Footpath Repairs, Oxford Castle Mound, Oxford

Archaeological Watching Brief Report

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Footpath Repairs, Oxford Castle Mound, Oxford

Archaeological Watching Brief Report

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Summary

Oxford Archaeology was commissioned by Oxfordshire County Council to undertake a watching brief on the repairs to the footpath, landings and steps at the Oxford Castle Mound, centered on NGR SP 50967 06201. The work was undertaken between July and September 2021 and consisted of 16 areas varying in size and depth.

The results of the watching brief have shown that archaeological deposits and features associated with the history and development of the mound survive within the site. The watching brief demonstrated that the upper deposits of the mound are most likely post-medieval in date, and the works did not intrude into the original 11th-century fabric of the mound.

It is anticipated that all archaeological deposits and features recorded during this watching brief would be considered significant, as they help to further understand the fabric, character, history and use of the mound since its construction in the 11th century.

Acknowledgements

Oxford Archaeology would like to thank Oxfordshire County Council for commissioning the project. Thanks are also extended to David Wilkinson, who monitored the work on behalf of Historic England.

The project was managed for Oxford Archaeology by Ben Ford. The fieldwork was directed by Adam Fellingham. Digitising was carried out by Matt Bradley and the sections for Figs 3–5 were drawn by Magdalena Wachnik. Thanks are also extended to the teams of OA staff that cleaned and packaged the finds under the management of Leigh Allen and prepared the archive under the management of Nicola Scott.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) was commissioned by Oxfordshire County Council to undertake a watching brief on the repairs to the footpath, landings and steps at the Oxford Castle Mound. The mound is centred on NGR SP 50967 06201, and its location is shown on Figure 1.

1.1.2 The work was undertaken following discussions with David Wilkinson, Assistant Inspector of Ancient Monuments for Historic England, and the issuing of Scheduled Monument Consent. A written scheme of investigation (OA 2015) established the scope of the work required and this document outlines how OA implemented those specified requirements. All work was undertaken in accordance with local and national planning policies, and the terms of the Scheduled Monument Consent.

1.2 Location, topography and geology

1.2.1 The site is situated in the centre of Oxford on the southern side of New Road within the Oxford Castle complex. The site comprises the Oxford Castle Mound, located in the north-west area of the Castle complex. The site is bounded by New Road to the north, Oxford Castle complex to the east and south and by Macclesfield House to the west.

1.2.2 The top of the mound is 73m above Ordnance Datum (aOD). This falls to the north (on top of the retaining wall on New Road) and south (the current entrance to the mound) to 58m aOD.

1.2.3 The underlying bedrock geology within the site is mapped as Oxford Clay Formation and West Walton Formation (undifferentiated), a sedimentary mudstone formed approximately 157 to 166 million years ago in the Jurassic Period. The underlying bedrock is overlain by Northmoor second terrace sand and gravel deposits (BGS 2021).

1.3 Designated heritage assets

1.3.1 The site lies within the Oxford Central (City and University) Conservation Area and is located within the Scheduled Monument of Oxford Castle (list entry 1007730). The Oxford Castle Mound contains the Well House of Oxford Castle, a Grade I listed building (list entry 1369493). The Oxford Castle complex also contains St Georges Tower, a Grade I listed building (list entry 1369490), as well as one Grade II* and five Grade II listed buildings.

1.3.2 The immediate setting of the castle is defined by the surrounding streetscape, which retains the outline of the castle precinct fossilised in the street pattern and which contributes towards the historic interest of the monument. The wider setting of the castle is considered to include Castle Mill Stream, which the castle was located adjacent to and utilised defensively; Oxford city wall, which along with the castle played a key role in the defence of the city, and the wider conservation area in which the castle was a key feature.

1.3.3 The scheduled area comprises the surviving elements of the motte and bailey castle and surviving below-ground remains. The steep-sided motte has survived to a height of 18m with a diameter of 65m at the base and 23m at the flat summit. The scheduled monument is of high heritage significance and is an important example of such a monument located within a town.

1.4 Previous archaeological investigations

1.4.1 Within the Oxford Castle complex, and its associated features within the landscape, there have been over 70 previous archaeological investigations (OA 2021, fig. 2). Of these investigations 23 have focused on the Oxford Castle Mound and its associated features within the immediate environ (OA 2021, figs 3 and 5). These have been summarised in the desk-based assessment for the site (OA 2021) and *Excavations at Oxford Castle 1999-2009* (Munby *et al*., 2019, 437–52) and will not be reproduced here.

2 WATCHING BRIEF AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The project aims and objectives were as follows:

- To determine the presence or absence of any archaeological remains which may survive.
- To determine or confirm the approximate extent of any surviving remains.
- To determine the date range of any surviving remains by artefactual or other means.
- To determine the condition and state of preservation of any remains.
- To determine the degree of complexity of any surviving horizontal or vertical stratigraphy if appropriate.
- To assess the associations and implications of any remains encountered with reference to the historic landscape.
- To determine the potential of the site to provide palaeoenvironmental and/or economic evidence, and the forms in which such evidence may survive.
- To determine or confirm the likely range, quality, and quantity of any artifactual evidence present.

2.2 Terms of the Scheduled Monument Consent

2.2.1 The specific terms of the Scheduled Monument Consent were:

a) The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by Historic England. At least 4 weeks' notice (or such shorter period as may be mutually agreed) in writing of the commencement of work shall be given to David Wilkinson, Assistant Inspector of Ancient Monuments in order that an Historic England representative can inspect and advise on the works and their effect in compliance with this consent.

b) Photographs shall be prepared of the monument before the start of and after completion of the works and a set of the photographs in digital format drawings shall be sent to Historic England within 1 month of the completion of the works (or such other period as may be mutually agreed).

c) The consented works shall be undertaken under the overall archaeological supervision of an appropriately qualified archaeologist(s) who must be given at least 4 weeks' written notice of the work (or such shorter period as may be mutually agreed) together with a timetable for it and essential documentation such as site plans and specifications.

d) No works shall take place until the applicant has submitted in writing to Historic England the details of the qualified archaeologist(s) required under Condition (c) to be approved by the Secretary of State advised by Historic England

e) No works shall take place until the applicant has submitted in writing to Historic England a method statement for the works including details of how impact on the monument will be avoided and / or minimised, to be approved by the Secretary of State advised by Historic England.

f) Samples shall be prepared on site of stone, mortar and surfacing materials to be used and shall be approved by the Secretary of State advised by Historic England

g) All those involved in the implementation of the works granted by this consent must be informed by the owner, occupier, contractor(s) and/or supervising archaeologist(s) that the land is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas Act 1979 (as amended); the extent of the scheduled monument as set out in both the scheduled monument description and map; and that the implications of this designation include the requirement to obtain Scheduled Monument Consent for any works to a scheduled monument from the Secretary of State prior to them being undertaken.

h) Equipment and machinery shall not be used or operated in the scheduled area in conditions or in a manner likely to result in damage to the monument/ ground disturbance other than that which is expressly authorised in this consent.

i) Levelling shall be affected by filling holes and depressions with material imported from outside the scheduled area.

j) A report on the results of the archaeological supervision and recording shall be sent to Historic England and to the Oxfordshire County Historic Environment Record within 3 months (or such other period as may be mutually agreed) of completion of the works. The National Monuments Record shall also be invited to receive copies of both archive and report.

