sleeper footing for the piers of its late 12th-century replacement (the timber protection for one of the piers can be seen here). The two vertical scales (1m and 50cm) rest against the face of the Norman foundation (684). The chalk (785) in front of the foundation is a remnant of a medieval (possibly late 12th-century) floor butting against 684.

The east wall of the Norman crypt ran in a straight line between the east ends of the north and south walls, without any trace of a deviation or extension to the east except in its centre, where the small square chamber noted by Hope was found (see below). The west (inner) edge of the eastern wall's foundation was exposed along virtually the whole of its length, while the east edge was seen to the south of the central chamber (it was obscured by the foundations of the Ithamar Chapel to the north of this). It was between 2.3m-2.5m wide. The construction trench for the east wall also varied in depth along its course from 0.4m in the northern part (foundation 729, wall 720) to over 0.7m deep (foundation 721, wall 719) just to the south of the eastern annex, where a distinct junction between the shallower and deeper portions was seen. The base of the deeper portion, infilled with loose flints, was not exposed. One of Hope's trial trenches evidently existed at this point, because mixed material

including brick fragments was seen at the top of this loose material, this was partly emptied but so that the Norman footings could be recorded (Plate 21).



Plate 21: The east foundation of the Norman crypt, looking north-east with the piers at the entrance to the late 12th-century Ithamar Chapel beyond. The 50cm scale is on the east edge of the Norman foundations: the footings for the late 12th-century piers had been built close up to the earlier ones. The 1m scale rests on the south wall of the small chamber on the east side of the Norman east wall. The 'cut' through the east wall evident here must be one of Hope's trial trenches.

Why these differences in foundation depths occurred is not known. There was nothing obvious in the apparent ground conditions (such as areas of pit fill or variations in the Brickearth) that would explain it. The variation may have come about through nothing more than the operation of different labour gangs.

The eastern 'annex' first found by Hope was uncovered in the centre of the east wall (Figures 47-9; Plates 21-2). The south face of the south wall (724) was revealed and, impressively, the lowest course of masonry was still in place (Figures 47-8 and 49b), its flint core faced with ragstone blocks. Most of the north (Wall 753) and south walls were covered by large late 12th-century piers at the entrance to the Ithamar Chapel, which hid full width of the Norman work, but each was in the region of 1.6m wide. The east wall foundation was slightly wider at 1.8m. Here both east and west faces were revealed on either side of the modern glass screen (which had been left in place). Again loose flints (756) formed the lower portion of this foundation with mortar above. Within St Ithamar's Chapel the north end of the annex east wall was visible, turning to the west, and the south-east corner was also seen (Figures 47 and 49d). This showed that the eastern annex was 5.5m wide (ie north-south) externally and c 2.2m internally.



Plate 22: The south face of wall 724, with the dressed blocks showing that this was originally standing fabric. The foundations can be seen where one stone had been removed in antiquity. One of the late 12th-century piers at the entrance to the Ithamar Chapel had been built directly onto the Norman wall, though a small area of new footing was needed on its north side.

Another of Hope's trial trenches was found cutting through the remains of the Norman crypt's east wall and that of the annex (Figures 47, 49c and 49e; Plate 23). Its west end started between two of the late 12th-century piers and continued east through the centre of the annex, cutting through its east wall and continuing eastwards for an unknown length. Tatton-Brown's 1994 trial trench had cut into the east end of Hope's, and had also exposed the east wall of the Norman annex (Figures 38b and 47). In 2006 Plant stated that 'an excavation in the eastern crypt in the 1990s failed to recover the eastern extremity of St. John Hope's eastern chapel, as it should have done if his plans had been accurate...' (Plant 2006, 52, note 49). Given the small size of the 1994 excavation, it is not surprising that the Norman foundation was not recognised. The composition of the 11th-century footing and the adjacent one under the late 12th-century pier was very similar, and the complete excavation carried out in 2014-15 was necessary to elucidate the relationship between them.

This trench is the only one that Hope describes in any detail (1900, 84-5). He found the remains of a timber box and a skeleton. The box was found 'buried with its lid just level with the eastern floor', but it 'was not noticed until it had all been broken up and nothing could be made from it'. The remains (and the skeleton) were reburied. Pieces of timber were indeed found in the backfill of Hope's trench, along with some human bone (SK 1), including long bones and the skull (Plate 23). These are discussed in Chapter 6.



Plate 23: Hope's trial trench through the centre of the eastern annex re-excavated in December 2014. The long bones and skull were recovered later, when the area under the modern threshold at the entrance to St Ithamar's Chapel was excavated.

A buttress/foundation (1803) extended nearly 2m to the south of the junction between the south and east walls (Figure 42). This consisted of loose mortar with chalk rubble in its upper 0.4m, beneath which the material became more compact. Its base was not seen. Part of a standing Ragstone wall (698) for this buttress still survived with a good southern face set c.1m back (north) from the edge of the foundation.



Plate 24: The south-east corner of the Norman foundations and buttress 1803 during initial cleaning. The straight edge of the south wall can be seen passing under the modern pipe.

A buttress was expected at the corresponding north-east corner, but a very different structure was found instead (Figures 44-46; Plates 20 and 25-7). This consisted of walls 840 and 842, 2.1m apart (measured from their inner edges) and extending up to 2.65m to the north (at which point they were cut by the north wall of the late 12th-century crypt). Walls 840 and 842 were 0.65m and 0.45m wide respectively. The eastern wall (842) had been first seen in 2012's test pit 8, when it was thought to be of Roman date. The wall had been separated from the northern foundation (684) of the 11th-century crypt by a grave cut (825), there was no reason to believe that 842 and the crypt wall were anything other than contemporary. They were at the same physical level, and wall 842 had no other structure with which it could be associated. Wall 840, running parallel to its west, was bonded with 684 and these foundations are therefore certainly coeval (Figures 35b and 45a). Both of the walls were trench-built and well-constructed (if anything, better than the main foundation). They were made mainly from small flints bonded by poured mortar – fully to the base of 840, and onto a layer of unmortared small flints in 842 (but these were tightly packed and compacted).



Plate 25: Walls 840 (in the foreground) and 842 (under the rear right scale), with the path of re-set ledger stones separating them. The north foundation of the Norman crypt is to the right, thickened at the east end (ie the north-east corner), perhaps to support a pilaster buttress. View looking east.

It seems unlikely that this structure had continued much further to the north, and it is probable that its north wall has been destroyed by the construction of the late 12th-century crypt's north wall. This room is referred to as the northern annex to distinguish it from the eastern one seen by Hope (who evidently did not expose these walls). Much of the interior of this annex was hidden by a ledger slab path (852), which was left in place. Excavation of a narrow trench to the north of the ledgers, however, uncovered not only the two shorter sections of walls 840 and 842, but also a chalk raft (829/830) in between. Smaller areas of this raft were also seen to the south of the ledger path. Presumably it was upon this raft the floor of the room would have been constructed. It is possible that mortar layer 833 formed the floor, but this did not spread over the whole area.



Plate 26: Top - wall 842 cut by grave 825, with part of raft 829/830 to the north (left). Bottom – wall 840, clearly bonded to the north wall foundation 684.

If there was a door from the annex into the Norman crypt (it is difficult to believe there was not), it was probably in the south-west corner. The 0.8m length of wall 684 to the west of the thickened east end (pilaster buttress? – see Figure 44 and Plate 25) up to the inner (east) face of 840 would be just wide enough for a door. Alternatively the thickened corner might have contained a spiral stair up to

the presbytery level, in which case a door set at forty-five degrees to the alignment of the crypt in the base of this turret could have been the entry and exit point.

Two flint deposits (872 and 871) were observed on the east side of Wall 842. The lower (872) was the better preserved and may have been created as an external yard surface when the annex was built. The upper deposit had probably been laid at some time in the 12th century before the Norman crypt was demolished (Figures 45e and 45f).

No floors of the early Norman crypt survived within the area defined by its foundations. The late 12th-century rebuilding had removed virtually all trace of the standing masonry of its predecessor, except in a few very limited areas (such as the eastern annex) where a course or two could be incorporated in the footings of the new work. The thorough levelling of the old fabric evidently extended to the complete removal of the earlier floors. The only layer which might be connected with the demolition was a compacted black soil (context 777) across part of sleeper foundation context 776. This had the appearance of 'trample' from the footfall of labourers working on the late 12th-century rebuild.

The standing (western) portion of the Norman crypt and Irvine's tunnel

The fires of 1137 and 1179 not only damaged the Norman east end (and allowed the new design to be built after 1179), but also presumably damaged or weakened the earlier crypt. The great rebuilding would probably have required its partial demolition anyway, and the only surprise is that anything was left at all. The rebuilding seems to have begun earlier than Hope (among others) thought, and that either Walter (Bishop 1148-82), Waleran (Bishop 1182-4) or Gilbert (Bishop 1185-1214) began the process and decided to update the design, perhaps to 'keep up' with new work undertaken at Canterbury. The retention of the western portion of the crypt suggests that fire damage did not extend this far west, either at crypt or cathedral floor level. The two western bays of the Norman crypt therefore survived at least in part because elements of the 11th/early 12th-century fabric above were retained as well. Just as with the excavated eastern part of the Norman crypt no sign of ash, fire damage, or demolition debris of the earlier structure was identified in the standing bays of the Norman crypt during the work of 2014-16.

In 2014 the modern concrete and brick floor over the whole area of the Norman crypt was removed. Hope is silent as to what he found in this area during his 1881 excavation trenching. When the new organ blower pipe and an electricity cable were inserted in 1999, however, a series of post-medieval earth floors was seen along with a mortar foundation up against the north wall. This foundation was not bonded with the wall and at first it was thought it might be evidence for an apse (Ward 1999, 4, figure 7 section A-B in that report and redrawn here as Figure 24), but although there was variation in width there was no trace of a curve/arc. It may have represented the base of a stone bench of Norman or later date. A similar stratigraphic relationship and variation in width for a definite bench was found within the vestry (see below page). The 2014-16 work saw the whole of the north aisle of the Norman crypt exposed and post-medieval earth floors were again uncovered. The lowest floor was regarded as being of medieval date. This was a sandy brown mortar (641) which had probably been poured as a slurry. There was no sign of tile or stone slab imprints and the degree of wear it had suffered hints that this was the actual floor surface. Admittedly any tile imprints could have been destroyed had such a floor been removed, but the absence of tile fragments in this area may suggest that no such floor had ever been laid. This area of mortar may have been the one extensive area of Norman date flooring to survive. Chalky plaster floor patches (646), as already found to the east, may be the late 12th-century surface (see below).

During the final months of the project a 2.5m length of Irvine's tunnel was re-opened (Figures 32-3, and 51-2: Plates 27-8) so that the organ blower pipe could be reconfigured, in turn allowing removal

of the cabinet built to house (and hide) it in 1999. The Roman soils and pits found within this short length of the reopened tunnel (Plate 12) were sealed by a 0.35m-thick grey-brown soil (1224) similar to 'dark earth'. A sherd of early medieval pottery (Torksey Ware) datable to the 8th/9th centuries can be regarded as coming from this deposit, and the layer can safely be regarded as Anglo-Saxon soil.



Plate 27: Left – the south face of Irvine’s tunnel re-opened. The dark earth and Roman soils can be seen behind the lower (white) portion of the 1m scale, with the made ground behind the red upper part – the sloping tip lines can be seen to the right. Note the rough rear (west) face of the crypt wall to the left. Right – the north side of the tunnel with mortar and flint floor 1221, and the crypt wall to the right. The shadows cast by the arc light clearly show that the floor both abuts and slightly overlaps with the wall.

There was no sign of differentiation in mortar colour or materials used within the whole height of the west wall within the re-opened tunnel. Its hidden west face was 'rough', as Irvine had described it. There had been no attempt to create a neat face (Plate 27). The lowest 1.45m portion of the wall was trench-built into the Roman and Anglo-Saxon soil layers. When first built, the masonry above this would have been free-standing – but it was not meant to be seen, and indeed would soon be covered up. A series of layers ranging from off-white coarse mortar to grey silty soil was revealed for a thickness of 1.1m (Figures 51 and 52; Plate 27, left) over the dark earth layer (1224). These layers are interpreted as a series of tip lines formed rapidly, and hence only one context number (1272) was given. The very lowest of these deposits had several fragments of Roman tile within it. No other dating material was found. Irvine had described these deposits as made-ground (see above). The material was quite loose and, as depicted by Irvine, sloped up to the west face of the crypt west wall (Figures 14, 51b and 52b).

Two distinct thickenings or 'corbels' could be seen in the rough face of the wall's upper 1.2m on the north side of the tunnel (Figures 52a and 52b). They were less clear/regular on the south side (Figures

51a and 51b). A floor of hard shelly off-white mortar with angular flints and rounded brown gravel (1221) butted against the west face of the west wall, and lipped over the 'corbels'; it also sealed the tip layers (1272). This floor had been strong enough to form the roof of Irvine's tunnel in 1874 (Plates 26-27, 29), but additional timber supports were inserted in 2016 as a precaution. In strict stratigraphic terms the floor post-dates the wall, but in reality they can be seen as contemporary. Certainly the wall did not cut the floor – there would have been a distinct scar in the hard flint and mortar if it had done.



Plate 28: Mortar and flint floor 1221 formed the roof of Irvine's tunnel. The rough underside of the poured surface is very evident here. The small hole referred to in the following paragraph can be seen starting to open up to the right of the trench shore closest to the crypt wall.

Fortuitously, it was possible to observe a small amount of stratigraphy above floor 1221. The vibration of the drilling machinery used to cut back the ceramic organ blower pipe and compacted Roman soils created a small void at the point where the floor met the wall (Figures 51c and 52c). As drilling proceeded this void became wider and higher, eventually measuring nearly 0.1m in diameter and 0.3m high. Floor 1221 was found to be 0.1m thick, and above this loose Caen stone and chalk rubble with mortar lumps (1232) could be seen for a 0.2m thickness. At the top of this material the underside of a further solid mortar surface (1233) could be seen – probably a later floor, as described by Irvine. The loose stone material between the floors extended 0.2m eastwards over the corbelled wall face. At that point solid material was encountered, but it was impossible to tell whether this was the wall face (which seems likely) or rubble. This appears to show that the west face of the wall has an offset of 0.2m immediately above floor 1221, which overlapped the wall face by c 20mm. This offset was covered by the loose stone material and the upper solid mortar.

The Norman stair in the lift shaft

As described in Chapter 1, a new access lift was to be built at the top of the Kent Steps in the South Quire Aisle. This would descend into a small side-crypt off the south side of the landing at the bottom of the stairs down from the South Quire Aisle into the main crypt. This side room had been built as

part of the late 12th-century rebuilding of the eastern arm and crypt, but in 2014 it had been in use as the cleaners' store for some years, and was still fitted out with shelving on its east and west walls. On the former side, the shelves were known to hide a doorway to a mural passage and stairs up to the lesser south-east transept; this staircase had been blocked up in the later 18th century in an attempt to counteract outward movement of the transept wall. The shelves also obscured the original bases and capitals of attached colonette shafts in the four corners of the room. The exposure of all these features when the room was cleared out by the contractor at the beginning of the HTFE works was welcome, and allowed the chamber to be fully recorded before work began on the lift shaft (Plate 29).



Plate 29: The east wall of the side-crypt (former cleaner's store) cleared of shelving in August 2014. The door to the mural passage and (blocked) stairs and the remnants of the engaged colonette shafts were exposed as expected.

Work then proceeded on the lift shaft itself. This would start on the uppermost treads of the Kent Steps and descend into the south-west corner of the side-crypt, butting away part of its west wall and the late 18th-century vaulted ceiling in the process. All of this work had been approved in full, subject to the conditions mentioned in Chapter 1: any harm caused by loss of existing fabric was substantially outweighed by the benefits of inclusive access. The lift was on the critical path of the contract as a whole, so work started on it in September 2014. At this point no investigation under the Kent Steps had been possible because the existing chair lift had been kept operational until the last possible moment; similarly the side-crypt had only just been cleared of its stores shelving. Therefore all parties were in uncharted territory when work started on breaking out the west wall of the room so that the what was behind it could be assessed. At this point no-one knew what to expect – would there be earth fill, or a void under the Steps? The ensuing discoveries could have come straight out of a 'what happened next' feature. The removal of a few facing stones immediately showed that we had a problem – a substantial one. Some earth fill was exposed, but so were several stones – mainly tufa blocks – set horizontally. These had all the appearances of quoins or jamb stones. They lay directly behind a late 12th-century wall-face, and thus (as far as we could see) had to pre-date it. No previous architectural or historical study of the Cathedral had ever suggested that any earlier structures had

existed on the site of or beneath the South Quire Aisle. Clearly a major problem had been uncovered, but the very small initial exposure (Plate 30) was insufficient to define exactly what had been found and how this would impact on the proposed lift. There was little option but to widen the hole in the wall, and also excavated down from the Kent Steps as planned – in essence, to dig most of the lift shaft. This was carried out during the second half of September 2014: by the beginning of October it was clear that the issue was severe enough to threaten the very existence of the new lift. Detailed discussions took place with CFCE, Historic England (in an advisory role), experts in the architecture and archaeology of the Saxo-Norman period in general and Rochester in particular, and within the design team. The nature of the discoveries eventually precluded any possible redesign of the lift in the same location, leaving a stark choice – continue with, or abandon, the access lift. After extended discussions, on 5 January 2015 CFCE stated that they were “convinced that these discoveries could not have been anticipated or mitigated against in advance”, but confirmed that “the Commission [was] unanimous in being of the opinion that destruction of the Norman discoveries would be unacceptable under the Care of Cathedrals Measure”. Condition 7 of their permission was invoked, and the access lift had to be abandoned because of the nationally significant remains that had been found.



Plate 30: The gradually expanding hole in the west wall of the side crypt on 19 September 2014, a few days after the masonry had first been exposed. It was becoming clear that one side (the jambs) and a threshold step of a doorway had been found, but this had to pre-date the 1179 fire which had caused the rebuilding of the eastern arm and crypt of the Cathedral.

The opening up had revealed an earlier wall (202) behind the western face (201) of the side crypt (Figure 50). This wall was made entirely from tufa ashlar blocks and appeared to run northwards – presumably to join up with the known south wall of the Norman eastern arm (the GPR survey had shown that this survived beneath the floor of the South Quire Aisle – Plate 5). It also turned to the west, however, and extended back for at least 1.5m in that direction. This face retained an intact rendered surface across the whole of the exposed area; no trace of paint or other decoration was evident on the render’s surface. The ‘front’ of the wall’s alignment, meanwhile, continued south beyond the return/jamb as a stone threshold or step (203) running towards the outer wall of the South

Quire Aisle (which, according to all previous understanding of the Cathedral's history, was part of the rebuilding after the fire of 1179). The continuing excavation then exposed a second step (206) 0.5m back (west) from 203, with a rise of 150mm. The 'ghosts' of a further two steps (219 and 220; Plate 31) were visible as scars/holes at the base of the westward return of wall 202. These defined steps 0.45m and 0.34m deep, each with a rise of 190mm. How many more steps existed to the west is unknown; neither can we be certain of what floor level the steps were rising towards, although it is likely to have been one at a lower level than exists now in the South Quire Aisle. Presumably the target floor level would have been one of the lower ones seen by Irvine in his 1874 tunnel (and partly re-exposed in 2016 – above). The threshold itself was c 0.7m above the floor level of the side crypt, but is impossible to know whether there had been any further steps to the east because the side crypt itself would have destroyed them. That said, there was no evident sign of a scar from any removed steps in the limited exposure of wall 202 beneath the threshold. Allowing for a step down from the latter of c 150mm, it is suggested that the contemporary ground level would have been about 0.55m above that of the side crypt. This is substantially higher than the known floor level in the Norman bays of the crypt, but below the expected medieval floor level in the cloister walks (which are known with some certainty due to contemporary openings/thresholds in the Chapter House and dorter in its east range).



Plate 31: The north jamb (with its tufa blocks), threshold and step exposed behind the west wall of the store. The 'ghosts' of two further steps are visible in the right-hand photograph. Scale 1m in 0.5m sections.

The excavations also exposed a second jamb (214) on the south side of the threshold. This jamb comprised a short 'stub' of masonry against the lower part of the south wall (215) of the South Quire Aisle, extending for 0.32m north of it; the stub would have been c 0.44m long (ie to the threshold line). The two visible sides (north and west) of the jamb were again rendered, but the masonry was visible

in several places and was all tufa. On the west face of the jamb the render (216) continued round onto wall 215. Jamb 214 survived to a height of 1.85m above the threshold; the springing and arch do not survive, but may not have been much higher than this. The scars of an upper and middle iron pindle survived in the north face of the jamb, showing that a door had hung here and again suggesting that threshold 203 was indeed at or very close to the bottom of the flight of stairs.



Plate 32: View of the Norman remains in the lift pit excavation, with jamb 214 butting against wall 215. The window jamb to the west of 214 is clearly visible, with infill 213 blocking it. Note the outline of the removed treads of the Kent Steps at top right as well.

The upper courses of jamb 214 were visible above the surviving render. Remarkably, they clearly butted against wall 215 (ie the lower part of the South Quire Aisle wall, and thus in stratigraphic terms post-dated it (though this need not represent a long gap in real time). The use of tufa, however, seems to place wall 202 and jamb 214 firmly within the Norman period – this stone was much used in the Norman cathedral, but the supply had been exhausted by 1150. The lower part of the South Quire Aisle wall (215) therefore must be of Norman date as well, rather than late 12th-century as previously understood. Furthermore quoin stones of an opening were clearly visible in wall 215 only 0.3m west of jamb 214. These did not extend down to the level of step 206, so it seems likely that the jambs formed the east side of a window rather than a door. Blocking masonry (211, with surface render 213) to the west of the jamb was presumably put in place when the South Quire Aisle took on its current form in and after the late 12th-century rebuilding.

A further point needs to be made. The two jambs did not seem to be set at a precise right-angle to the southern wall. They were angled very slightly backward from 90 degrees. This does not simply represent a splayed opening: the west wise of the south jamb is definitely not at 90 degrees to the south wall. It was also apparent that the north jamb/wall was splayed outward from the vertical: this may have been a consequence of damage during the late 12th-century construction works, but it seems more likely to have occurred in one of the fires that affected the Cathedral before those works took place.



Plate 33: Left – the door jambs seen from behind, ie the west, with the wall of the South Quire Aisle to the right. Scale 2m, in 0.5m sections. Right – the jambs of what must be a window – it does not continue to floor level – with later (presumably late 12th/early 13th-century) rendered blocking to the right. Note the high quality and crisp condition of the tooling on the jamb stones.

The Norman remains were left in situ after the lift had to be abandoned. They remain on view in a small window built into the re-faced west wall of the side crypt. The Kent Steps were rebuilt, and a new stair lift was installed to replace the old one (which was no longer fit for purpose and, of course, had been removed in 2014). A second access lift in the vestry under the Chapter Library had always been planned. This was installed as planned, and thus inclusive access was achieved – albeit only from the cloister to the crypt. A longer-term solution remains to be designed. The significance of what was found in the intended lift position is discussed in Chapter 5.

Some final comments in regard the early Norman crypt

One of the most obvious comments in regard all of the above is that there was not a single sherd of pottery that was of any assistance in dating any part of the structural remains. That story will be repeated below in all the areas examined. The skeletal remains found in the eastern annex, if examined, may however enable us to understand the purpose of that room.

To the south, it has long been known that the south aisle has a complex structural history and the finding of the stair has made it even more complicated. That tufa ashlar masonry was being used on this scale precludes the passage being constructed after c.1140 and a date nearer 1100 to 1120 would be much more acceptable. If that last point can be agreed a sequence along the following lines may have taken place.

- a. The Norman crypt was built and completed in the 1080s.
- b. A decision was made to add a room (previously unknown) to the south. This room (perhaps a vestry) was completed. Two round-headed arches/recesses in the South Quire Aisle wall on the south side of the Kent Steps may relate to this room (Figure 25).
- c. A stair was designed as part of the 'vestry', presumably from the outset, but the south jamb of its door was not bonded into the south wall. The vestry was connected to the new south aisle, the wall of which butted up to the north-east corner of a building (the cloister west range?) that was already in existence. Another window was inserted or designed from the outset to give light to the narrow passage-way (Plates 32-3).
- d. This arrangement lasted until the late 12th or, more likely, early 13th century when the South Choir Aisle was altered. The passageway was blocked and infilled, and the south wall was largely rebuilt with new lancet windows and a tomb recess. Externally, if examined carefully, the remains of the old wall can be seen at its base.
- e. The arrangements in the South Quire Aisle were altered at least twice more during the course of the 13th century. Figure 28 attempts to give some idea of what may have happened.

4.3.3 The late 12th-century crypt

The late 12th-century crypt consists of the Holy Trinity Chapel (now St Ithamar's Chapel), the north-south cross-hall, and side crypts to the north and south of the screens separating the chapel and hall. The medieval archaeology of St Ithamar's Chapel has been mentioned above.

Internally the cross-hall measured c 27m north-south and 8.5m west-east (Figure 53). Excluding the side crypts to the north and south of St Ithamar's Chapel, the cross-hall is divided into twenty-one bays separated by twelve shafts (Figure 30). The cross-hall, along with the Chapel, is very late 12th-century in date. A precise year for its construction cannot be given, but it seems reasonable to assume that it was constructed after the fire of 1179 and begun in the early 1180s. This would put its construction in the last years of Walter (Bishop 1148-82); Waleran (Bishop 1182-4) or the first years of Gilbert de Glanville's bishopric (1185-1214).

There are recesses for seven altars within the crypt, six of which are named: St Katherine, St Mary Magdalane, St Michael, St Edmund, St Denis, and Holy Trinity. Four are associated with gifts to the windows beneath which they stood, but none can be located (Hope 1898, 325-327). The last altar might be that of Holy Trinity Chapel itself at the far east end of what is now St Ithamar's Chapel.

Within the cross-hall the two northernmost shafts are made from (Dartmoor?) granite inserted in c 1833. Other shafts have also been replaced (Worssam 1995, 30 ; 2000, 7-11). Most of the standing structure belongs to one phase of construction, but little remains of that late 12th-century structural phase below ground (Plates 30 to 33), and even less of later centuries. Chalky plaster (696), almost certainly laid as a slurry, formed a floor surface, but only survived over the earlier Norman foundations or over those of the late 12th-century shafts. Mortar surface 697 and a mortar/soil mix (714) may also have been early floor surfaces, but at least in the case of 697, these are more likely to represent levelling/bedding deposits for a mortar/plaster floor. Elsewhere this had been destroyed by later activity, mostly during the 18th to the early 20th century. Stratigraphically, there is no reason to doubt that this material observed in small patches across different parts of the main crypt (682, 696, 785, 787) formed a continuous floor at one time. Of these deposits only 682 produced any dating evidence, a single sherd of pottery dateable to 1600-1800 which is regarded as intrusive (or mis-bagged). There is also no reason to doubt that this plaster floor was the original late 12th-century floor. It had been broken up into smaller areas by subsidence and truncation, but where reasonably sized areas were found intact it formed a smooth surface (Figure 50; Plates 20 and 25). There was no sign of impressions

on its surface that would have indicated that a tile or stone slab floor had at one time been present. Tile and flat stone fragments were noticeable by their absence and it would seem, therefore, that this material, although relatively fragile, was the floor surface rather than just a bedding deposit. This is perhaps confirmed by there being some evidence for earth floor and build-up deposits (eg 715, 716, 730, 784: Figures 35c and 49a). Context 784 contained a small fragment of glazed floor tile. That there were extensive mortar or earth floors is shown by the patches of plaster floor laid over the early Norman foundations (Figure 53) and the material (785, 856 to 858) slumping into cut 875 (Figures 35d and 46f).

