

# Bastion N<sup>o</sup>.4 and Baker's Warehouse Ship Street Oxford



## Historic Building Investigation & Recording



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**The Clarkson Alliance**  
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**The Ship Street Centre: City Wall Bastion (RCHME No. 4) and The Former Baker's Warehouse, Ship Street, Oxford**

*Historic Building Investigation and Recording*

*Written by Simon Underdown*

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## **Bastion No. 4 and Baker's Warehouse, Ship Street, Oxford,**

### **Historic Building Investigation and Recording**

#### *Summary*

*Building investigation and recording of the interior of Oxford City wall Bastion no. 4 and the late Victorian warehouse at Ship Street Oxford were undertaken due to redevelopment of the buildings as a conference venue and student accommodation by Jesus College. The work ran concurrently with below ground archaeological investigations within the warehouse which have been reported separately but are considered in the discussions in this report.*

*The main stone masonry elements (500) within the bastion appear to be of one phase of rebuilding which involved the insertion of flues and fireplaces and larger windows for domestic use. The upper two fireplaces that had surrounds in place in c1880 have Tudor arches and although these may be later insertions or reused it does seem quite possible that the rebuilding of the interior probably took place in the 16th century. Timber samples from two chimney/lacing beams from the interior elevation were assessed for dendrochronology but found unsuitable for dating as they lacked enough rings.*

*The north wall with the flues is now relatively thick (approx. 1.6m at thickest point) and it is possible that in places here the internal masonry has been built against the existing medieval walling without any removal of walling and that the north face of the flues may therefore be the old inner wall face.*

*The possible section of City wall in the cellar to the south is however about as thick as the thickest section of surviving bastion wall. At the sides of the bastion the walling is much thinner than the wall in the cellar and the wall base uncovered in the recent evaluation trench and clearly the walls here have been greatly reduced to create rooms of a usable width. There is no obvious change in the existing masonry at the side walls (except that rebuilt c1882) and it appears that the entire inner face of the bastion is a later rebuild reusing material from the primary construction.*

*The latest masonry (501-506) is connected with the construction of the warehouse and associated repair of the bastion which probably all took place in 1882 or shortly thereafter. The south-east wall of the bastion (502) was rebuilt at this time but below ground the 1986 investigations showed that the original bastion wall continued south below the rebuilt section and the 2008-9 investigations revealed parts of the bastion wall further south (130). Historically this wall was still standing prior to the warehouse construction as shown by the Taunt photo of c1880.*

*The warehouse was designed by William Codd in 1881 for Baker & Co., furnishers and built in 1882. Codd was of some significance as a local architect, mostly of domestic development in North Oxford, and this may be his only surviving non-domestic building, but that is uncertain. It is of irregular plan to fit the site and incorporates the surviving fabric of the Bastion which was made a feature of the warehouse; its dimensions dictating a wider central bay that housed a large staircase and wide windows.*



*This staircase had long gone and most of the windows had been removed prior to the survey; the polychromatic brickwork of the warehouse and the original roof largely survived and have been retained during the redevelopment except for the section of the north wall east of the bastion which has been demolished. The building will therefore retain a large proportion of its external character. The old open internal floors of the warehouse have been demolished and replaced with new floor structures and internal divisions.*

*The recent archaeological investigations showed that the brick offsets of the north and south warehouse wall footings finished short of the east wall by a few metres and that the foundations at the east end were of deep shuttered concrete with brick offsets about 1m deeper than those to the west. Augur and borehole evidence also showed that man-made deposits extended to about 5.5m deep just west of the cut for these deeper foundations but adjacent to them the deposits continued beyond 6.3m depth. It has therefore been suggested that the reason for the deeper foundations is the greater depth of archaeological deposits which may be fills of a large, roughly north-south aligned, feature which might be an extramural ditch to the city defences.*

*The question of the exact position nature and development of the Oxford City defences in this area has not been resolved by the work that has been undertaken up till now and it is to be hoped that further opportunities to investigate and understand them will arise in future years.*



## 1 INTRODUCTION

### 1.1 Location

- 1.1.1 The site is situated within the historic core of Oxford, between the rear of properties 1-8 on the northern side of Ship Street and to the rear of properties 1-8 on the southern side of Broad Street. There is access to the site via a small alleyway between Nos. 1 and 2 Ship Street. The site's western boundary abuts the eastern boundary of St Michaels Church (Fig. 1).

### 1.2 Commission

- 1.2.1 Oxford Archaeology (OA) was commissioned to undertake historic building recording of the warehouse and City Wall Bastion (former Oxford Story buildings) following on from a field evaluation undertaken in December 2008 and January 2009, the evaluation has been separately reported (OA 2009). The work was commissioned by Ben Wallis of Architects Design Partnership LLP, Oxford (ADP) for the Clarkson Alliance Ltd (Oxford) in respect of a planning application for the redevelopment of the site for Jesus College into a lecture theatre with ancillary educational facilities at ground floor level, and 31 student study rooms on the first second and third floors (Planning Application No. 07/01027/FUL). The redevelopment involved partial demolition of the warehouse and exposure of the inner face fabric of the bastion, the external face of which had been recorded by OA in 1986 (Dodds, 2003).

### 1.3 Designations

- 1.3.1 The site is within the Oxford City Conservation Area. City Wall Bastion 4 is a Grade 1 listed building and a Scheduled Ancient Monument; County Monument No. 26H. Strictly speaking the structure is more of a curtain tower than a bastion as generally understood but these City Wall towers have often been called bastions, the numbering is from the Oxford Inventory of the RCHM first published in 1939. The former Bakers Warehouse, is not included on the statutory list of buildings of special historical or architectural interest.

## 2 METHODOLOGY

- 2.1.1 A project brief for the archaeological evaluation and recording of the warehouse was issued, by David Radford of Oxford City Council on behalf of the Local Planning Authority, in accordance with PPG16. OA prepared a Written Scheme of Investigation (WSI) detailing how it would meet the requirements of the brief (OA 2008).
- 2.1.2 The outline methodology for recording of the Bastion was agreed with Chris Welch the English Heritage Inspector of Monuments and is also set out in the WSI. Monitoring site meetings were held during the works and the methodology was refined in response to the condition of the fabric as exposed by the contractors.
- 2.1.3 In summary the recording of the bastion was to consist of georectified photography of the interior elevations with a contingency for dendrochronological sampling of any suitable timbers that were removed during the redevelopment and the warehouse was to be recorded to level II-III as defined by English Heritage (2006).



### 3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

#### 3.1 The Bastion

##### *Saxon and Medieval City Defences*

- 3.1.1 Archaeological evidence for mid Saxon activity at Oxford is almost exclusively restricted to the southern edge of the Second Gravel Terrace and the Thames crossing beyond, now the northern part of Abingdon Road and the site of Christ Church and St Aldates Church. It comprises discoveries that attest to the establishment and maintenance of a river crossing; settlement and activity along the line of the crossing and St Frideswide's minster (Dodd et al 2003).
- 3.1.2 Oxford was an Anglo-Saxon burh possibly founded as part of the system of 31 fortresses established by Alfred the Great in the late 9th century, or potentially by his son Edward the Elder in the early 10th century.
- 3.1.3 The full extent of the burh is not entirely certain, although it has long been accepted that the area between the later medieval Eastgate and Schools Street/Oriel Street represents an extension, perhaps of the early 11th century. The site at Ship Street (itself a possible intra-mural street) lies on the line of the northern defences of the burh immediately to the east of the northern entrance.
- 3.1.4 The earthen rampart of the late Saxon burh was reconstructed with a stone wall between 1220 and 1290. However at Bastion 4 the whole line of the town wall is built on arched foundations c 14m north of the probable line of the Saxon rampart; perhaps as early as 1100 to accommodate the church and cemetery(?) of St. Michael at the North Gate. The bastion, or tower, would be a 13th century addition to the line of the wall at this point.
- 3.1.5 Ship St (formerly Laurence Hall Lane) ran along the inside of the north wall. Land immediately inside and outside the walls belonged to the town as waste and was not generally developed for housing before the 16th century (see below). It is possible that within the area defined by the projecting wall, a property was developed later in the medieval period and there is record of a dispute having arisen when a house had been built in the 14th century on part of the cemetery, and in 1415 the town successfully claimed land in the cemetery as being next the wall (Hurst 1899, 69).

