

Allen House Ashley Down Bristol

Archaeological Watching Brief

for Persimmon Homes (Severn Valley) Limited

> CA Project: 3906 CA Report: 12258

September 2014

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Archaeological Watching Brief

CA Project: 3906 CA Report: 12258

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date	25 September 2014	
issue	01	

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SUMMARY

Project Name:	Allen House	
Location:	Ashley Down, Bristol	
NGR:	ST 59716 75696	
Туре:	Watching Brief	
Date:	31 July 2012– 17 January 2013	
Planning Reference:	12/00422/F	
Location of Archive:	To be deposited with Bristol City Museum	

An archaeological watching brief was undertaken by Cotswold Archaeology during groundworks associated with the development of residential accommodation within listed buildings at Allen House, Ashley Down, Bristol.

Stone-built wall footings were partially uncovered in the north, west and east courtyards, possibly pertaining to the boys and girls wash rooms for the former Muller orphanage. Although these footings could not be dated, or related to standing buildings, they are more closely comparable to the construction of the orphanage buildings than to those of the later City of Bristol College buildings occupying the site. Two water cisterns were recorded under one wing of the standing buildings.

Further photographic records were made of the now accessible post-war alterations to Wing A. Stripping of ceiling plaster and roof coverings also allowed further photographic records to be made of the roof structures generally, to add to the limited recording of these parts of the building during a previous programme of works.

1. INTRODUCTION

- 1.1 Between July 2012 and January 2013 Cotswold Archaeology (CA) carried out an archaeological watching brief for Persimmon Homes (Severn Valley) Limited. at Allen House, Ashley Down, Bristol (centred on NGR: ST 59716 75696; Fig. 1). The watching brief was undertaken to fulfil a condition attached to a planning consent for the development of residential accommodation within existing listed buildings (Planning ref: 12/00422/F). The objective of the watching brief was to record all archaeological remains exposed during the development.
- 1.2 The watching brief was carried out in accordance with a brief for archaeological recording (BCC 2003) prepared by Mr R. H. Jones, Bristol City Archaeologist, the archaeological advisors to the Local Planning Authority (LPA, and with a subsequent detailed *Written Scheme of Investigation* (WSI) produced by CA (2003) and approved by the LPA acting on the advice of Mr Jones. The fieldwork also followed the *Standard and Guidance for an archaeological watching brief* (IfA 2008), the *Management of Archaeological Projects 2* (English Heritage 1991) and the *Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide* (EH 2006).

The site

- 1.3 The development site enclosed an area of approximately 1.5 hectares, occupied by the derelict remains of Allen House, in the Ashley Down area of Bristol. The site is bounded to the north-east, north-west and south-west by new properties associated with previous phases of development on the site, and to the south-east by Brunel House, part of the City of Bristol College (Fig. 1). The site was at approximately 50m AOD, with ground level sloping down to the south and east.
- 1.4 The underlying solid geology of the area is mapped as Saltford Shale Member Limestone of the Jurassic and Triassic eras with no overlying superficial deposits (BGS 2014). Compact yellow brown clay was encountered within all of the monitored groundworks and was found to overlay limestone bedrock, which was observed at a depth of c. 1m below current ground level in the deeper groundworks.