Earth floors or levelling are still shown in a photograph of 1897 (Palmer 1897, 113), but soon after that was taken the concrete floor was inserted (Worssam 2000, 18). The ledger slabs shown in Palmer's photograph (1899, facing page 113) had been brought down from the nave (Hope 1898, 328). George Payne recorded the details.



Plate 34: Medieval skeletons 3 and 4 against the north wall of the late 12th-century crypt, both much disturbed. Note that the bones overlie wall 842 of the Norman north annex.

Very few graves were identified. Only three in situ burials were identified inside the crypt. One, cut 908, may have pre-dated the building of the enlarged (late 12th-century) crypt. This grave was situated in the northern side crypt and contained the most complete in situ skeleton (SK 2) seen in the course of the excavation (Figure 45d). The skull, several vertebrae along with parts of the pelvis and leg bones were recovered. Crushed remnants of some upper vertebrae were also observed. While this skeleton was certainly below the floor of the side crypt, it is impossible to be sure whether it was buried before the crypt was built in an area which had been external, or within the crypt after it was built. Two burials (SKs 3 and 4) found on the north side of the late 12th-century crypt post-dated its construction (Figures 44 and 45b). Only parts of the legs were exposed. The right leg of one had been cut away by the insertion of the other and that in turn had been heavily disturbed by the late 19th-century insertion of the ledger slabs described above. Another grave (Cut 825) was seen cutting into the north side of the Norman crypt wall and destroying part of wall 842, but the skeleton itself was exposed. Two other

features (763 and 765) may also be graves (Figure 38), but it is more likely that these two cuts are of post-medieval date and are perhaps connected with the adjacent industrial features cut into the offset foundation of the east wall. Cut 763, at the very least, could not have been for the burial of an adult. A definite grave (825; Figure 44) post-dating the Norman church was identified, but the skeletal material was not uncovered. All human bone from the HTFE project was reburied on site.

4.3.4 The post-medieval, early modern and modern deposits within the crypt

The terms post-medieval, early modern and modern are used here to describe the centuries after the Dissolution of the Monasteries. The first is regarded as the period c 1540 to c 1750 when the social, political and economic circumstances typical of the medieval period began to change, slowly at first and then more rapidly. After c 1750 the pace of economic change quickened beyond all recognition, and the early modern industrial and capitalist society began to develop. This lasted down to c 1850-75, when mass manufacture began to dominate and was accompanied by increasing political change in the modern era.

The late 19th or early to mid-20th-concrete and tile floors, and of course Irvine's tunnel, were the only modern archaeological remains observed. The crypt was used as an air raid shelter in both World Wars (Welsby 1996, 131; Holbrook 1996, 212, 214), but no evidence for this was noted below ground. This is scarcely surprising given the solid nature of the floors.

Some of the earth floors within St Ithamar's Chapel were undoubtedly later than the medieval period, but it is not possible to suggest a more accurate date. Deposit 611, the fill of a small pit, produced a clay pipe stem and a sherd of late 17th-century pottery. Clay floor 629 produced a fragment of glazed floor tile and a brick dated to the late 15th-17th centuries.

In front of the blocked Norman door in the north aisle of the Norman crypt a pit (644) was one of the few to produce several sherds of post-medieval pottery, broken glass and a disarticulated human skull (Fill 643; Figures 53 and 54b). There was no sign of any grave cuts in the area and so it is not known where the latter originated. The same feature was partly excavated in the 1999 trench, and produced several sherds dateable to the period 1675-1725. Also in 1999 the earth floors in the north aisle of the Norman crypt produced pottery of the period c 1550-1725.

Post-medieval earth floors were also present in the side crypt, but again they could not be dated accurately. Three features within the side crypt appeared to have some sort of industrial use (Figures 53, 54d and 54e; Plate 35) and are presumed to be of early post-Dissolution date. At least two of them would have been on the site of one of the crypt's medieval altars. The least impressive of these features (711) had been dug into the northern foundation of a pier separating the side crypt from the cross-hall. It measured 0.7m east-west and 0.6m north-south with sides sloping inwards to form a 0.2m-diameter flat base. The c 0.1m deep depression had been filled with a light grey ash (710). Two features (701 and 703) had been dug into the foundation of the east wall, below the southern of the east windows. The southern feature (703) was made from broken 'Tudor' bricks with a blackened stone base. Over the top of the bricks the bonding material was a sandy, buff coloured mortar, but the mortar of the sloping sides had been stained grey. The outer diameter of the brickwork was 0.6m. Internally, at top, it was 0.35m in diameter reducing to 0.19m at base. Again it was filled with ash (702) which contained a single tin-glazed sherd of post-medieval date.



Plate 35: Post-medieval industrial features 703 (nearer the camera) and 701 (with the wooden cover lifted back). Feature 763 in front of the 1m scale may have been a medieval grave, but it lay well below the depth needed for the new crypt floor. It was therefore not excavated any further.

The most impressive of these features (701) was stone-built. A 0.75m-square frame encompassed a 0.43m diameter circular inverted dome, 0.24m deep. The blocks of stone forming the whole structure had been carefully cut and appeared to have some sort of concretion on their surface. The type of stone could not be identified. The structure might have been for the mixing some sort of material. While there were joints in the stonework of the inverted dome there was no hole at its base for any excess liquid to drain away, so presumably whatever was mixed within (assuming that interpretation is correct) must have ended up in paste form. The feature had evidently been found, emptied and cleaned sometime in the late 19th or early 20th century, because a modern timber frame and inspection hatch had been built over it.

4.4 The vestry

Complex archaeology was revealed in both plan and section in this relatively small room, and many drawings were needed to document this (Figure 55c). The 17m x 5m (internally) building had been inserted in the gap between the early/mid-12th-century Chapter House and the late 12th-century St Ithamar's Chapel (Figures 18 and 36; Plates 38 and 39). The lower room was usually referred to as the 'vestry', while the first-floor room is called either the Chapter Room or the Library (its main function today). As mentioned in Chapter 1, its roof has been dated by dendrochronology to the middle decades of the 14th century. Hope (1900, 34) suggested that the first floor was used as the Library from the mid-14th century. After the Dissolution the upper room was used as the Chapter House and then again as the library again from 1575 (Knighton 1996, 67).



Plate 36: The vestry off the south-east corner of the main crypt under excavation in October 2015. The wall bench can be seen in the background, with tiled hearth 1111 in the centre of the room.

An original medieval stone bench was found along at least the eastern 6m of both the north and south walls and at least part of the east wall (1106, 1105 and 1108 respectively). A late medieval tiled hearth (1111, described fully below; see Plate 36) had cut into earlier earth floors. Given the presence of an integral bench around the walls it is tempting to suggest that the hearth had replaced an earlier (ie later 14th-century) one in the same location. The room would then have been used as the monks' warming house. Alternatively the hearth may have been an alteration made in the early 1540s for the short-lived royal palace, but this would not preclude the room's use as the later medieval warming house.

Internally when the area was reduced by the ground-works team it was found that the earlier stratigraphy for this building had been previously truncated on at least two occasions, and, as within the crypt, little in the way of pottery dating evidence was recovered. The earth floors and underlying soil was once again removed in two spits of c 0.25m and c 0.1m. Standing proud of the upper spit was evidence for internal flint partition walls and, at the west end, a brick wall (Figures 56a, 56b, 57a, 57b, 57c). The brick wall and one of the masonry partitions are shown on Hope's plan as 'post Suppression and modern' (Hope 1898, plate III; here Figure 10), and as having been recently removed (ie in the very late 19th century).

Removal of the first spit exposed a 0.9m-square tiled hearth (1111), 5.5m west of the east wall (Figures 56b, 56c and 57a; Plates 37-8), ie about a third of the way into the room. Surviving corbels in the south wall and a ledge in the north wall for the support of timber joists show that the structure had a timber first floor from the outset. Therefore the smoke from this open hearth was presumably taken upwards in a timber cowl of which no remains at the higher levels survive due to later reconfigurations of the

building. The floor tiles reused to make the hearth were of 15th- or possibly early 16th-century date, a century or more later than the dendrochronology dates from the roof timbers. This suggests that there had been earlier, presumably earth floors which, other than a levelling deposit (1115; Figure 57a) had been completely dug away. The distinct cut (1112) for the hearth had been built up by the insertion of a clay base, upon which the floor tiles had been laid flat except for the vertical edging pieces. These proud by about a centimetre. Charring of the tiles showed that the hearth had been used, but there was little evidence of ash overspill onto the adjacent earth floors. Either the ash was cleared away regularly (which would be expected), or it had been removed by subsequent truncation.



Plate 37: Top, hearth 1111 looking west. Bottom, edge-set tiles at the north-west corner of the hearth.



Plate 38: Remnants of stone bench 1106 and its bedding 1139, with earlier wall 1116 running south in the middle (with the 0.5m scale resting on it).

As well as the evidence supplied by the date and insertion of the hearth, the main evidence for floor truncation and subsequent build-up came from along the sides of the structure, adjacent to the north and south walls (Plate 38). On the north the bedding (1139) for a stone bench (1106) had been revealed (Figures 57e to 57i). The bedding of such a feature should not be seen, as in situ floor levels (if they had survived) would have covered it. On the south side, where the north wall of the Norman Chapter House forms part of the Vestry, remnants of earth floors (1125 to 1127) survived on the stone bench (1105) and immediately below the traces of the early 20th-century concrete floor (1130). This suggests that there had been an earlier quite deep truncation of earth floors and their bedding deposits, which may have been up to 0.4m thick. This may have occurred in the last decade of the 18th century or the first decade of the 20th, both occasions when the structure underwent substantial alterations. A timber floor was inserted at the former date ((Holbrook 1996, 187), but this may have been (and probably was) for the first-floor room and certainly the oak floor of 1907-8 for that level (Welsby 1996, 129). The early 20th-century work also included insertion of the stone oriel window in the east wall (Holbrook 1996, 212), but it was clear that there had been several episodes of truncation starting before the tile hearth had been inserted and continuing into the 20th century. It is remarkable that any stratigraphy survived at all, but build-up layers of various materials (plaster, earth, mortar, coal - eg 1113, 1129, 1125, 1126, 1127) and, on the north side, a mortar and earth floor (1120) overlaid the stone bench in various places. Coal dust layer 1127 produced the only dating evidence, in the form an 18th-century clay pipe bowl and stem.

The partition walls at the west end of the structure (walls 1156, 1158, 1159 and 1160; Figures 56b and 57a to 57d; Plate 39 – also visible in the foreground of Plate 36) are enigmatic, both in relation to date and function. They may have been inserted in the late 18th-century alterations, and were certainly secondary because wall cross-1159/1160 abutted the south and north walls respectively of the vestry. The absence of brick rubble within these structures is unusual if they were of that date, however, and could mean that they were of earlier origin – perhaps even late medieval (see below). Hope (1898,

plate 3) shows the cross-wall as post-Suppression/modern and 'now removed', but he did not show walls 1156 or 1158: presumably he was unaware of these, and they must have been demolished earlier than 1159/60. A scar of cross-wall 1160 could be seen for a height of c 2m in the north wall of the vestry, which suggests that they had been built up to the ceiling level. There was no indication that they had continued upwards at first floor level, but with late 18th- and early 20th-century alterations taking place there, all such evidence may have been destroyed.



Plate 39: Left – the scar of wall 1160 in September 2014 after the vestry had been stripped out (the below-ground works would wait for another year, so the foundation was only exposed then). Right – foundation 1159 abutting the south wall of the vestry.

The brick walls (1137) in the north-east corner of the vestry may have been an attempt to form a fire-proof structure for the cathedral documents. Hope records a 'muniments room' at first-floor level in the Library on his plate II (here Figure 18), with more substantial walls in the vestry (his plate III, here Figure 10). That this wall was at one time built up to the ceiling could again be seen by its scar in the north wall.

Pre-vestry medieval walls: Evidence for masonry pre-dating the building of the vestry was found both at its east end (north-south wall 1116; Fig. 61) and in a deepened area at the west end (east-west wall 1149/1173; Figures 47 to 53). This deeper area was excavated for a new lift pit (Figures 58-60; Plates 40-//) measuring 5m x 3.5m, to a depth of 1.5m below the finished floor level. The excavation removed substantial parts of the flint foundations of the partition walls (1157, 1158) and most of brick wall 1137. A c 1.5m-deep pit (1166) was observed below wall 1137, infilled (1165) with loose stone, a few pieces of peg-tile, and one 16th/17th-brick (Fig. 60c). This was presumably a pit dug for burying excess material used in building or demolition works, perhaps in the mid-16th century and as part of the alterations undertaken for the c 1540 royal palace.

Wall 1116 was found on both the north and south sides of the room (Figures 57h, 58, 61a, 61b and 61f; Plates 38 and 40). At its north end the Ragstone masonry of 1116 was 0.85m wide; although its 3.5m central section had been robbed out, it had obviously extended south to the north wall of the Chapter House. Here the wall was 1.10m wide: the point at which it widened on its east face lay within a robbed-out area (Figure 58). The north end of the wall passed below the north wall (1104) of the vestry (and was, in effect, incorporated in the latter's foundations), while to the south it butted up to the northern foundation (1102) of the Chapter House (Figure 61a and 61f). This wall was eventually covered by the stone bench (1105; Figures 61a to 61g; Plate 40) when the vestry was built. Wall 1116 had blocked off the open area between the Chapter House and the south-east turret of St Ithamar's Chapel. It must therefore post-date construction of the latter, c 1185, but post-date construction of the Library/vestry c 1360.



Plate 40: The south end of wall foundation 1116 (behind the 0.5m scale) butting against the Chapter House foundation (1102) to the left, with the stone bench (1105) oversailing both (partly removed to reveal the offset 1102). The base of the external face of the Chapter House itself can just be seen to the top left.

Foundation wall 1149 was also of medieval date, as it butted against the foundation of the east wall (wall 1144; Figures 59a to 59c) of the minor south-east transept, but given its location under the floors of the vestry it must have pre-dated it. A thin wedge of soil adhering to the mortar of the transept foundation's external face was enough to show that wall 1149 could not have continued further to the west, and that 1149 had to be later than the transept. Its angle was unusual: it was neither parallel nor at right angles to any of the adjacent walls. Foundation 1149 also tapered from 1.25m wide at its west end to 0.7m at its east: it had been trench-built, and thus deliberately designed in this way. The foundation (and wall on it) had been constructed at this angle to accommodate an existing door in the minor transept wall (see Figure 58). Its continuation eastwards (1173, again a foundation rather than

wall) was on a slightly different alignment, parallel to and c 5.5m south of the south wall of St Ithamar's Chapel, thereby creating a yard or small garden between it and the Chapter House. Wall 1173 had been much robbed at its junction with wall 1149 (Figures 59d-f; Plate 41), in part by the insertion of the partition walls mentioned above. It is assumed, but could not be proved because of truncation and robbing, that 1173 would have continued east to join 1116. The door through the east wall of the minor transept would therefore have given access to an open area (Figure 58), and the unusual angle of 1149 allowed it to both avoid the doorway and to join with 1173. The two walls finally separated the cloister garth from areas to the east.



Plate 41: View of the vestry lift pit looking east. The south edge of the foundation/robber trench for wall 1173 lies immediately to the left of the 0.5m scale, while its north edge is on the left-hand side and below the flint-lined pit, 1166 (the 1m scale rests on this).

The vestry was not constructed until almost 200 years after the minor south-east transept. This may suggest that no covered walkway had existed in the eastern section of the north cloister walk for the whole of that period; walls 1175/1149 and 1116 make sense in this context. Prior to rebuilding of the eastern arm after 1179, the cloister garth could have been open on its north side towards the church. That there would have been a boundary wall somewhere seems a reasonable deduction, but that wall may have come off the east wall of Gundulf's church and has been completely destroyed by the digging of the later crypt. Illustrations of the late 12th-century lesser south-east transept before its early 19th-century restoration (Figure 62) show that corbels for the roof of a covered walkway were still present across its south elevation (admittedly these could be inserts) and the presence of at least three alcoves in which the monks of the scriptorium could sit and obtain the full benefits of daylight. This suggests that there was a covered cloister for the western half and centre of the late 12th and 13th-century north walkway, but there is no evidence that it extended east up to the Chapter House. The latter's north-west corner shows no sign of a wall having joined with it and the idea of there being another room to

the north which would align with a north cloister walkway (McNeil 2006, 185) can now be discounted. Below ground level only a cut (1132) for the south wall of the late 14th-century vestry (1103) was seen. The architectural evidence within that wall has been much mutilated, but there is nothing within its fabric to suggest a date earlier than the late 14th-century building of the vestry. The presence of earlier walls to the north, which will date to c 1200 at the earliest, means that the vestry cannot have been built until they were demolished. The incorporation of wall 1116 into the foundations of the vestry suggests that demolition took place immediately in advance of the new build, sometime after 1360. If there ever had been a free-standing north cloister alley wall it would have been destroyed by the very deep foundation of the vestry wall, in excess of 2m at its east end and over 1.5m at its west. There was also no sign of floor, of any date, along the line of the late medieval cloister alley. Based on the available evidence it appears that there was no north cloister walk to the east of the minor transept until the last half of the 14th century.

4.5 The cloister

Excavations in the cloister garth and north walk produced some very unexpected and interesting structural remains (Figure 63). It was also the only area where Anglo-Saxon dark earth was observed over an extensive area. Much of the north cloister walkway was excavated, albeit only to shallow depths towards the west because of the upslope of the new (wider) pathway in this direction. Several trenches were also dug in the central grassed area (the Garth - trenches 1 to 4) for drainage. In the medieval period the Garth, just as now, was kept as a regularly mown grassed area (Hope 1900, 29).

In trench 2 brown loamy clay (1658, the same as 1622 along the north cloister walkway) was observed across the Garth lawn. This was a buried topsoil of unknown date but probably Roman. The geological Brickearth was found beneath this soil. Anglo-Saxon dark earth was observed at the base of trench 3, and therefore geological natural was not seen: the brown loamy buried topsoil should have been present between the dark earth and Brickearth.

Trench 1: Towards the western side of the central grassed area a 5.25m x 4.25m soakaway trench (Trench 1; Figures 63-4; see Plate 14) was machine excavated to a depth of 2.75m. In the lowest 1m, varied geological deposits (1597) were observed. Brickearth-covered sand and flints were seen on the east side, with sand and flints or sand elsewhere. A disturbed brown topsoil (1596) of Roman or (less likely) Iron Age date overlay these. None of this represented re-deposited geological material used in the late 2nd-century defensive rampart, because in situ geological deposits (and topsoil) continued more or less at the same level northwards all the way across the crypt. As far as could be judged none of the soil deposits above represented the rampart either. Redeposited Brickearth deposits which were very likely the remains of the rampart had been seen immediately to the west in 2009 in a trench dug along the line of the west cloister walkway (Keevill and Underwood 2010), but here such deposits were completely absent. Assuming that the rampart had once been present here, it had been removed completely. If it was absent, for whatever reason, that may explain why the cloister was constructed in this area rather than further to the west. Only further excavation might establish whether or not there was a gap in the earthwork defences at this point. If one did exist it is unlikely to indicate the presence because a gravel road surface should have been present behind such a feature. No such surface existed. Remains of the rampart are known to exist within the Deanery Garden to the west, and it seems likely that it also exists below the west cloister walkway. On balance, therefore, the area of Trench 1 would appear to have suffered greater truncation. That greater depth of levelling may be connected with the insertion of wall 1590 (see below) and the gravel foundations revealed in Trenches 2 and 3.

It is possible that the fragmented mortar and chalk rubble foundation, 1590, was the wall of a Roman building (see part 4.1 and Plate 14, above). It cut a layer containing many large Roman floor tiles, however, and it is therefore more likely that it was later in date. It may have been the external wall for what is probably the east range of Gundulf's cloister. Certainly its level of c 8.12m aOD compares well with the c 8.20m aOD for gravel foundations to the north (see below), and is much lower than would be expected if it was a later (ie post-medieval) feature. A fragment of brick (which did not appear to be Roman) found within the infill of the construction trench must be intrusive. The possibility that 1590 belonged to a post-medieval garden design cannot be dismissed entirely, but it seems much more likely that the foundation does represent the east wall of the western walkway for Gundulf's east range. A flint yard surface (1588) was observed in the north and east sections of the trench above 1590; this surface is assumed to be of post-medieval rather than medieval date. It could date to c 1540 when Henry VIII built a short-lived palace within the medieval buildings of the cloister and infirmary. Alternatively it could be contemporary with the house of the third prebend, constructed in 1805. A brick-built culvert (1583) and a circular soakaway in the south-west corner of Trench 1 can safely be regarded as belonging to that building.

North Cloister walkway trench: **As stated above** (page 37), along the line of the north cloister walk (Figures 36 and 63c; Plates 62 and 63) and above the Roman top-soil of brown clayey loam (1622) a layer, or more correctly layers (1619 and 1621; Figures 37a to 37c), of dark grey silty loam straight away made an impact upon this writer. This material with many charcoal flecks and some streaks of charcoal has to be the Anglo-Saxon dark earth deposit. Truncation of this dark grey soil, along the line of the north cloister walkway was certainly undertaken on one occasion, probably twice and perhaps on a third occasion in the medieval and early post-medieval periods. The whole length of the north cloister was truncated again in the 1930s and yet again in 2015 for the insertion of a new path.

The length of the north cloister walkway, and the area to the south, would have been levelled when the cloister was first planned. The former would have been levelled again when the final tile floor was laid in the fifteenth or even the sixteenth centuries and yet again when it was dug up c.1560 and, yet again, when a brick path was laid in the 1930s. The 2014-2016 levelling for a new path entailed not only removal of the 1930s bricks but also digging into the adjacent embankment for a width of about 1m.

Along the line of the north cloister walkway trench and some 2.35m away from the south wall of the vestry and southern minor transept a 1.25m wide gravel foundation (Wall 1534) was uncovered (Figures 58, 63, 65, 66, 67a to 67e and 68; Plates 64 to 67). Both the east and west ends of this foundation were seen and gave a length (more correctly width) of 9m for this building. Its north to south length is not (yet) known. The fact that at both ends an internal corner was observed showed that this gravel had to represent a structure and not just a boundary wall. On this foundation the lowest course of masonry (Wall 1533) measuring c.1.60m east to west and 1m north to south (Figures 65b and 65c and, 66). At both east and west ends of the gravel, other foundations could be seen. At the west end cutting into the gravel a small area, just 1m long and 0.30m wide, of black flints (Wall 1549) was identified (Plates 64 and 65). This material had been largely destroyed by a large early nineteenth century pit for the disposal of rubble (see below). At the east end, fragments of a very distinctive coarse yellow shelly mortar (Wall 1547) survived in some quantity (Figures 65c, 67a, 67g and 68; Plates 66 and 67). There was enough to show that this was not just residual dumped material, it could be seen for a length of 3m and represented a wall at least 1m wide. Up against the east side of the gravel foundation a substantial lump of this material could be seen within its own construction trench (Cut 1548). When cut, this construction trench had left a soil wedge between it and the gravel foundation showing that the latter must be the earlier in date.

From these three features no artefact dating evidence was recovered. The shelly mortar is however a very distinctive Norman material with an expected date of c 1100-40. This material has appeared in at least two other buildings in Rochester, both of which have to be Norman in date (see below, pages 72 and 73). Logic also tells us that the gravel foundation has to be one of two dates. It is either of the time of Gundulf c.1085, forming his cloister or infirmary range, or that of Ernulf c.1120, forming his cloister range. This will be discussed further below. We will return, also, to the further gravel foundations observed in Trench 2 and Trench 3 immediately to the south of the cloister walkway area.

Any floor deposits along the walkway, whatever the material used, were completely removed when the late medieval tile floor was inserted. In turn when that was dug up, presumably in the mid-sixteenth century, both the tiles and their mortar bedding were removed. There was a very large amount of broken floor tile, much of it glazed, in various soil deposits (1627, 1532 and 1514; Figures 67a to 67h) and it seems reasonable to assume these represent the last floor of the medieval walkway. Based on the tile fragments a late medieval date can be suggested for this floor. The soils levels 1514 and 1532 both produced pottery of the seventeenth and eighteenth, and indeed in the latter instance, of the nineteenth centuries. We should remember, however, that these soils were used as a garden for over three hundred years and would have seen much disturbance. The sixteenth and earlier seventeenth century pottery found within their matrix almost certainly gives a more accurate picture of when they were first created.

Within the cloister walkway itself, but above the tile debris, traces of mortar construction deposits (1603 and 1629) remained in place. The latter consisted mainly of a grey mortar with a considerable amount of burnt chalk and charcoal flecks within its matrix (so called 'salt and pepper mortar') datable to the eighteenth century or, perhaps, the very early nineteenth century. This material probably represents the repair or insertion of a door and window into the central part of the south wall of the vestry. A further window was at one time situated at the east end of that wall, for traces of a straight joint in the external face of the wall could be seen and a fragment of 'salt and pepper mortar', showing the area had been infilled, was observed when a new door was inserted at this point.

Immediately to the south of Wall 1534, the wide and early gravel foundation, there was a narrower foundation (Wall 1538 / Wall 1663), 0.50m wide, consisting of chalk rubble bonded by a pale yellow mortar (Figures 65b and 68; Plates 65 to 66 and 72). Where the whole width of the wall was seen in a single section at its east end (here numbered as Wall 1524), it was found to measure 0.85m wide. This foundation represented the outer wall of the north and east cloister alley or, more correctly, the outer wall in its final form. There was almost certainly an earlier garth wall at least on the east (Wall 1683; Figures 68 and 69d), presumably dating to c.1160. In its final form, on the east, a cloister alley nearly 4m wide was created. The upper portion of this later garth wall had been robbed by Cut 1538 and this robber trench was infilled with brown soil, fragmented mortar and broken floor tiles (1539). Above this was a 0.40m thick deposit of soil (1532 and 1514) also containing floor tiles. A considerable quantity of peg-tile along with a Caen Stone block was observed within context 1527, possibly pit fill although no cut was seen. Presumably the peg-tile came from the roof of the cloister walkway. These soil deposits and the cloister wall had been cut away at their west end by the early nineteenth century rubble filled feature (Cut 1505; see below). No artefact evidence was recovered which allowed the construction of the garth wall to be dated, but it is presumably contemporary with the building of the library in the late fourteenth century. Crushed Caen Stone rubble (1551) on a clay bed may have been a foundation coming off at a right angle from this garth wall into the north cloister walkway (Figures 65b, 67a and 67g).