##### *Post-medieval and Victorian*

- 3.1.6 The site is possibly the location of the former 16th-century tenement and garden of Alderman Flexney, leased in 1546 and 1565 and described as 'within the wall eastward from St Michaels Church'. Bastion 4 may have been contained within Flexneys property. It is the only house shown on the north side of Ship St on Agas' map of 1578.
- 3.1.7 Traditionally Bastion 4 is has been regarded as an offshoot of the Bocardo Prison which was situated within the, now demolished, medieval Northgate. It is described in 19th century guidebooks as the place where Cranmer, Latimer and Ridley were confined in 1555-6. Tradition also has it that Cranmer watched the burning of Latimer and Ridley in the Broad St ditch from within, or from the summit of the tower which is even labelled on the 1878 OS Town Plan as Martyrs Bastion
- 3.1.8 These, probably erroneous, traditions may have arisen from the fact that the remnants of a burnt stake found in Broad Street and possibly correctly interpreted as the site of the burning were nearer to Bastion 4 than any other tower, however it seems more likely that the Bishops were confined in the Bocardo (the town gaol in the Northgate) and Cranmer witnessed the burning from there. But at that date Bastion 4 would probably have been in

private hands and converted to a dwelling especially if it was part of Flexney's tenement. *Even* if it had been once used as a prison it thus seems less likely that any of the Bishops were imprisoned there or that Cranmer was taken there to witness the burning of the others (pers. comm. Julian Munby).

- 3.1.9 The remainder of this side of Ship St was developed in the 17th century as shown on Loggan's map of 1675. By the mid-18th century, Bastion 4 stood in the yard of the Ship Inn, a coaching inn built c.1756 (Nos. 1-5 Ship St). A relatively detailed plan of the Ship Inn is shown in the City Vellum book - a volume held in the city archives containing plans and details of city properties (Fig. 2).
- 3.1.10 This plan however only shows the bastion wall, schematically, as of uniform thickness with no details of openings, fireplaces etc. although it shows the walls of the Ship Inn, including the possible remnant of the City wall to the south of the bastion, in considerable detail. It clearly labels the space within the bastion as 'Stable' and the area immediately west of the bastion as 'Four Tenement's but does not show the dividing walls between the stables and tenements or between the individual tenements.
- 3.1.11 There is a photograph of the interior of the bastion taken by Henry Taunt in c.1880 (reproduced in Dodd, 2003, Pl. 4.7).<sup>1</sup> The photograph shows the bastion roofless and with floors removed but with some main floor beams still *in situ* and with the east wall and a floor beam propped up and demolition debris on the ground. The photograph was probably taken during demolition/clearance work prior to the construction of the Warehouse.
- 3.1.12 The photograph shows the east wall of the bastion projecting to the south (as on the Vellum Book plan) and shows two windows on the east on the ground and first floors as seen in earlier drawings of the bastion (figs 3-4), the southern window on the second floor had already gone but the sill line is clear. The, clearly unstable, part of the wall with the two southernmost windows south of the large vertical crack seen in the photograph was removed and a shorter section rebuilt to tie in with the warehouse wall. There are fireplaces on all three floors (as still survive) and the interior is mostly plastered and clearly all floors had been in occupation at some time prior to use as a stable.

## 3.2 Baker's Warehouse

- 3.2.1 The large warehouse which incorporates the remains of the bastion and is being converted to new facilities for Jesus College was constructed in 1882 for William Baker & Co. The company was established in c.1800 as 'cabinet makers, upholsterers, carpet factors, house decorators and complete furnishers' although they particularly specialised in china and glass, furniture and fabrics. The company's main premises were located at No.1 Broad St, towards the junction with Cornmarket and in 1865 they constructed an additional showroom. In 1882, a partnership was formed with another company to form Baker & Prior. The warehouse was presumably part of the same expansion, as it was constructed in the same year, although it was designed in the previous year. The warehouse was near but possibly not immediately adjacent to the rear of the company's main premises at No.1 Broad Street and it is uncertain if the two properties were physically connected or if there was convenient access from one to the other. However the north-west corner of the warehouse does abut a building which appears to be at the rear of No.2 Broad Street and there is blocking in this location within the warehouse, and so it seems probable that Baker either had extended his premises to No 2 or had access through the rear of No 2 to his main premises at No 1.

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1 (Oxfordshire County Council Photographic Archive, OCL 2246)



- 3.2.2 The original plans and elevations for the warehouse, from the City's Deposited Plans, are held at Oxford Local Studies Centre, (Figs. 5-6). It was designed by local Oxford Architect Frederick Codd in 1881 who was also a speculative builder and had been a pupil of the better known Oxford architect William Wilkinson. Codd developed plots on the fashionable Norham Manor Estate in North Oxford in the 1870s where both he and Wilkinson designed houses, a classic North Oxford house by Codd is 'Gunfield,' 19 Norham Gardens, of 1877 designed as a family house it is now an annexe of St Edmund's Hall, Oxford (Victorian Web website).
- 3.2.3 Saint (1970, 85) considers that Codd's style is cruder than Wilkinson's but he also states that his style is so close to that of Wilkinson that it is often difficult to distinguish them apart by sight. Codd was also responsible for most of King Edward Street off the High Street in Oxford and for enlarging the Georgian Woodperry House in 1879-80 which, according to Sherwood and Pevsner (1974, 854), he accomplished with tact. The warehouse is possibly the only surviving example of a commercial building by Codd, but further research would be necessary to establish this.
- 3.2.4 Details of the work are included in the annual report on 'Alterations and Improvements in Oxford' in *Jacksons Oxford Journal* for October 14th 1882;
- 3.2.5 'Extensive alterations and repairs have been made to the old Ship Hotel for Messrs. Baker and Prior, of Broad Street with new furniture warehouse in rear. The building will be fitted up as a University lodging house, and the drainage has been executed on the most improved sanitary principles. The warehouse consists of four floors, each about 110ft. by 22ft., and includes the Martyrs' Tower one of the bastions of the old City, which formerly ran through the site of these premises. With the exception of the foundations and the bastion no part of the old work remained, the wall having been destroyed many years since, but the bastion has been carefully preserved. Messrs. Symm and Co. were the builders, and Mr. Cobb [*sic*] the architect.'
- 3.2.6 The warehouse was clearly complete and opened for business by this time as the same issue carries an advertisement stating that,
- 'Baker and Prior's new show rooms are now completed . They comprise four floors each about 120ft. By 25ft. inclusive of three floors in the Old Martyr's Bastion. This addition to their premises gives them in all about 40,000 superficial feet of flooring for show room purposes, and has enabled them so to arrange their huge stock, that each article may be seen to the best advantage.'
- 3.2.7 The 'old Ship Hotel' referred to in the first extract is course the Ship Inn. and, as is shown by the Architects plans, (Fig. 5) some demolitions (denoted by dashed lines) were made at the rear to accommodate the new building. Reference to the Vellum Book plan (Fig. 2) shows that the main demolition was of the Kitchen block which appears to have incorporated, as it's west wall, the wide medieval wall (possibly part of the City Wall) of which the base now survives in a cellar.
- 3.2.8 The partnership of Baker and Prior appears to have been shortlived because in 1886 they reverted to William Baker & Co, and following Baker's death in 1902 the company was taken over by Elliston & Cavell. In 1915 the company moved into newly built premises immediately to the west which formed a prominent curved facade stretching around the corner between Broad Street and Cornmarket. This building, which is still known as William Baker House, has been a bookshop since 1987 (initially Dillons and now Waterstones).
- 3.2.9 The warehouse was vacated by Baker's in the 1980s and converted into a commercial historical display called The Oxford Story; archaeological investigations were undertaken by OA in connection with that conversion. With the recent opening of the Castle Unlocked, The Oxford Story was in turn closed.





### 3.3 Previous Archaeological Investigations

- 3.3.1 Archaeological work comprising the excavation of 3 trenches and Building recording of Bastion 4's external elevation was completed by OA in advance of the Oxford Story development in 1986 (Dodd, A, (ed), 2003, 164 – 172). Two test pits were excavated within the warehouse in 2008-9 as part of the archaeological mitigation of the redevelopment of which the present survey was also a part (OA 2009). The results of both these investigations are discussed below.