Archaeological background

- 1.5 The development area comprises the buildings and environs of the former Muller Orphanage, currently a college campus, on the eastern side of Ashley Down Road, Bristol.
- 1.6 The site has been subject to an earlier desk-based assessment (Miele 2000) and a standing building assessment (CA 2012). Little archaeological work has been undertaken in the site vicinity, which was probably still in agricultural use until the mid 19th century (BCC 2003). George Muller developed an orphanage on the site between 1845 and 1849, originally accommodating 300 children. The design of the orphanage was probably informed by the large orphanages of Muller's native Germany, including the orphanage at Halle, where Muller had spent two months before coming to England. The orphanage was laid out with separate wings for the dormitories and school rooms for girls, boys and infants, with an additional wing to house the service buildings (Fig. 3). The wings enclosed courtyards serving as playgrounds with washrooms and covered sheds. The south courtyard was opensided, providing an entrance to the orphanage. A small range of ancillary buildings projected from the external wall of the south-west wing. The architectural plans of Foster and Sons depicted an infirmary building to the south of the south courtyard; however it does not appear on any historical photographs of the orphanage and may not have actually been built.
- 1.8 Four additional orphanage buildings were constructed near the site in the mid 19th century, increasing the total capacity of the orphanage to 2,050 children. New buildings were added to the site during the 20th century, associated with its use as part of the City of Bristol College; all of these have been demolished as part of the current development of the site.
- 1.9 Part of the site was monitored by CA in 2004 during a development by Westbury Homes (CA 2006) with subsequent monitoring taking place in association with further development in 2007 (CA 2007), 2008 (CA 2008) and 2011 (CA 2011). No features or deposits of archaeological interest were observed during the groundworks associated with these phases of development. No previous archaeological work has been carried out within the courtyards of the orphanage building.

Methodology

- 1.10 The fieldwork followed the methodology set out within the WSI (CA 2003). An archaeologist was present during intrusive groundworks comprising the excavation of service trenches and manholes for foul and storm water drains to serve the new residential accommodation and of footings for a new wing to the south of Wings A and F (Fig. 2).
- 1.11 Where further stripping out or partial demolition in the standing building took place, this was observed and additional records made supplementing those obtained in 2011. This occurred in all wings, but the repetitive nature of the original design led to the decision to only record the representative roof structures in Wings B and G/D, plus the modern metal roof structures in Wing A.
- 1.12 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (2007).
- 1.13 The site archive from the watching brief is currently held by CA at their offices in Kemble and will be deposited with Bristol City Museum. A summary of information from this project, set out within Appendix B will be entered onto the OASIS online database of archaeological projects in Britain.

2. RESULTS (FIGS 2-9)

- 2.1 Where the natural geological substrate was encountered it was usually yellow-brown clay with occasional bands of limestone. Much of the area within the northern and eastern courtyards was disturbed by activity associated with the construction and later demolition of the City of Bristol college buildings. This resulted in a layer of building material, rubble and redeposited natural clay, varying in depth between 0.42–0.82m, overlying the natural geological substrate in the north, east and west courtyards.
- 2.2 Groundworks in the north courtyard partially revealed three stone-built wall footings (302, 303 and 304) forming part of a small square building in the north corner of the courtyard, 3.5m from the outer north-west/south-east wall of the orphanage building (Fig. 3). The wall footings were 0.5m thick and constructed of squared limestone

blocks, similar to those used in the main orphanage buildings. They were encountered at a depth of 0.8m below ground level, having been truncated by modern construction and demolition activity. The base of the footings had not been reached at the deepest point of the groundworks, 1.7m below ground level.

- 2.3 In the east courtyard partial remains of two similarly constructed walls (403 and 404) were identified in the south corner of the courtyard, at approximately the same distance from the standing building as those in the northern courtyard. These footings enclosed a solid surface at a depth of 1.6m below ground level, though this surface could not be seen or recorded as it lay below the water table and was covered by at least 0.25m of standing water.
- 2.4 A short section of stone wall footing, 107, was exposed in the west courtyard. This wall was cut through by brick-lined culvert 105. The construction of the culvert from frogged red bricks was more closely related to that of the Bristol College structures than the orphanage buildings and the feature probably pertained to 20th-century activity.
- 2.5 Parallel walls 202 and 203 were recorded 1.2m south-west of Wing A. The walls were 0.8m apart and were constructed of limestone. Foster and Sons' plan of the orphanage depicted a range of buildings in approximately this location, but none appears to match the dimensions of these footings, which suggests perhaps the walls formed part of a stone culvert.
- 2.6 Two brick-built water cisterns, 501 and 502, were recorded under the floor of Wing A of the orphanage (Fig. 5). They were rectangular in plan with shallow, barrel-vaulted roofs, measuring 6.7m in length and 4m in width, and were connected by an approximately 1m high access hatch through their adjoining wall (Fig. 6). Each cistern had a 1m diameter circular access in its roof (Fig. 7). The cisterns were located underneath rooms labelled 'wash house' and 'laundry' on Foster and Sons' architect's plan of the orphanage (Fig. 3); it is unclear whether they functioned as water storage for the laundry, or as drainage. The most probable function nonetheless, is as general water storage for the orphanage as a whole, perhaps collected rain water.
- 2.7 The removal of the roof coverings and ceilings revealed the structure of the main roofs over all the wings. With the exception of the modern roofs over Wing A, these