Another east to west aligned foundation (Wall 1512; Plates 68 and 69) situated at a higher level, just 0.25m below the surface of the top-soil, had also been cut away at its west end by Cut 1505. This post-medieval foundation (Figures 65a, 67c to 67h; Plates 62 and 63) followed the line of the medieval

cloister wall, but was separated from it by the soil deposits. The foundations consisted of all sorts of material, chalk and stone rubble, with brick and tile fragments and, luckily, a few fragments of pottery and clay pipe, including two bowls one of which was of very early date. Overall this material can be dated to the seventeenth or earlier eighteenth centuries. The wall represented by this foundation is probably shown on a plan of 1772 (Fig. 28b), but had disappeared by 1801 (Fig. 28c). That the foundation represents the laying out of the garth as a garden for one of the predecessors of Canon Foot, the prebend at the time the plan was drawn, and separated the garden from the cathedral, seems the most likely interpretation for the presence of this feature.

All of these deposits were cut by a very large pit (Cut 1505) some 16m long and of unknown width and depth (Fig. 70). This feature contained masses of stone, mainly Reigate Stone in the form of rubble, ashlar blocks and architectural fragments with some Caen Stone and amazingly some large fragments of Onyx Marble (Plates 70 to 72). The latter was only used in the later Norman period (c.1160) at Rochester Cathedral, notably in the pillars of the East Range blind arcade and west front. This material was only used at a small number of other prestigious buildings; Canterbury Cathedral, St. Augustine's Abbey, Canterbury, Lewes Priory and the mid-twelfth century bishop's residence at Wolvesey Palace, Winchester (Tatton-Brown 2014). It originates as a calcium carbonate deposit from only one known site, the Eifel Roman aqueduct to the south-west of Cologne where the sediments had solidified into stone (ibid.). Not only were shaft fragments of this material found, but also a shaft base forming the largest fragment of Onyx Marble seen by this writer. However, most of the infill consisted of chalk and mortar rubble long with some brick fragments. This feature had been dug as a pit to get rid of the stonework of the medieval face of the south minor transept when that was eventually replaced in 1825-1829 by L.N. Cottingham. The easiest way to get rid of rubble is to bury it. The soil dug out would then just be spread and this probably forms the upper c.0.30m or so of soil within the cloister garth. Up against the wall refaced by Cottingham, two brick buttresses had been constructed c.1752 to prevent the south wall of the minor transept from collapsing (Figures 62 and 70; Plate 73). One had to be repaired just seven years later (Holbrook 1996, 192). In the period 1826 to 1829 the stone facing, most of which had been Reigate Stone was replaced by one of Bath Stone which is that we see today. The brick path, recently removed, was laid down in 1935. This has now been dug up and replaced by another path sloped so as to aid wheelchair access.

We return to the lawned area of the garth. Excavation of two trenches (Trench 2 and Trench 3) to the south of the north cloister walkway produced the most surprising and interesting archaeological remains in this area.

Trench 2: Trench 2 was dug for a new drain pipe, it was just 0.50m wide, but 1.80m deep (Figures 68 and 69a). It stretched for 8m from the north cloister walkway trench to a large early nineteenth brick soakaway. At base there was brown clayey loam (1658) which is regarded as the Roman top-soil. There was no sign of the distinctive dark earth deposit which had appeared just 2m to the north, but this may have been due to seeing the soil deposits in this narrow and deep trench rather than in plan. Be that as it may, the soils at base were again cut into by orange brown gravel foundations.

Wall 1659 was parallel to and just 1.70m to the south of Wall 1533 / Wall 1534. A mortar deposit (1657) rose up and passed over the south side of this gravel foundation for 0.15m. Whilst stratigraphically later than the gravel the two deposits are considered to be contemporary. The actual upstanding wall could easily have been narrower than the foundation material, the latter widening out on one or both sides of the wall and forming an offset.

This narrow passage may have been a slype (Keavill pers. com.). With Wall 1547 on the north and the polygonal apse (see below) on the south such blocking those two directions, the passage may have given access to the infirmary ranges.

Some 2.85m further south, but only in the east side of the trench a further gravel foundation (Wall 1666) was observed. At a slightly higher level than the top of these two foundations a 0.10m - 0.20m thick deposit of a very light brown mortar (1657) was observed. This material was relatively compact and appeared to form a floor surface between the walls of this large building (Figures 68 and 69a). That it survived and the masonry of the building did not is easy to explain, for when the latter was 'robbed' the floor, as well as, perhaps more surprisingly, the gravel of the foundations, was of no use to the demolition gang and was left in situ and reburied. This mortar passed to the west of the southernmost area of gravel foundation (wall 1666) observed. The presence of the mortar showed there was a definite gap between the west end of that foundation and any continuation that may have existed further to the west. Whether there was a door from one room into another at this point or this small southern area of gravel represents the base for a pier or shaft can only be found out by further excavation.

Trench 3: In addition to these discoveries, in a trench (Trench 3) adjacent to the east walkway of the cloister, further gravel foundations were uncovered (Figures 68 and 69b to 69d; Plates 74 to 77). At first the foundation (wall 1676) could be seen in section to be on the same line as wall 1659 and continuing that line for c.0.80m to the east of Wall 1536. Then, however, in plan both externally and internally this material turned southwards, not at a right angle, but at about forty-five degrees. A length of c.0.70m was exposed with slight traces of the lowest course of masonry, or at least demolition material, surviving on its western side. We have here the start of what can only be described as a polygonal apse. The foundation exposed passed below the brick walkway of the east cloister so we do not know how far eastwards it extends. That it must turn to the south and then back to the west is certain. Presumably it forms half a hexagon, but depending on that eastward extent and its total width it could be half an octagon. Trial trenches at strategic points in the Chapter House and along the inside of the east cloister walk perimeter wall would almost certainly tell us.

Short lengths of Wall 1674, the later medieval cloister wall outer wall, were observed on the west side of this trench and a small fragment of an earlier wall (Wall 1675) was seen on the east, immediately below the modern Ragstone wall (Fig. 69d; Plate 76). Wall 1675 is assumed to represent an earlier garth wall presumably constructed when the standing East Range was built either in c.1120 or c.1160 and creating a cloister alley just 2.50m wide. What may have been the remains of yet another garth wall were represented by mortar rubble containing a peg-tile fragment (?Wall 1683) and a definite cut (Cut 1682) containing a mortar and soil mix (1681). More likely, however 1683 is part of the robber material and the feature as a whole represents the robbing of Wall 1675.

Trench 4: A further trench was dug in the north-west corner of the lawned area for an access slope, but nothing of archaeological significance was seen in the 0.50m (maximum) depth of soil that was removed (Fig. 63).

The east range and Chapter House: A single trench, 0.60m wide and 0.80m deep, for a new water pipe was excavated by the groundworks team west to east up against the north wall of the Chapter House with a shorter trench aligned north to south across part of its width adjacent to the west front of the St. Andrew's Centre (Figures 71 and 72). **NEED BRIEF SECTION HERE RE REMOVAL OF STAIRCASE AND THE 14TH-CENTURY VAULTED PASSAGE/CHEEKY CHAPPIE. NB ALSO REUSED ROMANESQUE (AND C14) FRAGS**

The ground surface inside the Chapter House is at two levels. A lower level to the west, which is the result of clearing the door and cloister alley in 1935 when parts of the medieval tile floor were seen and a higher level over most of the interior. Previously, in 1766 a skeleton was found when a new cellar for the deanery was dug and was supposedly fully seven feet in length. A stone coffin was also

found in 1770 but the skeletal remains had been reduced to dust (Denne 1817, 86 note). The note implies that the skeletal remains were those of Paulinus. AW will say here and now, they were not and neither was the skeleton 7ft in length.

In the 2014-2016 project no grave cuts or human skeletal remains were observed within the Chapter House, and rather surprisingly, other than sherds of broken tile, no sign of any floor was seen. **NOT TRUE**

Areas of demolition material (1691) were seen and, in the soil (1695), below a considerable amount of broken floor tile and a few sherds of post-medieval pottery. The only feature of note was a 0.30m wide north to south aligned wall (Wall 1692) made from chalk and Reigate Stone rubble. In the south face of the trench, whilst the full depth of the wall (1693) may not have been exposed a compacted area of fl mortar may have been the level of a tile floor. This wall abutted the 0.50m wide stone work (1697), which is regarded as part of the bench that would be originally have been situated around the Chapter House for the monks to sit on during meetings. Only a 1.80m length survived. Most of this bench had probably been destroyed c.1540. An offset foundation for the wall itself, upon which the bench sat, existed at a lower level. Presumably it was at this junction between foundation and bench that the medieval tile floor would have been set.

Wall 1692 was situated just 0.60m to the east of the late fourteenth century inserted door giving access to the vestry, the wall and door effectively making the Chapter House some 3.50m shorter. In the south wall of the Chapter House the scar of a dividing wall can also be seen, but does not quite line up with that uncovered in the trench excavated. Presumably there is a dog-leg, perhaps at the position of a central door within the length of this inserted partition wall.

In the north wall at a higher level the blind arcade that went around the Chapter House can, in places, still be seen (Fig. 72a; Plates 78 and 79). All of its facing stone has been lost, but several of the bases for the shafts, which supported the arches survive on a 0.15m wide offset situated 1.25m above the present ground surface. Some of the shaft bases can also still be seen in the south wall, but only traces of the blind arcade could be identified. In one of the upper rooms of the St. Andrew's Centre part of the arcading with its facing stones still intact survives. Above the arcade inserted much weathered corbels, originally depicting carved angels and supporting a new roof, possibly of the fourteenth century (Tatton-Brown 1994, 21) or the second half of the fifteenth century (McNeil 2006, 202 note 9), are still in place. Presumably they replaced the twelfth century earlier corbels within the same sockets. Cutting into the arcade arches were seven large joist holes. These holes were mirrored in the south wall. This must mean that a timber floor was at one time inserted into the Chapter House. However, the joist holes do not continue into the westernmost 4m part of the structure. The floor may not have been completed or the western end acted as an open gallery or a timber partition end wall existed at this point.

Also in the south wall, the threshold of an inserted and now blocked door at first floor level, originally giving access from the dormer to the library, the latter situated above the vestry, can still be seen. Access from the dormitory to this door was across the dormer stair by means of a three arch bridge inserted across that space and dated to 1342 (McNeil 2006, 185, 202 note 9). The tree ring date of c.1360 from the roof timbers of the library would suggest the bridge would be slightly later. With the identification of joist holes it might be assumed that a timber floor was also inserted at this time and connected with the bridge. However, no joists holes could be seen in the western 6.50m of the building, which is saying there was a 5m gap between floor and bridge and a 4m gap between floor and partition wall to the east of the inserted doors to ground and first floor level in the Chapter House north wall. Also of course one would expect the new roof to be visible at Chapter House meetings. It

seems far more reasonable to assume that the date for the insertion of such a floor would be at the time Henry VIII's palace was being constructed c.1540. One suspects that it was never completed.

Although not part of the crypt / cloister project, mention should be made here of observations that took place within the area of the dorter undercroft in July 2016 (Fig. 73; Ward 2016). Here the project entailed the observation of the machine excavation of a trench c.40m long by c.0.40m wide and c.0.50m deep. For most of its length only disturbed soil and rubble infilling service trenches was encountered. However, in the very last 0.50m of the trenching, at its far north end, a medieval respond, was observed in the side of the trench. This respond was one of those visible when Hope undertook his excavations in 1884. The abacus, the rectangular stone block above the capital and the capital itself, had long since been cut back, but the shaft was undamaged. Two other dormitory undercroft shafts with their capitals are also visible within the yard area and from these Hope was able to work out the number of shafts and bays within the undercroft.

Hope also tells us that the remains of the east door of the passage through the undercroft were visible in his day. This is now used as a window. With the realisation that the apex of this door still existed it must follow that part of the east wall of the dorter range also survived. A ledge above the door almost certainly indicates the level of the dormitory floor. The south end of this length of wall has a quoin belonging to the seventeenth century deanery and a distinct crack between it and the wall can be seen. No certain break could be seen within the height of the wall above the ledge. The present writer would not be so foolish as to say the full height of this wall is medieval in date and certainly refacing, with flint galleting, normally regarded as being of sixteenth century date at the earliest, possibly indicates rebuilding. We can, however, say that a substantial block of this masonry is medieval, presumably twelfth century, in date.

We can perhaps go a bit further. The King's School building at the north end of the yard is just c.4.50m wide and has been built over the site of the dorter stair rising from the east walkway of the cloister up to the dormitory level. Except for its ornate decorated door in the west front of the dorter wall the stair has long since been destroyed, but it is very noticeable that at first floor level at the east end of this eighteenth century King's School building large stone blocks one on another form what appear to be the western jamb of a door. These blocks survive for about 1m in height. Above are mouldings inserted at a later, probably relatively recent (?nineteenth century?), date. However, the present writer suspects these large blocks of Reigate Stone and Ragstone represent one side of the twelfth century doorway into the dormitory.

The north wall of a structure on the south side of the yard was also of some interest for it varied in style, parts vertical and parts sloping, the Ragstone courses of which didn't match up. The sloping portion of the wall, behind (?)nineteenth century refacing, is almost certainly the core of the Roman town wall.

We will return to the date of the Chapter House and the East Range as a whole in the discussion section below.

The west and south cloister alleys: Observations in other areas of the cloister were pretty minimal. At the south-west corner part of the wall of the house belonging to the third prebend was observed, but 0.90m to the north, an earlier wall built at an angle to the west cloister walkway was also present (Figure 63). This wall (Wall 1816), bonded by a distinctive very light brown mortar, which the present writer nearly always regards as being of medieval date, ended in Ragstone Stone blocks which were initially regarded as representing the jamb for a door. This is now considered to be incorrect if for no other reason than that the area later exposed along the cloister alley would have been wide enough to uncover the western side of such a door. Also, no wall was revealed at this point in a service trench

excavated in 2009 (Keevill and Underwood 2010, their Fig. 5). The masonry may be a buttress at the end of a wall. That trench revealed the latest floor of the west cloister walkway made from glazed tiles, which now has a 0.30m wide trench cutting through it for almost its whole length. Part of this same floor was revealed in 1982 to the south of the south porch (Bacchus 1985). Details of both excavations have been added to Figure 63.

Although only a 0.40m length of Wall 1816 was seen it was definitely angled at about forty-five degrees to the cloister alley, at about the same angle as the later prebendal house wall (Wall 1811). However, as the two are only 0.90m apart they are regarded as being too close together to form part of the same structural phase. Wall 1816 is regarded as representing an earlier building. Either or both walls could have joined with Wall 727 (2009) and Wall 718 (2009) found in the 2009 watching brief when a new water pipe was laid. These two walls crossed the southern cloister alley and make a right angle with Wall 707/(2009) and Wall 737/(2009). At the time of that earlier project these two walls were described as walls of Ragstone bonded by a lime mortar and probably of medieval date but perhaps reused in the prebendal house. Wall 727/(2009) may have been a boundary wall and Wall 718/(2009) the west wall of a porch for the house, as shown on Hope's 1:500 plan of the precinct (Fig. 6). If any of these walls are of medieval date and as they do not match with the alignment of the cloister, this would suggest they are very late medieval and form part of the palace being constructed in the early 1540s.

In 2015 and 2016 observations were made along the south cloister alley and some detail of walling along with the remains of one capital and one shaft of the cloister alley which, as far as this writer is aware have not previously been noted (Plate 48). The Onyx Marble shaft is very well preserved.

At the north end of the west range the modern brick path was taken and the east wall of the range was revealed for a length of 4m

The most interesting excavation associated with the west range was however, undertaken in 1937 when the southern room of the range itself and the whole length of the cloister alley was uncovered. This excavation, and that of 1982 in the area of the south porch, are mentioned below (page 83).

Chapter 5: The finds

Possibly omit - finds list could be an appendix

Chapter 6: Discussion.

6.1 Introduction.

The final part of the report is divided up into sections based partly on chronological aspects, partly on location and partly on theme. It starts with aspects of the monastic precinct first. It then focusses on the church, and concludes with Gundulf's crypt.

a. The Precinct, itself divided into several sections:

- The precinct to the north of the cloister
- The precinct to the east of the cloister
- The precinct to the south of the cloister
- The precinct to the west of the cloister including the Bishop's Palace
- The cloister including the east range

b. The Cathedral Church

- The Anglo-Saxon church
- Porticus, Paulinus and Tobias
- The Early Norman church
- Gundulf's Crypt
- Some final thoughts
- A closing paragraph

6.2 The precinct and cloister

(Figures 6 and 74).

The area to west and south of the cloister has, unsurprisingly, long been known as 'The Precincts', but in this report to make identification of buildings, both standing and buried, more intelligible the area has been divided up by giving different parts of the access route their own road names. On the west, 'Prior's Gate road', south 'Minor Canon Row road' and further south King's School road and on the east 'Archdeaconry road'. The area of the precincts to the east of the latter has here been called King's Orchard and Deanery Garden their correct titles and the area to the north is that between the church and the High Street, including the site of the Prior's Lodge, usually referred to as the Old Deanery.

6.2.1 The precinct to the north and north-east of the cathedral church.

Location: Basically we know next to nothing about buildings in these areas. The only building we know anything about, and then not very much, is the Prior's Lodge or as it was called in the seventeenth century the Old Deanery.

Documentary evidence: This northern area, sandwiched between the church and the High Street, is somewhat narrow and was made narrower by there being a precinct boundary wall set back some 4.50m from the High Street frontage. Probably our first document for this area is that of the time of Edward III (Hope 1900, 22-23), for in 1345 he granted a licence to build and crenellate a stone wall from the city East Gate to the Priory Gate of St. William. However, an earlier document (DRC/T 290) dated to between 1283-1291 tells us that,

'Richard de Rof, clerk, brother of Solomon de Roff, clerk to Thomas prior of Rochester gave a piece of land 42 long x 17 wide in the City of Rochester lying under the wall of the priory on the north and the main road on the other side.'

This statement is implying there is land, presumably without a building (or buildings), between the High Street and an already existing north wall of the priory. The presence of St. William's Gate by the late thirteenth century and the mention of this wall suggest, hardly surprisingly, that the precinct was shut off from the town by a wall prior to that constructed in 1345. Admittedly there is no way of knowing whether or not the circuit was ever complete.

Of St. William's Gate, other than its position, we know nothing. It may have simply been a gated gap in the wall. Another gate may have existed further to the east next to Phelip's Lodge (82 High Street) where a narrow alley still exists.

Chertsey's, College or more correctly Cemetery Gate at the north-west extremity of the precinct is a fifteenth century structure still standing to full height. As far as AW knows this building has never been the subject of a building survey. Presumably it always had a timber framed, rather than stone built, chamber above the gate passage. There is obviously no point in having a gate without it being connected to a wall or, as now, buildings. Initially a precinct wall is assumed, and this would have extended southwards and eastwards. Admittedly there is no scar of a contemporary boundary wall on the south side of the gate and even the scars of the timber framed buildings that existed down to the late nineteenth century have weathered away. Presumably there was a gate here from at least c.1225 when North Gate (formerly Pump Lane) was created (Ward 2005, 2011 in preparation b and c) and the present writer suggested such was there from c.1090 (Ward 2017), only a few months later to find there had been a gate, probably on this spot, since before 762 (Brooks 2006, 11).

There is of course no point in having a gate unless it allows access to a road, alley or courtyard. As the west front of the cathedral is just 50m or so to the south it is a reasonable deduction that there was a road leading up to the main door from the late eleventh century. It may not have been present before that date, for the simple reason the west front of the Anglo-Saxon cathedral was further to the west adjacent to the main north to south route, Doddingherne Lane, through the town.

We have two documents which mention land belonging to Geoffrey de Cok (Geoffrey the Cook) and being given to the priory. From the measurements given it would appear that two separate plots are involved. One message was 52ft x 18ft and lay in Doddingherne (DRc/T 278 dated to 1215-1226) and the other concerned land,

'lying the length of the burial ground near the road, having in longitude from Godfrey Cocs great stone house E-W 68ft. and in (a measurement may have been left out here by AW) latitude from the road to the priory burial ground' (DRc/T 289 dated to 1225-1239).

We can see for the latter, and perhaps deduce for the former, the general area as to where these plots were situated. However, from the measurements given neither plot of land can be accurately positioned. Hope regarded the former as being between the Cemetery Gate and St. William's Gate (1900, 25), unfortunately no reason for this positioning is given.

The area to the north of the nave was always the lay cemetery whilst that to the east of the Setry or Deanery Gate was the monks cemetery. The lay cemetery, on land with the name of Green Church-Haw, supposedly took up nearly all the land as far as the High Street, including the site of the early fifteenth century Church of St. Nicholas. From west to east it extended from Doddingherne lane to a wall extending from the north-east corner of the north transept up to St. William's Gate (Hope, 1900, 23). As it can be shown (Ward 2011a, 2015, 2017) that Doddingherne Lane was situated some 15m further to the west than realised by Hope and, indeed everybody else, including AW, until recently and as no burials have ever been found in all the service trenches adjacent to the King's Head Hotel, the supposition that the medieval cemetery stretched as far as the lane should be dismissed. It is also unlikely the cemetery reached as far as the High Street for the frontage was a far too valuable rent commodity.

Within the precinct, 'Gundulf's Tower' has been discussed at considerable length (see above, pages 16-19 and 26-27) and not a great deal more is stated here. Its date of construction varies depending on whom you read. McAleer's date of c.1070 was always pretty ridiculous and the present writer has

shown that it is later than the crypt (Ward 2002). A date somewhere in the first two decades of the twelfth century appears to be that favoured by Tim Tatton-Brown and Colin Flight and there is no reason to doubt that. The present writer is pretty sure that he has seen shelly mortar used as its bonding matrix, but Tim Tatton-Brown thought not (pers. com. 2016). If shelly mortar was present that would tend to reinforce an early twelfth century date

An excavation in 1973-74 in the garden to the east of the fifteenth century Sextry Gate may have found the floor of a Roman building or evidence of earlier medieval buildings.

Phelip's Lodge: As far as the writer is aware Phelip's Lodge is the only building to have had detailed building surveys undertaken (Austin 1997; Bacchus 2010) and both agree on the fifteenth century date for the timber framed structure hidden behind post-medieval refacings.

Archaeological evidence: Very little meaningful excavation has taken place in the northern precinct area. In 1887 part of the precinct wall was observed (Arnold 1889, 201) on the lawned area now taken up by the war memorial and again in 1894, a few metres to the west (Livett 1895, 57). The east end of the wall up against the Roman town wall, was seen in 1969 (Harrison 1972, 122). Assuming these are both parts of the 1345 wall there must be a dog-leg somewhere along its course and as David Bacchus points out the wall must pass to the north of Phelip's Lodge (2010, 214). It is just possible that a c.3m length of Ragstone wall forming part of the west wall of 78 High Street, represents that dog-leg. That it is of Ragstone, whilst the rest of this wall is of brick, certainly creates suspicion that there is medieval masonry here. Another stretch of wall was apparently seen in the arches of the cellar of 86 High Street in 1959 or 1960 (Chaplain 1961, lxxiii). The arches must be to the rear of the cellar and hence the walling seen is assumed to be on the line of that seen in 19769 coming off the east face of the town wall. The rear of the cellar is (probably) several metres to the south of the wall line seen in 1887 and 1894.

In 1990 the present writer observed trenches being dug for services in the yard immediately north of the St. Andrew's Centre and in 1992-93 in the rear garden of Phelip's Lodge (Ward 1996, Figures 6 to 8 in that report). A short length of wall over 0.50m wide was seen on the east side of the trench in the garden of Phelip's Lodge and this same wall has been picked up again in a 2017 project undertaken by Graham Keevill to the rear of 84 High Street. That this wall is medieval there can be no doubt and it has to be earlier than the fifteenth century timber framed building. An architectural fragment of fourteenth or fifteenth century date was removed from the wall in 1990 and the wall cut through soil producing pottery of the period c.1275 to c.1350. From this soil, fragments of Purbeck and Onyx Marble and at least one fragment of green 'serpentine' marble were also recovered. Admittedly a fragment of brick was also recovered, but this could easily have been intrusive from a higher level. What is regarded as an internal partition wall came off at a right angle to the west. Of this wall a length of c.3m survived.

Below the modern southern boundary of Phelip's Lodge a post-medieval stone lined cess pit was discovered, but other than a few bricks used in its construction no dating evidence was found.

The 1990 a 2.80m deep soakaway trench was dug in the St. Andrew's Centre car park. Natural Brickearth was reached at 5.65m above Ordnance Datum with a pit cut descending a further 0.40m. The base of the pit was not seen. From its fill late Iron Age and early Roman pottery was recovered. The pit was overlain by dark brown clayey loam top-soil the top of which was at about 6.70m above O.D. Two layers of dark earth were seen above, only distinguished by there being a stake hole 0.50m deep infilled with purple ash cutting the lower layer. The upper layer of dark earth was sealed by a 0.10m thick deposit of levelled, compacted gravel presumably forming a courtyard surface. This was almost certainly associated with a wall of Ragstone with some flint and chalk bonded by a sandy

mortar. This stonework survived for a depth of 1.57m, the lower 0.60m being below the gravel. There was no obvious cut going through the gravel and if that surface and the masonry go together that means that about 1m of upstanding wall survived. However, the masonry could have been trench built, the cut through the gravel not creating any damage. The impression gained in regard this undoubted medieval masonry was that it was either free-standing or a buttress to a wall situated to the south or west.

A 0.40m wide north to south aligned wall on the east side of the trench was presumably associated with the Old Deanery, possibly its east wall as shown on Hope's plan, Plate V (Fig. 6). A further wall, also perhaps is forming part of the Old Deanery was observed by Arthur Harrison in 1983 when a drain trench was dug (Harrison 1985, 265-266). This wall, again 0.40m wide, was cut through by the drain trench, Due to what is considered to be its narrow width it was regarded as a garden boundary wall. It may of course have supported a timber framed building, but its position 2,15m in front of the Deanery (now the St. Andrew's Centre) would suggest it is to the south of the Old Deanery structures as depicted by Hope on his Plate V.

As far as this writer is aware these are the only observations made in this part of the precinct.

6.2.2 The precinct to the east of the cloister

The east range itself has been mentioned above (pages 58 and 59) and will be returned to in more detail below (pages 83 to 85). For the infirmary range situated further to the east we know very little and even less for anything across what is now a lawned area, the Deanery Gardens.

Documentary evidence: As with so much of the cathedral, documents in relation to the buildings to the east of the cloister are notable by their absence. Hope tells us that whilst the crypt was being built (c.1185) Heymeric of Tonbridge, 'made the cloister towards the infirmary'. Such a date is becoming a bit late for such a buildings and its is perhaps more likely to be a refurbishment or rebuilding of a previously existing infirmary cloister. At about the same time the sacrist Osbern of Sheppey afterwards prior (?1186 to 1199) made a lodging for himself beside the infirmary. This was presumably whilst he was still the sacrist, but this structure was probably that which became the Prior's Lodge and later the Old Deanery.

For a decade or two after 1540 the former infirmary range to the east contained the royal chapel, presumably the old infirmary chapel, and was probably used as the Queen's Lodging, the queen in question being Catherine Howard. However, the information in regard the royal palace, as far as it is known, is mentioned below (pages 81 and 82) in relation to the cloister.

A rere-dorter existed in the area to the south or east of the dorter. We are told in a document of 1177 / 1178 that Prior Silvester, 'removed the privy which formerly adjoined the dorter' (Hope 1900, 45). The question has to be where did he move the privy to? It certainly would not have been too far distant. Perhaps it was built spanning the defensive ditch.