#### *1986 Archaeological Evaluation Trenches*

- 3.3.2 Trenches I and II were excavated against the external face of the bastion on the east and the west and exposed surviving medieval fabric; no remnants of the Town Wall were found within the trenches..
- 3.3.3 In Trench I the stonework of the bastion was considered to be mostly medieval consisting of Burford Stone (limestone) rubble with occasional coral ragstone and Taynton Stone. The wall continued with a flush face to the base of the trench at 3.2m (and presumably continued below that depth). In Trench II similar construction was noted, the wall here was only seen to a depth of 1.3m as the trench was not excavated below that depth. Both excavated sections contained a small window aligned with the rows of larger windows visible above ground. Both these windows were just below ground level, measured 0.4 by 0.8m, had jambs of Taynton stone and had been blocked later.
- 3.3.4 Against the bastion wall in Trench were loams and gravel deposits dating to the 18th century, overlying 17th century fills of the town ditch that extended down to 3.2m below ground level (bgl) at 61.21 m OD. Below this depth soft deposits were augered to a depth of 5m bgl. Trench II was largely filled with modern building materials to a depth of 1.3m bgl (63.11 m OD).
- 3.3.5 A substantial medieval wall, recorded to be 1.6m thick ran on a N-S alignment through the cellar in the south of the site. It had a passage inserted through it, and had been extensively refaced with only limited in-situ medieval fabric on its eastern face. The top of a probable postern gateway was observed in Trench III. This could be the Town Wall or related to medieval undercrofts. This wall if extended north would appear to align closely with the returning east wall of the bastion. There was no excavation within the bastion to reveal the thickness of the medieval bastion walls although it is thought they probably corresponded to the thickness of this southern section of wall, the upper walls of the bastion having been rebuilt internally resulting in them being narrower and squared off in comparison to the probable medieval configuration.
- 3.3.6 The archive holds a note on a geotechnical borehole that was located 2.5m north of No. 4 Ship Street (precise location unknown). The note records that fills were observed to a depth of 6m bgl. This could be due to a deep isolated feature (such as a pit or well etc) or the presence of a defensive ditch.

#### *1986 Bastion recording*

- 3.3.7 The external face of the bastion, including the elevations exposed in trenches I and II was recorded to scale by standard measured hand drawing techniques and is reproduced as figure 4.18 in Dodd, (2003).
- 3.3.8 The upper parts of the wall are, similarly to those largely medieval elevations exposed in the trenches (§2.3.3), constructed of uncoursed rubble but show evidence of considerable alterations to the fabric. The above ground windows are larger than those seen in the trenches, and have timber lintels, and must be later insertions relating to conversion of



the property to living accommodation perhaps in the 17th or even the later 16th century, some additional lacing timbers have also been inserted into the wall, probably at the same time that the windows were altered. The preponderance of Taynton stone in the upper 2 metres or so of the wall (below the parapet) also suggests a rebuilding of this section.

- 3.3.9 At either side the wall has been reconfigured in the 1880s to abut the new warehouse walls. The parapet was also renewed at that time.

#### ***2008-9 Archaeological Evaluation***

- 3.3.10 The following is taken, with slight revisions, from the conclusions of the evaluation report by Mark Dodd (OA, February 2009).
- 3.3.11 The 2008-9 evaluation consisted of two archaeological test pits (ATP) (Fig 7). ATP 1 was located on the suggested line of the N-S wall discovered to the south and suspected to line up with the east wall of the bastion. ATP 2 was located within the former Victorian warehouse on the corner of the suggested medieval defensive wall as shown on the O.S 1878 Town Plan.
- 3.3.12 The earliest feature encountered during the evaluation was a N-S aligned wall within ATP 1. Although this follows the same alignment as the wall discovered within Trench I excavated in 1986 (the bastion wall) it does not precisely line up with the wall discovered to the south (1986 Trench III) but would lay on the extended footprint of that wall. The wall is almost certainly a continuation of the eastern side of Bastion 4, and this is supported by a map of the site from the City Vellum book (Fig. 2), indicating that the eastern wall of the Bastion continued further to the south than can be seen above ground presently. The Taunt photograph of c.1880 also clearly shows the bastion east wall continuing further south with a second set of windows (as also shown on the early drawings, Figs. 3 & 4).
- 3.3.13 What happens in between the wall discovered during this phase of excavation, and that found in 1986 Trench III, is unclear as result of truncation in the early 19th century. There is a suggestion that the wall may originally have continued further to the south in some form. The facing on the southern side of the wall does not continue across the width of the wall observed, with the eastern portion continuing a little further to the south where it becomes truncated. The southern facing stones may be part of an opening, stepping down from the east to the west, although no steps were observed. Only further excavation is likely to provide an answer to this question but it seems most likely that this is the terminal of the eastern bastion wall.
- 3.3.14 There was no evidence for an E-W continuation of the City wall running directly from Bastion 4 as indicated by the 1878 OS plan. The foundation cut within ATP 2 is unlikely to have been used to remove a section of the city wall. The excavations in the 1980s showed the Bastion wall to be continuing down beyond 61.21m AOD, whereas the foundation cut was beginning to bottom out at 61.64 AOD with no evidence for a wall continuing beneath it. There was also no sign of an E-W wall connecting to the section of wall observed within ATP 1, although the warehouse foundations prevented excavation any further to the north. Most importantly, the earliest deposit observed beyond the base of the possible robber trench provided early 17th century pottery. This obviously post-dates the medieval town defences and all other deposits recorded during the evaluation have been confidently dated to the 17th century or later.



## 4 BUILDING DESCRIPTIONS

### 4.1 The Internal Elevation of the Bastion

#### *Introduction*

- 4.1.1 The external face of the bastion was recorded in detail in 1986 and the results of this have been discussed above. The recent work concentrated entirely on the internal face of the bastion which was exposed on all three floors during the development and recorded by rectified photography (Fig. 8). The numbers used relate to the phasing and annotations on the figure and start at 500 to distinguish them from context and recording numbers used by the evaluation and subsequent watching brief.

#### *Description*

- 4.1.2 The interior face is of three floors and consists of a main stone rubble and mortar build with brick and mortar and mixed brick and stone and mortar additions. The floors are relatively low with each being a little over 2.0m high, and are much lower than the warehouse floors, the floor levels are thus different in the warehouse and bastion and were formerly linked by the internal staircase.
- 4.1.3 The internal face of the bastion does not consist of a single curve as does the external elevation and although it may originally have done so it now consists of four straight or nearly straight sections. The main internal fabric of the bastion consists of rough limestone rubble of greatly varying sizes bonded with a very soft lime mortar (500). There is a larger central section with a fireplace with stone fire surround and lacing timber above the fireplace built into the masonry on each floor and smaller angled sections to each side each with a small window with a timber lintel on each floor. The window openings on the east are those shown in Taunt's photograph with modern frames inserted (1880s or later replacements) the lintels are probably earlier survivals of the same date as the masonry.
- 4.1.4 The western section (501) is of brick in English bond and is part of the warehouse construction of 1882. This is an internal wall in the warehouse and was clearly built to balance the east wall of bastion and to support flooring that could span straight across the bastion at a different level to the warehouse floors. The brick walling abuts the rough stone masonry of the bastion west wall proper and it would appear that the west wall probably always ended or rather returned west into the city wall at this point (see Fig. 2).
- 4.1.5 However, although the Vellum Book plan does not show the west wall extending as far south as the east wall, there must have been something here as the Taunt photograph shows a beam supported at the south end of the east wall and extending west out of the frame of the photograph. This may have been on the line of the south wall of the stable/tenements as shown by a simple line on the vellum book plan and obviously largely demolished by the time of the Taunt photograph.
- 4.1.6 The masonry at the east end of the east wall (502) is a rebuild from the time of the warehouse construction which bonds with the north warehouse wall on that side, but here unlike on the west the rebuild uses stone, probably from the demolished wall, as well as brick, to blend it in with the standing bastion fabric. This rebuild widens as it ascends, extending to include the east jamb of the second floor window which was entirely missing at the time of the Taunt photograph, the lintel and some masonry above being apparently supported by a mullion and perhaps the boarding blocking the window.