were seen to be of a standard mid 19th-century design. These were straightforward, low-pitched, principal-rafter roofs, each truss being a simple tie beam and principal with raking struts, and a tensioned iron bar in place of a kingpost (Fig. 8). Each roof slope had three purlins resting on the back of the rafters supported by cleats, as was the ridge purlin. Jack rafters neatly jointed into the lowest purlin and below the common rafters, supported a gutter fascia and eaves boards under the projecting eaves (Fig. 8). Ceiling joists were simply jointed from tie beam to tie beam.

- 2.8 At the junction of equal height wings (Wings G and D), a full kingpost truss was laid across each diagonal, the shared kingpost being set at 45° to each truss (i.e. parallel with the wings themselves), the four raking struts rising from its haunched base to the principals (Fig. 9).
- 2.9 Further photographic records were made of the post-war steel-framed roof over the single-storey Wing A, but this was a typical and unremarkable example of its kind.

3. DISCUSSION

- 3.1 The partial remains of stone-built wall footings were identified in the north, west and east courtyards. In most cases the footings appeared to form discrete buildings, separate from the standing orphanage buildings. Footings 107, 404 and 405 were located within areas described as 'covered sheds' in Foster and Sons' architectural plans for the orphanage. Footings 302, 303 and 304 appear to approximately match the locations of the boys' and girls' wash rooms (Fig. 3). Footings 202 and 203 lie in close proximity to ancillary buildings attached to the south-west of Wing A, but are not shown on Foster and Sons' plans, and may instead form part of a stone culvert.
- 3.2 No dateable artefacts associated with the stone-built footings were recovered; however the construction style suggests that the footings are more likely to be contemporary with the orphanage buildings than the later college buildings. Groundworks against the walls of the orphanage buildings revealed that the foundations for the main buildings were made of stones set into lime mortar that reach a depth of at least 1.5m. In contrast, the debris resulting from the demolition of the college buildings indicates that these were all constructed from frogged red bricks. No foundations associated with known locations of college buildings were

uncovered during the programme of groundworks in these courtyards, suggesting that they all had much shallower foundations than the stone-built footings encountered and were entirely removed during the demolition process.

4. CA PROJECT TEAM

Fieldwork was undertaken by Christopher Leonard and Peter Davenport. The report was written by Christopher Leonard. The illustrations were prepared by Jon Bennett. The archive has been compiled and prepared for deposition by Hazel O'Neill. The project was managed for CA by Simon Cox.

5. **REFERENCES**

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APPENDIX A: CONTEXT DESCRIPTIONS