Archaeological evidence: To the east of the dorter range the infirmary was situated. In 1983 Arthur Harrison may have found one of the walls of this building. A Ragstone rubble wall was found 1.40m below the modern ground surface. The wall found was 3.40m long and stood to a height or 2m. Whether this 'height' was all upstanding wall or foundation or a mixture of both we are not told. It was considered possible that this was a wall of the rere-dorter, but subsequent excavations in 2010 by Graham Keevill on the line of the Roman town wall to the north of Harrison trench make it more likely that this was the south wall of one of the infirmary ranges. The 2010 excavation saw four trenches dug, two either side of the Roman town wall. Quite by chance, at the west end of the length

of wall in both the north and south trench detail for a door into the building was found (Keevill and Underwood 2010b).

The c.2m high mound situated within the Dean's Garden immediately to the north of the Roman wall is almost certainly a post medieval 'prospect or viewing mound' for the Dean and his guests'.

6.2.3 The precinct to the south of the cloister

The stretch of road between Minor Canon Row and Garth House is referred to here as 'Minor Canon Row Road', officially it is just referred to as The Precinct. This area is dominated by the finding in 1998 of a 59m long medieval building immediately below the southern pavement (Ward 2002, in prep. c). This structure was first observed by Greville Livett in c.1894 who identified fragments of wall at both the east and west end of this area. The latter was seen at the junction of 'Prior's Gate road' and 'Minor Canon Row road' and may be too far to the north, into that junction, to be part of this buildings (Fig. 16). He regarded this masonry as being the north-west corner of a building butting up to the town wall. If that is correct it must have been a structure aligned at a right angle to and joining the long building. There was certainly a building directly opposite coming off of the north-west corner of the Prior's Gate. Tim Tatton-Brown tells us (but with no reference for his statement) this structure was the medieval almonry (1984b, 187) and which, c.1540, became the first King's School. It was demolished c.1840. The length of wall Livett uncovered at the east end of Minor Canon Row he regarded as being a later Norman defensive wall. In fact he had found the south wall of the long structure (Livett 1895, 49).

Documentary evidence: In 1331-42 wide ranging rebuilding work was undertaken within the monastery by Hamo de Hythe (Bishop 1319-1352), most notably the refectory but also the 'long bakehouse' (Hope 1900, 49, 52). The latter structure has never been identified (Hope 1900, 52; Tatton-Brown 1984b, 187; Harrison and Flight 1986, 18), but it seems a perfectly reasonable deduction to equate this long structure (leaving off the east end, which is later in date) with that building.

A 1588 survey refers to a structure called the Canon Place or the 'long gallery'. At the Dissolution this building had been converted into rooms to house the minor canons of the new Dean and Chapter. In a later survey of 1647 what is almost certainly the same building was called Canon Row when, "all the long row of buildings within the wall, consisting of eighteen several low rooms and five upper ones, in which divers old and decrepit poor people inhabit, that did belong to the cathedral church" (Hope 1900, p.75; M.A.O. DRc/Ac 4/10 pages 61a and 64a; DRc/Esp 1/1 to 1/5). The eighteen rooms at ground level mentioned in this survey may represent the medieval bays of the undercroft and partitions might have been constructed within them.

Both surveys refer to a long building and tell us, or at least imply, that at one time the building had been used to house the minor clergy. The place-name evidence from the sixteenth through to the seventeenth centuries (petty canons houses, Canons Place, Canon Row, Minor Canon Row) in itself does not mean very much, for names can be adopted by later buildings not on the same site as the original. However, a further document, makes the position of the medieval building and its name certain. In 1605 the minor canons houses are described as being to the north of the great wall dividing it from the Hoghawe (M.A.O. DRc/Ele 120/1) and we know that the Hoghawe or Hoghaugh was on the site of the 1842 King's School building and adjacent area. Therefore it must follow that the great wall in question is the town or precinct wall extending east from the Prior's Gate. The only space available would be the site of Minor Canon Row.

In 1698 the Dean and Chapter ordered the demolition of a 'long building' housing the petty canons: "Row of ancient and ..?.. Buildings within the precinct ..?.. Petty Canon row formerly a prebendal

house . Old house from time to time for many years ..?. ..?. let out by lease many years past very ruinous and not suitable habitation for persons of ability has been let out to very poor and indigent persons or ..?. ..?. ..?. poor and indigent have of their own accord ..?. out of the neighbouring parishes and ..?. into ..?. and lodged themselves in the said old and ..?. buildings . Dean and Chapter put to very great trouble ..?. proposed hath been made to the said Dean and Chapter to pull down the said Row of old buildings called petti canon Row and in the (rooms?) thereof to ..?. or ..?. to be ..?. new buildings to be made ..?. for persons of good ...?.. 40/- recompense to the Minor canons for the advantages which the said Minor canons have or might of could have made by their (Rooms?) or tenements. ... Consent for pulling down of the said ruinous old buildings and for the erection of new ones in the (Roomes?) thereof shall be build or ..?. in the place of the old” (Hope 1900, p.75; M.A.O. DRc/Ac 4/10 pages 61a and 64a; Ac 4/11 pages 7a and 8).

We can see that this medieval building was used into the post-medieval period. We know Minor Canon Row as we see it today was constructed in 1721-3 to replace the previous canons residence and there is no reason to doubt that the long medieval building found in 1998 was that to destroyed. Whether all was actually demolished at that time is a debatable point. Certainly the far east end wasn't, that survived until c.1860, although admittedly it may have been rebuilt. It is shown on the precinct survey of 1801 (Fig. 75a) and although an order for demolition was given in 1836 (M.A.O. DRc/Ac 11, page 319) the east end appears on another survey of 1840 (Fig. 75b) and more importantly on a sketch plan of 1859 (see Beale Poste 1859; Fig. 75c). It does not appear on the first edition Ordnance Survey map published in the 1860s and was presumably demolished c.1860 during road widening. Whilst a delay of demolition between 1698 and 1721 can only be suspected, here in the map and documentary evidence a delay between 1836 and c.1860 can actually be seen.

Archaeological evidence: To the south archaeologically we have, rather surprisingly, more information than might be expected. Unfortunately a good deal of that information is ignored in relation to this exercise. Discussing the work that has taken place on the defences is a total nightmare. Here just one point is emphasised. It was the king who controlled the development of the defences whether in the late eleventh, early thirteenth or the fourteenth centuries. In the late eleventh and early thirteenth, at the very least, it was the king, not the priory, who was the lord who controlled the land. Although we have no documents telling us so, it would appear the king had allowed the monastic community to build on the land, that he controlled. As the king controlled the land and wanted defences refurbished or created it may well have been he, not the priory, who drafted in the work force.

We ignore most of the work undertaken or discussed by George Payne, Greville Livett, William St. John Hope, Arthur Harrison, Colin Flight and Alan Ward. The latter has undertaken two recording projects in relation to the defences (Ward 1997b and 1997c). Two points are briefly mentioned.

In the eastern precinct / town wall two arches are situated in the fill of the Deanery Garden Ditch and one very large arch situated across the King's Orchard Ditch. The latter and one of the former appear to have been constructed to allow the discharge of water, in the case of the KOD arch, at the very least, large amounts of water, here perhaps the ingress of tidal water from the creeks. The other two arches, mainly covered by the fill of the DGD, have in the past both regarded as 'arches of construction' (Harrison and Flight 1968). However, the present writer regards just one of these arches to be for that purpose, the other is regarded as the arch for a drain. There is also an infilled arch within the upstanding town wall, about 2.25m (externally) above the grass bank, may merely be some form of relieving arch, but what it relieved is anybody's guess. This arch can also be seen on the inside of the wall about 1m above modern ground level. Conceivably it could be a blocked window.

The second point is in regard the absence of the Roman wall bank and earlier rampart. These earthworks have been levelled for the whole of their length from the cloister area up as far as the south-east corner of the town. It is here suggested that this levelling was undertaken as one operation in the late eleventh century so as to create an open space, not only for the building of Gundulf's cloister and infirmary ranges, but also as a work compound and as an area for the temporary accommodation of the monks whilst the cloister was built. The old Roman wall was left standing.

Of structures in the Deanery Garden / King's Orchard we know very little. In 1959 or 1960 sewer pipes were laid in the Deanery Garden for the New (new) Deanery and several medieval buildings were encountered. A clay floor was found which contained pottery of the eleventh century. A second clay floor in a separate building contained thirteenth century pottery and a mortar floor within a third structure sealed a pit also containing thirteenth century material (Chaplain 1961, lxxiii). Unfortunately that is all that is know of these structures. The plan produced by Harrison and Flight in their 1968 report unfortunately does not extend far enough to the west to show these remains (1968 their Figure 3). That plan does show some chalk foundations within the fill of the Deanery Garden Ditch which may be part of one of these structures (Figure 6). Even if it is not, it would appear that all of these buildings were situated along the line of that infilled ditch. Unfortunately the thirteenth century pottery does not give us a secure terminus ante quem for the ditch infilling, if for no other reason one of the floors contained only eleventh century sherds. Admittedly those sherds my be residual, but we have no way of knowing. Greville Livett also found a building somewhere in this area of the Deanery Garden, for he tells that at a depth of about 0.70m he dug through a rough plaster floor. The demolition debris on its surface suggested the structure was seventeenth century in date (Livett 1895, 50). All the buildings could be of that sort of date. The pottery from the pit is probably 'safe'.

As well as the 'long bakehouse', there was also Ernulf's 'new bakehouse' which in turn tells us there must have been and 'old bakehouse', a brewhouse, stable, guest house, a laundry. Some of these buildings would probably be situated in the Grange Yard on the site of the 1843 King's School buildings. What looks suspiciously like a chapel appears on a not very good sketch of this area drawn by Canon Wheatley in (Wheatley M.A.O. DE53/1/19/7).

The Sole Pond (sole is Kentish for pond so we end up with Pond Pond) on the west side of St. Margaret's Street (Fig. 9) may have been a reservoir, although one suspects only for the Bishop's Palace. Where did the water for the monastic buildings come from. Springs apparently existed at the east end of the Vines and could have been channelled south-westwards, but if so where did the water cross the ditch/s.

We have the additional problems in regard the defensive sequence, mentioned above, but also there was a garden wall constructed sometime in the late eleventh or early twelfth centuries, "Odo, Bishop of Bayeux, gave to the church of St. Andrew and our monks to make there their garden beside the wall outside the gate towards the south part of the city outwards, which they have now enclosed with a wall on every side. And for these three acres of land" (Hope 1900, 5). This wall is believed to have eventually enclosed the vineyard and was completely rebuilt in 1384-1385 (Tatton-Brown 2006, 37 note 74). Below the west garden wall of the former Archdeaconry House fronting onto St. Margaret's Street there appears to be an earlier Ragstone wall surviving for a height of about 0.40m. This may in turn have joined with the wall, still standing 4m or so high. forming the boundary between Archdeaconry House and the King's School. These may be the last parts of that vineyard wall to survive.

In 1998 service trenching at the west end of Minor Canon Row resulted in a small fragment of medieval walling being seen (Ward 1998a). Later in the same year he whole of the road surface was taken up. At a depth varying between 0.25m and 0.45m down from that surface, below the line of the south kerb, a medieval building was observed for practically the whole length of the road (Ward 2002). To

the north of the kerb line only compacted soil and rubble and flints were seen, this material formed the make-up deposit for an earlier road surface, or perhaps even a badly made road surface itself. What was probably a medieval road surface was seen at the base of a c.0.50m deep service trench in front of No. 7 Minor Canon Row in 2010 (Ward 2010). In 1998, at the east end of the road, a concentration of brick culverts and two parallel brick walls, 0.50m apart, again in front of No.7 Minor Canon Row were observed. The two latter walls are assumed to have formed a drain or sewer and originally to have been capped with flat slabs.

Of the medieval building the wall and buttresses for most of its course were made of Ragstone rubble with occasional angular flints and a few peg-tiles. The face of the wall was faced with a mixture of flints, Ragstone and occasionally other types of stone. The buttresses abutted the wall face and had greensand ashlar blocks at their corners, but occasionally bricks were also used. At the east end of the structure, chalk was the predominant building material and here also the whole width of the structure was revealed, 8m internally and c.10m externally. The wall seen by Greville Livett in this area way back in 1893 was part of the south wall of this building not, as he thought the supposed later Norman (Ernulfian) defensive wall.

More or less in the centre of this structure was a 1.50m wide doorway. Excavation down to the threshold produced large numbers of medieval floor tiles from within the soil removed. The Ragstone jambs along with iron pivots for supporting a two-leafed door remained in situ. The long broach stop carved on the jambs tend to be of mid-fourteenth century or later date (pers. com. Tim Tatton-Brown; pers. com. Rupert Austin architectural draughtsman for C.A.T; unfortunately Margaret Wood states fifteenth century (Wood 1983, 410). A mid-fourteenth century date would of course be acceptable for the building work undertaken by Hamo de Hythe.

The threshold itself was at depth of 1.08m below the modern kerb and almost certainly represents the external medieval ground level. An internal step down shows that the floor level of the structure was lower still. At the east end, between the main north and south walls, partition walls and clay floors of different dates were seen. Artefact dating evidence was sparse, but enough, along with the overall stratigraphy and the map evidence showed that three phases of occupation could be discerned. The medieval phase and two post-medieval (c.1540 to c.1750) phases, the last continuing into the early modern period (c.1750-c.1875). The map evidence tells us that the east end was not pulled down until c.1860.

Below the lowest clay floor, sandy clay and clayey loam deposits continued down for a depth of c.4.00m with the base of the trench at c.6.50m. Man created deposits were still continuing downwards and there can be no doubt that this material infills the Deanery Garden Ditch. Just one artefact was recovered, one floor tile of Flemish manufacture datable to between the very late fourteenth through to the mid/late sixteenth century. That does not help us date the infilling of the Deanery Garden Ditch, but a date in the late fourteenth or early fifteenth century for the construction of the east end of this long building would be fine.

Just one area produced a copious amount of pottery. On the north side of the south wall an external chalk lined post-medieval cess pit was excavated and produced a dated jug of 1664, but with an overall ceramic date range pointing to its being backfilled in the early eighteenth century. A very rare teapot (without its lid) manufactured by John Dwight and dating to about 1700-1710 was also found (Ward 2001, 41, information from John Cotter).

Further south opposite the door into Mackean House, the foundation of a wall was observed. and found to extend the whole width of the road. At its west end a distinct kink could be seen in the line of this wall and archaeological cleaning showed that the longer eastern portion was later in date than

that to the west. The earlier part of the foundation continues the line of the wall that at one time existed to the south of Minor Canon Row. The scar for this wall can be seen in the east wall of Priors Gate and was also found in a small excavation in the garden of No. 7 Minor Canon Row (Ward 2011b). A wall coming off at a right angle to this wall may be that of a medieval building (Fig. 76). The foundation across the road may be that of gate blocking, whether the wall continued eastward or turned to the south to join with the south-east corner of the east range is an unknown quantity.

6.2.4 The precinct to the west of the cloister including the Bishop's Palace

Location: Much of this area is taken up by the access road, 'Prior's Gate road'. and the site of the medieval Bishop's Palace, of which only a small part survives. That the garden, or more correctly the court, of the palace had different layouts at different times in the medieval period is shown to us by the traces of archaeology recovered from the various observations and excavations (Fig. 76). None of those archaeological projects, individually, tell us a great deal, either about the Roman (Fig. 77a) or medieval periods. However, by bringing the information, collected over a hundred or more years, together we can, with great difficulty, begin to see the complex nature of the structural build-up of this area in the period c.1100 to c.1800. This area is supposedly the site of Gundulf's cloister, by looking at the archaeological remains and topography we can see that it was not (see below, pages 67 to 69).

Documentary evidence: The documents in relation to this area are few and far between and none are of much use in attempting to understand the archaeological remains. We are told that Bishop Gundulf (Bishop 1077-1108) built a residence for himself and his successors (Flight 1997, 185, 222), but we are not told where it was situated. This building was burnt down in 1137 (ibid, 203). It was presumably rebuilt and then damaged again, for Bishop Gilbert de Glanville (Bishop 1185-1214) rebuilt the palace after a fire, presumably the conflagration of 1179 (Flight 1997, 221). However, yet again we are not told where it was situated. Colin Flight would have the pre-Bishop Gilbert palace situated to the east of the cathedral on the site of, or adjacent to, what is now the St. Andrew's Centre. This interpretation is based on the archaeological work carried out in 1978 on the site of the fifteenth century palace, the results there showing that,

'it seems fairly certain, from archaeological evidence (Harrison and Williams 1980) that the residence built in the eleventh century - the aula (= hall) mentioned by Gundulf's biographer - could not have stood on this site. Apparently it must have been located somewhere else; and the only available site for it would be somewhere east of the church', (Flight 1997, 222).

Whilst the palace may have been elsewhere, that is certainly not shown by that excavation. The trenches excavated did find the east wing with of what is regarded as the fifteenth century palace, but no mention is made of what was below its mortar and chalk floor. That apparent failure to find an earlier building could be illusory for no section drawings were drawn, or at least none published, for us to examine, from Trench L or Trench G (Harrison and Williams 1979, 24). Certainly earlier structures were present immediately to the east, although, with the exception of a mortar floor of, possibly, a timber framed building in Trench H, none appear to reach as far westward as the excavated trenches (ibid., 1979, their Figure 1). Also of course any late eleventh century palace may not have been in the area excavated, it may have been under the standing south block or up against the western boundary wall, or projecting eastwards below the grassed area of College Green (Fig, 77b). At the end of the day we just do not know.

About the definite earlier structures to the east of the fifteenth century remains found we know very little due to a lack of section drawings and a failure to dig exploratory sondages at strategic points (Harrison and Williams 1979; Guinness 2005).

Also in the west gable of the standing south range there what appears, to be a Romanesque window at first floor level. Whilst it could be reset, it is just as likely that the wall around has been refaced. Having said that, Livett states that window and another in the south wall,

'which from a distance look like Norman windows, are in the style of the fifteenth century, their heads being four-centred' (Livett 1895, 43).

These windows need to be looked at again by a building specialist. If we take Livett's view of the window as being correct, the end product of this exercise still shows us that the reasoning for placing the eleventh century palace elsewhere is by no means secure and it may have been in its late medieval position from the outset.

We can go further, the implication is that the structure burnt down was that re-erected. However, we know from documentary sources that Prior Osbern (Prior 1189-93),

'made a lodging for himself next to the infirmary' (Flight 1997, 222).

In other words a lodge was constructed to the north of the infirmary in the area of what is now taken up by the St. Andrew's Centre (the eighteenth century New Deanery). Colin Flight would have it, that this was the time, c.1190, that the palace was created on what we know to have been the site of the late medieval Bishops Palace (Flight *ibid.* and his Fig. 26). This, however, is merely a surmise, there is no documentary evidence to that effect, and just as the excavation of 1976-77 did not show the presence of a c.1100 palace, nor did it show the presence of a c.1200 palace either. It is here suggested that the latter did exist on this site, but so did the earlier structure.

Our next documentary reference along, with the archaeological evidence discovered by Harrison and Williams, is enough to show that the palace was on the present site in the fifteenth century, for Bishop Lowe (Bishop 1444-1467) headed a document stating it had been written, 'in our new palace at Rochester' in 1459 (Harrison and Williams 1979, 26). Which is all well and good, but of course still doesn't tell us where the 'old palace' was situated. It could have been on the same site and been repaired or rebuilt or it could be on a different site. Overall, due to our knowing that the prior had his lodge to the east of the cathedral from c.1190 and as we know Bishop Glanville rebuilt a residence for himself at about the same time, it is just as reasonable to assume that the palace was situated to the south of the nave, rather than to the east of the cathedral, from the outset.

Much of the south range still stands and has usually been regarded as being of mid-fifteenth century date. However, Patricia Clarke suggests a thirteenth or fourteenth century date is more likely (Clarke 2014). She specifically points out three windows of earlier architectural type (*ibid.*, 6 and 7). By itself such earlier architecture should not be regarded as conclusive for the dating of structure. Whilst the north ('public') face is pretty non-descript, the south face is much more interesting and she points out that in that face (at least) one of the two windows here is not designed to 'fit in' with the building as in its later medieval design. The third window is high up within the east gable (Plates 80 and 81). Archaeological / architectural plans and elevations as well as the relevant photographs would have greatly helped in confirming her (almost certainly correct) ideas. For the sake of simplicity the traditional date of the mid-fifteenth century for the east wing has been used in the phase plans. They were hard enough to produce on that assumption alone and with the number of structures to fit in to the courtyard they will become harder still to phase once an earlier date (if correct) for the south wing is confirmed. Perhaps even harder than can be imagined for she tell us (*ibid.*, 33, note 12) that the cellars were definitely cellars from the outset and not the ground floor as had been previously (no reference) suggested. She tells us they could only have been the ground floor if they had been constructed in a 'pit'. The whole point is, of course, they were (see below, page 74). The south wing

was constructed along the line of the Deanery Garden Ditch. Until such time as an archaeological trench is dug up against the south face we have no-way of knowing whether they cut into the infill of that ditch or whether that material abuts the wall. If it was a ground floor, in theory windows should be visible internally, but that face has almost certainly been re-pointed, rendered and white-washed several times.

The east range found by Harrison and Williams was still standing in 1719 (Fig. 78), but had been demolished by the time the Baker's map of Rochester was published in 1772 (Fig. 9). The west range was still shown on Sale's map of 1816 (Fig. 29) but, presumably because it was no longer considered to be part of the precinct, was omitted from the 1801 survey (Fig. 75a). Even the south range was only shown by a dashed line and then omitted altogether from the survey of 1840 (Fig. 75b). From the 1820s, and perhaps earlier, the palace had been leased to Mr. Twopenny and his mother (Livett 1895, 44). The office of Mr Twopenney, at the far north end of the west range, is marked, but not shaded on both maps. It seems likely that the southern part of the west range was demolished sometime after 1816 and certainly by the time the first large scale Ordnance Survey map of Rochester was produced in the 1860s.

Archaeological excavations and observations: There have been a considerable number of observations made from the 1880s onwards which will be mentioned as we progress. Four larger projects (two as watching briefs) have taken place in the garden of the Bishop's Palace or immediately to the east within the roadway (Figure 76). The first of these four projects was in 1976-77 on the site directed by Arthur Harrison and D. Williams (1979, 19-36), the second in 1998 in the adjacent roadway (Ward 1999b, 2002, in prep. b), the third, directed by Abby Guinness in 2005 was back into the garden between the 1976-77 excavations and the garden wall bounding the road (Guinness 2005) and lastly back in the roadway (Ward 2007, in prep. b). The 1998 and 2007 'excavations' merely saw the then tarmac road surface and its bedding removed with cleaning and recording then taking place. Considerable structural evidence was revealed which although not dated in any detail is relatively easy to understand. The two excavations within the garden revealed complex structural remains, a good deal of which is difficult to put together in a coherent form. Only a few of the structural components have stratigraphic relationships one with another and there is only a limited amount of meaningful artefact evidence. The failure to search for the limits of wall lines and the relationships of layers to those walls makes analysis difficult. All it would have needed was a few small trenches ('sondages') placed at strategic points to look for these stratigraphic relationships. In the 1976-1977 project much needed, section drawings of all the trench sides should have been project undertaken. What we can say however, without any doubt whatsoever, is that the structural sequence within this area is far more complex than is generally thought. We can also state that the often repeated statement (Hope 1898, his Plate 1, 1900, 6; Livett 1895, 39, 47; Palmer 1899, 56, Fairweather 1929, 192; Tatton-Brown 1984b, 186, Flight 1997, 149) that Gundulf's cloister, whether of timber or masonry, was to the south of the nave is wrong. Only Philip McAleer made the brave guess that the cloister had always been in the position that we see it today (1993, 13, 1999, 44).

Roman: Although much mutilated the Roman town wall of the third century was observed in three of the projects. In that of 1976-77 the late second century earthwork defensive rampart was also revealed (Fig.77a). This extended backwards (north) of the wall for a width of at least sixteen feet (see below). A coin, a forgery, of Julia Domna (wife of the emperor Septimus Severus (reigned 196-211) dating to c.204 was found in the remains of the earthen bank contemporary with the wall. This bank had been placed on top of the late second century earthwork defences, but whether the coin was found in the area levelled in the late eleventh / early twelfth centuries or in situ material we are not told. From their section drawing it would appear that the whole of that wall bank, and perhaps part of the second century rampart, had been levelled (Harrison and Williams 1979 their Fig. 2, here redrawn in a simplified format as Figure 79a). There is certainly no difference shown within their

section drawing of any levelled wall bank and any in situ material. The coin could, therefore, be within Roman soil re-deposited in the late eleventh or early twelfth century, or in other words it becomes residual and may have little bearing on the date the wall bank was constructed. If all of this soil is disturbed we cannot even be sure that the coin came from the wall bank, it may have been intrusive into the earlier rampart. We just do not know how much of bank and rampart have been destroyed and intermingled. The sketch profile does try to give some hint of the scale of destruction (Fig. 79b). Even if we could be sure the coin was in situ within undisturbed material and whilst it would give a terminus post quem of 204 that can hardly be considered to supply a secure date for the construction of the wall which may not all have been of one phase anyway (Ward 2011a).

The Roman building found below the south and west walls of the cathedral has been mentioned above (page 10) and what we know of it is not repeated here. However, in 1998 the present writer observed a compacted chalk foundation (Building 1) immediately to the west of the south turret of the cathedral west front. At the time he regarded it as being of Norman date, but it may be that this structure was also Roman and formed part of the building below the cathedral south wall. This foundation is, however, discussed in a bit more detail in the medieval section below. Graham Keevill has also seen masonry in this area, about 1m down from the modern road surface (pers. com). Just to the south in 1900 and 3.60m below the floor of what is now the Ship Safe Training Group Ltd a human skeleton was found and has been mentioned above (page 9)

Medieval: In the late nineteenth century Canon Greville Livett made several observations along 'Prior's Gate Road' (Figures 6 and 74; Livett 1895, 71 and his plan of Rochester). He points out that in a Gas Company trench, which would probably have been c.1.20m to c.1.50m deep, a three foot wide wall was seen running,

'south and making right angles with the Saxon church'.

This wall (Wall P) seems to have been traced for a length of about 2m. Whilst this structure could be part of the medieval gate known to be at this position, Livett regarded this wall as being pre-Norman, which perhaps hints that it was found low down within the trench. This wall was almost certainly seen again in 1998 and due to its depth was regarded as Roman. If that surmise is correct then it could easily be part of the Roman building found below the south wall of the cathedral nave.

However, there is another possibly, for when the Anglo-Saxon church was demolished c.1090 another building was also destroyed. The late twelfth century historian Eadmer tells us that Lanfranc,

'demolished the ancient church of the bishopric together with the adjoining building', (Flight 1997, 173 note 9).

We know nothing more about that building, but if it was the wall seen by Livett and as implied by Eadmer, it was obviously a masonry structure and there must be more walling to go with it.

Further south, another wall (Wall Q) ran parallel to what is here called 'Prior's Gate road' and seems to have been traced for a length of c.6m. This wall was also seen in 1998 and found to be a stone lined drain. This drain followed the line of the road and was traced intermittently for nearly 20m.

