

Discovery and Excavation in Scotland

Updated on 15/06/2007

LOCAL AUTHORITY:	Stirling
PROJECT TITLE/SITE NAME:	Stirling Castle Palace
PROJECT CODE:	SCPP
PARISH:	Stirling
NAME OF CONTRIBUTOR:	Gordon Ewart
NAME OF ORGANISATION:	Kirkdale Archaeology
TYPE(S) OF PROJECT:	Archaeological Monitoring
NMRS NO(S):	NS79SE 6.01
SITE/MONUMENT TYPE(S):	Residential/ Palace
SIGNIFICANT FINDS:	
NGR (2 letters, 8 or 10 figures)	NS 789 940
START DATE (this season)	23 October 2008
END DATE (this season)	30 September 2009
PREVIOUS WORK (incl. <i>DES</i> ref.)	
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>Various archaeological watching briefs have been carried out at Stirling Castle by Kirkdale Archaeology during the restoration works in 2008 and 2009. These comprised the following:</p> <p>Excavation in advance of new service pipes in the Douglas Gardens. This revealed evidence of landscaping works during the construction of The Chapel Royal in 1594.</p> <p>Recording and monitoring in advance of alterations to the Palace comprising:</p> <p>The re-opening of a 17th-century door in the north corridor. The installation of service ducts in the attic space. The removal of a ceiling beam in the Mezzanine level of the Prince's Tower. Access to a possible garderobe shaft in the west wall of the West Range. The monitoring of new joist pocket installation throughout the principal floor of the Palace. Detailed records made of elevations associated with the Governor's kitchen – both internal and external. Monitoring of service duct installation within the King's Old Building and leading towards the Old Chapel. Standing building recording completed at the southeast corner of the Upper Floor. This completed the drawn record of the upper floor in line with the survey to date.</p> <p>Also, during work on the Upper Floor of the East Range of the Palace several crudely carved 19th-century toy soldiers and horses were retrieved by contractors.</p>
PROPOSED FUTURE WORK:	
CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	Historic Scotland
ADDRESS OF MAIN CONTRIBUTOR:	4 Western Terrace, Edinburgh EH12 5QF

Discovery and Excavation in Scotland

Updated on 15/06/2007

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ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

Historic Scotland
SCPP Archaeological Works
2008

Stirling Castle Palace
U31 Plaster Stripping

PIC Index No. 90291

Project. SCPP-2008-10

Standing Building Recording
September 2008



13 January 2009
Kirkdale Archaeology

Site: Stirling Castle

N.G.R: NS 790 940

Project Description Standing Building Recording following the removal of plaster from the top of the S end of the E wall in U31.

Contents

1	Introduction.....	1
2	Description.....	1
3	Interpretation & Observations	1
A1.	Appendix 1: List of Contexts	3
A2.	Appendix 2: List of Drawings.....	5
A3.	Appendix 3: List of photographs	5
A4.	Appendix 4: Illustrations.....	6

Figures

Figure 1:	Elevation drawings of the stripped area.....	6
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1 INTRODUCTION

Kirkdale Archaeology was invited to undertake a short period of archaeological recording at Stirling Castle Palace during the removal of a strip of plaster from the top of the S end of the E wall in U31. Previous to this work, a panel of the topmost plaster had been removed from this area to inspect the surfaces below revealing a complex sequence of plasters with evidence of timbers behind. The current work was necessary to clarify the relationships between the features and record the features in detail in advance of the renovation of the upper floor of the palace. The work was carried out on the 5th of September 2008.

2 DESCRIPTION

The MCU carefully removed plasters U31.2.023, U31.2.025 and U31.2.026 (along with paint U31.2.049) from the top of the S end of the E wall. This revealed a timber framework behind (U31.2.085-U31.2.088, U31.2.092 and U31.2.093) holding laths (U31.2.089). The base of two roof rafters U31.2.090 and U31.2.091 were also revealed along with slate levelling U31.2.084 marking the original wall head and masonry U31.2.094 built on top of U31.2.084. The newly revealed features were drawn and photographed. The work was a continuation of SPARC 2003-2007 with amendments made to existing contexts records. The digital database was immediately updated following this work. Relevant contexts are listed in Appendix 1.