No.	Туре	Fill of	Description	Length (m)	Width (m)	Depth (m)	Spot- date
100	Layer		Make-up layer. Dark black-brown sandy silt. Frequent modern CBM rubble	41.25	22.5	0.1	Modern
101	Layer		Make-up layer. Mid brown-yellow clay. Common modern CBM rubble	41.25	22.5	0.65	Modern
102	Layer		Natural. Limestone and clay				
103	Fill	106	Mixed rubble infill	0.44	0.44	0.31	C20
104	Fill	106	Lime mortar lining of culvert			0.1	C20
105	Masonry	106	Red brick-lined culvert				C20
106	Cut		Construction cut for culvert 105				C20
107	Masonry		Limestone wall				C19
108	Masonry		Drain leading away from 107				C19
109	Cut		Construction cut for 107 and 108				C19
200	Layer		Limestone rubble in dark brown clay silt matrix			0.1	Modern
201	Layer		Dark black-brown silty clay			0.2	Modern
202	Masonry		Limestone wall	2.0	0.4		C19
203	Masonry		Limestone wall	2.0	0.4		C19
204	Cut		Construction cut for 203				
205	Layer		Dark brown silty clay				
206	Layer		Modern demolition layer				
207	Layer		Natural. Limestone and yellow clay				
300	Layer		Modern demolition layer	41.25	22.5	0.84	Modern
301	Layer		Natural. Yellow clay				
302	Masonry		Limestone wall	2.5	0.5		C19
303	Masonry		Limestone wall	0.75	0.5		C19
304	Masonry		Limestone wall	2.0	0.5		C19
400	Layer		Modern demolition layer	41.25	22.5	0.1	Modern
401	Layer		Mid yellow clay. Frequent modern CBM rubble	41.25	22.5	0.55	Modern
402	Layer		Natural. Limestone and yellow clay				
403	Masonry		Limestone wall	1.0	0.5		C19
404	Masonry		Limestone wall	1.0	0.5		C19
501	Masonry		Brick-built cistern	6.5	4.0		C19
502	Masonry		Brick-built cistern	6.5	4.0		C19

APPENDIX B: ADDITIONAL OBSERVATIONS ON ROOF STRUCTURE AND THE MAIN STAIRCASE

During the original assessment of the buildings at Allen House the ceiling over the central octagon was recorded but the two visible beams were encased and plastered over. These beams were uncovered during the current programme of works and then removed before they could be inspected by Cotswold Archaeology. However, photographs were taken by the architects. These showed that the beams had been enclosed in plasterboard on wooden formers, presumably as a fire precaution in recent times, and supported by angled struts cutting though and truncating older, and probably original, studwork which seems to have formed short stub walls extending from the doorway on the south west.

The beams were of composite construction, two lengths of softwood, side by side, joined by bolted iron saddles and strengthened by a pair of composite tensioning rods running alongside and then below the beam (Fig. 10). The rods were each of three lengths linked together by bolts through expanded lugs at the ends. The lower, horizontal lengths of the rods were stood off from the underside of the beam by two baulks of timber above each linking bolt. This stressed beam construction became popular in the 1840s, although experiments along these lines can be found in the 18th century, using different woods rather than iron. Wendel Bollmann patented this system in the United States in 1851 but had already used a version in 1838 (Vogel 1964). More pertinently, Brunel used it in the earliest phase of the GWR works at Swindon, by 1843 (Cattell and Falconer 2000, 25 and Fig. 30).

These beams supported the lantern over the original cupola, a now-vanished tower structure rising up through the latter, relieving it of load.

A description of this kind of trussed beam is given below, from Fidler 1893, Vol III

Beam With Deep Trussing

Where circumstances do not limit the depth of the trussing, it may be used with great advantage.

Fig. 237 shows a form of truss frequently adopted for purlins of great length (see <u>Part II</u>.), for beams of long bearing used in <u>gantries</u>, and for travellers. This form of truss is, however, suitable only for a purlin or similar bearer carrying a uniform stationary <u>load</u> throughout its length; when it has to carry a moving <u>weight</u> it should be strengthened by cross braces as in Fig. 240.



Fig. 237. Beam with deep Trussing for Dead Load.

The extremities of the beam are enclosed in cast-iron boxes. These receive the ends of the tension rods, which pass through them and are secured by nuts.