Livett observed three other walls (Wall R, Wall S and Wall T). Wall T crossed the line stone lined drain more or less at a right angle and was aligned on the south-west corner of the southern west front turret. Whether that alignments means anything is doubtful if for no other reason that it must be considerably later than the building of the Norman church. Further to the east, other than saying Wall R and Wall S are presumably of medieval date and showing their alignment, not a great deal can be

said (Fig. 6). The gate to the north and the assumed gate to the south would have given access to a court rather than an actual lane, but as so often such has been suggested before (Tatton-Brown 1984, 187 and his Figure 6). The lane itself was presumably created after the palace went out of use in the mid-sixteenth century.

Of some considerable interest several fragments of Ragstone walling were found immediately south of the nave in 1937. We are told that Prior Radulf (Prior 1208 to 1214) constructed stone buildings within the cemetery (Flight 1996, 222 note 14). We are not told where those buildings were and it would be extremely difficult to show any of these walls represented those buildings, but such should be borne in mind in any further excavation in the area. One of these walls was noted as being bonded with 'shelly mortar' (Cobb 1938, his plan, here redrawn as Figure 11). Whilst such mortar can be late medieval or even post-medieval, its occurrence in a Rochester context does hint that for this masonry we are looking at an early to mid Norman building. There is only one way to find out, re-excavate the area.

The late second century rampart found in the garden of what is now The Deanery (but formerly Prior's Gate House) in 1976-77, extended northwards for a width of at least 6m. Once the third century masonry wall was built a higher backing bank was constructed. Both bank and rampart were eventually to be partly levelled off. This levelling process was presumably undertaken at the time of the construction of a Norman building in the early or mid twelfth century (see below), for obvious reasons it cannot have been later. This levelling presumably extended the soil of the bank / rampart backwards to the north for a width of at least 15m, more or less the whole length of the garden and, judging by the land profile as it exists today to the east, perhaps far beyond. Whilst no accurate level above Ordnance Survey Datum is given the top-soil was (and presumably still is) at approximately 39 feet above O.D.. This equates to c.12.20m. The top of the levelled Roman bank is 1.50m below giving a height above Ordnance Datum of about 10.70m. This is c.1.70m higher than the concrete path immediately south of the south wall of the nave. The latter is c.1m above the Roman building found by Irvine and shown by Hope on his Plate II. The level of the concrete is approximately the level from which the Norman nave wall was constructed in the late eleventh century. Whilst all of these measurements are approximations they will not be too far adrift from reality and the reader should now begin to see why they need to be mentioned. What we end up with from the south wall of the nave to the land level inside of the standing boundary wall of the Bishop's Palace is a rise of c.3m. If we make an assumption in regard the extent of the levelling out of the wall bank and earlier rampart we can, perhaps, see the approximate slope of the land c.1100 (Fig. 79b).

We cannot say for sure when this levelling of the wall-bank took place. It could, conceivably have taken place c.1090, on the other hand it may have still been present c.1120, we have no-way of knowing. The earlier rampart still survived for a width of 6m to the north (Figures 77a and 79a) and the wall-bank would be wider still. If our assumption in regard its levelled extent is correct, when standing it would have projected back from the wall for about 10m and then when destroyed by about 20m. This would allow a measurement of about 30m (c.90ft) between the south wall of the cathedral and the base of the levelled bank. This could allow part of the cloister to be built at this level. At higher level, on top of the levelled bank a further part of the cloister could be built. The cloister would have to be constructed at two different levels. Perhaps unorthodox, but whether the buildings were of timber or in stone, structurally it could be done. If the cloister was only taken back as far as the 'cliff face' it would be about 35% less in north to south width than the cloister area to the south of the quire. Even if we were to include the area of the west range as we see it today, it would also be slightly shorter in a west to east measurement as well. Such an area, even if not regarded as being too small for a monastic cloister 90ft (c.30m) x 190ft (c.60m), would certainly be regarded as being out of proportion. Only if the cloister could be brought forward to the old Roman town wall would it have a more square 'look', the look we usually associated with a monastic cloister.

That this was not done is shown to us by a combination of the archeological stratigraphy produced in the 1976-1977 excavation undertaken in the front garden of Prior's Gate House and that undertaken within the cloister garth in 2014-2016.

In the latter area we have deep gravel foundations and some remnants of masonry pre-dating the standing cloister East Range (see above, pages 55 to 57). It seems reasonable to assume that if there were early foundation trenches within what had been the Prior's Gate House garden (now the new, new, new, new Deanery garden) they would be dug and infilled in the same way. There is no sign of such within the section drawing of the 1976-77 excavation. There may be the temptation to say the monks ranges were of timber and the foundations found in the garth were for a masonry built infirmary ranges. Such a discrepancy seems unlikely, if for no other reason that the monastic ranges would (probably) have precedence, but such does remain a possibility.

Other than three small post-holes cutting into the levelled Roman wall bank each no more than 0.15m in diameter, there is no sign of a timber structure. The cloister ranges would be large buildings and would use large timbers, post-holes at least 0.40m in diameter would be present. The buildings would have earth or perhaps mortar floors. Admittedly, a grey shelly soil overlain by charcoal might represent such a floor, but if it does it is not associated with any structural evidence for walling whether timber or stone. It could be argued that the walls rose from horizontal sleeper beams set into the ground and which would be extremely difficult to see in narrow trenches, but why would such a method be used when gravel foundations over 0.40m deep with masonry walls above was being used in early Norman structures below the garth lawn. The present writer is unable to accept any of these ideas.

Philip McAleer does also point out that there is no hint that any doors passed through the south wall of the nave (1999, 44). Admittedly half the south wall has gone and most of the rest has been refaced. However, Irvine makes no mention of mortar or compacted earth floors for a walkway being present, prior to underpin trenches being dug along the length of the south wall.

If the garth as we have it today, to the east, was terraced for what some might argue were the infirmary buildings, why not terrace the area to the south of the nave as well? This is especially true due to the fact we can see the Deanery Garden area was also levelled. The labour was there, hundreds of peasants could be drafted in as necessary. Also if those infirmary buildings were made of stone, which they were, why should the monks cloister buildings be of wood? After much thought the present writer favours the foundations found within the cloister garth as representing those of the early Norman monks cloister rather than the infirmary range and the total lack of evidence for a cloister to the south of the nave is explained by it never having been there in the first place. Also, of course, the objection to the Bishop's Palace being on this site from the outset is removed.

There is no evidence, either documentary or archaeological, that the late eleventh century cloister was built to the south of the nave, whereas we do now have evidence for structures below the garth lawn to the south of the quire. We also have the very obvious fact that the latter area is that which has been levelled off.

Norman building: Let's start our exploration of the various buildings found in 1976-77 and 2005 with the Norman building (Building 2) made from Ragstone and bonded by shelly mortar. In their interpretation of this structure Harrison and Williams put forward the idea that it could be a 'porch or stairway leading up to a first floor hall', as exists at Canterbury in the building known as the Aula Nova (= new hall or new residence) or alternatively it could be 'part of the original Bishop's Palace' (Harrison and Williams 1979, 25). The present writer, for two reasons, thinks the first interpretation is unlikely. First, even though the hall itself may have been at first floor level there should still be signs of a floor

in the lower room. Such a deposit should have appeared in Trench C (Fig. 79a). Perhaps it did, but is so it is not mentioned in the text.

Secondly, some form of structural element, either foundation trenches for stone walls or post-holes for a timber building, should appear. Admittedly there is a mortar filled wall robber trench (their context 29) in Trench D, but this is too far away from the conjectured porch to be the north wall of such a hall and too close for it to be the south. Other than that feature there is nothing. This robber trench is almost certainly a continuation of a wall found in their Trench P which they regarded, without explanation, as being 'relatively modern (ibid., 24). The 'Stone Foundation' noted in Trench F (their Figure 2, here Fig. 79a) is that of the 'blocking wall'.

Building 2 appears to be free-standing. If we look at this Norman building we should ask ourselves, 'What do we see?' If looking at a plan of this building for the first time without anything else around and not knowing anything of the area the answer would (should) be, a gate-house. Measuring approximately 10m by 6m with walls 1m wide and a door (= gate) 2m wide such an interpretation seems perfectly reasonable. However, as with most of the structural evidence from the 1976-77 excavation there are problems with such an interpretation. First, a gate-house does need a boundary going off to either side. There is no sign of such in the sides of Trench F or Trench E. Admittedly a boundary may not necessarily be of masonry, it could be of timber or nothing more than a hedge but, due to the impressive nature of the conjectured gate-house, such seems unlikely. As with the south wall of this postulated gate-house the boundary wall may have been 'robbed'.

If it was a gate-house it should obviously lead into a courtyard with buildings. There appears to be no sign of a gravel or cobbled courtyard to either north (in Trench I), or south (within Trench L) of this postulated gate-house or, more correctly, not one at the correct level. Cobbles do exist immediately to the north, but these are stated as being 5ft below the modern ground surface. This appears to be too low to correspond with a threshold of the suggested gate. Judging by what we see in their Plate II (1979 facing page 36) the gravel of the gate-passage and the stone threshold appear to be not even 2ft down from the modern ground surface. This would obviously leave too much of a 'step' between the cobbles and the gate-passage. At most there should only be a discrepancy between the surface within the gate-passage and any cobbling to the north of about 0.15m. The absence of all round section drawings, so that we can see the levels of the various layers, here makes itself felt. Be that as it may, the interpretation put forward by the site directors is itself open to doubt. They proposed this cobbled surface created during the levelling of the wall bank. Ignoring the fact that this interpretation is based on seeing cobbles over an area of just c.1.70 x. c.0.25m in extent, for two reasons this seems to be incorrect. First, why would the work force bother? Secondly, if it was to do with the removal of the wall bank such a surface should appear in the section drawing of Trench F. It doesn't. There is only one way to find out what is going on, re-excavate the area.

One of the questions we should be asking ourselves is, were there buildings to north or south of this conjectured entrance? Or to put it another way, where were the buildings to which this conjectured gate led? The 1937 plan (Fig. 11) does hint that there was a Norman building to the north, but the 2005 excavation hints of two Norman buildings to the south (see below, pages 74 and 75). If access was from south to north there should be some sign of gravel access routeway within Trench L, and perhaps other trenches. Other than a chalk and mortar floor, originally tiled, for the east wing of the Bishop's Palace, no such surface is mentioned. To the east we do have a road, still in use. We know this road was present in the eighteenth century and, by implication, due to the presence of the Almoner's Gate at one end and the Prior's Gate (and an earlier gate adjacent to Building 3) at the other, there was access to the area in the medieval period. Admittedly this access was more probably into the bishop's court than along a planned lane. That access would, however, have required an opening through the old Roman town wall. The suggested internal turret (Building 3; Figures 76 and

77b, Plan 2) would stand to the west side of the opening which would probably be nothing more than a gap closed by a door, but perhaps with an arch above.

If the identification of this structure (Building 3) as an internal turret is correct, these are normally of Roman date. However, in 1974 a Norman turret, although in the report called a 'guardroom', was found on the north side of the city projecting internally and in association with twelfth century pottery (Harrison 1981, 105). The distinctive shelly mortar used in Building 3 would also suggest a Norman date for this structure. The existence of a gate, first suggested by Arthur Harrison and Colin Flight (1986, 21), presumably just a simple arched opening, immediately to the east seems likely. Such a gate with its attendant road would line up with the later Prior's Gate, and provide access into the bishop's court.

If Building 3 was an internal turret that would imply the Roman wall to the west would still be standing. The suggested gate through the town wall would allow access into the court, there would be the west range of the cloister on the east. If we assume the Norman building does represent another gate there would, presumably, be a boundary wall attached to that building and would (presumably) block off any access between itself and Building 3. From the outer gate the visitor would walk north, with a wall on their left, then turn to the west and then south to pass through the inner gate. Again there is only one way to find out if such ideas are correct (or not).

Between the suggested inner gate and the Roman wall there is only a 7m width. It is unlikely, therefore, that the hall and solar ranges for a conjectured late eleventh century bishop's residence would be built directly in front (south) of that gate. We should remember however, that there is no reason why such buildings should be in front of such a gate, they could be to the west or even the north. The bishop's residence could therefore, have been built up against the Doddingherne Lane boundary wall with the hall aligned north to south up against that wall and the solar facing south and east (Figure 79b).

Alternatively the Roman wall could, as it eventually was, have been demolished to the west of Building 3, the internal turret, or it could have been utilised, just as in the refectory to the east. The bishop's residence could have been constructed to the south of the old town wall. However, whilst a building was placed here in the fifteenth century (assuming the window in the west gable is that late) such would be unlikely in the late eleventh or twelfth centuries, if for no other reason that it would be built either in the still open Deanery Garden Ditch or if it had been infilled the material would still be loose and unstable. The suggestion of a thirteenth or fourteenth century date by Patricia Clarke, as mentioned above (page 69), seem far more reasonable and such would allow (if of the later thirteenth century or later) to allow some compaction of the ditch infill to take place. However, with infill slumping the cellars could still originally have been a ground floor.

The western boundary wall would be along the line of what is now, very largely, early nineteenth century walling fronting onto Boley Hill (Doddingherne Lane). To the south of South Gate House parts of a medieval wall, assumed to be of the early thirteenth century, still exist, and the old Roman South Gate was still in use attached to another remnant of the old town wall perhaps down to the early thirteenth century. Also at the far north end of this boundary wall some medieval masonry still survives. Two stones of a quoin can be seen. The present writer has always assumed they represented a building earlier than the brickwork above. There are also indications that the quoin stones were themselves later in date than a flint wall (Building 5). Today only two courses of that wall can be seen stretching for a length of about 3m, but twenty years ago a third course could also be observed. The two surviving courses have the hint of herring-bone masonry. Whilst not a good example of such coursing, some of the flints can definitely be seen to be set in opposite slanting directions. Such coursing would suggest a date of pre-1200 and probably pre-1150. A blocked door and threshold of a

later structural phase can also be seen (Building 6). This herring-bone wall would have overlaid the compacted chalk foundation mentioned above (Building 1). The latter, at one time thought to be Norman in date is now considered more likely to be Roman. That this foundation steps out at least c.1.50m from the line of the precinct wall would represent a major change in the property boundary which the present writer just doesn't think the medieval Church would accept. In addition, despite what Hope shows on his precinct plan (Fig. 6), there was no sign of an earlier north to south boundary wall, which would have had to exist to the west and which (assuming it came to the west of the footpath) would have been seen in 1998.

Later buildings: The excavation of Harrison and Williams within the front garden of the Bishop's Palace or, more correctly, the eighteenth century building known as Prior's Gate House and now called The Deanery has been the most interesting that has taken place in the precinct. As well as the Roman rampart and wall it revealed a hitherto unknown masonry Norman building dating to the first decades of the twelfth century (pre-1140). The fifteenth century east wing of the Bishop's Palace was also revealed. Problems in relation to the understanding of the function of the Norman building are considerable and have been briefly mentioned above. The east wing of the palace is shown on the 1719 print of Rochester (Fig. 80) which appears in the History of Kent by John Harris. It had been demolished by the time Baker's map of Rochester (Fig. 9) was published (Denne 1772).

Whilst both the Norman building and the east wing of the palace were excavated over a large enough area to create their plan, very great problems arise in understanding the other fragments of walling found (Figures 80 and 81). Six walls were observed:

Wall A. Described as a 'blocking wall' which crossed (i.e. cut) an earlier wall (Wall B).

Wall B. This wall had an associated chalk floor containing fourteenth century pottery.

Wall C. A foundation which overlapped the north wall of the Norman building, described by the excavators as being '3ft thick'. This presumably means its width rather than its vertical measurement. This wall is not visible on their plan (see below).

Wall D. A wall of Ragstone and flint in Trench P. This wall is described by the excavators as 'relatively modern', but no explanation as to why is given in the text and it is not shown on their Figure 3, or if it is, then it is not clearly shown.

Wall E. A foundation in Trench N, also described as 'relatively modern'. Again no explanation for this assertion is given, but it does appear in their Figure 3. As far as this writer can judge this wall forms part of the west wall of Building 3, the internal turret, the south end being cut away for the insertion of a soakaway. (The site directors do, quite rightly, have a ? against that interpretation on their Figure 3. The effort involved for a pit to be dug here would be excessive). Admittedly the wall could be aligned east to west and form part of a completely separate structure, but on the basis of the evidence that we actually have a Norman date for this wall seems the most valid interpretation.

Wall F. A wall on top of the Roman wall in Trench N was built partly of eighteenth century bricks.

In addition

Wall G. This wall is still there on site today in the form of the boundary wall. The Ragstone and flint wall long the line of 'Prior's Gate road' stands about 2m high. At one time it had a large fragment of opus signinum concrete (c.0.15 x c.0.10m) near the wall top. but this disappeared after the 2005 wall re-instatement project. This wall may date to after 1840 for a cathedral precinct plan of that date

shows the northern part of this wall is at a definite angle rather than the curve that we see today. The north wall facing onto Collage Green is made from late sixteenth or seventeenth century bricks and a date of c.1600 may well be applicable.

The 2005 excavation then revealed a further six walls all of which are probably of medieval date (CAT context numbers 219 and 220 and 236 to 239; here Walls H to M). Two of these walls (Wall H and Wall M) are probably the same as walls (Wall O and Wall N) found in 1998 and 2007.

All the walls found due to mortar colours, alignments or stratigraphic positions, make an already confused situation more confusing.

Assuming that the dates given for the east wing of the Bishop's Palace and for the Norman building are both correct we have to fit all the other walls into the period c.1140 to c.1450. The present writer would be quite happy to see the date of the Norman building pushed back two or three decades to c.1110 or even c.1100. This judgement is based purely on the type of mortar used, which is described as 'very shelly soft yellow mortar' (Harrison and Williams 1979, 22). Whilst no accurate date for this mortar type in Rochester has been definitively shown, a date of c.1110 or c.1100 is just as likely as one of c.1140. However, we should always be careful of archaeological deductions based on mortar type alone, but luckily, here we can see the stratigraphy pushes this building back to the start of the medieval structural development of the site. This factor, along with the mortar type, show us that a date sometime in the early to mid-Norman period for this masonry is assured. Three walls (Walls A, B and D) found in 1976-77 in a section of text coming after the description of the mid-fifteenth century east wing are confidently described as 'Later Features' in that report (*ibid.* 24). Whilst there are no stratigraphic relationships between the masonry of the fifteenth century Bishop's Palace and these three walls, at least two, Walls A and B, and probably all three, are earlier, not later, than the east wing. This has to be so, for three reasons. First, Wall B, is associated with a chalk floor containing fourteenth century pottery, in other words circa one hundred years earlier than the east wing of the palace. Whilst in itself, this is not a conclusive reason for it being earlier, for it could still be a 'later feature', it is overlain by the so called 'Blocking Wall' (Wall A). This wall has to be in use when the Norman building was still standing, for it meets the north-east corner of the latter and does not appear in any of the trench sides (Trench C, L or I) excavated within the east wing of the later Bishop's Palace. Lastly, the Norman building, and presumably the 'blocking wall' have to be demolished at the time of (or before) the building of the (supposed) fifteenth century east wing.

Let's move on to the other short lengths of walling found in 1976-77 and see what we can make of them.

If you have a chalk floor in association with a wall (Wall B) it is a reasonable deduction that the floor will be inside a building (Building 7). Therefore, it follows that there should be another wall parallel to that found. It is also a reasonable deduction that there should be two other walls at right angles joining these two parallel walls together and hence a rectangular building must exist. The width and length of that building are both of course unknown, but we can make a reasonable estimate. To the south-west it cannot extend as far as Trench E of the 1976-77 excavation for otherwise it, or its robber trench, should have appeared in the east face of that trench. No masonry and no sign of a robber trench can be seen in the section drawing, Figure 2, of that report (here Fig 79a). If we are totally objective, it is possible that all trace of either could have been destroyed by later digging, but as the 'displaced wall bank' soil continues from Trench F into Trench E with only a couple of not very large post-holes disturbing its profile such seems unlikely. Therefore, the south wall of this building must exist somewhere to the north of Trench E. If there was a gate next to the Norman tower (Building 3) it seems a reasonable deduction that there was access (whether it is called a road or a courtyard is irrelevant) leading into the bishop's precinct at this point. How far to the north that access actually

went we have no-way of knowing, but it seems reasonable to deduce that an open ropeway in between buildings reached as far as the south-west corner of the cathedral where another gate, the Almoner's or Great Gate was situated (Fig. 6). If that is accepted then the east wall of this building cannot extend too far eastwards otherwise it would block this access way, a maximum length of 10m would seem reasonable. It would probably be slightly less, say 8m, in which case a width of 4m or slightly less would seem likely and hence we obtain a building as shown on Figure 83a. The chalk floor of Building 7 contained pottery of the fourteenth century and hence provides a terminus post quem for Wall A and perhaps for Wall B.

As the 'Blocking Wall' (Wall A) cuts Wall B it is a reasonable deduction that the building represented by the latter wall had been demolished at the time of, or before, Wall A was constructed. That Wall A appears to end at the north-east corner of the Norman building (Building 2) would hint, very strongly, that this structure was still standing. There is no hint that Wall A went over a demolished wall of Building 2 and there is no sign of its continuation in Trenches I, C or L, across the east wing. Therefore, it would seem that Building 2, the earliest medieval structure, on the site was still standing in the late fourteenth or early fifteenth century and was, presumably, not demolished until the east wing of the Bishop's Palace was constructed c.1450. The 'Blocking Wall' may be just that, a boundary wall. There appears to have been no contemporary floor surface, or if there was none is mentioned, nor does any wall found in 2005 run parallel or at right angles to it. Based on what we have we have to accept the interpretation offered of it being a 'blocking wall' or perhaps a more correct title might be garden or boundary wall. However, further excavation may lead to revision.

To complicate matters we do however, have a mortar floor to the south of this wall (Building 8). In their Figure 1 of the 1976-77 excavation report Harrison and Williams show such a floor within Trench H. This mortar floor is not mentioned within their text at all! This floor may (or may not) go with the Ragstone and flint wall (Wall D) in Trench P. In their report they describe this as a 'boundary wall of relatively recent date', but because of the lack of section drawings within their report we cannot be sure if the floor went with that wall. We just do not know how deep Trench H was in relation to Trench P and hence do not know the relative depths of wall base and floor. In addition to that, there is no explanation as to why Wall D was regarded as 'relatively modern'. If Wall D and the floor did go together then it will not be a 'boundary wall', it will be the south wall of another building and could easily be of medieval date. Even if that is not the case the presence of the floor tells us that there had to be a building in some form, either masonry or timber-framed, present. A mortar filled 'robber trench' (their context 29) is shown in the east face of Trench D (their Figure 2, here Fig. 79a). One is tempted to say that floor and Wall D and the robber trench all go together and form a building coming off at right angle to the mid-fifteenth century east wing. The problem with that theory is that we have no sign of a floor, north wall or a robber trench for this building in the side of Trench E. The 'stone foundation' shown in Trench F has to be the 'blocking wall' (Wall A) going off at an angle to the north-east so that feature cannot be the north wall of this conjectured structure (Fig. 79a). It is just possible that a wall trench could exist within the 1.25m unexcavated area between Trench E and Trench F, but that (even for AW) is stretching conjecture a bit far. In their plan, what may be a post-hole appears up against the west face of Trench H and it is of course possible the whole of this building, which the floor tells us had to be present, was a timber-framed structure, perhaps partially destroyed by Wall D (of (unexplained) 'relatively recent date') in Trench P. What appear to be further post-holes, at least two and perhaps three, are shown in the section drawing of Trench E. Perhaps significantly a very level grey shelly soil deposit overlain by an equally level layer of charcoal (their context numbers 5 and 6) exist immediately above these possible post-holes. Whether the shelly soil represented an earth floor we are unable to say. The charcoal was presumably cold when deposited for otherwise signs of scorching on the soil surface would surely have been mentioned. (At least one likes to think it would be mentioned, but the more one reads the report the less sure we can be!). There is no sign of the mortar floor in the section drawings of Trench D and Trench E, the east sides of which are only 0.45m

away from the west face of Trench H. Such a width is unlikely to contain a north to south aligned masonry wall or its foundation. In this writer's view the presence of a timber-framed structure seems the most likely interpretation of this meagre evidence. If that idea is correct then Wall D may well be a later boundary wall, but this writer is unable to see why it should be 'relatively modern'.

Whether any of these deductions are true can only be found out one way. The areas within the garden need to be re-excavated and the walls and floor surfaces followed so as to reveal their relationships one to another and the adjacent layers. This does of course assume that the layers and walls in question have not been dug away in the eagerness (fanaticism?) of the excavators to uncover Roman deposits. So much more could have been done with this excavation and the subsequent report. AW is quite sure more could be learnt from the archive material, if there is any, but AW is equally sure it would take considerable effort, even if it could be located.

As if the above weren't problem enough, Harrison and Williams tell us there was 'a foundation 3ft thick constructed of Ragstone , chalk and some pieces of fire-reddened Caen stone', (Wall C) overlapping the north side of the Norman building. When first studying the plan this writer thought that they had not shown this foundation. However, after some thought it was realised that what should be the foundation is represented by lightly lined shading. This shading in Trench I, and also in, what is here designated, Trench Ia, looks, to this writer, more like a stone rubble surface. The shading used bears no relationship to the key (nor does the key show the shading of Wall A or Wall B come to that). Their '3ft thick' presumably means 3ft wide. On the east side of Trench I, aligned north to south, we can see an edge to this material, the measurement there does represent 3ft or thereabouts, but we can of course see that it passes beyond the limit of the north side of this trench and, hence, is not its full width. On the west side of Trench I we have another north to south aligned edge, but the east to west measurement between the two edges is the equivalent of 10ft (c.3m). Also of course we can see a northern edge in Trench Ia. The north to south measurement across what is assumed to be the same material in each trench is in the region of 8ft (c.2.60m). Presumably it was not dug away to the east when the stone cobbles '5ft down' were revealed and so we have its limit in that direction, but we can see that the material passes further to the west (as shown in Trench Ia). This is a classic example of why separate plans at different levels need to be drawn, rather than a composite plan or, if not drawn, why a single plan has to have adequate notation. The lack of a section drawing is even more disappointing. If this material does represent a foundation we are looking at a wall almost 12ft wide (not 3ft), of unknown westward extent and which just comes to a stop at its east end. The conclusion has to be that this is not a foundation. The type of shading used (a very minor point) and its extent, at least 12ft east to west and 8ft north to south, suggest this is far more likely to be a rubble pavement outside of the door into the Norman building. We are told that it 'partially' overlaps the Norman building, but unfortunately not which part of that structure. From its position on the plan we could surmise that it overlapped the door passage. Such an overlap is not a problem, the two could still be contemporary. Admittedly, the statement that this wall was apparently constructed, 'At some period after the demolition of the Norman building ...' (ibid., 24), is more of a problem, but the lack of a section drawing showing demolition material of the Norman structure below or being cut by this supposed wall, creates considerable doubt. If it is a wall foundation, then its date has to be sandwiched between the demolition of the Norman building and the building of the east wing or, alternatively, it may represent a separate structure after the building of the latter, but before the ?early seventeenth? century northern garden wall was constructed. Whether it formed a building or a boundary wall or, far more likely, a rubble yard surface in front of, and contemporary with, the Norman building, we also have no-way of knowing. There is of course a way to find out ... shovel, dirt, dig. The only way!