2.3 Methodology

2.3.1 Archaeological mitigation took place as an intermittent watching brief dependant on the principal contractors work programme during July and September 2021.

2.3.2 The watching brief areas were hand excavated by the principal contractor with an archaeologist present to record the stratigraphical sequence of each area. The principal contractor was also instructed to not intrude into any blue clay deposits, as these are associated with the capping episodes for the internal construction of the mound. This is due to historical impacts upon the mound truncating the clay capping and causing potential areas of instability similar to events in 2008 (OA 2021).

2.3.3 All archaeological remains encountered were excavated and recorded stratigraphically in accordance with the approved recording system. Spoil was monitored to recover artefacts.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The results of the watching brief are presented below and include a stratigraphic description of the areas that contained archaeological remains. The full details of all areas and deposits with dimensions and depths can be found in Appendix A.

3.2 General soils and ground conditions

3.2.1 Ground conditions throughout the watching brief were generally good, and the site remained dry throughout. Archaeological features, where present, were easy to identify.

3.3 General distribution of archaeological deposits

3.3.1 Archaeological deposits and/or features were present in Areas 1–4, 9–10, 12–13 and 16. The remaining areas (5–8, 11, 14 and 15) contained no significant archaeological features or deposits and will not be discussed further.

3.4 Watching Briefs Areas 1–4 and 16 (Figs 2 and 3; Plates 1 and 2)

3.4.1 Areas 1–4 and 16 were located along the lower path of the mound for the replacement of existing retaining walls and measured between 1m and 2.54m long and between 0.90m and 1.16m deep.

3.4.2 All five areas revealed a similar sequence of deposits at the lower, outer edge of the mound (Fig. 3, Sections 1 and 4). The earliest deposit (6) was a moderately firm mid-greyish brown sandy silt, with mid-greyish blue clay and sub-round flint gravel inclusions. It was at least 0.22m thick. This was overlain by a mid-yellowish brown silty gravel (5), measuring 0.12–0.38m deep. This was in turn overlain by a mid-brownish grey silty gravel deposit (4) which varied in depth from 0.34–0.72m. This contained a fragment of tobacco pipe dating from the 18th century and ceramic building material. Deposit 4 was truncated by the construction cut (2) for the existing retaining wall (1) of the mound, which was abutted and overlain by topsoil and turf (3).

3.5 Watching Brief Areas 9 and 10 (Figs 2 and 3; Plate 3)

3.5.1 Areas 9 and 10 were located along the upper section of the path for the mound to enable the replacement of existing retaining walls. These areas measured 1m and 3.80m long and were 1.40m and 0.40m deep respectively.

3.5.2 The earliest deposit encountered in Watching Brief Areas 9 and 10 was a mid-yellowish brown sandy silt with subangular limestone inclusions (10), which was more than 0.27m thick (Fig. 3, Section 6). This was overlain by deposit 9, which was a mid-brownish grey, silty gravel at least 0.25m deep. It was sealed beneath a layer of light yellowish brown silty gravel (8). This measured more than 0.28m thick. Deposit 8 was overlain by a moderately firm mid-brownish grey silty gravel which was 0.81m thick and contained ceramic building material (7). Deposit 7) was truncated by the construction cut (2) for the existing retaining wall (1) that defines the path. It was overlain by topsoil and turf (3).

3.6 Watching Brief Area 12 (Figs 2 and 4)

3.6.1 Area 12 corresponded to the entire length of the footpath and was associated with the replacement of drainage channels. The excavations for the drainage trench measured up to 0.20m deep, revealing a relatively consistent sequence along the length of the path (Fig. 4, Sections 8 and 12). The earliest deposit encountered was a mid-greyish brown sandy silt gravel deposit (14). It was 0.14m thick and contained pottery dating to 1780–1840. This was overlain by a series of compacted mid-orangey brown surfaces (12 and 13), which were in turn overlain by the existing footpath surface (11).

3.7 Watching Brief Area 13 (Figs 2 and 5; Plate 4)

3.7.1 Area 13 was located at the top of the mound and related to the creation of a new viewing platform and access steps. The excavations for the new steps had a maximum depth of 0.7m (Fig. 5, Section 11).

3.7.2 The earliest deposit encountered at the base of excavation within Area 13 was deposit 16, a firm mid-greyish blue clay, visible in the western half of the excavated area. This was overlain by a dark yellowish brown sandy silt deposit, (15) that measured 0.38m thick and contained a large assemblage of finds comprising animal bone, disarticulated human remains, ceramic building material, pottery dating from 1730–1800 and a fragment of tobacco pipe stem dating from the late 18th–19th century.

3.7.3 Deposit 15 was truncated to the east by construction cut (17) and was excavated to a maximum depth of 0.70m below ground level, exposing four fills (18–21). The earliest of these was a soft whiteish brown silty sand deposit (18). This was overlain by a 0.28m thick deposit (19) of friable light greyish white silty sand deposit. This was in turn overlain by a moderately soft light greyish brown sandy silt deposit (20) that measured 0.20m thick and contained a rimsherd from a post-medieval red earthenware jar dating from 1580–1700. Overlying this was fill 21, a light greyish white, silty sand deposit measuring 0.14m thick, sealed beneath the topsoil and turf (3).

4 DISCUSSION

4.1 Watching brief objectives and results

4.1.1 The archaeological watching brief consisted of the recording of 16 areas, which were hand excavated with an archaeologist present. This has shown that post-medieval archaeological deposits survive within the site and further builds upon the results of the previous archaeological investigation and helps to further understand the internal makeup of the mound.

4.2 Interpretation

Fabric of the mound

4.2.1 Archaeological works on the north face of the mound in 2008 (OA 2019) demonstrated that the mound had been constructed with natural gravels derived from the surrounding ditch. The addition of blue-grey clay formed a capping layer that consolidated the underlying grave mound. It is likely that the clay encountered at the top of the mound (16) is evidence of this uppermost clay capping layer.

Construction of New Road

4.2.2 New Road was constructed over the castle mound and ditches and took place alongside quarrying activity along its length. Excavations in 2003–2004 revealed some of this quarrying extending over part of the ditch at the base of the mound and the castle ramparts (OA 2019). Michael Angelo Rooker's depiction of New Road in 1779 suggests some dumped deposits against the lower section of the mound, which perhaps represent arisings from this quarrying activity. It is possible that the deposits encountered within Areas 1–4 and 16 either relate to this activity or represent slumped material from higher on the mound.