- 4.1.7 On the first floor there is an area of brick and mortar masonry below the west window aligned at a slightly different angle to the stonework above and this is a repair probably dating to the time of the warehouse construction.
- 4.1.8 The Taunt photograph shows niches to either side of the fireplace on the ground floor and these have since been blocked with brick and mortar masonry (504), probably at the time of construction of the warehouse. The Taunt photograph also seems to show the fire surrounds in place on the first and second floors but on the ground floor there is a much larger fireplace opening level with the tops of the niches to either side and with no arched surround. The current fireplace (505) and the brickwork with relieving arch above the fireplace (506) have clearly been inserted and again this was probably done in 1882. The brick masonry here reaches to the ceiling of the room with a lacing timber to either side, possibly the main timber was found to be unsound and the easiest solution was to remove part of it and extend the brickwork.
- 4.1.9 A small neatly pointed area of masonry below the second floor east window is simply a mortar test related to the present redevelopment (507).

#### ***Timber elements and dendrochronological dating***

- 4.1.10 Two sections of oak timbers were removed during the works because they were decayed and not adequately supporting adjacent masonry. These were from the main lacing timbers on the first floor (508) and second floor (509).
- 4.1.11 The main timbers on each floor were part of the construction and their major function was clearly to support the masonry above the fireplaces prior to insertion of the fire surrounds, they are in effect chimney beams that have been extended along an entire wall and this may have been because their secondary function was to act as a fixing point for some form of panelling or planking that originally covered the very rough stonework.
- 4.1.12 Timber 508 had no signs of being reused but had on the reverse a sloped rebate where it passed above the fireplace and this was presumably made to allow the fire to draw and/or to reduce the chances of the timber becoming charred or catching fire (Pl. 1).
- 4.1.13 Timber 509 had signs of reuse including several short slots with sloping bases on the upper front arris that could indicate it had been a wallplate; the slots being for bedding rafters, on the reverse there was an angled slot that may have been for housing some form of brace.
- 4.1.14 Both samples were fully assessed by Oxford Dendrochronological Laboratory and although both were of Oak and had heartwood/sapwood boundaries present they were found to be of fast growing timber and lacked sufficient annual rings to give a 'wigggle match' and thus could not provide a date.

## **4.2 The Warehouse**

### ***Introduction and general description***

- 4.2.1 The warehouse is situated behind the front row of houses on the North side of Ship Street immediately east of St Michaels at Northgate Church and south-east of William Baker's main premises at the corner of Cornmarket and Broad Street built in 1914 (now Waterstones Bookshop) (Pl. 2).
- 4.2.2 It is a large building of 8 bays and 3 storeys plus attic, orientated east to west, which incorporates the bastion to second floor level on the north side (front cover). It is an irregular rectangle in plan, making best use of the site available, with a slight dogleg in

the south wall and the curved bastion projecting on the centre of the north side. The north wall west of the bastion appears to be on the line of an earlier wall as shown on the Vellum Book plan, possibly the City Wall but no old fabric survives there above ground. The north wall east of the bastion is aligned a couple of metres further to the south and is on the line of a former stable as shown on the Vellum Book plan. The polychromatic brick façade consists of gault brick panels with red brick detailing all in English Bond. The slate clad roof is slightly irregular to accommodate the unusual shape of the building, basically it is a half hipped mansard roof with ridged dormers in the upper south slope but the north-west section has a single slope to cover the additional width of the building at that point. There are five ridged dormers and a central modern flat roofed extension on the south side.

### ***External description***

- 4.2.3 *South Elevation:* The southern façade is divided into eight bays and formerly had windows or doors in each bay on the first and second floors and in the five west bays on the ground floor. At the time of the survey all the window frames and door frames had been removed (Pl. 3).
- 4.2.4 The façade is built of gault brick in English bond with rubbed and gauged red brick flat lintel arches to the openings with raised keystones also in rubbed brick. The ground floor brickwork is plain with no bay divisions but has a moulded red brick string course at the floor division, plain raised red brick pilasters rise from this on the first floor to divide the bays. The pilasters have capitals of simple raised strings supporting a wide red brick floor band at second floor level from which indented red brick pilasters rise to divide the bays on the second floor, these support a red brick eaves cornice with plain corbelled courses and a dentil course (figs 4 and 5). There are iron tie rods with round plates at the top of each floor at the bay divisions mostly on the brick pilasters but some are adjacent in the light brick panels.
- 4.2.5 The two western windows on the ground floor have been partially blocked and had later door openings inserted into them, the westernmost being within a single storey building built against this end bay of the south wall and extending around the west end of the warehouse. The surviving rubbed and gauged brick arch of the west ground floor window appears to be the same size as the other windows and this may therefore represent a change to the architects plans which show a narrower window and a narrow door with a lower lintel in this bay (Pl. 6).
- 4.2.6 Entrance to the floors is through modern doorways in the fourth bay from the west. This bay is almost twice the width of the other bays as it was designed to span the width of the bastion and thus reflects the medieval building in the late 19th century façade. The architect's drawings show that this bay had large mullioned and transomed windows of five vertical lights and internally was used as the stairwell for the building with flights of steps connecting the different level bastion and warehouse floors. These large windows which had rubbed and gauged brick lintels as the other windows have later been blocked in modern brickwork with modern doorways let in to them and the stairs removed.
- 4.2.7 More recently an external staircase had given access to the doors in the fourth bay but at the time of the survey this had been removed and replaced with temporary scaffolding access. Originally there were double loading doors on each floor in the third bay from the west and one single entrance door in the west bay. The loading doors along with the window frames had all been removed prior to the survey (Pl. 7).
- 4.2.8 The mansard roof has five gabled dormers on this elevation, and a modern flat roof extension in the wide fourth bay. There are no dormers in the end bays although they are





shown on the architects plan, they were possibly not built but may have been removed later. The dormers are shown on the plan as extending on the upper slope of the roof and each having a two light casement. Four of the surviving dormers adhere to the original design but that in the third bay from the west above the loading doors has itself been converted into a loading door by having the opening extended into the lower slope of the mansard roof and single door fitted, this alteration was probably made during or soon after original construction as a means of getting goods in and out of the attic storage area.

- 4.2.9 *West Elevation:* The west facade is of the same materials and detailing as the south front, it is of one bay with an adjacent lean-to building built against it on the ground floor and with a single window in the first and second floors both fitted with louvred casements. The roof gablet also has a louvred opening. The elevation abuts, at its north end, an adjacent building which must have been pre-existing, or is on the line of a pre-existing building, as the first and second floor pilasters of the warehouse respect it (see Pl. 2).
- 4.2.10 *North Elevation:* The north elevation incorporates the bastion (front cover). The north wall west of the bastion was built about 2.5m north of the line of the east section of wall. The west section is of three bays there are no windows in these bays at attic or second floor level and the first and ground floors are covered by a neighbouring building (Pl. 8).
- 4.2.11 The north wall east of the bastion is the only original wall of the warehouse that is to be demolished as part of the development; the building will be extended to the north here. The wall here was of the same design and materials as the south elevation but had very few windows. It is of four bays, the east bay being about half the width of the others. The ground floor has blocked primary windows (the rubbed and gauged lintels remain) in the second and third bays. The blocking of the latter relates to a doorway being inserted into the wall and partially across the west side of the former window. There are no windows on the first floor. There is an opening in the third bay from the east on the second floor the frame or surround had been removed prior to the survey. This opening was a later insertion and has later fletton brick jambs within the gault brick walling and breaks through the primary red brick floor band so was almost certainly a door opening. Probably either a later loading or access door, possibly an emergency or fire exit door inserted for the conversion to the Oxford Storey (Pl. 9).
- 4.2.12 *East Elevation:* Good views of the external east elevation were not accessible during the survey however this elevation is essentially similar to the west elevation being of one bay but here due to the constraints of the site is even narrower than the west end. Also, as at the west end, there are buildings against it at ground floor level and single windows in the upper floors, these had their casements or louvres removed prior to the survey.