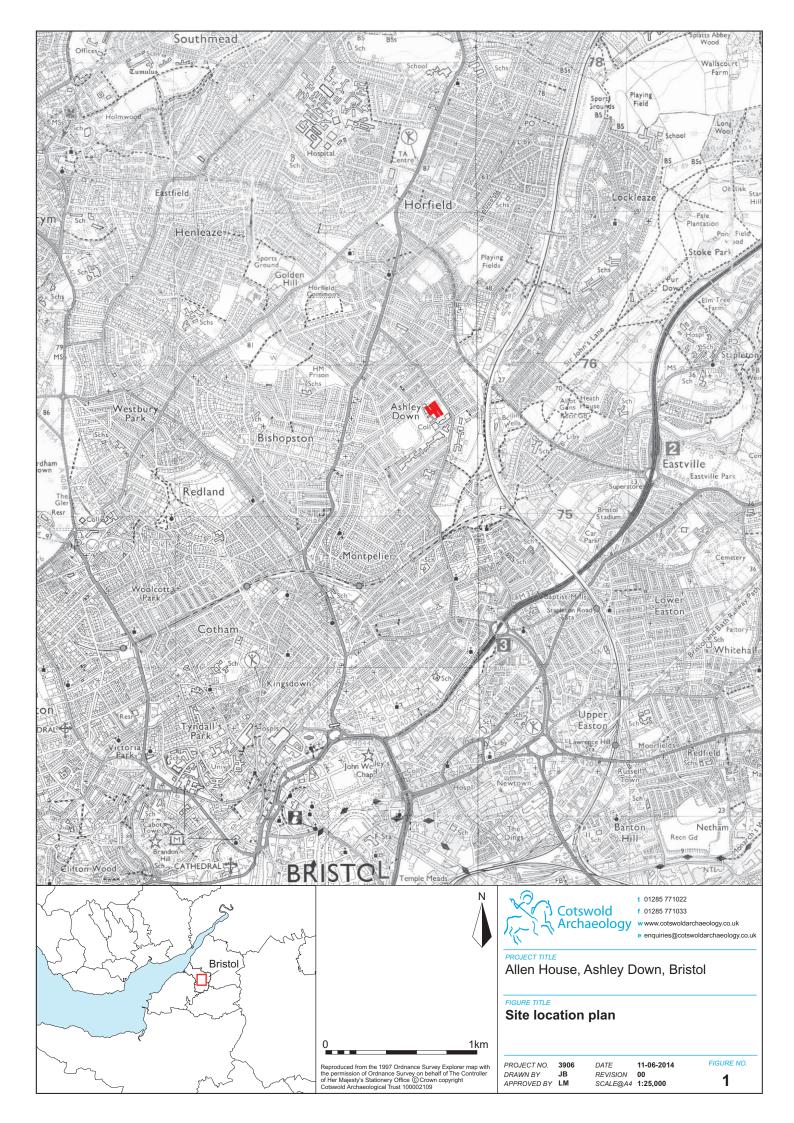
It is not clear if metal boxes were employed for the beam ends, although some form of iron fixing for the rod ends does appear in the photographs. The bracing is obviously less sophisticated than the example given by Fidler, but the principle is the same, and presumably reflects the parsimony necessary in building the orphanage.