Investigation by Harris (1794)

4.2.3 King (1796) noted in that Daniel Harris's investigations in 1794 examined the rough stone wall on top of the mound which was inferred to be the foundations of a ten-sided tower with a matching inner wall. King further noted that the vaulted well-chamber within the top of the mound was cleared of debris including human skeletons. The animal bone-rich deposit 15, encountered at the top of the mound, which included disarticulated human remains and pottery dating from 1730–1800, is likely to represent material from Harris's clearance of the debris within the well chamber.

Possible 18th-century landscaping

4.2.4 During the late 18th century, King and Harris published the results of their excavation and recording works on the mound, including the lower core of the tower prior to the construction of the prison (King 1796). After this, a programme of beautification began which included a circular path from the southern side of the mound curving clockwise up around to the top of the mound, north-north-west of Areas 9 and 10. It is probable

that the deposits encountered in both Areas 9 and 10 were derived from this late 18th-century landscaping.

4.2.5 The large cut feature (17) recorded in Area 13 is also likely to be related to this beautification phase or a later phase of development, as it truncates the presumed arisings from Harris' excavations. It is also the case that little is known about the date of when the current well chamber entrance was constructed.

21st-century pathways

4.2.6 Over time, the paths have moved in position and direction and since the 18th century numerous paths have been cut into the mound itself. The current path layout first appears on the 1956 OS map (1:1250). It is likely that deposits 12 and 13 represent the remains of paths constructed around this time.

4.3 Significance

4.3.1 Although restricted to areas of the site that were impacted by the repairs to the footpath, landings and steps, the watching brief has provided some interesting insights into the history of the structure. The nature of the works has inevitably been limited to revealing elements associated with activity that took place from the 18th century onwards and provides little new information about the earlier activity since its construction in the 11th century. However, given the historical interest of the castle mound, any contributions to understanding its development should be considered as highly significant, especially given that opportunities to investigate such a monument are so infrequent.

APPENDIX A WATCHING BRIEF AREAS AND CONTEXT INVENTORY

Watching Brief Area		
WB no.	**Location**	**Depth (m)**
1	Retaining wall on lower path	0.96
2	Retaining wall on lower path	1.12
3	Retaining wall on lower path	0.90
4	Retaining wall on lower path	1.16
5	Reinstatement of soil erosion route (south-east)	0.10
6	Reinstatement of soil erosion route upper area of mound	-
7	Reinstatement of soil erosion route upper area of mound	-
8	Reinstatement of soil erosion route upper area of mound	-
9	Retaining wall on upper most part of path	1.40
10	Retaining wall adjacent to water feature	0.40
11	Reinstatement of soil erosion route (central area)	0.15
12	Drainage gullies and path reinstatement	0.14 to 0.20
13	New platform and steps at top of mound	0.70
14	Reinstatement of soil erosion around well chamber entrance	-
15	Service route through flower bed (southside of the mound)	0.30
16	Service connection point on lower path	0.50

Contexts						
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**WB Area**	**Finds**
1	Structure	0.14-0.20	0.30-0.58	Current retaining walls	1-4, 9, 10, 16	-
2	Cut	0.14-0.20	0.30-0.58	Construction cut for retaining walls	1-4, 9, 10, 16	-
3	Deposit	1-2.54	0.20-0.32	Topsoil and turf	1-16	Pottery (1730-1800) Clay pipe (17th century)
4	Deposit	1-2.54	0.34-0.72	Mid-brownish grey silty gravel	1-4, 16	Clay pipe (18th century) CBM
5	Deposit	1-2.54	0.12-0.38+	Mid-yellowish brown silty gravel	1-4	-
6	Deposit	1-2.54	0.22+	Mid greyish brown sandy silt with greyish blue inclusions	1-4	-
7	Deposit	3.80	0.81	Mid-brownish grey silty gravel	9-10	CBM
8	Deposit	3.80	0.28+	Light-yellowish brown silty gravel	9	-
9	Deposit	3.80	0.25+	Mid-brownish grey silty gravel	9	-

10	Deposit	3.80	0.27+	Mid-yellowish brown sandy silt with subangular limestone inclusion	9	-
11	Surface	1.86	0.05	Current path	12	-
12	Surface	0.60	0.08	Former path?	12	-
13	Surface	0.50	0.04	Former path?	12	-
14	Deposit	1.86	0.14+	Path make up	12	Pottery (1780-1840)
15	Deposit	2.30	0.38	Bone rich deposit	13	Pottery (1730-1800) Clay pipe (L18th-19th century) CBM Human bone Animal bone Stone
16	Deposit	2.30	0.08+	Blue clay	13	-
17	Cut	2.40	0.70+	Construction cut for well chamber entrance or pit?	13	-
18	Fill	2.40	0.08	Fill of cut 17	13	-
19	Fill	2.40	0.28	Fill of cut 17	13	-
20	Fill	2.40	0.20	Fill of cut 17	13	Pottery (1580-1700)
21	Fill	2.40	0.14	Fill of cut 17	13	-

APPENDIX B FINDS REPORTS

B.1 Pottery

by John Cotter

Introduction and methodology

B.1.1 A total of 16 sherds (510g) of pottery were recovered from four contexts. A range of medieval wares (up to *c* 1480) and post-medieval wares (*c* 1480+) are represented.

B.1.2 All the pottery was scanned during the present assessment and spot-dates were provided for each context. Each context group was quantified by sherd count and weight and recorded on a spot-dating spreadsheet. The pottery is fragmentary, but some fairly large and fresh sherds are present.

B.1.3 The context spot-date is the date-bracket during which the latest pottery types or fabrics are estimated to have been produced or were in general circulation. Comments on the range of fabrics were recorded, usually with mention of vessel form (jugs, bowls etc) and any other attributes worthy of note (eg decoration etc). Fabric codes referred to for the medieval wares are those of the Oxfordshire type series (Mellor 1994) whereas post-medieval fabric codes are those of the Museum of London (MOLA 2014). The range of pottery is described in some detail in the spreadsheet and is therefore only summarised below (Table 1).

Table 1: Description of post-Roman pottery by context

Context	Spot-date	Sherds	Wt (g)	Comments
3	*c* 1730–1800	6	300	2x bos (body sherds) Brill post-med slipware (BRSL) dishes/bowls incl green glaze. 2x post-medieval red earthenware (PMR) incl bead-rim flowerpot (poss 18C?), & bo from lower wall large jar/conical bowl with int brown glaze (18–E19C?). 2x fresh joining rims from Minety ware (OXBB) cooking pot with developed flanged/lid-seated rim with a flat outer face and upper lip (like a small hammerhead rim), wheel-turned brown fabric with tiny specks brown glaze on ext rim (L14–E16C?)
14	*c* 1780–1840	6	79	1x basal bo from dish in transfer-printed Pearlware (PEAR TR, c1780-1840). 3x bos (3 vessels?) in Developed Creamware (CREA DEV, c1760-1830) incl small globular jug with band of grooved dec filled with blue glaze. 1x PMR. 1x neck/shoulder from drinking jug in Frechen stoneware (FREC, c1550-1650 for drink jugs)
15	*c* 1730–1800	3	117	2x Brill post-med slipware (BRSL) incl dish profile with flanged rim and marbled/blobbed slip decoration with green glaze highlights. Slightly abraded. 1x fresh rim from St Neots-type ware (OXR, *c* 900–1100) jar/cooking pot with everted/lid-seated rim, sooted ext.