### ***Internal description***

- 4.2.13 Internally the warehouse at the time of survey had been partly stripped out and consisted of an open space on each floor (Pl. 10). The walls are constructed of red brick flettons of lower quality than the external bricks. The window frames having been removed the construction of the walls can be seen in the main panels to consist of separate inner and outer skins built flush to each other but not bonded by the brickwork, they may be joined by iron ties but none were visible. Internally, in contrast to the external high quality decorative rubbed and gauged brick window heads, there are flat timber lintels over the windows with segmental brick relieving arches in the inner skin brick wall over them (Pls. 11 and 12).
- 4.2.14 The internal brick skin incorporates two courses of timber lacing members these are within the walling interrupted by the window openings and it can be seen that the window frames were nailed into the ends of these. These timbers stand slightly proud of



the wall surface and were probably intended as fixing for laths for plasterwork to cover the rough brickwork as well as fixing for the window frames (see Pls. 11 and 12).

- 4.2.15 The floors consists of transverse I-section girders which support tall narrow axial timber joists with diagonal strutting. These girders are almost certainly primary; iron girders are specified on the architects plan. The beams supporting the attic floor are however of timber rather than iron as these also act as tie beams for the roof trusses and are an integral part of the trusses.
- 4.2.16 The only surviving primary window frame is at the west end of the first floor this has a mullioned and transomed timber casement with three upper square lights and formerly three lower rectangular lights of six panes each although the northern of these has been removed and bricked up. This corresponds to the window designs on the architects plans (Pl. 13).
- 4.2.17 North of this window near the north end of the west wall there is a straight vertical joint with narrow section of walling north of it consisting of recessed brickwork and a stud and lath panel above a lintel. Deeper recessed brickwork below the lintel is probably blocking of a former doorway. This section of walling corresponds to the adjacent building that predates the warehouse and there was probably access from the warehouse into this building and to Bakers Broad Street premises (Pl. 14).

### ***Roof construction***

- 4.2.18 The mansard roof has nine transverse softwood trusses. There is no truss at the east end, the purlins there being supported by the brick gable, but there is a truss at the west end which is perpendicular to the line of the roof but at a slight angle to the west end wall. The large central bay of the building which incorporates the bastion has an additional truss (no. 5) spanning its centre and so consists of two bays in the roof, otherwise the trusses correspond with the bay divisions as expressed in the external walls.
- 4.2.19 The six eastern trusses are regular and symmetrical in design (Pl. 15). They consist of queen posts rising from a tie beam with a horizontal strainer beam rebated into and connecting their heads and principal rafters running from the tie beam to the outer splayed heads of the queen posts. Two-way iron traps also strengthen the joints between the principals the queen posts and the strainer beam (Pl. 16). The bases of the queen posts are also splayed to take the base of raking braces and these joints are strengthened with simple iron straps. The heads of the raking braces are tenoned into the principal rafters.
- 4.2.20 There are two orders of purlins to each side of the roof. The upper purlins sit on the top of the principal rafters with their inner faces butting against the splayed heads of the queen posts, they are wedged tight to the queen posts by timber wedges which are held in niches cut into the upper faces of the principal rafters (see Pl. 16). Being a mansard roof the lower purlins are at the change of angle of the roof slope and thus above the line of the principal rafters and are directly supported by short raking braces rising from the principals and also by iron straps which are bolted to the upper face of the purlins and then twist through 90 degrees and extend across to be bolted to the principals and the upper ends of the lower raking braces (Pl. 17). The purlins are scarfed with splayed, tabled and keyed scarf joints with under squinted abutments (Pl. 18).
- 4.2.21 At the west end the roof is wider; extending further north due to the irregular plan of the building and having no break and change of angle in the north slope. Two of the trusses in this section (nos. 2 and 3) are therefore modified in design on their north sides. The principal rafters are necessarily longer and parallel to the roof slope and the lower purlin sits directly on the principal with no wedge or strap.



- 4.2.22 The west end truss is again different on the north side due to there being an internal east west wall at this corner so the principal rafter is short and there is no lower purlin in the truss as it is supported slightly to the east of the truss by a north return of the internal wall.
- 4.2.23 The roof is lined with softwood tongue and groove sarking boards and the softwood common rafters are only visible in a few places, they are straight and regularly spaced as would be expected, the apex of the roof is hidden by the boards.
- 4.2.24 There is a modern partition built onto the third truss from the east.

#### ***Watching Brief Findings at East End of Warehouse***

- 4.2.25 A Watching Brief was maintained on work after the main test pits had been excavated and a further report covering this will be issued but it is worth noting here some findings relating to the construction of the warehouse foundations and possible reasons for them.
- 4.2.26 When part of the ground floor at the east end of the warehouse was raised a single central axial dwarf wall supporting the floor joists was revealed; this illustrates a money-saving variation from the architects plans which show three parallel such walls (Fig. 7).
- 4.2.27 The main north and south walls were seen to have upper brick offsets to the footing plinth which also served to support the end of the floors joists but these offsets were discontinued at the east end of the warehouse where it seems much deeper footings were required. The upper offsets on interior and exterior of north wall stopped 2.6m west of the inner face of the east gable wall and the inner offset on the south wall stopped at 1.5m from this face (Fig. 7).
- 4.2.28 The evaluation trench (ATP 2) showed that the east end of the north wall and the north end of the east wall had a two course brick offset at just over 1m below ground level and this sat on a shuttered concrete footing which was not bottomed at just over 3m.
- 4.2.29 A Geotechnical pit and a borehole respectively approximately 4.5m and 9m west of the east wall and 3m and 5m west of a line connecting the east ends of the discontinued wall offsets showed archaeological deposits extending to a depth of 5.5m and 5.6m whereas in ATP 2 auguring showed deposits continuing beyond 6.3m. Thus there is an increase in depth of deposits of >0.8m over a 3m west to east distance and this may explain the necessity for the deep concrete footings and indicate the presence of a large feature such as an extramural ditch.

## **5 CONCLUSION**

### **5.1 The Bastion**

- 5.1.1 The stone masonry (500) within the bastion appears to be essentially of one rubble built phase which involved the insertion of flues and fireplaces and possibly larger windows than originally existed for domestic use. The upper two fireplaces that had surrounds in place in c1880 have Tudor arches and although these may be later insertions or reused it does seem quite possible that the rebuilding of the interior probably took place in the 16th century, and, if it was part of the tenement leased by Alderman Flexney, it may have been converted by 1546 but with the lack of dendrochronological dates there is no clear or firm evidence for dating.
- 5.1.2 The north wall with the flues is now relatively thick (approx. 1.6m at thickest point) and it is possible that in places here the internal masonry has been built against the existing medieval walling without any removal of walling and that the north face of the flues may





therefore be the old inner wall face, certainly when investigating one of the flues it appeared that the later masonry may have abutted the walling at the rear.

- 5.1.3 The possible section of City wall in the cellar to the south is however about as thick as the thickest section of surviving bastion wall. At the sides of the bastion the walling is much thinner than the wall in the cellar and the wall base uncovered in the recent evaluation trench and clearly the walls here have been reduced. Presumably the reduction was undertaken at the same time as the construction of the flues in order to create rooms of a usable width. It is thus perhaps more likely that some medieval fabric might survive internally at the sides but there is no obvious change in the existing masonry or in the mortar which was extremely loose and soft throughout once later renders and repairs had been removed. It would seem then that the entire inner face is a later rebuild reusing material from the primary construction.
- 5.1.4 The latest masonry (501-506) is connected with the construction of the warehouse and associated repair of the bastion which probably all took place in 1882 or shortly thereafter. The south-east wall of the bastion (502) was rebuilt at this time but below ground the 1986 investigations showed that the original bastion wall continued south below the rebuilt section and the 2008-9 investigations revealed parts of the bastion wall further south (130) this wall was still standing prior to the warehouse construction as shown by the Taunt photo c1880.