3 INTERPRETATION & OBSERVATIONS

This particular area at the S end of the E wall of U31 contains detailed evidence preserved in plaster sequences and structural changes showing a sequence of alterations to the floor level, roof line, and decorative scheme of the upper floor of the W range. The E wall was constructed in the Late 16th-Early 17th Century (Period 4) as part of the rationalisation of the W range, but the wallhead was approximately 500mm lower at this time only extending up as far as slate levelling U31.2.084 and the floor level was lower too with evidence of a cornice preserved by scar U31.2.095 and dooks U31.2.080-U31.2.083 at a level related to the lower floors. In the Late 17th Century (Period 6) the floor level was raised in line with floor levels throughout the upper floor of the palace and the palace was re-roofed. Rafters U31.2.090 and U31.2.091 are Late 17th Century roof rafters extending to meet the original wall head marked by slates U31.2.084. In the Early 18th Century – Mid 18th Century (Period 7) the wall head around the Lion's Den was raised. The evidence for this is clear at the S end of the E wall of U31 – the rubble build U31.2.094 built on top of the old wallhead U31.2.084, the realignment of the Late 17th Century roof line with angled timbers visible from the attic (A01) above, and the creation of a lath and plaster framework to extend the interior wall without interfering with the roof timbers behind. Plaster (U31.2.022) below the raised wall head may be as early as the Late 16th Century – Early 17th Century. The plasters above this are likely to be Early 18th Century – Mid

18th Century or later. It is not clear whether this level of complexity extends along the full length of the East wall of U31, certainly a small panel of plaster removed further to the N revealed only one relatively modern plaster over the wall fabric. However it is likely that evidence of the raising of the wall head is preserved along the full length of the East wall. If further plaster removal is required in U31 it is recommended that it be recorded archaeologically.

A1. APPENDIX 1: LIST OF CONTEXTS

Context Number	Description
U31.2.002	Main wall fabric of the E wall to south of the south wall of U04. To the S of U04.3 the E wall fabric is Period 4 build created during a rebuild of the W range in Period 4 along with the creation of the E facing façade of the Lion's Den. Late 16th Century - Early 17th Century
U31.2.003	Upper part of wall above build U31.2.002. In Period 7 the wall head was raised around the Lion's Den. Early 18th Century - Mid 18th Century
U31.2.022	Pinkish plaster, appears to cover only U31.2.002 across the middle and the S end. Late 16th Century - Early 20th Century
U31.2.023	Grey and gritty plaster above U31.2.022 on the wall. Early 18th Century - Early 20th Century
U31.2.024	Light grey, slightly gritty plaster below U31.2.022 on the wall. Early 18th Century - Early 20th Century.
U31.2.025	Plaster over U31.2.024 and possibly over the rest of the wall, similar to U31.2.024. Early 18th Century - Early 20th Century.
U31.2.026	Very fine, bright white plaster skim over U31.2.002. Early 18th Century - 20th Century.
U31.2.046	Skirting board. Six main lengths (separated by apertures). Section missing between door U31.2.027 and north window U31.2.004. Each window embrasure has three further sections. 200mm high, 30mm thick, plain with a sloping top. 19th Century - Early 20th Century
U31.2.049	Dark olive green paint, same as U02.1.009. Late 18th Century - 20th Century
U31.2.066	Hardboard panel covering curtain rail. 20th Century
U31.2.073	Small area of stonework exposed along the south side of window embrasure U31.2.006. Two blocks of coarse yellow sandstone, upper is 270mm high. Very finely dressed, good west face, north face is angled approximately 70 degrees but is obscured by U31.2.075. Early plaster U31.2.022 runs over the south edge of this. Upper surviving part of original south side of the south window. Extended up by U31.2.074, presumably when the roof was raised around the Lion's Den. This stonework is the original Period 4 build Late 16th Century - Early 17th Century.
U31.2.074	Small visible area of stonework added to the top of U31.2.073 and U31.2.002. Two long thin (230mm by 30mm) blocks of roughly dressed sandstone, placed vertically to form a good north and west face. Alteration to window embrasure U31.2.006, raising the height of the original window, presumably part of the Early 18th Century - Mid 18th Century alterations around the top of the Lion's Den. Early 18th Century - Mid 18th Century
U31.2.075	Plaster surface over the stonework of the south margin of window embrasure U31.2.006. The surface is over the original window surround U31.2.073 and the heightened masonry U31.2.074. The plaster is pale grey, fine, with occasional small angular inclusions. Plaster is up to 15mm thick. Early 18th Century - Early 20th Century
U31.2.076	Plaster surface. The plaster is pale grey (slightly darker than U31.2.075), fine, with occasional small angular inclusions. Plaster is up to 15mm thick with a smooth surface. Plaster surface over south margin of window bay U31.2.006. Post dates U31.2.022, the plaster over the wall to the south of this window. Early 18th Century - Early 20th Century
U31.2.077	Dook hole with medium sized rectangular timber still in situ. 50mm high, 30mm wide. Cut into stone of U31.2.073, the south margin of U31.2.006. Post dates plaster U31.2.022 to the south. No relationship with the other