20	*c* 1580–1700?	1	14	PMR. Jar with very squared rim. Traces of brown glaze int.
Total		16	510	

Discussion

B.1.4 The assemblage comprises ordinary domestic pottery typical of the Oxford area. All four contexts produced post-medieval pottery and three of this produced pottery of the 18th century or the late 18th/early 19th century. Residual medieval pottery was recovered from two contexts. These comprised a cooking pot rim in Minety ware (Fabric OXBB, *c* 1250–1550) from context 3 and a cooking pot rim in St Neots-type ware (OXR, *c* 900–1100) from context 15.

Recommendations regarding the conservation, discard, and retention of material

B.1.5 The pottery has some potential to inform research through re-analysis, particularly when reviewed alongside further assemblages from any future excavations in the area. It is therefore recommended that it be retained.

B.2 Clay tobacco pipes

by John Cotter

Introduction

B.2.1 A total of three pieces of clay pipe weighing 11g were recovered from three contexts. Given the small amount these have not been separately catalogued but are fully described below.

B.2.2 **Context 3** Spot-date: second half of the 17th century. Description: 1 piece (weight 7g). Fresh stem fragment from 'chunky' early late-looking, pipe with a broad stem bore.

B.2.3 **Context 4** Spot-date: 18th century. Description: 1 piece (weight 2g). Short stem fragment with a fairly narrow stem bore.

B.2.4 **Context 15** Spot-date: late 18th to 19th century. Description: 1 piece (weight 2g). Short, slender, stem fragment with a narrow stem bore.

Recommendations regarding the conservation, discard, and retention of material

B.2.5 The pipes here have little potential for further study and could be discarded.

B.3 Ceramic building material

by Kirsty Smith

B.3.1 A very small quantity (6 fragments weighing 407g) of ceramic building material (CBM) was recovered from WB3 (context 4), WB9 (context 7) and WB13 (context 15). The material is moderately preserved consisting of medium-sized moderately abraded fragments, with no complete dimensions surviving except for thickness. The CBM is

medieval/post-medieval in date. The assemblage has been fully recorded on an Excel spreadsheet in accordance with guidelines set out by the Archaeological Ceramic Building Materials Group (ACBMG 2007). Fabrics were characterised with the aid of a x20 hand lens.

B.3.2 The medieval roof tile fabrics were assigned using the Oxford fabric series. The medieval reference collection housed by Oxford Archaeology was originally based on the Hamel site (Robinson 1980). The two fragments made from the coarse red sandy fabric IIIB can be broadly dated to the late 12th to 14th century. The four fragments made from fabric VIIB probably have a slightly later date than are broadly contemporary with fabric IIIB, but may be restricted to the 13th–14th century, with production perhaps starting after the late 12th century. This fabric was a pink, pale orange colour with a buff core with uniform clay and medium quartz sand. This fabric contained calcareous inclusions mostly <0.5mm but occasionally up to 4mm.

B.3.3 The CBM from WB3 (4) included one fragment of medieval flat roof tile in fabric IIIB which was 10mm thick. This fragment had one rough edge. The CBM from WB9 (7) included three fragments of flat roof tile in fabric VIIB and these were 11–15mm thick. The WB13 CBM included one fragment of roof tile in fabric IIIB which had two edges (and one corner) which was 15mm thick and one fragment in fabric VIIB, with no edges which was 12mm thick.

B.4 Human remains

by Mandy Kingdom

Introduction

B.4.1 The human skeletal remains described in this report comprise disarticulated bone fragments, retrieved during post-excavation analysis of the faunal bone assemblage, from context 15. None of the fragments were identified as human during excavation.

B.4.2 Context 15 was a layer of sandy silt situated at the top of the castle mound. Pottery found with the faunal assemblage was spot dated to *c* 1730–1800.

Methodology

B.4.3 Full osteological analysis of the remains was undertaken in accordance with published guidelines (Brickley and McKinley 2004; Mitchell and Brickley 2017). The bones were analysed to confirm they were human, to identify the skeletal elements present and to establish the minimum number of individuals (MNI) present. Bone surface condition was recorded following McKinley's (2004, 16) grading system. Where possible, age was estimated based on epiphyseal fusion (Scheuer and Black 2000) and overall morphology. Sex could not be estimated because no sexually dimorphic traits were present. Any pathological observations were noted.

Results

B.4.4 The assemblage comprised a total of six fragments. They included three from the cranial vault (probably from the left parietal bone), two adjoining fragments from one

vertebral body (mid thoracic vertebra, possibly the sixth or seventh) and the distal half of the left humerus diaphysis.

Table 2: Summary of disarticulated human bone

Area and context no.	No. of fragments	Surface condition*	Element ID	Side	Age estimation	Pathology	comments
Area 13 (15)	3	0	Separate parietal bone fragments	? left	Adult/late adolescent	None observed	No specific age indicators but size/thickness of bone in keeping with adult/late adolescent
	2	0	Conjoin fragments of a mid-thoracic vertebra	N/A	Adult (>18 yrs)	Inferior Schmorl's node	Annular rings are complete indicating age >18 yrs
	1	0	Distal humerus diaphysis	Left	Adult/late adolescent	None observed	No specific age indicators but size/thickness of bone in keeping with adult/late adolescent

*McKinley 2004, 16

B.4.5 The surfaces of all of the bones were judged to be in excellent condition. This is consistent with grade 0 of McKinley's (2004, 16) system, which refers to bone surfaces which have a fresh, uneroded appearance. The margins of all the fragments were white and crumbly, consistent with bone which has been broken during modern times.

B.4.6 The fragments represent a minimum number of one individual, because no element (or partial element) was duplicated. The size and morphology of the cranial fragments, and of the humerus diaphysis, indicated that the bones were those of an adult/late adolescent. The annular epiphysis on the vertebral body had fused, indicating an age greater than 18 years (Scheuer and Black 2000, 213). In addition, the ligamentum flavum was slightly ossified; this change is usually seen in adults (Gerber and Hammer 2018). Considered together, these observations are in keeping with an individual whose skeleton had reached adulthood when they died. A more precise age estimate was not possible due to a lack of indicators.

B.4.7 The only pathology observed was a Schmorl's node on the inferior surface of the thoracic vertebral body. Schmorl's nodes are essentially pressure defects, identified as depressions in the vertebral endplates resulting from herniation of the nucleus pulposus of the intervertebral disc (Rogers and Waldron 1995, 27). Disc herniation is

usually a gradual process in adults, associated with age-related weakening of the posterior longitudinal ligaments of the spine, but it may also occur as a result of an injury, (eg a fall or jump from a height; Lovell 1997, 159). In adolescents, they are thought to relate to activity or trauma (Jurmain 1999, 165). It is not possible to say whether the present example was due to advancing age or whether it had been caused by trauma.