## 5.2 The Warehouse

- 5.2.1 The warehouse was designed by William Codd in 1881 for Baker & Co., furnishers and built in 1882. Codd was of some significance as a local architect mostly of domestic development in North Oxford and this may be his only surviving commercial building, but that is uncertain.
- 5.2.2 The warehouse is of irregular plan to fit the site and incorporates the surviving fabric of City Wall Bastion 4. The bastion was made a feature of the warehouse; its dimensions dictating a wider central bay that housed a large staircase and wide windows.
- 5.2.3 This original staircase had long gone and most of the windows had been removed prior to the survey, the polychromatic brickwork of the warehouse and the original roof largely survived and have been retained during the redevelopment except for the section of the north wall east of the bastion which has been demolished. The building will therefore retain a large proportion of its external character. The old open internal floors of the warehouse have been demolished and replaced with new floor structures and internal divisions.

### *Investigations at East End of Warehouse*

- 5.2.4 The archaeological investigations and watching brief in 2008-9 showed that the brick offsets of the north and south warehouse wall footings finished short of the east wall by a few metres and that the foundations at the east end were of deep shuttered concrete with brick offsets about 1m deeper than those to the west. Augur and borehole evidence also showed that man-made deposits extended to about 5.5m deep just west of the cut for these deeper foundations but adjacent to them the deposits continued beyond 6.3m depth.. It has therefore been suggested that the reason for the deeper foundations is the greater depth of archaeological deposits and that these may be fills of a large roughly north-south aligned feature which might be an extramural ditch to the city defences.
- 5.2.5 The question of the exact position nature and development of the Oxford City defences in this area has not been resolved by the work that has been undertaken up till now and it is



to be hoped that further opportunities to investigate and understand them will arise in future years.

## APPENDIX 1. BIBLIOGRAPHY AND LIST OF SOURCES CONSULTED

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<http://www.victorianweb.org/art/architecture/homes/36.html>

## APPENDIX 2. SUMMARY OF SITE DETAILS

Site name: Bastion No. 4 and Bakers' Warehouse Ship Street, Oxford.

**Site code:** OXSSC08

**Grid reference:** SP 5132 0639

**Type of evaluation:** Building Recording.

**Date and duration of project:** 2008-9

**Summary of results:** The investigation revealed that the internal walls of the bastion were rebuilt in about the 16<sup>th</sup> century and no medieval fabric remained on the interior. More of the south east wall of the bastion had existed before the construction of the warehouse in 1882 but this had been reduced and rebuilt as part of the warehouse construction.

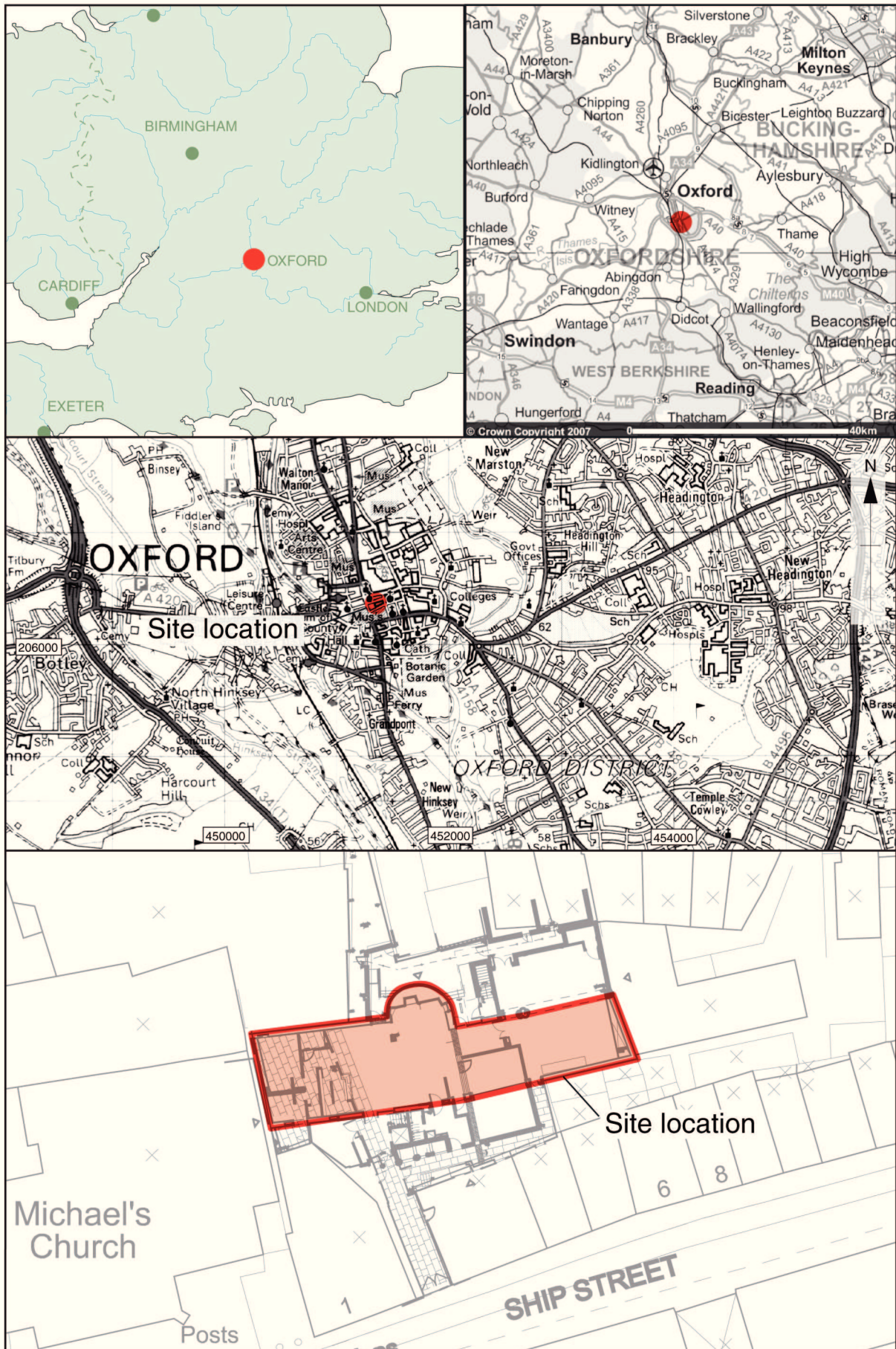
The warehouse retained much original fabric but the windows and original stairs had been removed and the internal floors were removed as part of the development and the eastern part of the north wall was demolished as part of the development to extend the building with new build in that area. The work was carried out alongside archaeological test pits which showed part of the bastion wall



that extended further south on the east side and showed deep shuttered footings at the east end of the warehouse where there are significantly deeper archaeological deposits which may be fills of a large north-south feature possibly an extramural defensive ditch.

**Location of archive:** The archive is currently held at Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 0ES.





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Figure 1: Site location





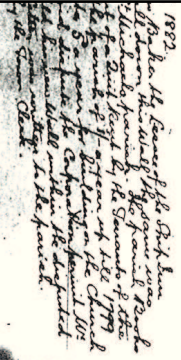


Figure 2: Oxford Vellum Book plan showing site prior to construction of warehouse (courtesy of Oxford City Council)