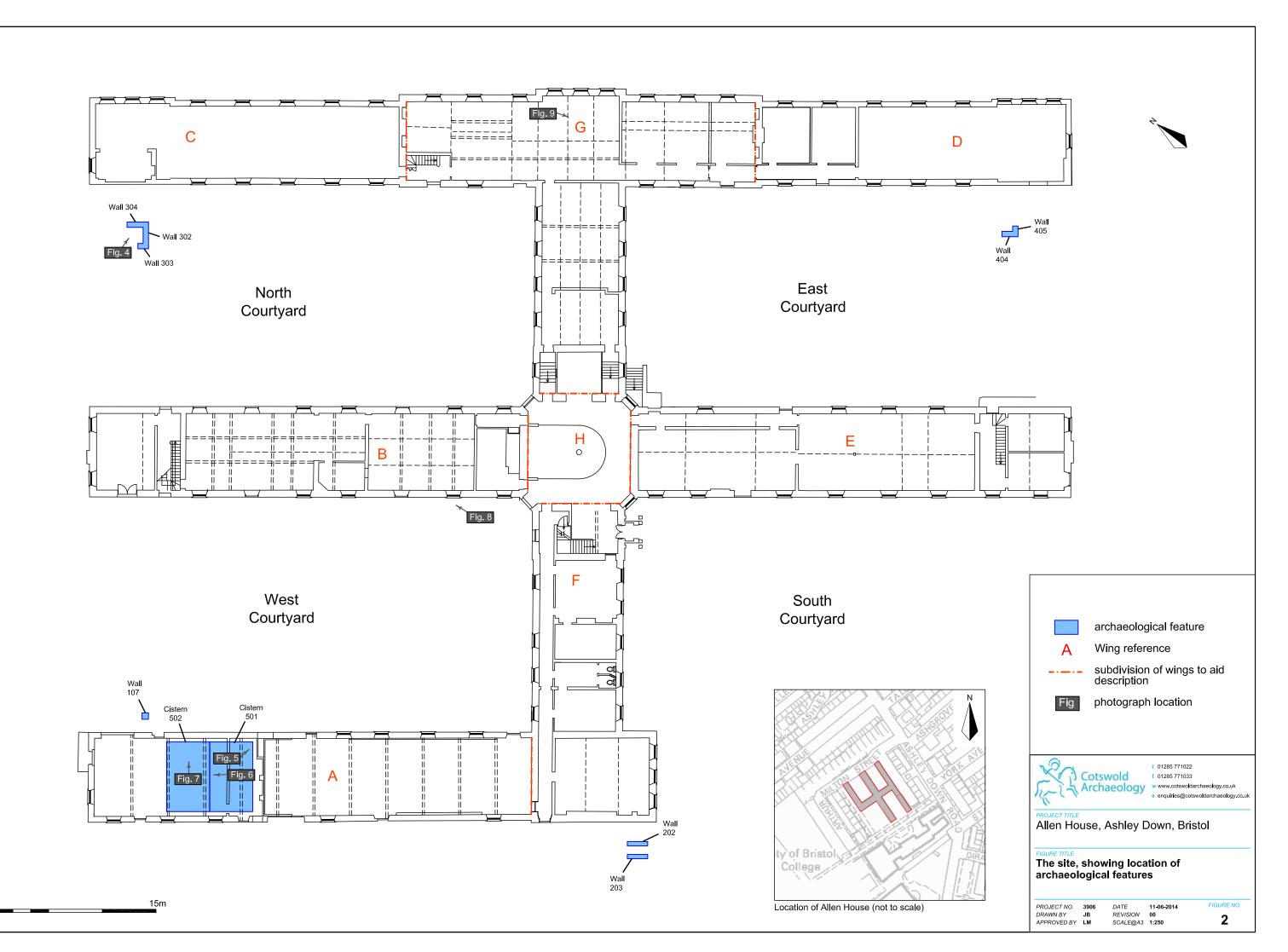
The main stair in the south-western wing was also noted in the original report but the balusters were still clad in fluted fibreboard. The removal of some of this material revealed the simple iron stick balusters, which were also employed in the other stairs in the wings, although this main stair had turned wooden newel posts, and a polished hardwood handrail (Fig. 11). This is to be raised to meet present safety regulations, these having been previously met by the addition of a rail above the original.