Discussion

B.4.8 The human bone comprised fragments of skull, humerus and spine. Together, they represent at least one individual, an unsexed adult/late adolescent, with evidence for disc herniation. The bone could represent more than one individual, but the absence of any landmarks means that this is impossible to confirm. Disc herniation is very common in archaeological and modern populations (Rogers and Waldron 1995), so is not an especially significant finding here. The fresh, uneroded surfaces of the bones suggest that they had not been exposed to the elements prior to, or following, deposition and they all displayed modern breakage.

B.4.9 The bones are possibly associated with the clearance of debris, including human skeletons, from a well in 1794 by Mr Harris (the Keeper) and noted by King (1796). They are in addition to several contexts of human skeletal remains that have been recovered at Oxford Castle during previous archaeological investigations, most notably between 1999 and 2009 (Munby *et al*. 2019). This includes 13 Anglo-Saxon and medieval skeletons (including two neonates from a well), found during excavations in the vicinity of St George's chapel and 62 articulated skeletons and disarticulated bones from the motte ditch and believed to be the remains of felons who were executed at the nearby gallows during the early post-medieval period (ibid.). Burials of 19th and 20th-century prisoners are also known to be present at Oxford Castle, but these have not been excavated. The bones described in this report could have originated from any one of these contexts, but without radiocarbon dating it is not possible to say which.

B.5 Animal bone

by Adrienne Powell

Introduction

B.5.1 A total of 61 animal bone fragments, weighing 3.316kg, were recovered via hand retrieval from a single context (15), spot-dated as post-medieval. Refitting of fresh breaks reduced the count to 50 specimens. The material has been recorded fully, with the aid of the Oxford Archaeology skeletal reference collection and using the diagnostic zone system of Serjeantson (1996). Toothwear has been recorded following Grant (1982) and measurements have been taken following Driesch (1976), Davis (1992) and Payne (1991). The condition of the bone has been graded on a scale of 1 = excellent, to 5 = very poor, just identifiable as 'bone'.

Description

B.5.2 The bone was in good to excellent condition throughout with little evidence of post-depositional damage to the bone surfaces although recent breakage was frequent. Seven specimens show evidence of dog gnawing; and only one instance of burning.

B.5.3 Equid bones are, unusually, the most abundant (Table 3) and all areas of the carcass are represented apart from phalanges (Table 4). All epiphyses are fused, except for the caudal end of one of the thoracic vertebrae, indicating adult animals, and crown height measurements on the mandibular P_4 and M_1 suggest an animal older than 19 years (Levine 1982). At least four individuals are represented in the metapodials, which include two possible pairs, and the size range suggests more than one type is present, including a short, robust animal. One metatarsal shows multiple butchery marks suggesting skinning/dismembering and stripping of soft tissue. Pathological conditions are present in the form of a metacarpal exhibiting fusion with both lateral metacarpals, as well as subchondral lesions on both articular surfaces, and three metatarsals with periarticular osteophytes at the proximal end. One of the latter also shows swelling on the dorsal surface of the shaft of the bone.

Table 3: Number of Identified Specimens from context 15

Taxon	Cattle	Equid	Pig	Dog	Unident.	Total
NISP	5	30	1	2	12	50

Table 4: Body part distribution of equid bones from context 15

Element	Side		
	Left	Right	N/A
Mandible	1		
Atlas			1
Cervical vertebra			2
Thoracic vertebra			2
Lumbar vertebra			1
Sacrum			1
Scapula	1	1	
Humerus	1		
Radius	1	1	
Ulna		1	
Pelvis	3	1	
Femur		2	
Tibia		1	
Calcaneum		1	
Metacarpal	2	1	
Metatarsal	3	2	

B.5.4 Other species are only present in small numbers. The five cattle bones comprise two right fragments of female pelvis, ilium and pubis, which may belong to the same animal although the broken edges do not clearly join, an upper molar, a mandible from an elderly animal (O'Connor 1991) and a complete metacarpal. The mandible and ilum show chopmarks and minor pathologies are present on the acetabular part of the ilium (marginal lipping) and the metacarpal (subchondral lesions on the proximal surface).

The dog bones comprise fused proximal and distal ends of a right femur from a medium size animal. The single pig specimen is a right ulna.

Recommendations regarding the conservation, discard and retention of material

B.5.5 The assemblage is small but interesting in respect of the prevalence of equid bones and the evidence for more than one type of animal. It has potential regarding the identification of species and/or breed of the equids present, as well as further consideration of the pathologies and how these may relate to the working lives of the animals. Retention of the assemblage and consideration alongside future excavated assemblages is therefore recommended.

B.6 Stone

by Ruth Shaffrey

B.6.1 A total of two pieces of stone were retained and submitted for analysis. The pieces were examined with a x10 magnification hand lens for signs of use. Both were from context 15. One is an unworked/unused pebble, and the other is a small fragment of stone roofing of Corallian limestone, with neat circular perforation (51g).

B.6.2 Both pieces of stone can be discarded.

APPENDIX C BIBLIOGRAPHY

ACBMG, 2007 *Ceramic building material, minimum standards for recovery, curation, analysis and publication*, Archaeological Ceramic Building Material Research Group

Brickley, M, and McKinley, J I (eds), 2004 *Guidelines to the Standards for Recording Human Remains*, IFA Paper No. **7**, British Association for Biological Anthropology and Osteoarcheology and the Institute of Field Archaeologists

BGS, 2021 *Geology of Britain viewer*, British Geological Survey, http://mapapps.bgs.ac.uk/geologyofbritain/home.html, accessed 2021

Davis, S J M, 1992 A rapid method for recording information about mammal bones from archaeological sites, AML Research Report 19/92

Driesch, A, von den, 1976 *A guide to the measurement of animal bones from archaeological site*, Peabody Museum Bulletin **1**

Gerber, J, and Hammer, N, 2018 Ossification of the Ligamentum Flavum in a nineteenth-century skeletal population sample from Ireland: using bioarchaeology to reveal a neglected spine pathology, *Sci Rep* **8**, 9313, https://doi.org/10.1038/s41598-018-27522-x

Grant, A, 1982 The use of tooth wear as a guide to the age of domestic ungulates, in *Ageing and sexing animal bones from archaeological sites* (eds B Wilson, C Grigson and S Payne), BAR Brit. Ser. **109**, Oxford, 91-108

Jurmain, R D, 1999 *Stories from the skeleton – behavioural reconstruction in human osteology*, Gordon and Breach, Netherlands

King, 1796, *Vestiges of Oxford Castle*, London

Levine, M A, 1982 The use of crown height measurements and tooth eruption sequences to age horse teeth, in *Ageing and sexing animal bones from archaeological sites* (eds B Wilson, C Grigson and S Payne), BAR Brit. Ser. **109**, Oxford, 223–50

Lovell, N, 1997 Trauma analysis in palaeopathology, *Yearbook Physical Anthropology* **40**, 139-70