The excavation undertaken in 2005 creates even more problems. Within the archive report (Guinness 2005) there is a considerable amount of information, but there was no attempt to solve any of the problems (even assuming they were identified) created by the earlier excavations. At the end of the

day the work is little more than a list of what was found. For this individual the text, drawings and plates were not always easy to relate one to another. (However, that may well be a failing (one of many) on the part of AW). Six potential medieval walls are mentioned.

Wall H (CAT context 219). A length of wall c.2.50m in length and c.0.40m wide in line with Wall O found in 1998 and 2007. However, the masonry was bonded by a completely different type of mortar (see below). The wall is described as being of eleventh century date, albeit with a ? on Figure 2 of the 2007 report.

Wall I (CAT context 220). A very short length of wall coming off at a right angle (to the west) of Wall H.

Wall J (CAT context 236). A wall c.1m in length and c.0.50m wide. This may, and probably did, form the west side of Building 3.

Wall K (CAT context 237). A much robbed fragment of wall abutting Wall J.

Wall L (CAT context 238). A short length of wall abutting Wall J.

Wall M (CAT context 239). Not noted on Figure 2 of the report, but it can be worked out that this must be the wall that abuts Wall J from the east and was probably the same as the northern portion of Wall N found in 1998.

None of these masonry elements are easy to understand. Wall H was, at first thought to be a continuation of Wall O found in the roadway in 1998. However, it would appear a completely different type of mortar was used to bond the masonry. In the 1998 excavation the use of a hard chalky off-white mortar was noted whereas in the 2005 excavation the material bonding the Ragstone and flint rubble was described as, 'dark orange-brown moderate sandy mortar' (Guinness 2005 para 5.3.10). Whilst mortar differences can occur in a very short length of walling the discrepancy here is quite considerable. However, after much thought the evidence of the alignment outweighs the difference in mortar colour and the two walls are here regarded as part of the same structure. They may have been built on different days with different materials. Such an assumption may of course be completely wrong. The statement, 'the wall appeared to predate the previous foundations, located to the north in 1976-77', (ibid. para 6.3.3) and its being given an eleventh century date (albeit with a question mark) on the plan, is unlikely to be correct. Its northern end, just 0.40m below the modern ground surface (ibid. Fig. 2 in that report) is too close to Wall B and its associated chalk floor. The floor should have appeared in the trench side of the 2005 excavation all we have is a note stating, '1976-77 trial trench'. This is telling us that the floor has either been destroyed by Harrison and Williams or survives at a lower level. One does like to be optimistic and AW has opted for the latter interpretation. Unfortunately because of the lack of section drawings from the 1976-1977 excavation we do not know at what level that wall was found. If it is accepted that Wall B is at a lower level, then Wall H cannot be eleventh century or anywhere near as early. It must be fourteenth century or later. The use of hard chalky mortar in Wall O, here regarded as contemporary with Wall H, would also hint at a late medieval or even post-medieval date rather than one of the late eleventh or twelfth century. (Having said that the dark orange-brown sandy mortar would be fine with that earlier date).

As Building 9 would not have a wall (Wall B) from an earlier structure protruding through its floor, logic tells us that Wall H must either be contemporary with, or later than, that floor. This wall was regarded as either a 'freestanding boundary wall or an internal wall within a larger structure', (ibid. para 6.3.3). One would like to say that it was contemporary with Wall B, but it is no-where near a right angle with that wall, nor with the later Wall A. Admittedly there is a thirty year break between the two

plans and different excavators will be using different fixed points and this sort of problem can account for discrepancies in drawings. However, here the difference is so large, twenty degrees, that we should be able to discount such an error.

That another wall, Wall I, came off at a right angle before the north end of Wall H was reached does, suggest that, even if the latter does form a boundary wall, we are looking at a building extending westwards (Building 9). As with Wall B, so this wall also must end before Trench E of the 1976-77 excavation are reached. Also, as no southern wall of this conjectured structure appears in Trench H or Trench P then its west wall must be to the east of those trenches and hence much of the building (assuming such existed) will be in the entrenched part of the garden and at a lower level than the 2005 trench

Despite the significant discrepancy in mortar type between Wall M and that found by the present writer in 1998 and 2007 (Wall N), compact yellow mortar and shelly mortar respectively, here the two walls are regarded as forming part of the same structure (Building 3). Repairs or alterations may have taken place, indeed we know that they did, for the external face of both the north and east walls were repaired with flints. Rather surprisingly Wall M abuts, rather than bonds with, Wall J, which was bonded by a dark yellow mortar. For the original interpretation of there being a Norman tower at this point to remain 'safe' they should bond. However, even with this (relatively minor) stratigraphic problem it is hard to think of any other valid interpretation for the small square structure that appears here.

Harder to explain, is the presence of Wall K and Wall L. The text of the 2005 report tells us,

'Fragmentary traces of a wall return (237)(Wall K) suggested that the northern end of wall 236 formed the north-eastern corner of a structure', (ibid. para 5.3.2).

Presumably here the two walls (Wall K and Wall M = 236) bonded one with another. It would appear that we have another building to the west of the suggested tower. However, that the two walls together formed the north-east corner of a building, which then has to be situated to the south, is more problematic. More problematic if for no other reason that Wall L would be in the way. Wall L then creates even more problems for in the key of Figure 2 of the 2005 report this wall is shaded as being an eleventh century wall (albeit as with all the purported Norman walls it is shown with a question mark), but in the text it is described as, 'may have been a later foundation' (ibid. para 5.3.7). The foundation abutted Wall J and was bonded with 'a clay-mortar matrix'. Assuming it is a Norman wall it seems unlikely that Wall K could represent a building to the south, up against the Roman town wall, but such a structure (Building 11) whilst quite narrow, c.3m, could be represented by Wall L. If that is the case then Wall L and Wall M do not form the north-east corner angle of a building, but the south-east corner of a building situated to the north (Building 12). As with all the other conjectured buildings we do not know the westward extent of Building 11 or the northern (or western) extent of Building 12. Wall K could be an eastward extension of Wall D, but even if that is correct there still has to be east, north and west wall.

As with the 1976-77 excavation, with only minimal excavation in selected areas, far more could have been achieved with the 2005 project and especially its report. AW is fully aware that there are all sorts of limitations as to what can be done and where with any commercial archaeological project, but very small trenches (a 'sondage') quickly dug, recorded and backfilled before anyone, who might object, knows it has been dug, can tell us so much.

With the two projects undertaken by the present writer in 1998 and 2007 the structural elements are (thankfully) relatively easy to describe, if for no other reason that excavation was limited to removal

of the modern tarmac and its underlying brick rubble bedding, a depth of no more than 0.25m. The impressive archaeology revealed was then cleaned and recorded. Fragments of the Roman town wall were found in the 1998 excavation. Extending northwards from the inside face of the Roman wall three fragments of wall (Wall N), consisting of Ragstone rubble bonded by a yellow shelly mortar, were observed. A later flint facing had been inserted along the external face of the wall and was again observed when the north wall was further exposed in 2007. This refacing is not mentioned when a c.1m length, forming the west end of this north wall was found in 2005 (Wall M). A c.1.50m length of the west wall was also observed in the 2005 excavation (Wall J) and a small, but un-noted, portion to the south, probably, in the 1976-77 excavation. This 2m x 1.80m (internally) structure has to be a turret. A wall (Wall O) extending northwards from Wall N is almost certainly a late medieval boundary wall constructed when, at least the east wall, of the suggested Norman turret was still standing.

In the area of the Bishop's Palace, as so often when dealing with the archaeology of Rochester, we are in a bit of a pickle. All we can say for sure in regard this area is that the structural history of the site is far more complex than is shown on any of the excavation plans or reported in any of the articles. We can put forward the following structural elements with a reasonable degree of confidence, but for the most part their extent, function and date are unknown. It is known from documentary references that structures existed on the west side of the garden area, a kitchen, wash-house, prison and 'rooms' are all mentioned (Livett 1895, 44. A corbel still remains on the inside face of the wall immediately north of South Gate House and a brick well was observed by the writer when part of the Roman wall was uncovered in (what was then) a small yard area way back in 1991 (Ward 1991b). Apparently two corbels also exist to the south (Clarke 2014)

Excluding the walls observed by Irvine and Cobb from the south wall of the nave southwards we can probably identified twelve buildings:

Building 1 a chalk foundation, passing to the west of the later monastic boundary wall will, presumably, be earlier than that wall. Now, but not at the time it was first seen, it is regarded as being more likely Roman than Norman in date and may well be associated with the building known to exist below the south wall of the cathedral nave. A wall (Wall P) seen by Greville Livett is also likely to be part of this Roman building, but may possibly be (as he thought) be an Anglo-Saxon structure.

Building 2 is Norman, datable to the earlier decades of the twelfth century and is here considered to be a gate-house.

Building 3 is Norman, datable to the earlier decades of the twelfth century and is here considered to be an internal turret.

Building 4. The northern face of the surviving block of the medieval Bishop's Palace is constructed formed from much reused stonework, but the rear, southern, face (Fig. 82) is much more interesting (and complex). Two (?)original windows survive which Greville Livett tells us are of fifteenth century date (Plates 80 and 81), but have the outward appearance of being Romanesque (see above, page 71). That they are not as early as the twelfth century is (reluctantly) regarded as being more likely, but a date in earlier than the fifteenth century seems certain.

Building 5. Two courses of herringbone masonry in the perimeter wall may represent a Norman building perhaps of the earlier twelfth century (perhaps even late eleventh).

Building 6. Perhaps a quoin, and more certainly a door and threshold, represent a building above the herringbone masonry. This structure could be of any date from the twelfth century down to the eighteenth century.

Building 7 a wall (Wall B) and more especially a chalk floor containing 14th century pottery, indicates a building existed at this point. It must date to before the east wing of the Bishop's Palace (Building 9) was constructed and it seems likely that the twelfth century Norman gate-house, Building 2, was still standing. Wall A cuts this structure, but in itself is regarded as a boundary wall rather than representing a building.

Building 8 is represented by a mortar floor (and possibly Wall D). This building could be contemporary with, date to before or date to after the demolition of the east wing. In other words we do not know its date. At a guess it is contemporary with or slightly later than the construction of the mid-fifteenth century east wing and is so shown on Figure 82a.

Building 10. The east wing of the Bishop's Palace supposedly dating to c.1450.

Building 13. Wall S and Wall R may represent a building, perhaps associated with those found in 1937 in the triangular piece of lawn to the south of the nave.

More problematic

Building 9. Two walls found in 2005 (Wall H and Wall I). In the report of that excavation they were regarded as eleventh century, but as far as this writer can see, for the reasons stated above, they have to be fourteenth or the first half of the fifteenth century. As Wall H continues to the north of Wall I the two may form a narrow room, perhaps a stair.

Building 11. Another wall (Wall L) found in 2005 also regarded as eleventh century in date and parallel to the old Roman town wall presumably forming a Norman or later structure up against that wall.

Building 12. Another wall (Wall K) found in 2005 perhaps representing a Norman or later structure to the north-west of the turret Building 3.

There is only one way to sort out the archaeological problems (basically a total muddle) in relation to these buildings. First, re-excavate all of the trenches previously dug, not necessarily all at the same time. Draw all of the exposed section sides and then expand those trenches to find the extent of individual structures. Such a project would need to be properly funded and need two or three young and enthusiastic (and paid) individuals, as well as a small number of volunteers (no more than four) to undertake the heavy work, some of the on-site recording and washing of pottery. Because of the sheer logistical problems in regard soil movement the excavation process would need to be taken over four or five weeks in summer, spread over a three or four year period.

6.2.5 The cloister

Location: Unlike most monastic establishments where the cloister ranges are to the south of the nave the cloister at Rochester is situated to the south of the presbytery and quire. Since the time of Hope (if not before) many, but not all (notably McAleer 1994), archaeologists have believed the original (Gundulf's) cloister here at Rochester was in the usual position, south of the nave and then moved eastwards c.1120 in the time of Ernulf. However, the present archaeological excavations have discovered a range of buildings below the existing garth lawn and for the reasons stated above, in relation to the area of the Bishop's Palace, and here in these paragraphs these remains are regarded as those of Gundulf's cloister.

Documentary evidence: Our documentary sources are again pretty meagre.

We have the statement from the Textus Roffensis that (implies) Gundulf built a cloister,

'also constructed all the necessary offices for monks as far as the capacity of the site would allow', (Hope 1900, 3).

This statement can of course mean whatever the reader wants it to mean. The cloister could be to the south of the cathedral nave, as it should be or to the south of the quire. Archeologically we can now see that the latter has to be correct. As with so much at Rochester what should happen in regard an early Norman cathedral plan does not necessarily actually happen.

Thomas of Nashenden after a fire, but unfortunately we don't know which one, 'gave all the stuff wherewith the Chapter House was covered', (Hope 1900, 10). As with so many of the documents in relation to the cathedral the meaning is ambiguous. Does this mean the Chapter House was refaced with the Caen Stone ashlar or was the 'stuff' merely sacking to provide covering for the scorched stonework so as to prevent rain or frost damage.

Bishop Gilbert de Glanville provided the fund for 'our cloister to be finished in stone', but we don't know what this work actually consisted of. Tim Tatton-Brown suggested it was a stone arcade upon the cloister garth wall (1988, 7), Colin Flight suggested the vaulting of the cloister alleys (1997, 224) may have been his work. However, it may be that his input was considerably more extensive. It is here suggested that the upper part of the east wall with the lower level of corbels which have definitely inserted into the Caen Stone masonry, along with a new cloister alley roof covering, was Gilbert's contribution to the cloister.

Helias (Prior 1214-18) built the doorway for the lavatorium in the South Range and had that part of the cloister towards the dorter covered in lead and the part towards the frater covered in shingles. In 1384-85 one side of the cloister, but we don't know which, was still covered in shingles (Hope 1900, 30).

In 1336 Hamo de Hethe (Bishop 1319-1352) began the rebuilding of the refectory, This, new refectory had six large buttresses and an even larger south-east corner buttress along its south wall. One suspects that Ernulf's c.1120 refectory had shown signs of cracking due to having been built close to the north edge of the Deanery Garden Ditch, or perhaps even on recent infill (Fig. 74). If it was being infilled at a date as early as c.1120 then it cannot be the defensive ditch dug in 1225.

We know from documentary sources that Henry VIII (surely one of the most obnoxious individuals who has ever been crowned King of England) after he had dissolved St. Andrew's Priory in 1540 took over the ranges around the cloister and the infirmary area as one of the royal palaces between London and the coast. The palace was short lived, being leased in 1543 by Henry and then given outright, in 1548, by Edward VI to George Brooke, Lord Cobham. He in turn sold the cloister ranges back to the cathedral authorities in 1558. Extensive demolition of the palace was supposedly undertaken by Lord Cobham in the course of the 1550s and he, supposedly, took the architectural stone and used it at Cobham Hall in the windows. In an unpublished archive report doubts in that regard are put forward, for the very simple reason all the windows are the same. They have the look of a 'job lot' especially made for the hall (Ward 2008a). It is here suggested it was the cathedral authorities after 1558 who were responsible for most of the demolition of the east and south cloister ranges and the infirmary buildings.

The former dormitory became the King's Lodging (Colvin 1982, 234-6). Apparently, a royal lodge, '.... over and beyond the east range...', is stated as being present even prior to the Dissolution of the

monastery (Cleggett 1991, 18; no source for this statement is referenced) and was then '...greatly extended' (ibid). Certainly after the Dissolution, at the very least, the king's palace encompassed the cloister and infirmary ranges. The East Range had a great or watching chamber, dining chamber, bed chamber and drawing chamber. These are all assumed to have been at first floor level, the former dorter being divided up into smaller rooms. The privy chamber was situated within the cloister garth and connected to the watching chamber by a corridor built over the cloister roof. This last chamber was presumably timber framed and presumably had a cess pit dug into the garth.

The south range, the former refectory, was made into a Great Hall which in 1542, was converted into (or at least called) a Great Chamber. Quite what the difference was is not explained. The palace also had a 'Counsell Chamber' and it has been suggested this was in the former west or cellarer's range. If correct this also would have been at first floor level above the undercroft of that range.

A new two-storey 'pages chamber' was built somewhere within the garth. This was presumably a timber framed structure, perhaps adjacent to the 'Great Kitchen'. There was also a 'halpas' joining the kitchen. The word halpas usually means a dais or raised floor or gallery, but can also mean a vestibule or porch. Either could connect the pages chamber with the kitchen.

The documentary evidence tells us that seventeen buttresses to support a new roof were built when Henry VIII took over the cloister area. A buttress is shown on the 1798 drawing (Fig. 28a) and six buttresses still survive, just 0.50m high, up against the external face of the east wall of the west range. Those buttresses can be seen to abut the wall and some (but not all) have 'Tudor' brick within their, mainly Ragstone, fabric. The buttresses were present when the west range was partially cleared of debris in 1937 to 19395 (Forsyth 1939) and it seems a reasonable deduction that these remnants are in fact the last part of Henry VIII's palace to remain standing. Admittedly they are not shown on William St. John Hope's plan of the cloister area, but the present writer is not convinced that he saw most of the walling of this range which he has drawn on his Plate VII (Hope 1900). When he saw the cloister area, an early nineteenth century house (demolished in 1937) occupied the south-west corner of the garth and would have disguised some of these buttresses and the others may well have been covered by soil or debris at that date.

Two galleries were built. One of these is recorded as being over the new cloister roof.

The 'great halpas' connected to the King's Great Chamber and the other, a 'little gallery', was situated between the old lodgings and the new. Hope tells us a halpas was over the south cloister (1900, 70), Tim Tatton-Brown states over the east cloister (1994, 21, 27), but as there were two galleries it may well be that both were meant.

The former infirmary range to the east contained the royal chapel, presumably the old infirmary chapel, and was probably used as the Queen's Lodging, the queen in question being Catherine Howard. Less likely the Queen's Lodging may have been in the long medieval buildings demolished in 1698 on the site now occupied by Minor Canon Row. This c.35m long, medieval building was more probably used to house servants. The Queen's Lodging consisted of a great chamber, chamber of presence, dining chamber, privy chamber and bed chamber. All we know for sure is that the Queen's chamber of presence was next to the King's chamber of presence.

It is unlikely that any further documentary evidence will be found in relation to the short lived palace. Perhaps the Cobham Hall archive is the best chance of finding such documentary evidence, although AW can't remember seeing anything in 2007 when he was undertaking some (admittedly pretty basic) documentary research of the hall (Ward 2008a).

Archaeological evidence: The new gravel foundations found below the lawn are regarded as the east range of the earlier cloister. The west range, if such existed, would presumably be on the site of the west range as we see it today. This would of course create a cloister area with a shorter east to west measurement. This would imply the measurement north to south would also be less, in which case the south range would (as perhaps it should in this early period) be on the inside of the town wall. Eventually archaeological trenches will tell us one way or the other. If that surmise is correct then the west and south ranges did not join with one another.

What has been regarded as Ernulf's east range was built to the east of what is assumed to be the remains of Gundulf's cloister below the lawn, but to add to our problems it is possible that Ernulf was the builder of those buried remains and that Gundulf's cloister was all of timber albeit, for the reasons previously stated on the same site. In the early thirteenth century the monks regarded the standing structure that we still see today, as being that of Ernulf (Flight 1997 152). This may be correct, but the problems in regard the architectural detail need to be taken into account.

On balance, due in large part to there being what looks like vertical stratigraphy (albeit pretty meagre) within the face of the east range coupled with the monkish tradition, the rubble work of the standing wall is regarded as that of Ernulf, but all the Caen Stone facing and architectural detail is regarded as being of the 1150s. Whether that means that the north wall of the Chapter House observed inside the vestry is all of that date as well is more debatable, but it does have to be either all of c.1155 or all of c.1120.

Archaeologically there is, also scope for finding out more of the 1540s palace. Part of a medieval or very early post-medieval building has recently been seen in the south-west corner of the grassed area. At the very least there should be remains of a royal cess pit and perhaps the lodging of the royal pages. These remains will probably not be more than 0.70m below the modern surface. Although no certain sign of anything to do with the 1540 palace was seen in Trench 1 dug in the grassed area, it is possible that flint surface (1588) formed a yard area to that structure, but no dating evidence was recovered. Part of the brick wall and a brick soakaway belonging to the 1805 prebendal house, demolished in 1937-39 were observed.

As far as the palace complex is concerned we may be able to go a bit further. In 1998 the present writer noted five buttresses added to the external face of the long medieval building demolished in 1698 and into which the early Georgian terrace, Minor Canon Row, was inserted in 1720-23 (Ward 2002). Bricks were also present, in those long buried buttresses and one can't help but think (at least AW can't help but think) that these were also 'Tudor' bricks and that this building may also have become part of the royal palace. Those bricks must certainly date to before the structure was demolished.

A late eighteenth century drawing mentioned above (Fig. 28a) shows gabled ends facing inwards (east) towards the cloister garth with bay windows and steps. An expansion in the surviving much truncated east wall of the west range, at its north end, is probably the base for one of these bay windows. Steps are shown leading up from garth level to the floor above the medieval undercroft. On their north, those steps are flanked by a buttress extending upwards to second floor level. The base of the buttress is still present, but there is no scar in the wall face to indicate the position of the steps. The last point provides a learning curve for archaeologists, when we look at upstanding structures let alone below ground archaeology. How much do we actually miss because all trace has gone?

6.2.6 The East Range

Documentary evidence: The documentary evidence for this range has been mentioned above and other than a note on Hope's work in the undercroft of the dorter is not repeated here.

Less well known than these studies of the decorated side of the dorter wall is the 1884 work of William St. John Hope to the east of the west wall within the dormitory range itself (Fig. 73). In the late nineteenth century Hope excavated a series of trenches within the yard area. He tells us that whilst he was, 'allowed to make such excavations as I pleased in the yard' (Hope 1900, 43). He in fact did not excavate any of the central pillars (ibid. 44), he only searched for the responds up against each wall. He tells us that two of the responds on the east were still visible at then ground level. Also, in 1881, another had been found when digging an ash pit up against the west wall and was still visible and in a note at the base of page 43 he tells us the next respond to the south had also been excavated and built around. Both of these responds, abacus, capital and shaft, can still be seen.

He tells us that the division between the third and fourth bays on the east was different from the others for it had a squared pilaster buttress rather than a semi-circular shaft. He regarded this as being the position of either a wall dividing the undercroft into two, or representing the position of more massive piers and arches so as to support a partition wall at first floor level. in the dorter itself.

Architectural evidence: The west face of the east range west wall is, because of its decorated arcade and the artistic detail of the doors, one of the most studied areas of architecture at the cathedral. This frontage has been studied in considerable detail for over a hundred years, but there are still doubts as to the date of the decoration. Traditionally the dorter is assigned to the time of Ernulf (Bishop 1114-1124) but, as understood by the present writer the latest suggestion is that the whole wall, both the decorated Caen Stone and the Ragstone rubble dates from c.1160 (McNeil 2006). In which case where is Ernulf's work?

According to Tim Tatton-Brown the centre of all three upper medieval windows in the west wall of the Chapter House had their chills lowered so as '.... (presumably to make them into doorways)... ' (1994, 21). These doorways supposedly gave access to a corridor built above the cloister and, if extending the whole length of the east range, effectively forming a long gallery. If this is correct the series of joist holes just below the apex of the robbed out blind arcade arches presumably belong to the 1540s alterations. Whether this floor was ever finished is a debatable point (see above, page 58).

Internally no sign of any reduction in the window cills can be seen today, all three have been made-up with modern tiles and cemented stonework in a series of 'steps', extending the whole width of each window. This hints that the cills originally sloped downwards from external to internal wall face. Although this repair work 'looks' older it has presumably occurred since 1993 when conservation work was undertaken. Indeed this is exactly what appears to have happened. The corbels below the cills had brickwork supporting them prior to the conservation work. However, because there is no sign of any other corbel line, it is considered here that they were repairs to the medieval supports. What this does mean is that the Tudor gallery over the cloister roof varied in height. A higher level in front of the Chapter House and at a lower level along the length of the rest of the east range. We can see that to the south of the Chapter House there are two levels of corbels. The lower level (themselves inserted into an earlier wall) supported the medieval pentice roof. The higher level corbels, here with much Tudor brickwork around, are also inserts and these can be regarded as part of Henry VIII's rebuilding, but whether there were medieval corbels in the same holes we have no way of knowing.

If we count the Caen Stone courses over the dorter door the irregular edge shows us that at least eight courses have been lost and replaced by rubble. Some of that rubble, certainly the curved cope, in the uppermost courses is probably of nineteenth century date but some, even above the higher group of corbels, has to be earlier than c.1540. The irregular survival of the Caen Stone coursing and the

expectation that all the c.1155 corbels would be horizontal, in other words at the same level as those below the Chapter House windows is telling us that, with the exception of the latter, all the mid-twelfth century corbels have gone. Whilst the Chapter House corbels have been reset, in c.1540 and c.1990 that there is only one level of corbelling is telling us that had to be their original height.

The lower level of corbels are contemporary with the rubble walling above the Caen Stone courses. There is no reason why the rubble walling shouldn't be the work of Gilbert de Glanville (Bishop 1185 to 1214) who is described as 'having finished the cloister in stone', (Hope 1900, 11). There is certainly no evidence to the contrary.

Admittedly, we do not know how far to the south the Caen Stone courses may have extended, but conceivably they could have continued for the whole length of the east range. We might even be so bold to say that another twenty or so courses, up to their maximum surviving height, have been lost.

At ground level two medieval windows were converted into doors, both of which today have what appear to be 'Tudor' brick jambs. However, these bricks are 'fakes' and were probably inserted in 1935 when the garth area took on the form we see today. However, one of the passage-ways, cut through the medieval wall, has a brick arch and these are different from those in either jamb and are almost certainly genuine mid-sixteenth century brickwork. Some of the bricks in the jamb of the southern blocked door are also original Tudor bricks, but may have been reset.

There may, and the word may needs to be stressed, some vertical stratigraphy within the standing fabric. The whole of one jamb survives for the southernmost window. This jamb, the southern, survives for a height of c.1.40m, the lowest course of the northern jamb also survives for a height of c.0.20m. There is no surviving portion of the arch of the window. However, it presumably sprang from the highest surviving course of the jamb, for the arcade arch situated in front, springs from that level and would be the same diameter as the window arch. Both window jambs have a c.1160 shaft in front of them. The question is, are the shafts and their arch the same date as the jambs and its own (albeit destroyed) arch? The window jambs are made from Caen Stone, in places scorched, but whether in the fire of 1137 or that of 1179 we are unable to say. The arcade shafts are also scorched and as these date from c.1155 this damage must be in the fire of 1179 (or, if looked at objectively, from a later fire about which we know nothing). If the window is the same date as the arcade why not build suitably shaped jambs at the forward position rather than flush with the rubble walling to the rear? In the view of this writer the shafts look to be out of position, they partly hide the Caen Stone jambs. However, whether they were placed in front of the jambs a few days after the latter were built, perhaps after a change in plan, or a few decades later after the fire of 1137 we, yet again, have no way of knowing. The only way it might be possible to obtain a clear stratigraphic picture would be by removal of a small part of the arcade and some of the Caen Stone ashlar blocks above. If a face, continuous with the rubble to the rear of the shafts, continues upwards, behind the arcade arches, then it would be a reasonable deduction that this was Ernulf's stonework, no doubt at one time plastered, fossilised within the c.1155 decorated face.