	plasters. One of two dooks (along with U31.2.078 to the south) seen in this wall which is mostly obscured by plaster so more may exist, although no more cut plaster U31.2.022 to the south. May indicate that this wall was panelled (at least around the window margins and the base of the wall) at one time.
U31.2.078	Dook hole with roughly shaped vertical rectangular dook still in situ, 45mm high, 25mm wide. Cut through plaster U31.2.024, seems to be sealed by plaster U31.2.025. Single dook, but area mostly obscured by plaster U31.2.025. Early plaster U31.2.022 (sealed by U21.2.024) stops at a good horizontal line 880mm above current floor. U31.2.078 may be only visible dook to support wooden panels/dado line below U31.2.022.
U31.2.080	One of four empty dook holes within a recessed scar U31.2.095 above plaster face U31.2.022. These may have helped to fix a wooden bead or cornice related to the decorative scheme prior to the raising of the roof or the adjustment of the floor level. Late 16th Century - Late 17th Century
U31.2.081	One of four empty dook holes within a recessed scar U31.2.095 above plaster face U31.2.022. These may have helped to fix a wooden bead or cornice related to the decorative scheme prior to the raising of the roof or the adjustment of the floor level. Late 16th Century - Late 17th Century
U31.2.082	One of four empty dook holes within a recessed scar U31.2.095 above plaster face U31.2.022. These may have helped to fix a wooden bead or cornice related to the decorative scheme prior to the raising of the roof or the adjustment of the floor level. Late 16th Century - Late 17th Century
U31.2.083	One of four empty dook holes within a recessed scar U31.2.095 above plaster face U31.2.022. These may have helped to fix a wooden bead or cornice related to the decorative scheme prior to the raising of the roof or the adjustment of the floor level. Late 16th Century - Late 17th Century
U31.2.084	Slate levelling over recess U31.2.095. The slate is contemporary with recess U31.2.095 and is bonded in the same lime mortar. This suggests that this demarcates the level of the original wall head prior to the raising of the roof. Late 16th Century - Late 17th Century
U31.2.085	Horizontal timber lying over U31.2.084, 1.40m N-S by 160mm high by 90mm deep. This is part of the raising of the roof. It holds the vertical standards U31.2.086-U31.2.088 onto which the lath and plaster is attached. U31.2.085 is itself attached to the raised wallhead masonry 094 with two small timbers U31.2.092 and U31.2.093. The timber looks like pine in bad condition, wet and full of woodworm. Early 18th Century - Mid 18th Century
U31.2.086	One of three vertical pine timbers (standards) attached to U31.2.085. These support lath and plaster U31.2.089. Typically 80mm across by 20mm deep. Related to the raising of the roof in the Early 18th Century - Mid 18th Century. Early 18th Century - Mid 18th Century
U31.2.087	One of three vertical pine timbers (standards) attached to U31.2.085. These support lath and plaster U31.2.089. Typically 80mm across by 20mm deep. Related to the raising of the roof in the Early 18th Century - Mid 18th Century. Early 18th Century - Mid 18th Century
U31.2.088	One of three vertical pine timbers (standards) attached to U31.2.085. These support lath and plaster U31.2.089. Typically 80mm across by 20mm deep. Related to the raising of the roof in the Early 18th Century - Mid 18th Century. Early 18th Century - Mid 18th Century
U31.2.089	Lath and plaster surface over standards U31.2.086-U31.2.088. This sealed off the top part of the wall following the raising of the roof. Early 18th Century - Mid 18th Century
U31.2.090	One of two exposed pine rafters bedded within raised wall head U31.2.094. Approximately 90mm wide by 160mm high by unknown length. Only a