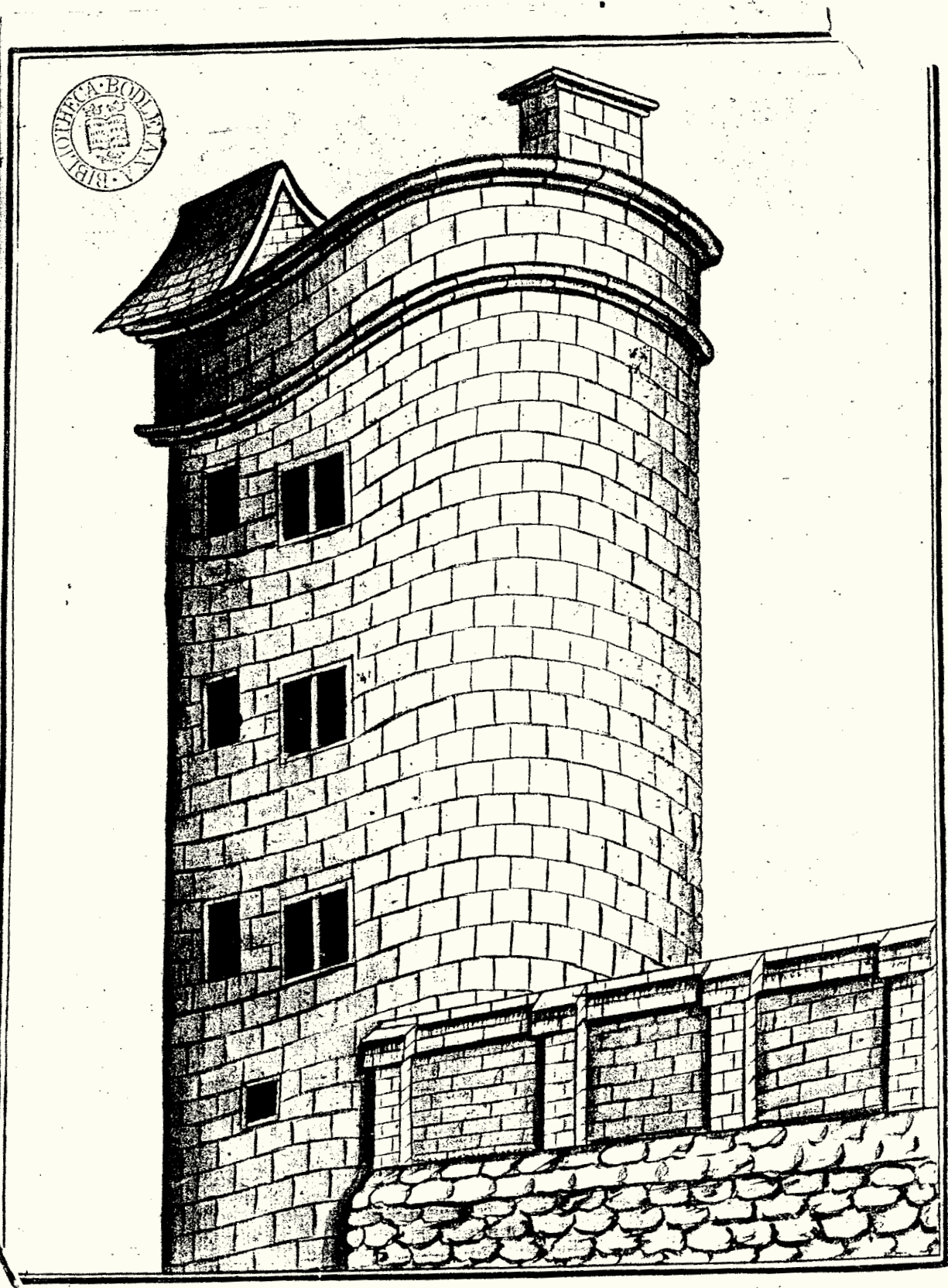


Figure 3: Drawing of bastion, c. late 18th century (from a Bodleian MSS)





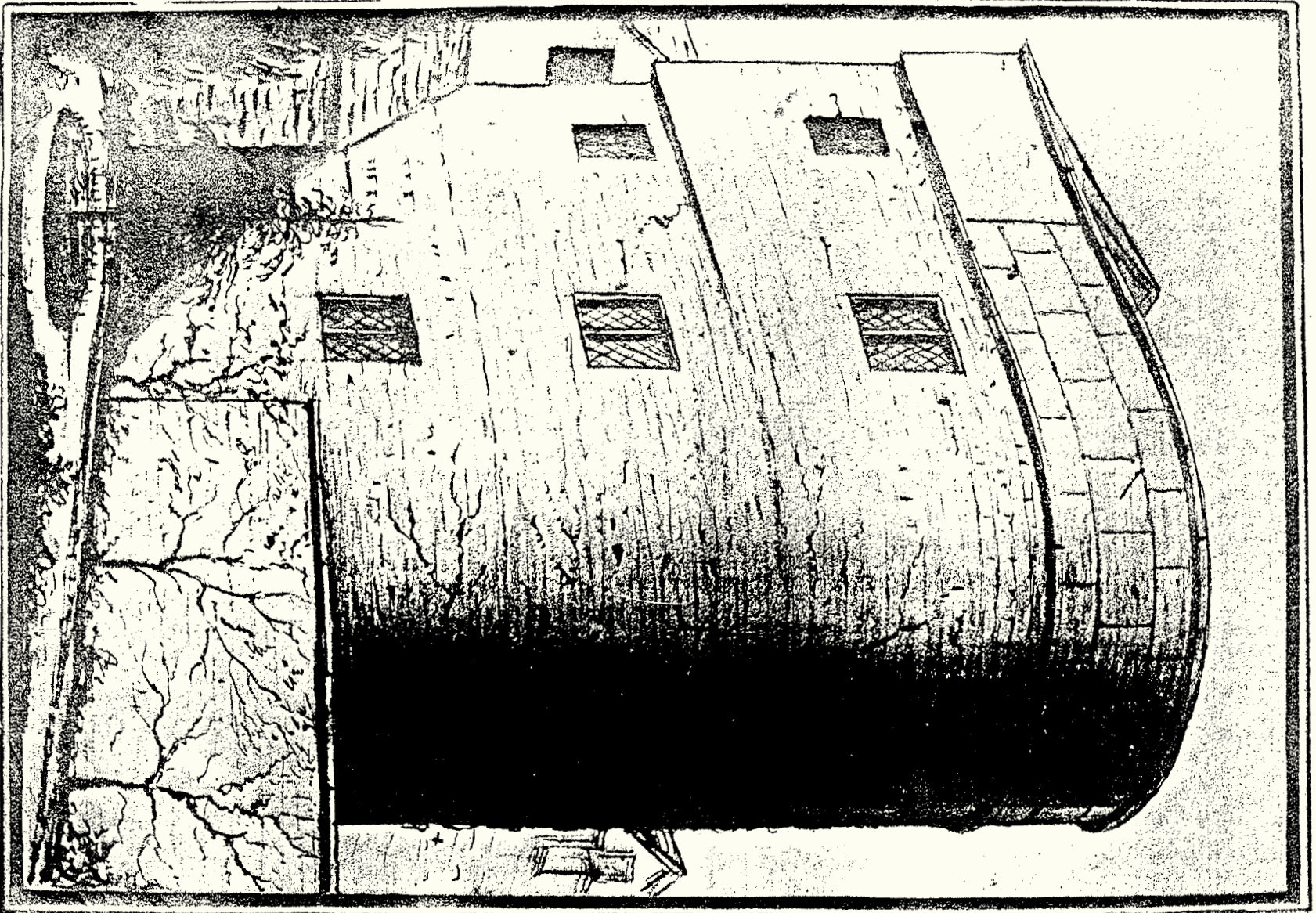


Figure 4: Drawing of bastion 1779 (from Bodleian Gough maps 27 f37b)







Figure 5: Original architects plan of warehouse 1881 (courtesy of Oxford City Council)