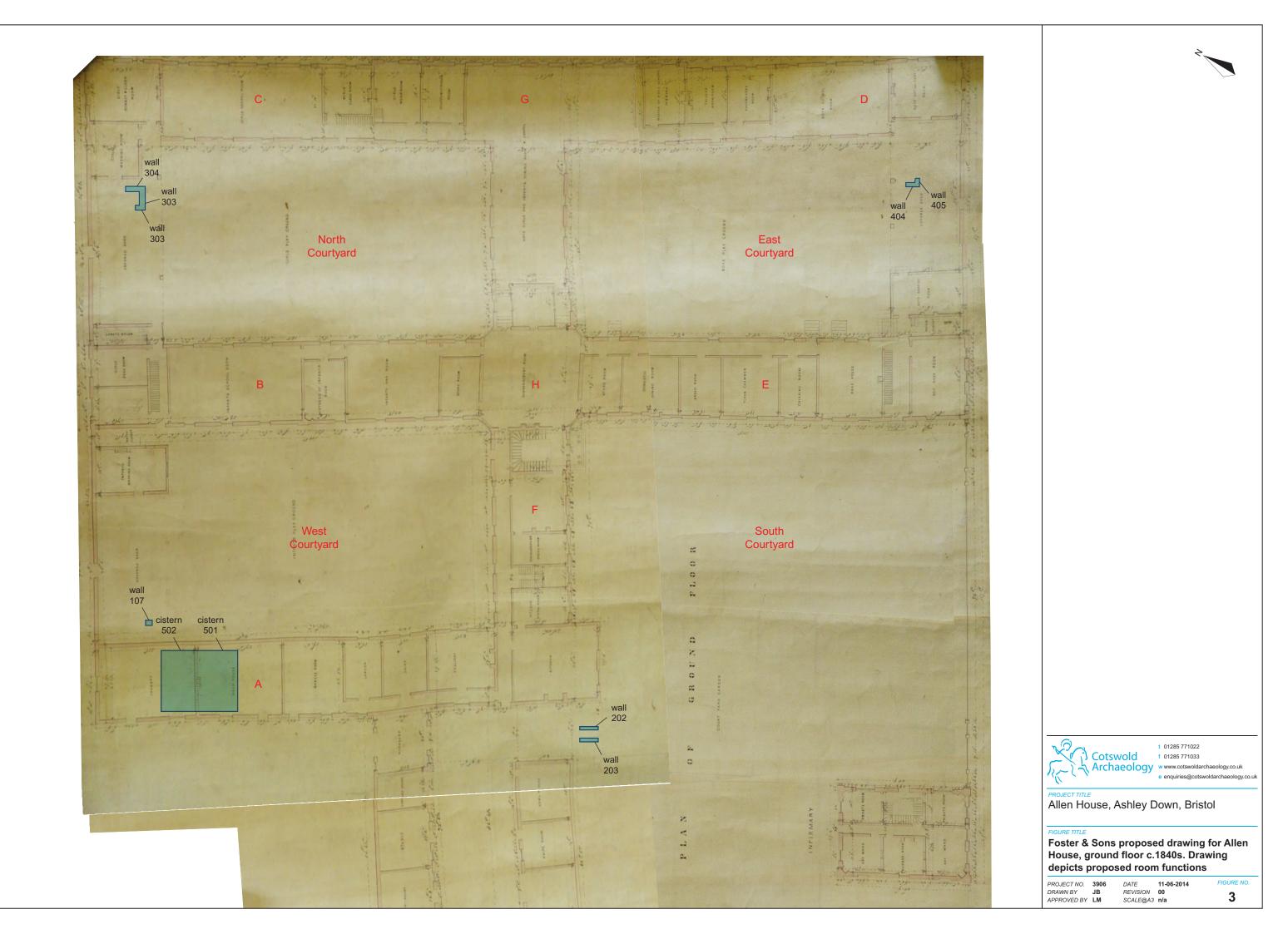
APPENDIX C: OASIS REPORT FORM

PROJECT DETAILS

Project Name	Allen House, Ashley Down, Bristol			
Short description	Archaeology during groundworks assoc	An archaeological watching brief was undertaken by Cotswold Archaeology during groundworks associated with the development of residential accommodation within listed buildings at Allen House, Ashley Down, Bristol.		
	and east courtyards, possibly pertaining rooms for the former Muller orphanage could not be dated, or related to standir closely comparable to the construction than to those of the later City of Bristol C	Stone-built wall footings were partially uncovered in the north, west and east courtyards, possibly pertaining to the boys and girls wash rooms for the former Muller orphanage. Although these footings could not be dated, or related to standing buildings, they are more closely comparable to the construction of the orphanage buildings than to those of the later City of Bristol College buildings occupying the site. Two water cisterns were recorded under one wing of the standing buildings.		
Further photographic records were made of the now ac post-war alterations to Wing A. Stripping of ceiling plaster coverings also allowed further photographic records to be the roof structures generally, to add to the limited records these parts of the building during a previous programme of		g of ceiling plaster and roof phic records to be made of o the limited recording of		
Project dates	31 July 2012– 17 January 2013			
Project type	Watching brief			
Previous work	Watching Briefs (CA 2008 and 2011)			
Future work	Unknown	Unknown		
PROJECT LOCATION				
Site Location	Allen House, Ashley Down, Bristol.	Allen House, Ashley Down, Bristol.		
Study area				
Site co-ordinates	ST 59716 75696	ST 59716 75696		
PROJECT CREATORS				
Name of organisation	Cotswold Archaeology			
Project Brief originator	Bristol City Council			
Project Design (WSI) originator				
Project Manager	Project Manager Simon Cox			
Project Supervisor		Christopher Leonard		
MONUMENT TYPE		None		
SIGNIFICANT FINDS	None	1		
PROJECT ARCHIVES	Intended final location of archive (museum/Accession no.)	Content (e.g. pottery, animal bone etc)		