Mellor, M, 1994 Oxfordshire pottery: a synthesis of middle and late Saxon, medieval and early post-medieval pottery in the Oxford Region, *Oxoniensia* **59**, 17–217

Mitchell, P D, and Brickley, M (eds), 2017 *Updated guidelines to the standards for recording human remains*, Chartered Institute for Archaeologists and BABAO

McKinley, J I, 2004 Compiling a skeletal inventory: disarticulated and co-mingled remains, in Brickley and McKinley 2004, 14–17

MOLA, 2014 *London medieval and post-medieval pottery codes*, Museum of London Archaeology, http://www.mola.org.uk/medieval-and-post-medieval-pottery-codes, accessed 11 Jan 2019

Munby, J, Norton, A, Poore, D, and Dodd, A, 2019 *Excavations at Oxford Castle 1999–2009*, Oxford Archaeology Thames Valley Landscapes Monograph No. **44**, Oxford

OA, 2015 Oxford Castle Mound Footpath Repairs (Scheduled Ancient Monument 21701): written scheme of investigation for an archaeological watching brief, unpublished client report

OA, 2021 *Oxford Castle Mound: archaeological desk-based assessment*, unpublished client report

O'Connor, T P, 1991 *Bones from 46-54 Fishergate*, The Archaeology of York **15/4**, Council for British Archaeology, London

Payne, S, 1991 Early Holocene equids from Tall-i-Mushki (Iran) and Can Hasan III (Turkey), in *Equids in the ancient world, vol 2* (eds RH Meadow and H-P Uerpmann), Beheifte zum Tubinger Atlas des Vorderen Orients, Reihe A 19/2, Wiesbaden, 132–64

Robinson, S, 1980 The tile, in A Beaker burial and medieval tenements in The Hamel, Oxford (N Palmer), *Oxoniensia* **45**, microfiche 2.D09-D14

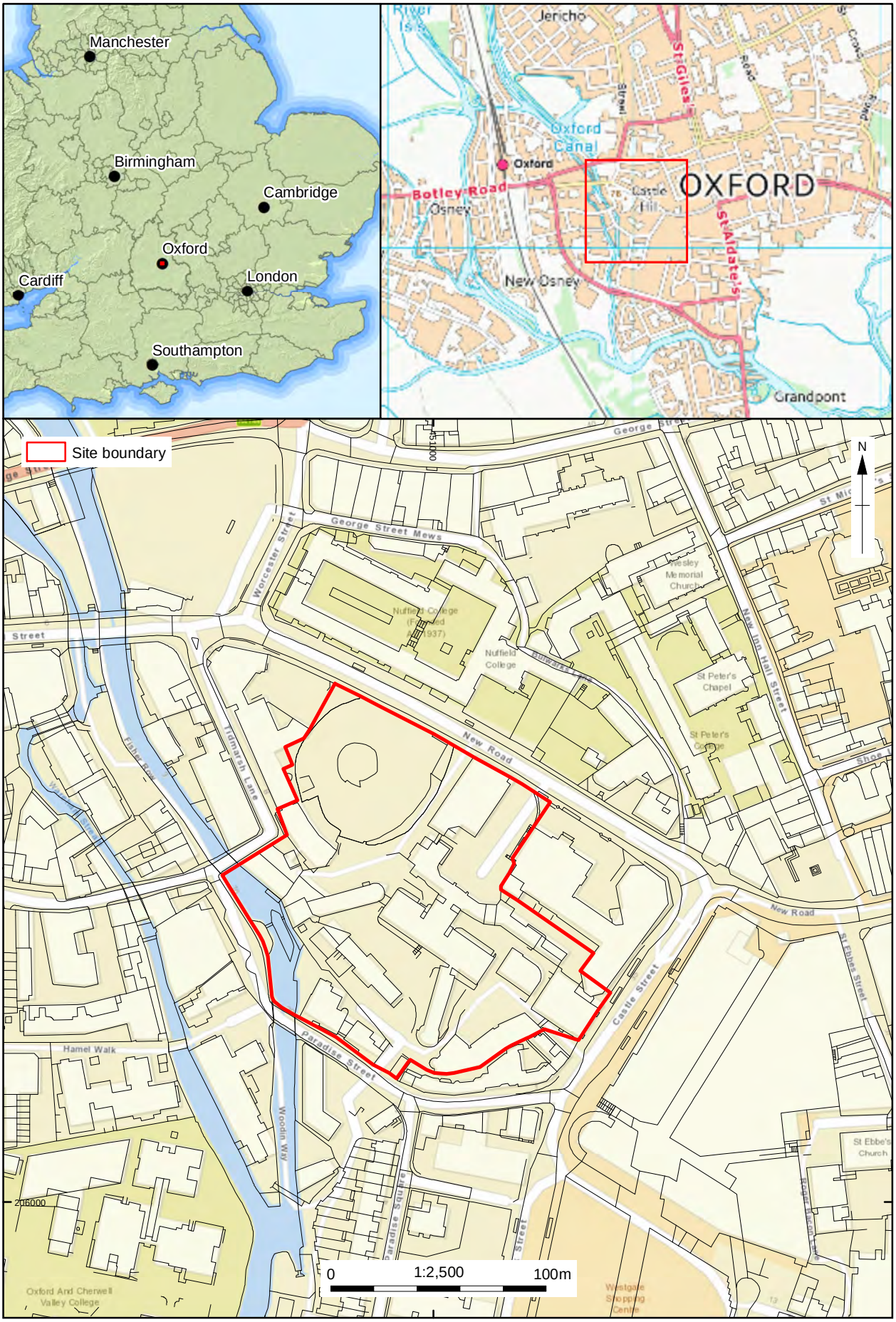
Rogers, J, and Waldron, T, 1995 *A field guide to joint disease in archaeology*, John Wiley and Sons, Chichester

Scheuer, L, and Black, S, 2000 *Developmental juvenile osteology*, Elsevier Academic Press, Oxford

Serjeantson, D, 1996 The animal bones, in *Runnymede Bridge Research Excavations, Volume 2, Refuse and Disposal at Area 16 East Runnymede* (eds S Needham and T Spence), London, 194–233

APPENDIX D SITE SUMMARY DETAILS / OASIS REPORT FORM

Site name:	Oxford Castle Mound Footpath Repairs
Site code:	OXCMPL21
Grid Reference	SP 50967 06201
Type:	Watching Brief
Date and duration:	10 visits between July and September 2021
Area of Site	N/A
Location of archive:	The archive is currently held at OA, Janus House, Oxford, OX2 0ES, and will be deposited with the Oxfordshire Museum Services in due course.
Summary of Results:	Oxford Archaeology was commissioned by Oxfordshire County Council to undertake a watching brief on the repairs to the footpath, landings and steps at the Oxford Castle Mound and is centered on NGR SP 50967 06201. The work was undertaken between July and September 2021 and consisted of sixteen areas varying in size and depth. The results of the watching brief have shown that archaeological deposits and features associated with the history and development of the mound survive within the site. Although restricted to areas of the site that would be impacted by the repairs to the footpath, landings, and steps at the Oxford Castle Mound the watching brief has shown that the upper deposits of the mound are most likely post-medieval in date and the works did not intrude into the original 11th century fabric of the mound. It is anticipated that all archaeological deposits and features recorded during this watching brief would be considered significant, as they help to further understand the fabric, character, history, and use of the mound since its construction in the 11th century.