	small portion is exposed. U31.2.090 and U31.2.091 are the original Late 17th Century roof rafters, from the attic space above A01 it is possible to see an additional angled timber used to change the pitch of the roof following the raising of the roof in the Early 18th Century - Mid 18th Century.
U31.2.091	One of two exposed pine rafters bedded within raised wall head U31.2.094. Approximately 90mm wide by 160mm high by unknown length. Only a small portion is exposed. U31.2.090 and U31.2.091 are the original Late 17th Century roof rafters, from the attic space above A01 it is possible to see an additional angled timber used to change the pitch of the roof following the raising of the roof in the Early 18th Century - Mid 18th Century.
U31.2.092	One of two small horizontal timbers securing timber U31.2.085 to the raised wallhead masonry U31.2.094. Approximately 60mm across by 15mm high. Early 18th Century - Mid 18th Century.
U31.2.093	One of two small horizontal timbers securing timber U31.2.085 to the raised wallhead masonry U31.2.094. Approximately 60mm across by 15mm high. Early 18th Century - Mid 18th Century.
U31.2.094	Recessed mortared masonry behind timber U31.2.085. Although this masonry does form a wall head, the roof rafters do not bed on it but rather rest within it. This is because of a change in the angle of the roof around the Lion's Den. From the attic above A01 it is possible to see additional angled timbers used to change the pitch of the roof at the base of the original Late 17th Century rafters and these rest on top of U31.2.094. Early 18th Century - Mid 18th Century.
U31.2.095	Scar 210mm high by 15mm deep. Horizontal linear scar above plaster face U31.2.022. It has four dook holes (U31.2.080-U31.2.083) within it suggesting that it housed a decorative wooden bead or cornice relating to an earlier decorative scheme before the roof was raised. Late 16th Century - Late 17th Century.

A2. APPENDIX 2: LIST OF DRAWINGS

No	Type	Description	Scale
1	Elevation	S end of the E elevation of U31 following the removal of plaster from the top of the wall.	1:20
2	Elevation	Earlier drawing of the S end of the E elevation of U31 showing the complicated plaster sequence before the plaster at the top of the wall was stripped.	1:20

A3. APPENDIX 3: LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	Shot showing the S end of the E wall before the removal of plaster from the top of the wall.	W	05/09/08
2	Shot showing the S end of the E wall following the removal of plaster from the top of the wall.	NW	05/09/08
3	Shot showing the S end of the E wall following the removal of plaster from the top of the wall.	W	05/09/08