Physical	-	-		
Paper	Bristol City Museum	Context sheets etc		
Digital	Bristol City Museum	Database, digital photos		
BIBLIOGRAPHY				
CA (Cotswold Archaeology) 2014 A typescript report 12258	llen House, Ashley Down, Bristol: Archaeolo	ogical Watching Brief. CA		









- 4 Walls 302 and 304
- 5 Circular access to cistern 501, viewed from below



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Allen House, Ashley Down, Bristol

FIGURE TITLE Photographs

PROJECT NO. 3906 DATE 07/07/2014 FIGURE NO. DRAWN BY JB REVISION 00 APPROVED BY LM SCALE@A4 NIA 4 & 5





Cirencester 01285 771022 Milton Keynes 01908 218320 Cotswold Archaeology Andover 01264 347630 6 **Connection between cisterns** w www.cotswoldarchaeology.co.uk Ń e enquiries@cotswoldarchaeology.co.uk 7 The interior of cistern 502 PROJECT TITLE Allen House, Ashley Down, Bristol FIGURE TITLE Photographs PROJECT NO. 3900 DRAWN BY JB APPROVED BY LM DATE 11-00 REVISION 00 SCALE@A4 N/A FIGURE NO. 11-06-2014 3906

6 & 7



8	Typical roof structure of the main ranges at Allen House, here Wing B, looking north-west	Cotswold Archaeology www.cotswoldarchaeology.co.uk e enquiries@cotswoldarchaeology.co.uk	
9	Diagonal trusses over the junction of Wings G and D, looking south-east	Allen House, Ashley Down, Bristol	
		FIGURE TITLE Photographs	
		PROJECT NO. 3906 DATE 11-06-2014 FIGURE NO. DRAWN BY JB REVISION 00 APPROVED BY LM SCALE@A4 N/A 88 & 9	



10 One of the pair of trussed beams in the top floor of the central octagon	Cotswold Archaeology Cotswold Archaeology Cotswoldarchaeology.co.uk e enquiries@cotswoldarchaeology.co.uk PROJECT TITLE Allen House, Ashley Down, Bristol
	FIGURE TITLE Photograph PROJECT NO. 3906 DATE 11-06-2014 FIGURE NO.
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10



11 The lower flights of the main stair in Wing F	Cirencester 01285 771022 Milton Keynes 01908 218320 Andover 01264 347630 w www.cotswoldarchaeology.co.uk e enquiries@cotswoldarchaeology.co.uk
	PROJECT TITLE Allen House, Ashley Down, Bristol
	Pigure Title Photograph
	PROJECT NO. 3906 DATE 29-08-2014 FIGURE NO. DRAWN BY DJB REVISION 00
	APPROVED BY LM SCALE@A4 N/A 11