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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
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Figure 1: Site location

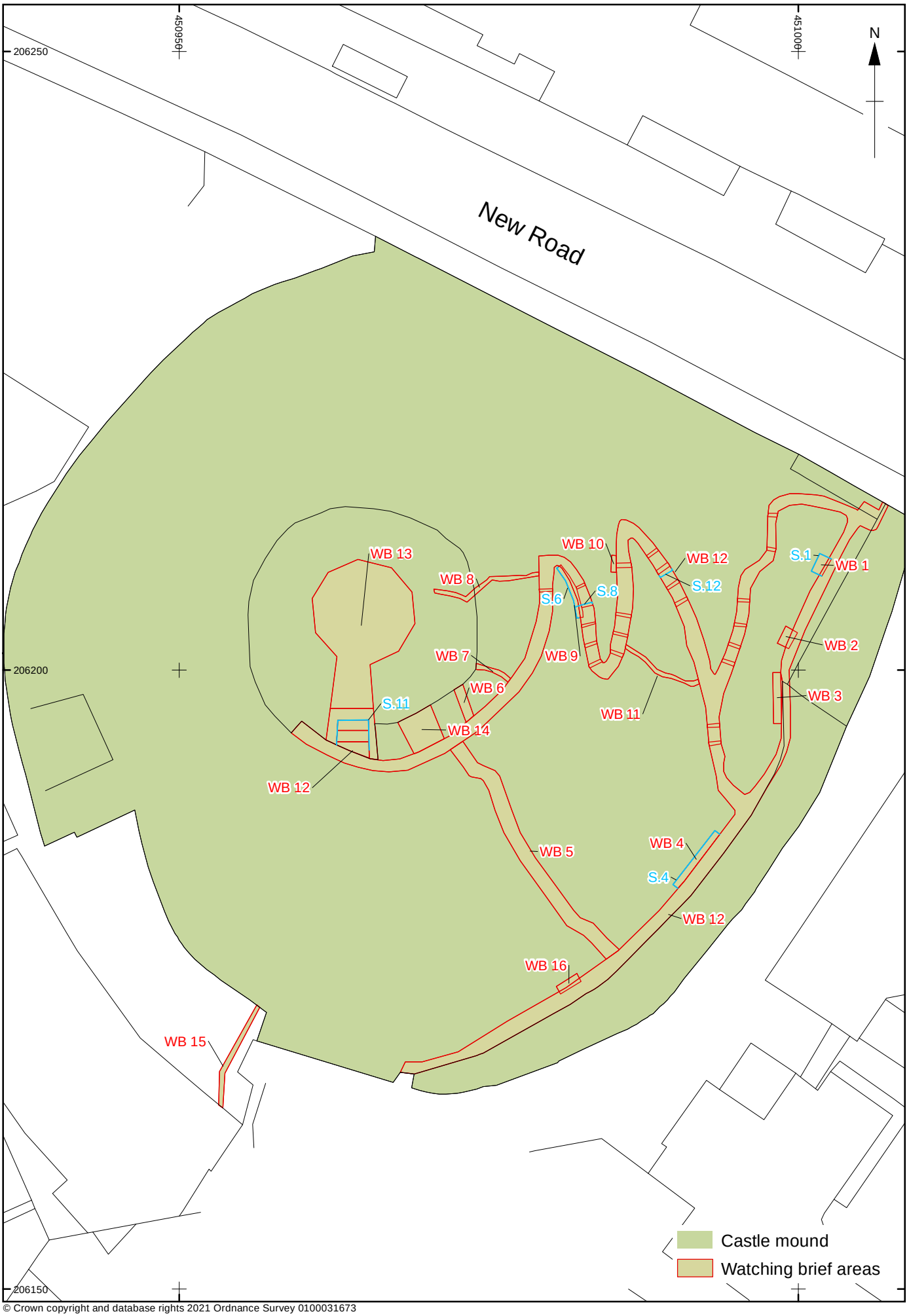
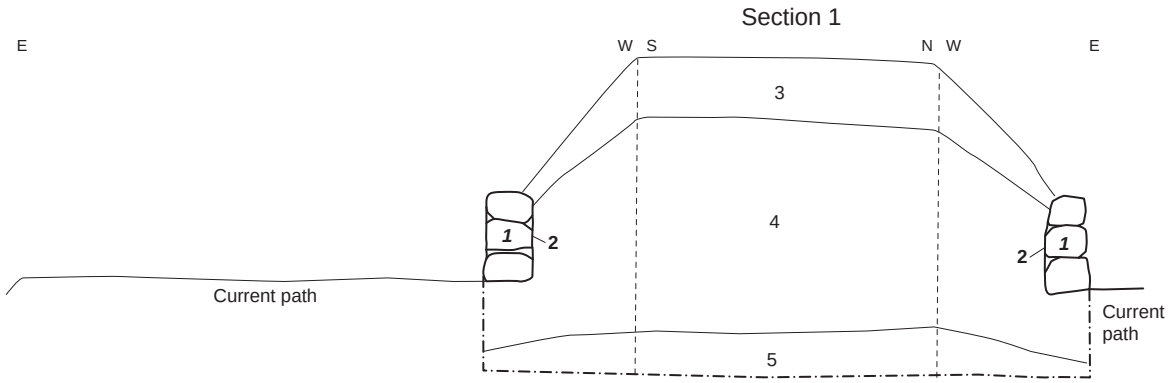
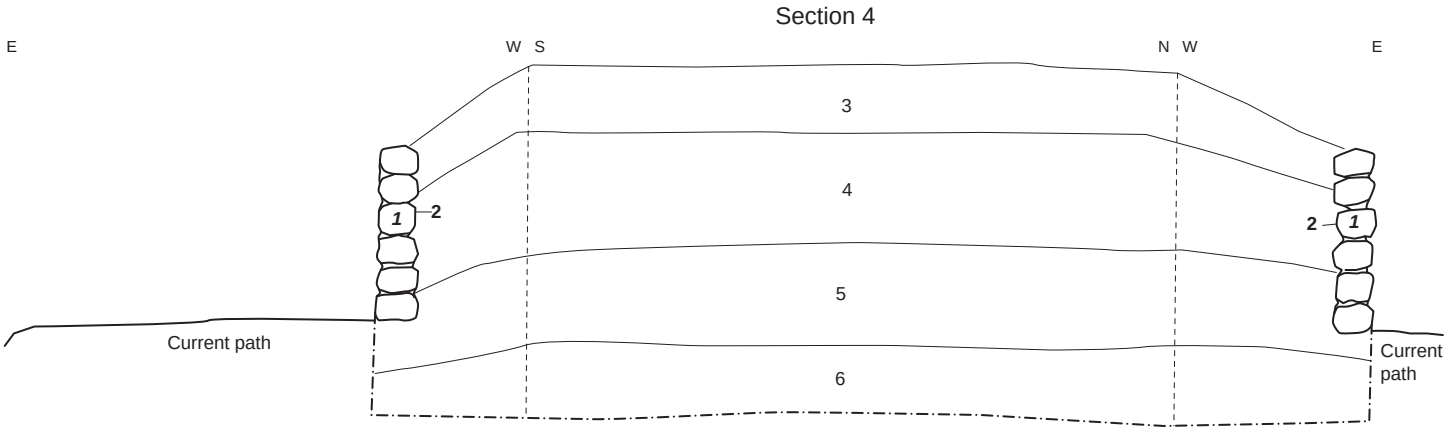