We can say with certainty that the infilling of the window with Ragstone rubble and other material is not confined just to the window area itself. The coursing within this window covers the stump of the northern jamb and if we observe carefully we can see that it continues northwards all the way to the next window, now a blocked doorway. This refacing presumably dates to c.1540 or perhaps more likely slightly later (c.1560) when the idea of building a palace had been abandoned. What this means is that a length of at c.3.60m of rubble facing behind the shafts is of post-Dissolution, rather than medieval, date.

The main dating problem arises in regard the date of the standing range. Traditionally it is regarded as being built by Ernulf. The later architectural detail within that range has long been regarded as representing a refacing after the fire of 1137. As far as AW can see there is no actual sign of a reface. Internally, within the late medieval vestry (the old library) neither the foundation or the upstanding north wall of the Chapter House showed any sign of rebuilding, therefore that wall, at the very least, has to date to either c.1120 or c.1155, not both.

Archaeological evidence: In 1937 the East Range cloister walkway was dug down to its present, more or less the medieval, level. Over the centuries material had accumulated within the alley way. A small excavation was also undertaken within the Chapter House which is why the ground surface is at two different levels.

In the 2014 to 2015 project a service trench was dug adjacent to the north wall of the Chapter House. This work has been described above (see above, page 57).

The undercroft below the dormitory has long since been infilled, probably in the 1560s when the Dean and Chapter demolished the monastic buildings and was presumably cobbled over when it became the Deanery kitchen yard sometime in the seventeenth century. The yard was cobbled until well into the twentieth century, when it was already part of King's School, and a few photographs dating to the 1920s show its then appearance.

6.2.7 South Range

Little of the South Range survives. In 1772 Samuel Denne tells us that there were still columns and arches facing Minor Canon Row (Denne 1772 ; 1816, 86-7). Hope makes no note of these, but was able to record (1900, 48) the presence of the seven buttresses and a wall across the refectory at its west end creating a 4m wide room. This wall had a door at its south end and had only recently been demolished. There was another cross-wall at the east end creating another room, the 'Dark Entry'. Other than those features he saw nothing and one gets the impression the floor levels of the undercroft were not revealed or if they were he missed them. Three structures, of which the western may be part of the medieval kitchen, are shown on Figure 27c.

Very little if anything of what was originally the Roman town wall is actually Roman, it has seen much refacing, and even if any Roman work is visible it will be core. Part of one capital and one shaft of the cloister walkway can be seen. These were hidden from Hope by the house of the third prebend, but he was able to see the thirteenth century lavatorium for the washing of hands for the monks prior to entering the refectory and a superb drawing appears in his 1900 article.

Returning to the seven buttresses, seen by Hope. These were of course attached to the refectory of Hamo de Hythe not that of Ernulf. Having said that, whether the refectory was actually rebuilt in our sense of the word in 132? or merely underwent an extensive repair we have no-way of knowing. Ernulf's refectory was presumably built on the berm between the old Roman town wall and the inner edge of the defensive ditch. Over time that slope would almost certainly have moved and it may well have been necessary to rebuild and / or buttress the south wall. Whether the ditch had been infilled in 132? or c.1120 or any date in between we again have no-way of knowing. The infilling must have happened before the long building to the south was constructed and this is assumed to be the 'long bakehouse' built by Hamo. If the pit and floors found by Chaplain c.1960 (see above, page 64) have been correctly dated to the thirteenth century then the ditch must have been infilled in that century or earlier. If Ernulf's 'new bakehouse' was on the site of Hamo's 'long bakehouse', as suggested by Hope (1900, 52), then the infilling of the Deanery Garden Ditch, at least in this area, must have taken place by c.1120. Such an early date has to be doubtful, if for no other reason it implies there was no

ditch on the south side of the city until that of c.1225 was dug. That ditch would have to be the King's Orchard Ditch the material of which is usually regarded as having infilled the DGD, it is hard to see where else the excavated material could have gone.

6.2.8 West Range

Philip McAleer (1993) has written the only really informative article on this range. It is barely mentioned by Hope very largely because it was still covered by the house of the third prebend in his day.

Documentary evidence: There appears to be none. We have no record of who built the west range. McAleer tells us that architecturally there is no reason why it should not have been Ernulf (McAleer 1994), but Colin Flight tells us it was first built in stone in the mid-twelfth century (Flight 1997, 153).

Ernulf is recorded as building an east range (including a Chapter House) and a south range. No mention is made of a west range. However, just because the latter is not mentioned that does not mean to say it wasn't constructed or in the process of construction at the time he was bishop, and it has sometimes been put forward as having been the east range of Gundulf's cloister supposedly built to the south of the nave. If this range was Gundulf's time we can say it would have to have been the east range, not the west range of his cloister garth.

Architectural evidence: McAleer brings to our attention the architectural detail, in the form of a series of shafts with capitals within the south room of this range. He saw no reason why this detail should not date to the, 'first quarter of the twelfth century', with the implication that the west range, as with the east and south ranges, was of the time of Bishop Ernulf (McAleer 1994, 20). We can, of course, point out that the date range given would include the last years of Gundulf's bishopric.

In McAleer's article there is a wonderful c.1798 drawing of northern portion of the east wall of the West Range drawn by William Alexander (Fig. 28a), is depicted. This range was pulled down early in the nineteenth century. On the drawing, other than a Romanesque window high up in the northernmost part of that wall, most of the structure shown may well be timber-framed and has all the hallmarks of being very late medieval or early post-medieval in date.

Archaeological evidence: Despite there having been archaeological observations and excavation along and adjacent to the west range none have helped date the original structure.

Irvine's observations below the south wall of the transept show that an earlier wall existed at that point, but not how it relates to either the west range or an earlier transept. It is assumed to be of late eleventh century date, but it could just as well be of any date prior to the building of the transept in its present form in the thirteenth (c.1240) century.

In 1938 there was an excavation in the south end room of which couple of photographs exist. In 1982 there was an excavation on the site and just to the south of the 1980s south porch. Parts of the late medieval tile floor of the west cloister walkway were found in situ (Bacchus 1985) and the detail than discovered has been added to Figure 63. As has the detail from trenching undertaken by Graham Keevill in 2010a when he tile floor was found and dug through. Several walls of one of the prebendal houses were found along with walling which may have been of medieval date.

Whilst the excavations in the area of the West Range in 2014-16 were limited we also have to take into consideration the work and observations that have been undertaken in the area of what is now

the south aisle of the cathedral, for we have to remember that eventually the north wall of the west range became part of that structure.

We can see that the quoin within the south quire aisle is the earliest detail in this area, but other than saying it is Norman, in year terms we have no idea of when. It is almost certainly pre-c 1140, it could easily be 1120 or 1100 or even c 1085. Whilst the architectural detail at the south end of the west range may well date that area to c.1120 it does not necessarily date the north end of the structure. Even the window shown in the drawing of c.1798 (Figure 28a) at the north end of the range has another larger arch above. Is this an earlier window or a relieving arch.

If we accept that the evidence from the garden of the Bishop's Palace is showing that there was no cloister there in the time of Gundulf and that the remains found in the cloister garth is his work, then there is no reason why the west range, or at least part of it, should not represent the late eleventh century west range of his monastic enclosure.

The cloister garth.

After the demolition of Gundulf's ranges the garth was, apparently, kept as a mown lawned area (as now) for the whole of the medieval period (Hope 1900, 29) and apparently used for the cleaning of carpets. This long standing lawn goes some way to explaining how the foundations of the late eleventh century east range survived so well.

With the limited trenching undertaken within the lawned area, and very surprisingly, remains of very impressive gravel foundations appeared. That these foundations supported a stone structure was shown by the small areas of masonry that survive surviving on the northern foundation of this building (see above, pages 54 to 57).

6.3 The cathedral church.

Ideally a long and detailed descriptive account would be given here of the entire church, but neither time nor money (let alone knowledge) is available for such an endeavour. Also of course, much would merely repeat what has already been said by Irvine, Hope and Livett in the nineteenth century and McAleer, Flight, Tatton Brown, Holbrook and others in the late twentieth and early twenty-first centuries. In these paragraphs an attempt is made to bring together the information and some ideas in regard the development of the Anglo-Saxon and early Norman church. Along the way a small number of archaeological or architectural points not (at least as far as the present writer is aware) previously observed will be commented upon.

There will, no doubt, be those who disagree with any interpretations offered here. That will be their problem.

6.3.1 The Anglo-Saxon church

Hope's 'church' below the south wall of the nave can be easily dismissed. It was a Roman building. The idea of an earlier church either to north or south of the Norman east end, put forward by Philip McAleer has no supporting evidence (McAleer 1999, 17), which of course does make it difficult to disprove, but the onus is on the originator of the idea to put forward such evidence. The evidence, such as it is, in regard the transfer of the early bishops, as put forward by McAleer, can be looked at in different ways.

In regard the church put forward by Raleigh Radford in 1969 below the crossing of the Norman nave it cannot be dismissed so easily as it has been in the past. The present writer in a long and complicated article (Ward 2013, 2015f; the information and ideas therein are not repeated here) has attempted to put forward the evidence in an objective manner and certainly 'wants' such a structure to exist. However, the Ragstone wall found by Radford may represent a sleeper foundation, aligned north to south for the early Norman transept and east to west for the early Norman crossing. That the north face of the latter is not in line with the piers as they exist today does allow some hope of an Anglo-Saxon date. However, if looked at objectively these remains are more likely to be part of Gundulf's building and may even be part of the north-east pier of his crossing. Until the stone slab floor of the crossing and the western side of the north transept is taken up we will never be sure.

Overall, and very reluctantly, the present writer is coming around to the idea that there was only the one church of Anglo-Saxon date and not, as sometimes occurred (e.g at Canterbury, Winchester, Glastonbury) two or more churches. At the end of the day whilst archaeologists (including the present writer) may 'want' a second church to exist and whilst conjectural ideas for such can be put forward, there is not a shred of topographic, architectural or documentary, evidence for such an assertion. Taken by itself the archaeological evidence that we have at present is, at best, ambiguous.

For the Anglo-Saxon church found by Livett various short articles have been published from the time this undoubted pre-Norman structure was first found in 1888 up to the present day. For the most part they merely repeat (for the obvious reason that is all they can do) the description of the original excavator Canon Greville Livett (1889, Hope 1898, Palmer 1897; Flight 1997; McAleer 1999; Ward 1999a, 1999b, 2001, 2002, 2015a; anon. 2003).

In 1888 whilst underpinning the west front of the cathedral was in progress, Greville Livett recorded an earlier Norman west front. This building must represent Gundulf's cathedral of c.1088 and itself had cut through the apse of an earlier building. Stratigraphically this building has to be of Anglo-Saxon date, if for no other reason that a still earlier building (Roman), buried below some 0.60m of soil, is in turn cut through by the foundation of this structure. The lowest structure found cannot be a porticus belonging to the Anglo-Saxon church, it has to be Roman in date and is almost certainly part of the building found by Irvine below the south wall of the nave (Ward 2015a). Much of the apse and a small part of the nave of the Anglo-Saxon church were observed and recorded in 1888 (Livett 1889) and the present writer was lucky enough to uncover more of the foundation of the nave when College Yard was relaid in 1998 (Ward 2002). The burial ground to the west was probed and Livett tells us he found the north and south walls of the nave below the soil (Livett 1895, 18-19).

The size of the building found by Livett has been used to argue that this structure was too small to be a cathedral (Hope 1900, 21; McAleer 1999, 17). For two reasons this is a fallacy. First, the seventh century population of Rochester would have been very small, and some, at least down to the mid-seventh century, would probably have remained pagan. They built the church for the people who were there, not for those who might be there several hundred years later. It is worth pointing out at this point that it was not until the time of Whitred (King of Kent 691-725) that the Lord's Day had to be observed as a day of rest (Witney 1982, 167) and, by implication, attendance at a Sunday service became compulsory (presumably so that the Church could tax everyone!). Secondly, even in the late Anglo-Saxon period the population would have been in the middle to high hundreds rather than thousands, and we should remember they all would have stood during a church service, there were no seats. Also, we have no way of knowing how long it was before other churches existed. One church, St. Mary's, is mentioned outside the town wall c.850 and by the mid-eleventh century St. Clement's and St. Margaret's may have come into existence.

Another potentially incorrect claim is made visually on Hope's 1898 plan. On this drawing he shows two columns creating three arches between apse and nave. These columns were not seen at the time of Livett's observations and it seems likely that they were put in by Hope because it was already known that at St Mary's Church, Reculver and St Peter's Church, Bradwell, Essex such did exist. Indeed, such were also found by Hope himself at the Church of St. Pancras in the grounds of St. Augustine's Abbey, Canterbury a few years later. Such a division may have existed at Rochester, but only at St. Pancras, Canterbury, St. Mary's, Reculver and probably at St. Mary's, Lyminge can a triple arcade arrangement now be assured. As with the porticus (see below) any remains of supporting columns have not been seen, Hope drew these onto his plan without there actually being evidence.

Porticus, Paulinus and Tobias

Of the church found by Greville Livett, way back in 1888, there is occasional mention of a porticus on the north side. To avoid a long philosophical and rather pointless debate, such a structure can be regarded as a 'side chapel' or 'side chamber. However, no such structure was found by Livett when he probed the area. This idea of a northern porticus was first put forward by Alfred Clapham in 1930 (Clapham 1964, 28), despite the latter stating earlier in his work,

'the circumstances attending the excavations were such as to leave it uncertain what adjuncts the church possessed to the north, south and west.' (ibid. 21).

This idea was to be repeated by Eric Fletcher in 1965 (Fletcher 1965, 23). The present writer is pretty sure it was a mistake by Clapham who was perhaps thinking about the next church he wrote about, St. Mary's Church, Lyminge, which does have a northern porticus. Perhaps a mental 'cut and paste' error on his part occurred. Alternatively he was thinking about the burial place of the early archbishops of Canterbury who were buried in a northern porticus and he merely assumed that Tobias would have been as well. That northern porticus story, for which there is not a scrap of actual evidence, then occasionally gets repeated.

However, that a porticus did exist is mentioned in our only documentary source for the early church, Bede's Ecclesiastical History of the English Church and People. In 726, Tobias, Bishop of Rochester (699 / 716 to 726) died and according to Bede,

'He was buried in the porch of St. Peter the Apostle, which he had built within the church of St. Andrew for his own burial place'. (Bede: Book 5 Ch. 23).

(Sepultus vero est in porticu sancti Pauli apostoli quam intra ecclesiam sancti Andreae sibi ipse in locum sepulchri fecerat (Clapham 1965 page 28, note 3).)

Outwardly the use of the word 'porch' would imply just that, and indeed such an addition had been conjectured at some length by G.H. Palmer (1897, 4 and 5; derived from Hope 1886, 324 and 334, 1900, 19) of there being a west end apse as well as one at the east. Whilst this may have been true of Canterbury in a Rochester context such is pure fantasy.

However, three points. First, there was no sign of such an entrance when Boley Hill (more correctly Doddingherne Lane) was repaved, and about 0.30m of material removed, in 1998 (Ward 2002). The idea can almost certainly be discounted, for when deeper drain trenches were dug, in the early 1920s, no sign of foundations were seen (Duffield et. al. 1926, 42). Where the lengths in relation to width can be measured at St. Mary's, Reculver, St. Peter's, Bradwell and St. Pancras, Canterbury we see that the width of the nave is about a third less than its length. Based on Hope Plate II (here Fig. 18) that seems to be true for Rochester as well, which if correct then puts the west wall of the more or less directly

below the west wall of the cemetery facing onto Doddingherne Lane. Finally, today it is usually accepted that when the word 'porch' is mentioned in early scripts, it is a porticus in our modern sense of the word (i.e. a 'side chapel') that is meant. A porch as an entrance could have existed, but if so it would have been still further out into Boley Hill and with the failure to find any foundations in c.1926 can be discounted.

It would be structurally impossible to build a porticus, as we know them, 'within' the Anglo-Saxon church found by Livett, such a room would take up too much space. Perhaps Bede meant a tomb placed within an existing structure or that a porticus was added to the church. Colin Flight put forward the same point in 1997 (page 173, note 8). With our knowledge in regard the structural development of the Kentish Style seventh century churches either could be accepted. We can see that such rooms were added to the Church of St. Pancras at Canterbury and St. Mary's Church, Reculver. We can perhaps go further, for these rooms nearly always appear in pairs, either side of the nave and / or chancel. If we follow this conjecture to its logical conclusion there should be a porticus to north and south of the nave at Rochester. One being the burial place of Tobias, the other it is tempting to think was the burial place of St. Paulinus and perhaps St. Ithamar. We can, with a bit of thought. expand on that. Again, Bede gives us some information, his Book 3, Chapter 14 tells us that on his death, in 644, Bishop Paulinus,

'.... was buried in the sacristy of the church of the blessed Apostle Andrew, which had been founded and built in Rochester by King Ethelberht'.

'.... seplteusque est in secretario beati apostoli Andreae, quad rex Aedilberet a fundamentis in eadem Hofri ciuitate consteuit ...'

Those who know Latin, tell us that the word here used, sacristy, for his burial place is derived either from secretarium or in secretario. However, the latter is also stated as meaning the sanctuary by Palmer (1897, 3), Flight (1997, 58), McAleer (1999, 10). Very noticeably Hope, whilst he enters most of the relevant passage from Bede misses out, 'was buried in the sacristy', (1898, 195). One is tempted to say that Hope was not sure which word, sacristy or sanctuary should be used.

What was actually meant by this word produces a potential problem for It would appear that Latin dictionaries tell us that the word can be used in either context. We have two words, sacristy and sanctuary which represent two completely different areas of a church, either of which can be represented by the single word Latin word secretario / secretarium. Words can of course have more than one meaning and in such cases we have to look at the overall context to understand what the specific meaning may be. The sanctuary and the sacristy form different functions. The former (Latin: sanctuarium) is the holiest place within the church, that part of the chancel containing the high altar. Whereas, the latter is a room in which the vestments and sacred vessels are kept and where the priest can prepare for the service (Latin: sacristia). Outwardly the sanctuary appears to be the most obvious place for the burial of a bishop and we should remember that Paulinus was after all also the first Archbishop of York (625-633; although admittedly not yet called that). However, another problem then arises, for none of the early Roman founders of the seventh century Kentish church were buried in the sanctuary. At Canterbury in the Abbey of St. Peter and St. Paul, Augustine (597-604), Laurentius (604-619), Mellitus (619-624), Justus (624-630), Honorius (630-653) and Deusdedit (655-664) were all buried in the porticus of St. Gregory on the north side of the abbey church of St. Peter and St. Paul at Canterbury. Three of the brick tombs of the early archbishops can still be seen. Aethelberht, King of Kent (c.585/590 to 616/618), his Frankish wife Bertha and her bishop, Liuthard were buried in the porticus of St. Martin on the south. A porticus was considered the normal place for burial of a bishop in the seventh century Kentish style churches

In the Syrian church (i.e. the area of the earliest Christian churches) what are known as the diaconicon and the prothesis, on south and north respectively, were built as apsed side chambers. The former was used for storage of the vestments and books and the latter for the utensils used in worship. Eric Fletcher in a 1965 article pointed out that the Anglo-Saxon churches at Reculver and Bradwell (and one is now tempted to say the Church of St. Pancras, Canterbury as well; Ward, forthcoming b) had rectangular porticus to south and north of the nave and or chancel in much the same position as chambers, of different design, in the Syrian and Greek churches. Fletcher suggested these chambers were now used for liturgical purposes rather than for burial as in the early seventh century Anglo-Saxon churches. Of course, St. Andrew's, Rochester was one of those early churches. The questions then become, did St. Andrew's actually have a porticus for burials and does the word *secretario* tells us that one was present? Does it mean sacristy or does it mean a sanctuary? The sacristy served the same function as the diaconicon and the latter was situated on the south side of the church. For a Kentish Style apsed church of the this date not to have porticus would be unusual. In addition with the advent of Syrian and Greek influence in the western church from the mid-seventh century onwards, culminating in the Anglo-Saxon kingdoms with the appointment of Theodore of Tarsus as Archbishop of Canterbury (668 to 690), and with just a little adaption of word meaning, by the time Bede was writing c.730 all such structures on the south side of a church may have been regarded as a diaconicon, even if not called such. If we put it into Latin we have a *sacristia*, which can be described as such with the word *secretario*.

Whereas at Canterbury we have good evidence, both archaeological and documentary, for the early archbishops being buried in a porticus none were buried in the area of the sanctuary. One does like to think that the same could be true of Rochester, in which case we could then hazard a guess that Paulinus was buried in such a structure. It is here suggested that is exactly what Bede is telling us; Paulinus was buried in a sacristy, in other words a diaconicon, a porticus, on the south side of the church. One is attempted to say that Ithamar was also buried in the same place.

If the word sacristy is here applicable and as such a room was on the south side of the church, then Bishop Tobias may well have been buried in its twin on the north almost a century later. There is only one way to find out whether these conjectures are correct.

It is probable that the walls and floors of any such porticus have long since been destroyed by the graves dug within the area in front of the standing west front. The grave diggers would 'only' have had to dig across c.1m wide north to south aligned foundation and they probably only (perhaps) survive as upturned mortar wedges between graves. However, the east to west aligned walls of the church itself may, as the present writer in 1998 and Greville Livett in 1888 found, survive from the top of the foundation downwards. They survive because it is far harder to dig a 2m long grave along solid mortared rubble than it is to dig across a 1m width of the same. Grave-diggers, once masonry was known to be present would therefore try to avoid any east to west aligned wall. If that surmise is correct then there is a good chance that the external face of the south and north nave walls will preserve the stumps or scars of the porticus walls. All of this is of course purely conjectural, but again there is a way to find out, we dig some holes. Such trenches along the outside of the nave walls would probably only have to be about 0.75m deep and (in theory) would not reach the level of any human burials.

We can, I think, even go a bit further with the meagre information that we have. Wherever they were buried in the old cathedral, the remains of Paulinus were not transferred to the new Norman church until c.1088, whilst Lanfranc (d.1089) was still alive (Flight 1997, 59, 61). This is telling us several things:

a. That the church in which he was buried was the Anglo-Saxon cathedral and that any other churches, whether real or imagined, can be relegated to a lesser role.

It then follows that:

b. The earlier cathedral was the building destroyed by the Norman west front. Any church or churches to the east would have already been destroyed during the building of the nave

and

c. The whereabouts of the burial place of St. Paulinus (or at least remains which were thought to be those of Paulinus), whether in a porticus or the sanctuary of that building was known.

d. The earlier cathedral was not finally demolished until that date. It could have been completely demolished after that date, but that its building materials would be needed would suggest not that much later and certainly not as late as the bishopric of John. Perhaps the material was used for the new west front.

e. One would like to be able to say that the transfer of the body of Paulinus to the Norman church also gives us a date for the completion of that church. Unfortunately it does not, it does however, tell us that east end of the Norman church had been completed and was ready for such a transfer. Where the remains of Paulinus were reburied is not known for certain, but ideas have been put forward and they are amplified below.

6.3.2 The early Norman church

When we come to the development of the Norman church and monastery it would be good to be able to say our documentary evidence allows us to build up a picture of building and alteration through the course of the late 11th and 12th century. Unfortunately the documents have to be considered suspect throughout the whole of this period and beyond. From the 13th century the Rochester monks were professional forgers and before that our sources include hagiographies, which are always unreliable, and a few other meagre statements. This position was not helped by the seventeenth, eighteenth and nineteenth century historians (and into the 20th century by archaeologists) who created all sorts of problems in relation to the translation of medieval documents, faulty editing and failures to understand what they were looking at (admittedly, at least, from a document point of view, nearly all archaeologists suffer from the latter problem).

Rather than just making statements or giving opinions in regard the (pretty meagre) documents relating to Gundulf or Ernulf, we have, I think, to look at several factors. What was a bishop meant to do, the time scales involved, the fires (known from good sources) of 1137 and 1179. and above all the architectural evidence. Of the latter the present writer freely admits he knows next to nothing and has to rely entirely on the works of others (e.g. Hope, Flight. McAleer, Tatton-Brown). By looking at the architectural detail, the archaeological stratigraphy, the reliable historical 'facts', perhaps along with what medieval writers' left out we can, I think, put forward a coherent development. With the exception of the archaeology all of this work has been undertaken by others and basically the only thing AW has done here is to bring it into a simpler form.

1. Gundulf starts building a church either in the late 1070s or, more likely, very early 1080s (c.1082). This start date is based upon:

a. His bringing twenty-two monks to Rochester c.1082 to replace the five Anglo-Saxon canons. It would be expected that a monastery in the continental form would be created

b. The standing west front of c.1155-1160 has an earlier west front fossilised within (Livett 1889, 282, 274-5). The chances are that the earlier structure will not date to after the fire of 1137, therefore the

embedded material must be earlier than that fire. As there is no sign of a still earlier west front it would be pure fantasy to believe that the end of the cathedral was left open for several decades, therefore a date in the late 1080s or 1090s for its completion seems a perfectly reasonable deduction.

This earlier west front had plaster down to the base of its internal wall (ibid. page 275) which tells us that the wall was completed. Other than any wall paintings the plaster would be the last part of the structure to be put in place and would only be put in place once the roof was on.

2. The east end, or at least the crypt, was completed c.1088 (Plant 2006, 39; McAleer 1999, 45) when the body of St. Paulinus was transferred to the new building. The whole church was probably completed by c.1100. Three areas have been suggested as the new burial place of the saint. On the right (south) side and just in front of the high altar of the early Gothic and later church (Flight 1997, 67 and page 196, Fig. 24) and, for the early Norman church, the eastern annex at presbytery level (Hope 1898, 209 and Plate I), or the eastern annex within the crypt (Palmer 1897, 7; Arnold 1989, 16-21). The finding by Hope of a wooden casket containing skeletal remains in the eastern annex of the crypt must surely make this the favoured position. If such an idea is accepted one can't help but think that there was a chapel dedicated to the saint above the crypt chamber. To this point we shall return, but suffice it to say that the skeletal remains and the timber fragments, uncovered again in 2015 even though much disturbed, are worthy of radio-carbon dating. If those dates come out as seventh century then tooth isotope analysis might show whether the individual was born to the south of the Alps.

3. According to his hagiographer Gundulf built a monastic complex for the monks, 'as well as the site allowed'. The latter point at least shows that the writer had some knowledge of the topographical problems confronting the bishop.

4. There is no evidence that Gundulf's immediate successors, Radulf or Ernulf, rebuilt the east end or nave. Admittedly for the east end the late twelfth / early thirteenth century rebuilding would have destroyed any architectural evidence and also, admittedly, there is no documentary evidence for that rebuilding. However, one would expect some sign of such a structure and its destruction within the archaeological remains. There is, when looked at objectively, none. Such archaeological evidence that is used is ambiguous and some can be shown to be wrong.

5. Ernulf rebuilt the Chapter House, dormitory and refectory. How much of those buildings still exists is a debatable point.