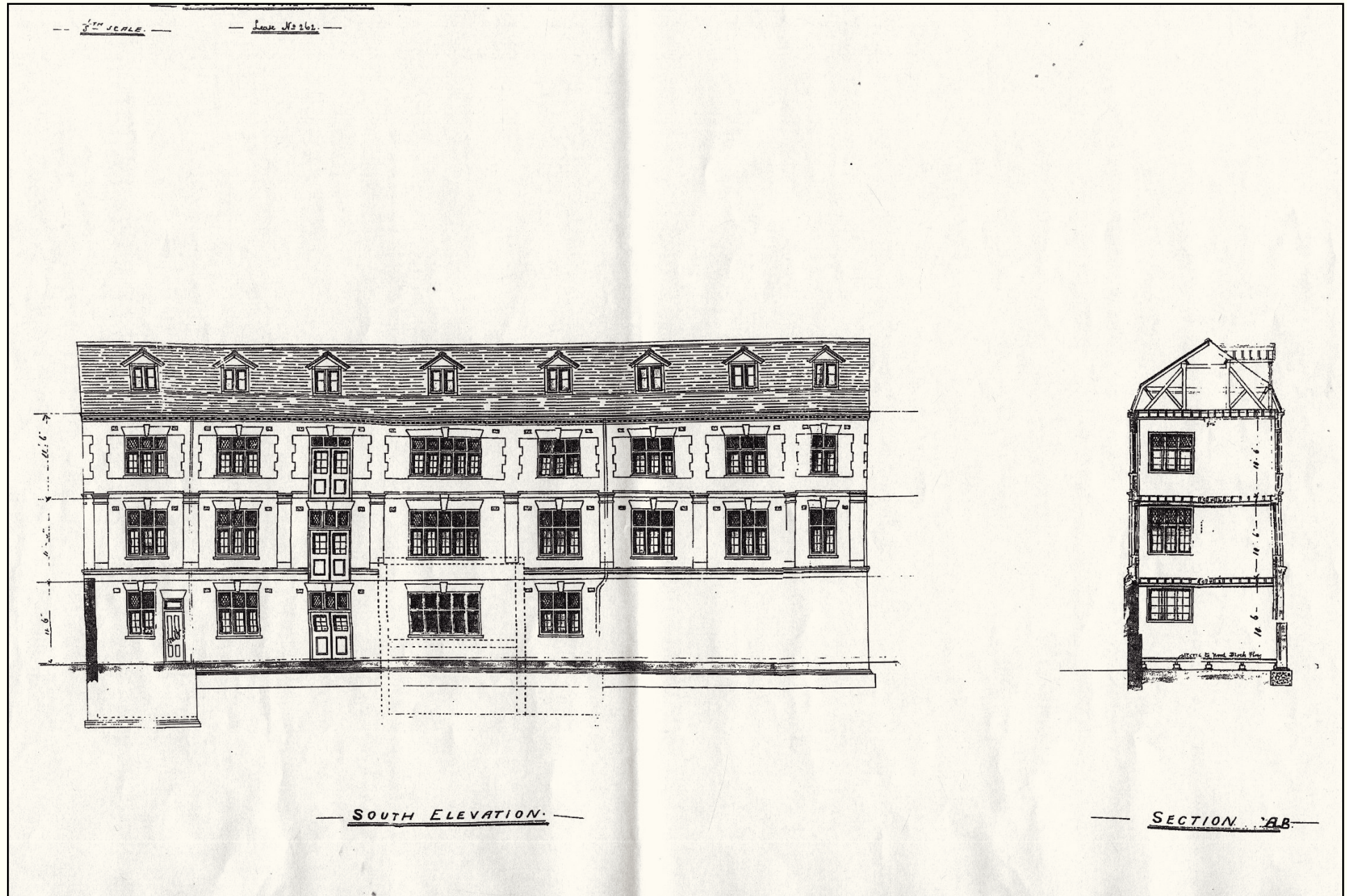


Figure 6: Original architects elevations of warehouse 1881 (courtesy of Oxford City Council)



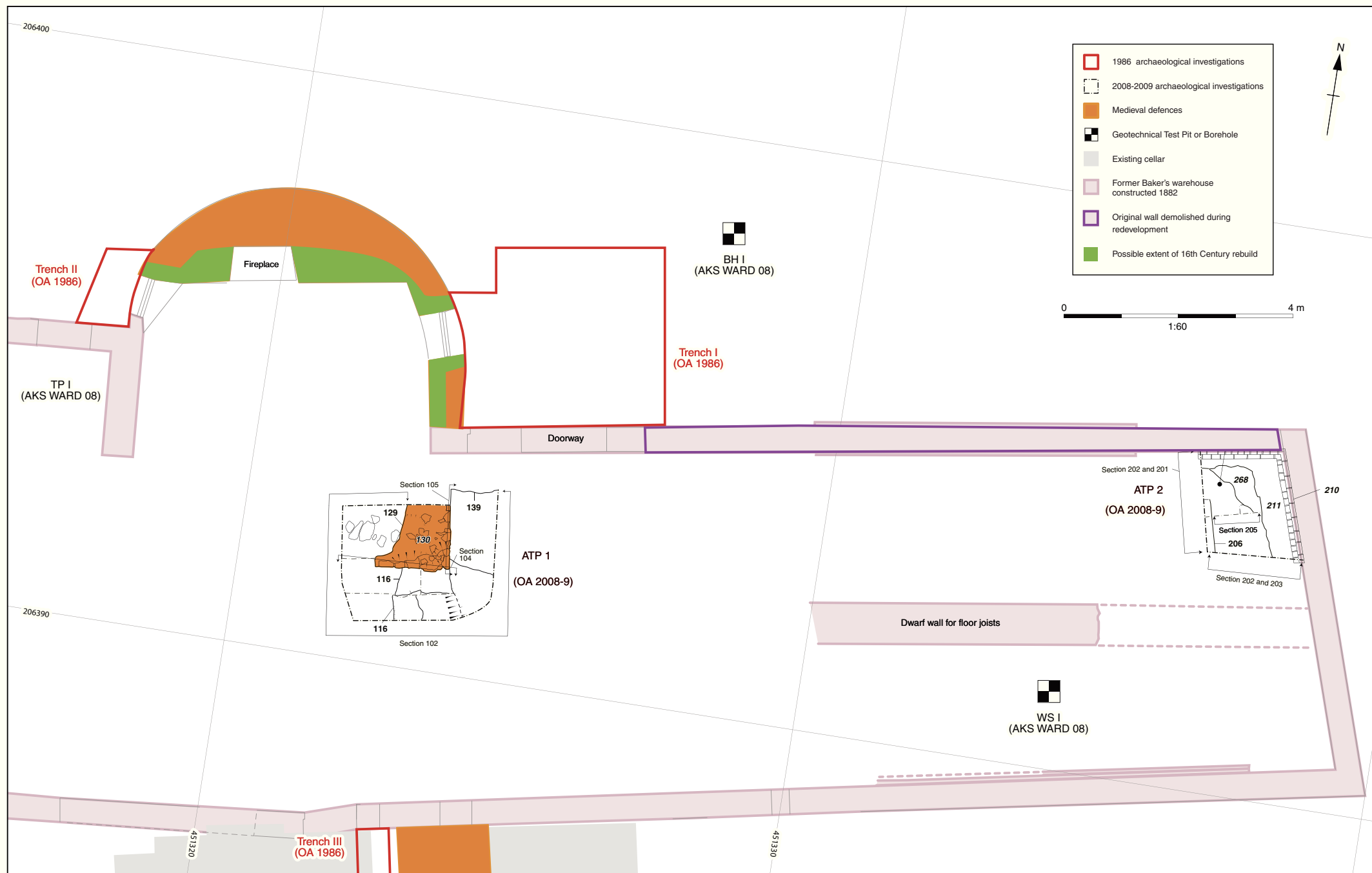
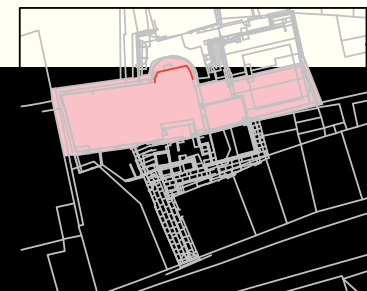


Figure 7: East part of site showing relationship of warehouse and bastion and location of archaeological investigations









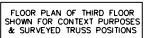


Figure 9: Survey of warehouse by A D Horner Limited. 2009. With OA truss numbering







Plate 1: Timber removed from bastion showing angled rebate formerly above fireplace.



Plate 2: View of warehouse from St Michael's Church looking east.







Plate 3: Oblique view of south façade.



Plate 4: West end of south façade showing general form of brickwork.







Plate 5: Detail of mouldings at top of first floor pilasters.



Plate 6: Lower floors at west end of south façade.







Plate 7: Third and fourth bays from west on south side showing door in dormer and door openings below, blocked former windows and remnant of extension roof.



Plate 8: View of offset and return of north wall west of bastion taken from bastion roof.







Plate 9: East part of north wall; this was demolished during the redevelopment.



Plate 10: General view of first floor looking west.







Plate 11: Jamb of window opening showing detail of wall construction.



Plate 12: Interior showing lintels and relieving arches over windows and fixing timbers.







Plate 13: Surviving primary window at west end of first floor.



Plate 14: Blocked opening at west end of first floor.







Plate 15: General view of east end of attic floor looking east.



Plate 16: Detail of truss joint between principal rafter, strainer and queen post.







Plate 17: Detail of truss construction showing brace and strap supporting lower purlin.



Plate 18: Splayed, tabled, keyed and under-squinted scarf joint in purlin









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