Figure 2: Watching brief area locations plan

0 1:400 @ A4 25 m





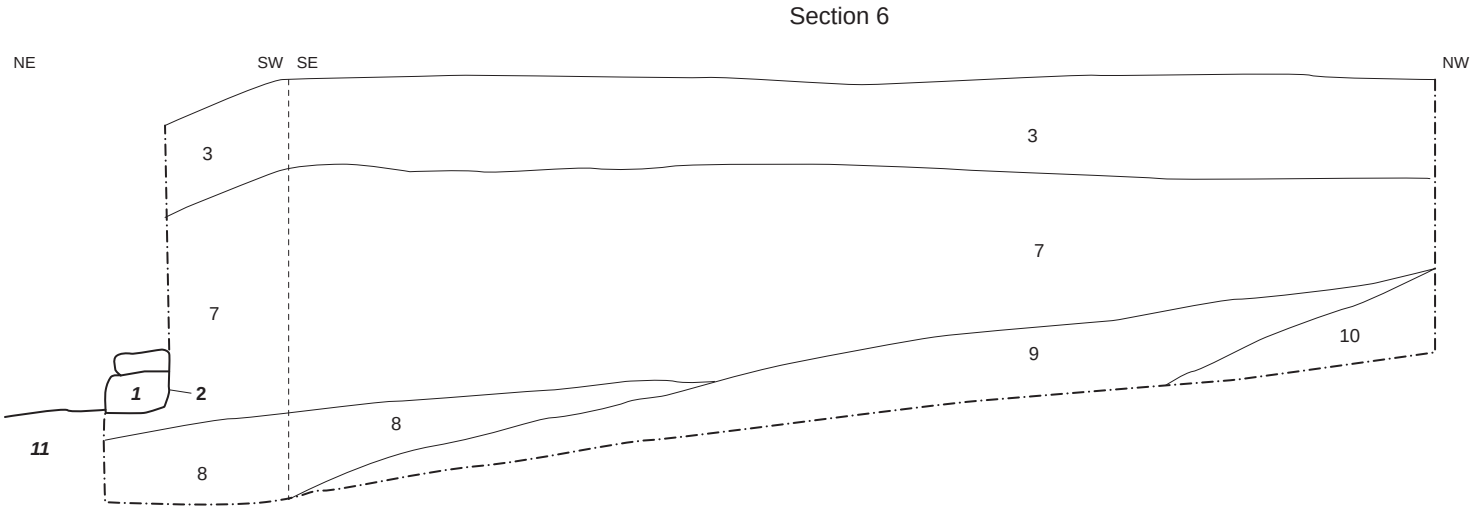
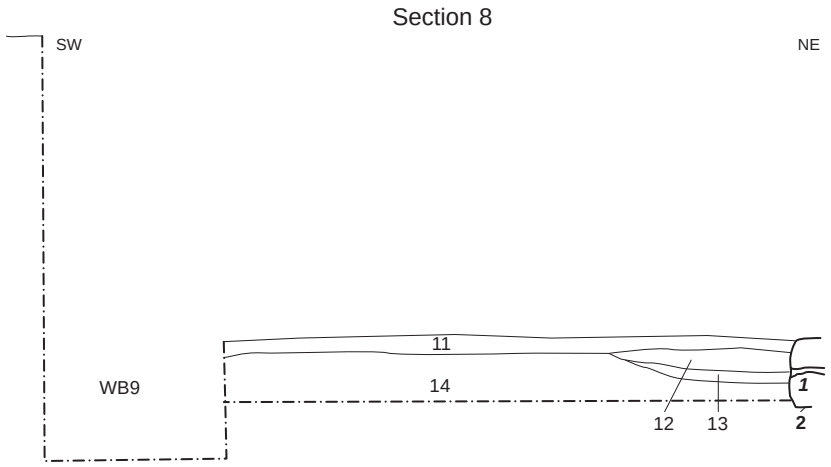


Figure 3: Sections 1, 4 and 6



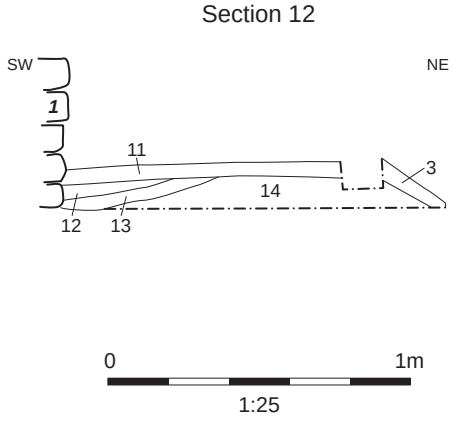


Figure 4: Sections 8 and 12

Section 11

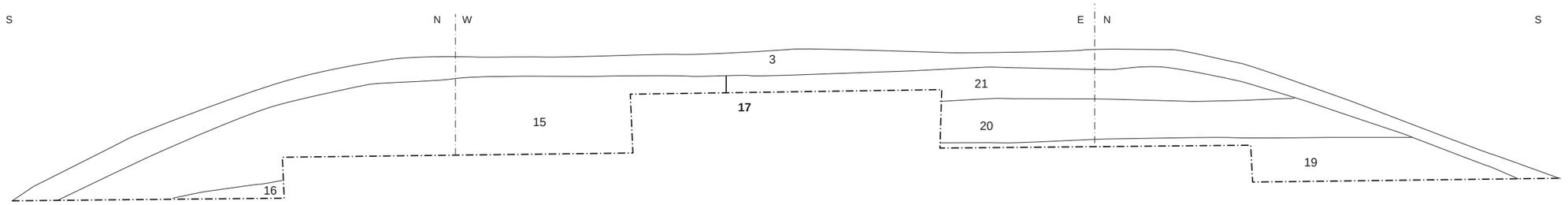


Figure 5: Section 11

Plate 1: Watching Brief 1, Section 1, looking west

Plate 2: Watching Brief 4, Section 4, looking west

Plate 3: Watching Brief 9, Section 6, looking north-west

Plate 4: Watching Brief 13, Section 11, looking north-east

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