6. The nave was rebuilt in the 1140s, possibly, indeed probably, due to the fire of 1137.

7. The east end was rebuilt c.1180 to c.1190 after the fire of 1179.

8. The rebuilding of the quire, crossing and transepts followed during the early and into the mid decades of the thirteenth century. All were probably completed by c.1240.

9. The upper part of the crossing tower was constructed by Hamo de Hethe in 1343.

10. The Lady Chapel was built c.1500.

Gundulf's crypt

Finally we come back to the early crypt, the area which saw the major part of the 2014 to 2016 archaeological observations.

The recent excavations have of course concentrated on the crypt and, to a lesser extent the cloister garth. Any excavation in the crypt will always come back to the question of the shape of the east end of the Norman church. Was it, as it 'should' be for a large church of this date, apsidal or was it as, Hope told us square ended? We should remember the square end was a surprise for Hope, he wasn't expecting such and several writer's (including this one) have in the past thought and stated that he had to be wrong with his final interpretation. Two 'schools' of thought had sprung up, Fairweather and Flight and no doubt others who just rejected the presence of a crypt at this date. The former opted for a crypt date of c.1140 (but with a hint that he was thinking c.1120 may not have been too early) and the latter for c.1110. On the other hand Tatton-Brown and McAleer thought there was a crypt from the outset, but that Hope's restricted trenching had missed the curve in the foundations that he uncovered and that even if the foundations were square the upstanding walls themselves were curved (such was followed by AW).

The present excavations have luckily, but convincingly, shown that the latter is not correct.

For the McAleer and Tatton-Brown approach we can say there was no hint of curving within any of the foundations and they are too narrow to allow an external semi-circular curve to have been built upon them. If, as McAleer argued there was a square end to the side aisles and only an internal curve, again there would be problems fitting such in. A semi-circle probably could not have been fitted in, and there was certainly no sign of an arc in any form being present. It could be argued that upstanding curved walls were very much narrower than the foundations. Why? It could be argued later truncation had destroyed all trace. Such is, of course, possible, but it is rather a convenient argument and in one area, luckily, we have part of the wall face surviving. The south wall of the eastern annex had its lowest course of stonework still in place and no curve was present. The annex was square ended and consequently the aisles would be square ended as well.

For the Fairweather and Flight approach, because the points they put forward are so comprehensive and wide ranging, and indeed in some instances outwardly convincing, it is far harder to argue against their ideas supporting an apsidal east end. Their ideas and the criticism of those arguments have been discussed above (pages 20 to 30) and the archaeological stratigraphy examined (pages 39-45) and at the end of the day their interpretation was found wanting. An apsidal church of the early Norman period did not exist.

Whilst no doubt some, perhaps many, archaeologists and architectural historians will say the presence of a squared east end for a large church early in the Norman period is incorrect, they will have real problems actually showing that the arguments and ideas for the presence of such a shape put forward above (and below) are wrong. Such an endeavour will be very difficult.

Some further points.

When discussing the square east end at Rochester Cathedral the specialists have invariably looked forward in time to what is considered the 'correct' period for their construction, i.e from about 1140 onwards. The known earlier Norman squared east end at Southwell, Nottinghamshire c.1105 and that suspected at St. Mary's Abbey, West Malling c.1100 (Ward 2001b; in prep. d) and of the first church on the site of St. Gregory's Priory, Canterbury (Hicks and Hicks 1991; 2001) are not usually given any serious consideration. It could be pointed out that Southwell and West Malling are some twenty years later than the date proposed for Rochester and, in the case of St. Gregory's it is too small to be regarded as comparative material. In regard to St. Mary's, West Malling and St. Gregory's, Canterbury who built them is passed over, Gundulf and Lanfranc respectively. Their size is irrelevant, it is who built them which is of significance. The more important question is why did they build churches in this style, Such is especially so for St. Gregory's where we have a square ended nave, transepts and square

ended transept chapels and yet not half a mile away, at much the same time, St. Stephen's, Hackington a church of much the same size is being built with nave, transepts and apsidal transept chapels and, presumably, an apsed presbytery.

As far as the present writer is aware what no-one has done is to look backwards into the Anglo-Saxon period. If looked at objectively this seems somewhat strange. There is no point in just saying that the Normans had their own style for ecclesiastical buildings, for the very simple reason that the (pretty awful) architectural term Saxo-Norman tells us there was a hybrid style. Admittedly this is used in the context of small 'parish' churches, but there is no reason why ideas originating in Anglo-Saxon architecture should not be used for large churches as well. The principal remains the same. Churches with squared east ends were well known all the way through the Anglo-Saxon period.

Based on the three volumes by the Taylors (1965a, 1965b, 1978) which, although now somewhat old still provide the definitive work on Anglo-Saxon church architecture, out of the over four hundred known Anglo-Saxon and Saxo-Norman churches there had been enough archaeological excavation or observation to show the shape of the east end in at least seventy-one cases. Of this total, nineteen had an apsidal east end and fifty-two a squared east end.

To those churches with an apsed east end it is reasonable to add the Church of St. Mary and the Church of St. Peter and St. Paul within the seventh century abbey complex at Canterbury and the Church of St. Paul, London. This would put the known total of apsidal churches up to twenty-two. However, based on the plan by Taylor and Taylor (Volume 1 1965a: Figure 131, page 307) and text (*ibid.* 306-7) the main church at Hexham should be regarded as square ended rather than apsidal hence bringing the total for the latter shape down to twenty-one.

Churches having a known square east end however number fifty-two to which we should, perhaps, add Hexham bringing the total to fifty-three. This is over double the number of apsed east ends (See Appendix 8 which attempts to give some sort of date range to these structures).

Specialist will no doubt argue that nearly all of these are small churches and that even the larger ones do not compare with those built by the Normans, which is all well and good, but the principle of having a squared east end is present at the time of the building of Gundulf's (or rather Lanfranc's) cathedral at Rochester. The present writer, being a non-specialist, does not see why they, and specifically the idea of their existence, should be dismissed. An idea which we can see had infiltrated into Lanfranc's mind and perhaps helped by what he had seen at the Old Minster, Winchester where a squared east end annex with crypt had been added on to the (apsidal) east end.

Whilst overall it would not be correct to compare small Norman 'parish' churches with the much larger monastic structures, it is valid to point out that just as there had been variation in Anglo-Saxon churches, some having apsed east ends and some being square ended, so to with small Norman churches.

By largely verbal tradition most small early Norman churches had an apsed east end. What surprised the present writer, in an admittedly very restricted study of Norman churches which can be more or less confidently dated to c.1100, by far the greater number had square east ends (see Appendix 8). In other words, just as in the Anglo-Saxon period there was variety in the shape of the east end. Therefore, being a non-specialist, this writer can see no reason as to why, what was true for small churches should not also be true for larger churches as well. This point should especially be remembered, for accepted dogma would have it that small churches copied large churches. Whilst the date of those square ends will vary and whilst most of the larger churches will have apsed east ends somewhere along the line one of these larger structures has to have had the earliest squared

east end. There is no reason why that structure should not have been Rochester and where, at that date, was that idea copied from? Could the answer be from a smaller church? Which one? Who knows, there were hundreds to choose from. Where was the idea of an east end annex with crypt copied from? Could it be from the Old Minster, Winchester?

Let us turn to the two most interesting areas of the Norman crypt, its west wall and that eastern annex.

In the present writer's view the 'made ground' below the quire and to the west of the west wall of the crypt abutted that wall rather than, as implied by Irvine and stated by Flight, as being cut. Irvine uses the phrase '... rough - being built against ground ...'. The implication here is that the soil was cut by the insertion of the wall. However, if this writer's view that the soil abutted the wall is correct the reader should be able to see why the word 'implication' is used in the previous sentence, rather than the more definitive 'stated'. Strictly speaking, whether a butt or an initial cut is present, the wall itself, as Irvine saw it, is still 'up against' the soil. Once again Richard Plant was there before me, for he regarded Colin Flight's interpretation of 'built against ground' as 'strained' (Plant 2006, 45) it was 'no more than a statement of what Irvine found.' Again, once an individual thinks about what Irvine is saying that is that is the answer obtained and here two individuals working independently, ten years apart, come up with the same answer. However, at the end of the day it is not the soil which matters it is the mortared floor. Irvine stated that in his view the wall and floor were contemporary and the present writer is in total agreement with that view, or rather the floor is slightly later than the wall (a time period to be measured in a few days rather than months or years). As described at some length above, the floor could be clearly seen to lap up over the wall, this was a classic butt relationship there is no conceivable way this floor could have been undermined by the insertion of the wall and stayed in place. The boots of the ground-workers, if nothing else, would have seen to that. The floor and the wall, and hence the whole of the square ended crypt, are contemporary and form the earliest Norman structure on the site, in other words this is Gundulf's crypt. That statement is coming from someone who wanted an apsidal east end to exist, but the evidence when looked at in total, not just the stratigraphy of crypt west wall in relation to the layers immediately to its west, does not give any support for there having been an earlier apsidal east end. The square east end at Rochester may well be (and probably is) the first large Norman church to have such a design.

We can go further.

Colin Flight would have it (1997, 151) that, '... the crypt appears to have been built, not for its own sake, but rather as a means of providing a raised floor for the presbytery above it.' We have to be aware that here Colin Flight is writing about the crypt and the floor above as dating from c.1110. For two reasons the present writer is unable to accept this reasoning for its construction.

First, why bother undertaking all this work for a very mundane reason? We are dealing with an area approximately 21m long by 17m wide (to the external wall faces) this equals 357 sq m., with a c.1.25m depth of soil then being dug away. This equals about 440 cu m. Approximately 350 tons of soil would be removed, with a stone vault then constructed. All this work just to raise the floor? The present writer is not convinced. That could be more efficiently achieved by just digging the wall foundation trenches, piling the soil up in the middle so as to create a higher level for the raised floor and enclose this area within the walls. Such is simpler, easier, less time consuming and less expensive. According to Tim Tatton-Brown no large Norman church has a crypt inserted at a later date, they either had a crypt from the outset or not at all (pers com. 1999).

If an apsidal church had existed it is obvious that the digging of a crypt at Rochester is needed to explain the destruction of the remains of that structure. If, however, the existence of a squared east end, with a crypt from the outset, is accepted then a much more interesting reason for its existence

can be put forward. In this writer's view, we can see why the crypt was created. It's all to do with the east end annex. If the crypt is merely constructed to raise the level of the floor of the east end there is no need for this small room. It is not needed from a structural, aesthetic or liturgical viewpoint. It would be without purpose. The obvious fact that it is present is telling us something. The problem is to deduce what that something is.

It seems reasonable to assume that there would also be a small room above, at ground floor level, forming an 'annex' to the presbytery. We should then ask which was the more important? The room at crypt level or the room at ground floor level, or were they of equal importance? Other than for housing an altar or shrine there is no obvious reason for an upper level to be present. If it was an altar it certainly could not have been the High Altar, the space (just 2m wide) would be too small.

Such extensions are usually associated with additions of the thirteenth century or later, but there are at least two which, although of Anglo-Saxon construction, were still present in the early Norman period. The best known is at the 'Old Minster', Winchester where an apsed east end had a squared annex with crypt added in the late tenth century (Biddle 1972, 256; 1975, 139). Also the Anglo-Saxon abbey at Peterborough had a small room, without crypt, of similar dimensions to that at Rochester.

It is no use critics stating that these are Anglo-Saxon structures and would have been demolished before the cathedral at Rochester was constructed. Whilst Peterborough would not have been known to Lanfranc, if for no other reason it was burnt down in 1071, the Old Minster was not demolished until 1093 (Biddle 1972, 258) and would almost certainly have been seen by Lanfranc (died 1089), when attending the king at Winchester, and perhaps by Gundulf (died 1108). As far as the present writer is aware the purpose of either of these two eastward protrusions is not known, but again, the presence of an altar or shrine can, perhaps, be assumed. We normally associate the word shrine either with a tomb or a casket containing the relics of a saint. Those relics might not be the complete body or skeleton of an individual, for such relics could be kept in two shrines, as with St. Swithun at Winchester (Biddle 1975, 136) or of Augustine at Canterbury where there were, apparently, relics in three shrines. Indeed there may be no remains at all to that individual, for an altar can, in the wider meaning of the word, be a shrine in itself. At Winchester a monument was raised on St. Swithun's original grave (ibid, 138) after his remains had been removed and again this too could be regarded as a shrine.

What do we have? We have a crypt with an eastern 'annex', duplicated, more or less at the upper level. At crypt level we have found, within a trench the disturbed remains of an individual and woodwork, presumably of a box or casket. There are in fact two trenches, the original grave and Hope's trial trench destroying most of the earlier feature. Also, presumably, the casket contained the skeletal material of the individual who it is safe to assume would be of some importance. We have no way of knowing for sure whether or not the casket was placed in a trench dug at the time of the construction of the eastern annex or at a later date. We do however, have an annex protruding eastwards. The obvious question is why was that annex built when it isn't actually necessary? The equally obvious answer is that it was built to house the casket which contained the skeletal material of someone of importance and which was eventually found by the workman undertaking the trenching on behalf of Hope. It is a reasonable deduction that the two (annex and trench, i.e. a grave) go together. There is no other reason, or at least no other reason that this writer can see, for the construction of the annex. If anyone should disagree they have to put forward a reasonable alternative interpretation for the existence of the eastern annex. They will have great difficulty in so doing.

At the upper level we can suggest there was an altar or memorial shrine, perhaps containing relics of the deceased, but who was actually buried at crypt level. Hope would have it that the deceased, who he describes as a 'saint', was buried at the upper level (1898 209) and on his plate I (here Figure 20)

he states, 'Tomb of St. Paulinus'. Whilst Hope found the skeletal material in the crypt he does not actually attempt to identify those remains (1900, 84-85) and presumably regarded them as of lesser interest than the conjectured upper level burial. Indeed he goes so far as to say, "not improbably the bones had been taken out of one or other of the shrines" (ibid), and its remains were buried in 1538. To be buried at that point, where unknown (in 1538) a chapel or annex had been built c.450 years previously is just asking too much. This must surely be a burial contemporary with the building of the annex. It has been suggested (Arnold 1989, 20) writing in a rather confused article, the obvious candidate for such a burial is St Paulinus. She points out that the shrines of St. Ithamar and St. Paulinus, which are known to have been in the presbytery were renewed in marble and alabaster by Bishop Hamo de Hythe in 1344, but she also points out, as explained above, that a shrine does not necessarily contain all, or even some of the skeletal remains of the supposed occupant and the remains, or most of them, may be buried elsewhere (ibid. 19). Less likely candidates might be Siward (Bishop 1058-?1075) the last Anglo-Saxon bishop, but such a prestigious position for his burial is unlikely, or Gundulf himself. However, by tradition (whether that can be relied upon is a debatable point) the latter was buried within the nave. The cult of St. Ithamar, appears to be a late invention, dating to long after the time the eastern annex was built.

Paulinus is still the individual favoured by this writer for burial within the annex. To the present writer, a burial in a chamber which is of no actual use for anything else, in other words a 'special' chamber, at the east end of the crypt suggests that the individual interred had already received sainthood. That the cathedral, soon after the re-internment of Paulinus, supposedly c.1088, was called the Church of St. Andrew and St. Paulinus (Flight 1997, 59-60) is again suggesting something a little bit out of the ordinary had taken place in the late eleventh century. Admittedly it is only referred to by this title once, but as that record does occur in a reliable document, a charter of Henry I dated to 1100-1107 (Flight 1997, 59-60, 285), rather than a spurious text this is yet again telling us something.

Writing in the fourteenth century John of Tynemouth repeats Bede's account of Paulinus but then tells of his reburial by Lanfranc. Colin Flight suggests that his words are copied from a lost source dating to the first quarter, or even the first decade, of the twelfth century (Flight 1997, 62). Apparently, the remains of the bishop and saint were exhumed and placed in a strong-box, sometime then passed, and the box containing the remains were placed in a tomb. The tomb could be accessed by the public up an unknown number of steps and was close to an altar. Whilst Colin Flight suggest this all took place within the presbytery and conjecturally marks his tomb as being just south and east of the Great Altar on his Figure 24 (ibid, 196), there is nothing in that description which precludes burial in the crypt. The steps (two or three) could be rising up over the sleeper foundation in front of the annex, the altar could be to one side, or indeed within the annex itself. Whilst the present writer is the first to admit that public access to a shrine in the presbytery is the more likely, such does not preclude burial of the actual remains within the crypt. Neither the supposedly poor quality of the of the crypt or the narrow and supposedly inconspicuous entrances (ibid. 151) are arguments against public access. At 1.20m wide the entrances, in this writer's view, are not particularly narrow and we have no way of knowing how conspicuous, or otherwise, they were. The quality of the crypt is viewed from our perspective when we should be viewing it from the point of view of someone who was alive in the late eleventh century. We also have to remember that the recent excavations have produced a northern annex as well. As stated above (page 42) a door, and stair, could have existed in the base of the north-east corner turret. If there was a door at that point it is a reasonable deduction that there was a spiral stair to presbytery level. Such a stair would allow the monks, if not lay visitors, to communicate between altar / shrine at the higher level and grave / shrine in the crypt. Whether such an interpretation is supported by any other examples is not yet known. Whether there was a door in the north wall giving access to the precinct is not known, but there is no reason why such should not be the case.

The skeletal material and remains of the woodwork were handled in the late 19th century. In the 2015 removal, only a few fragments of bone (including the skull) and a few fragments of timber were handled with bare hands. Taking those points into account it should be possible for the appropriate specialists to obtain radio-carbon dates from both types of material. If the casket is that donated by Lanfranc the timber should give a late Anglo-Saxon or early Norman date (if we are lucky c.1025 to c.1100). The skeletal material if of Paulinus should give a date of the mid-seventh century (within a margin of error, say c.600 to c.700). We could then go further. The tooth enamel should give some indication as to where the individual was brought up. We know that Paulinus was an Italian, if not an actual Roman, and a birth-place south of the Alps should show up in such a study. If that conclusion was reached then the skeleton itself could hopefully be studied. If it could be shown beyond reasonable doubt that these bones were of Paulinus they would, along with St Cuthbert at Durham, be the only known surviving skeletal remains of a seventh century bishop, an early saint and early founder of the English Church anywhere in the country. That they survived the destruction of the sixteenth and seventeenth centuries is all to do with the body being left in its original burial position at the time of the late twelfth century expansion of the crypt, floored over and within a few decades forgotten. Archaeologically such a discovery would be of national, if not international, interest. It should also be of some religious interest, perhaps, more so to the Roman Catholic Church than the Church of England and also to those, theologians and historians, who study the foundation of the early Christian Church within Britain.

Conclusion

The Abbey of Our Lady, Croxden, Staffordshire, is a Cistercian house, founded in 1179 with five radiating apsed chapels around an apsed presbytery (Baillie-Reynolds 1946, plan). Further north in Yorkshire, Fountains Abbey was also a Cistercian monastery, as was Rievaulx, founded in 1132 and 1131 respectively, both had squared east ends (Gilyard-Beer 1970, plan; Peers 1967, 6). Tintern Abbey in South Wales was also Cistercian and its earliest church also had a squared east end, dating to 1131 (Craster 1956, plan). Was Croxden Abbey the very last large apsed east ended church? They were going out of fashion by c.1140, and c.1180 is very late for such a structure. The obvious point is, if Croxden was the last large apsed east end church to be built and built some forty years, or more, after such curved ends had gone out of fashion, then why can't the Priory Church of St Andrew, Rochester be the first large squared east end church to be built? Built fifty years before such a design becomes 'fashionable'. Again, there had to be a first. That Lanfranc would not build such a church at such an early date is a false argument, for the very simple reason we know that he did build a church with a rectangular east end on the site of what was to become St. Gregory's Priory, Canterbury. It had not only a squared east end, but also contemporary transepts and squared east end side chapels (Ward in prep. f). At c 80ft long (later lengthened to c.100ft) it was smaller than Rochester's 240ft, but that is of limited (if any) relevance. Where did Lanfranc get the idea from? The answer to that question has to be, from the big church being built at Rochester, for which he was paying. The idea that Rochester should copy the cathedral Lanfranc had built at Canterbury has constrained discussion too much in the past. The church at St. Gregory's was being built under the patronage of Lanfranc, as was the new church at Rochester. He was paying for both. At St Gregory's construction was probably begun c 1085, for he supposedly had the body of St. Eadburg moved from Lyminge to St Gregory's at about that time or perhaps in 1087, the date stated in the (forged) foundation charter. He was fully aware that east ends could be of different shapes and we can see he was prepared to innovate at Canterbury so why not on a larger scale at Rochester? The question then becomes, which came first? On the meagre dating evidence we have the east end of Rochester should be the first, perhaps c 1082, to be copied at St Gregory's. One is tempted to say he was playing around with ideas. It was a mental concept for him (and perhaps even more so for us). He knew that square ended churches existed, he would have seen them, so why not build one. That they were not the style that large churches should be built in

was not his concern. At his cathedral he had (we assume) been conservative and built in the orthodox style, but the analogy with St Gregory's and the archaeological stratigraphy at Rochester shows that he decided to try something new. He was paying for both churches, and consequently even if Gundulf would have preferred a traditional building he would have gone along with the idea. Indeed that he supported the idea, perhaps even put forward the idea, is suggested by the fact that he in turn financed a squared east end church itself (probably) with a contemporary squared east end annex, at St Mary's Abbey, West Mailing. That these architectural ideas did not really catch on for another forty or more years is again irrelevant, all the late 11th-century/early 12th-century architects copied what they saw at Canterbury Cathedral. They either did not know about or ignored the other churches at Canterbury, Rochester and West Mailing.

Appendix 1: Roman buildings in Rochester

a. Masonry structure to the rear of the Guildhall Museum. Discovered in the late 19th century by George Payne, the first curator of the museum. In the 1990s Mick Moad (then curator) told AW that a plan of this structure showing an apsed room existed within George Payne's note books. AW was not able to find it when he made a quick search through those volumes. This was not exhaustive and the reference may have been missed. Definite masonry building: Building 1.

b. Masonry structure with a wall standing over 3m high observed by George Payne c 1905 to the rear of 39 High Street. Depending on the length that survived, the detail of windows, doors or the level of any first floor could be present. Definite masonry building: Building 2.

c. Masonry structure found to the rear of 35 High Street (the George Vault). Fourth-century pottery was recovered from the lowest floor of this building. A date of construction in the period c 310 - c 330 at least for that one room (if not the whole building) seems likely. On the 2011 location plan 2 and 3 are shown as (possibly) being the same structure, but on reflection they are too far apart. Definite masonry building: Building 3.

d. Masonry structure (probable) below the floor of the cellar of 21/23 High Street. An opus signinum floor could be seen in a narrow crack (less than an inch wide) between a newly laid concrete floor and the wall of the cellar. AW was only called in late in the building project to record the brick vaulted undercroft, probably of 16th-century date. AW knows of at least two other examples in historic properties where archaeology has appeared when modern floors have been removed. Probable masonry building.

e. Masonry structure below the floor of the Corn Exchange excavated by Arthur Harrison in 1961. As 1st and 2nd century timber buildings preceded this structure it must be of late 2nd century or later date. Definite masonry building: Building 4.

f. Masonry structure of three phases found below the cellar of the demolished 52 High Street. Excavated by Raymond Chaplain in 1961-62. Other than a short note Chaplain never wrote a report on what must be the most interesting site excavated in Rochester. Short reports have been written by Arthur Harrison and Brian Philp, both of whom dug on the site. Large amounts of Iron Age pottery were recovered as well as a coin mould. No detailed study of the ceramic material seems to have been carried out. The pottery is held in the Guildhall Museum and the small finds are in the collection of the Kent Archaeological Society. Definite masonry building: Building 5.

g. Masonry structure found by AW below the cellar floor of 44 High Street. The two walls observed are regarded as part of the building found in 1961-62. Substantial amounts of Roman opus signinum concrete had been (re)used in the cellar walls which suggests that the floor of the Roman structure was still intact in the 16th century when number 44 was constructed. Presumably part of Building 5.

h. Masonry structure in front of the King's Head Hotel, seen by George Payne c.1909. Definite masonry building: Building 6.

i. Structure found between the King's Head Hotel and Chertsey's Gate. Only earth floors were observed, but it seems a reasonable deduction that this was part of Building 6. The presence of the building below the modern road shows that no Roman street was situated at this point. A 16th or early 17th-century cellar also shows there was no road here in the 16th century nor, presumably, in the medieval period. Assumed to be part of Building 6.

j. Masonry structure below the floor of the cellar of 86 High Street. A clay floor and its front wall were observed by Chaplain in 1959 or 1960. According to the owner of the shop he was given a report by Chaplain, but no copy has been seen by AW. Definite masonry building: Building 7.

k. Masonry structure below the west end of the cathedral found by Greville Livett in 1888. The external corner of a room was observed. The west wall of this building had been cut through by the apse of the Anglo-Saxon church (assumed to be the cathedral constructed in 604), and the south wall by the Norman west front. A small length of the south wall was seen inside the cathedral. Definite masonry building: Building 8.

l. Masonry structure below the south wall of the cathedral found by James Irvine in the 1870s. These remains are probably part of Building 8. This structure was regarded by William St John Hope as an Anglo-Saxon church but this is unlikely. A fragment of north-south wall was observed. Another wall fragment is shown as part of an apse on Hope's 1898 plan. This length of wall is not long or wide enough to regard such an interpretation as safe. An opus signinum floor and ash were also seen. Assumed to be part of Building 8.

m. Masonry structure found by James Irvine in the 1870s and shown on a section drawing of his tunnel below the cathedral quire. What may be a wall is shown, but as there is only the one it may merely be a garden wall. Possible building.

n. Masonry structure passing below the east wall of the castle. Excavated by Arthur Harrison and Colin Flight in 1976. As with Building 3 there is artefact dating evidence (here a worn coin of Allectus, emperor in Britain 293-296) to date this building (or at least the room found) to the 4th century. It is unlikely to be later than c 330. Definite masonry building: Building 9.

o. Masonry structure below the cathedral crypt floor found in 2014. Only one room was found, but there may be other rooms to the north towards the High Street. For the most part, the walls had been robbed, but in two of the three small trenches excavated the foundation still survived. A clay floor covered an area approximately 2m x 1.50m. Interestingly there was no build-up of earth floors. Such might suggest a short life span, at least for that room. No dating evidence was found. Definite masonry building: Building 10.

p. Masonry structure in the cellar of 1 Crow Lane just outside the town wall. Observed by James Irvine in the 1870s and mentioned in one of George Payne's notebooks and also by Hope. Definite masonry building: Building 11.

q. Masonry structure, possible, observed in 2014 in the garden of Restoration House. A possible gravel foundation c 0.1m deep and more than 0.4m wide could be seen. It was sealed by a layer which was cut by a late 16th- or early 17th-century brick garden wall. Therefore, it has to be earlier than c 1600. The foundation seems to be too far away from Crow Lane to represent a medieval building and, despite there being a known 9th-century church in the area, the chances of this foundation being Anglo-Saxon are too remote to be seriously considered. A known Roman building (Building 11) is known near the junction of Crow Lane and Eastgate outside the town wall and about 100 yards north of Restoration House. Assuming it is a foundation, there is little reason why this structure should not also be Roman.

r. Masonry structure (conjectural). The existence of a small square temple has been conjectured by AW within the castle grounds.

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