A4. APPENDIX 4: ILLUSTRATIONS

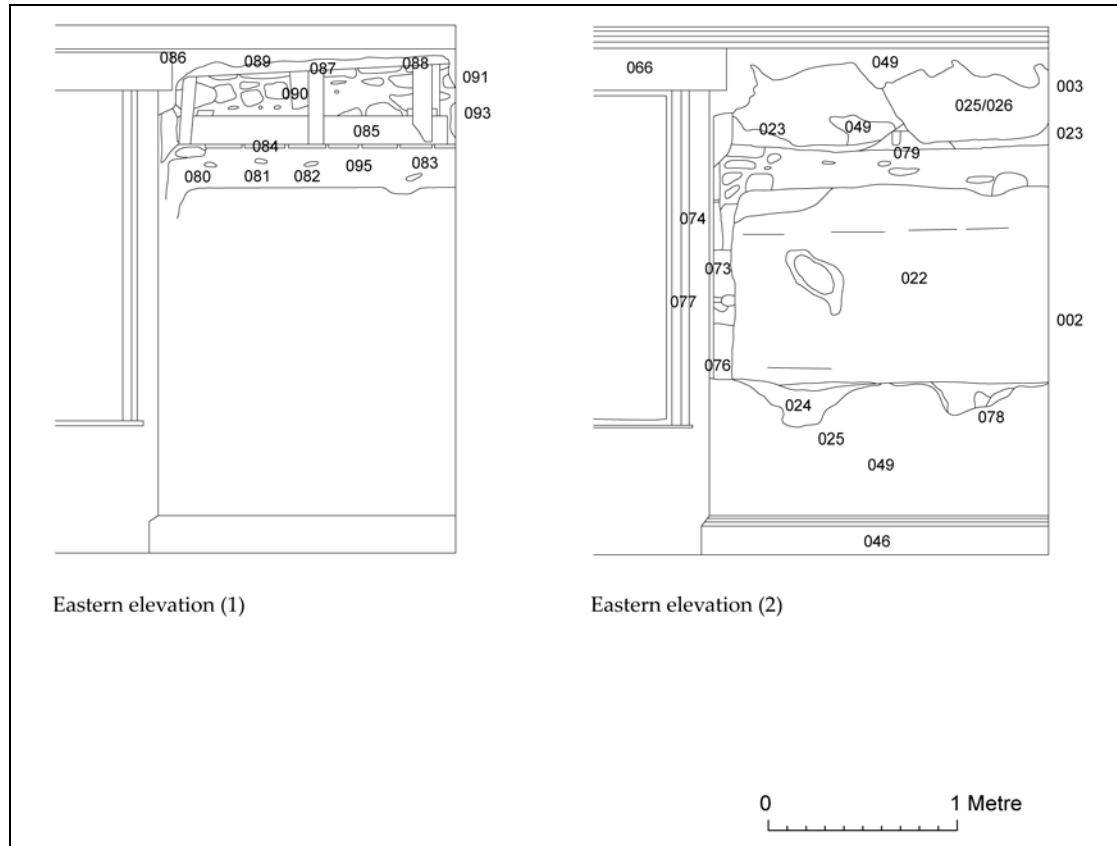


Figure 1: Elevation drawings of the stripped area

Historic Scotland
SCPP Archaeological Works
2008

Stirling Castle Palace
Extension to Trench 23

PIC Index No. 90291

Project. SCPP-2008-12

Archaeological Excavation
September 2008



14 January 2009
Kirkdale Archaeology

Site: Stirling Castle Palace

N.G.R.: NS 790 940

Project Description: A minor extension to Trench 23 which was originally excavated in the open area to the N and the rooms to the NW of the Governor's Kitchen adjacent to Stirling Castle Palace. The extension was contained within a small room to the North of P20, assigned the component reference P20A.

Contents

1	Introduction	1
2	Description	2
3	Discussion.....	4
3.1	Phase 1	4
3.2	Phase 2	4
3.3	Phase 3	5
4	Summary	6
A1.	Appendix 1: List of Contexts	7
A2.	Appendix 2: List of Photographs.....	7
A3.	Appendix 3: List of Drawings	7
A4.	Appendix 4: Illustration.....	8

Figures

Figure 1: Plan of the Extension to Trench 23	8
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1 INTRODUCTION

This report is on the features observed in room P20A during the excavation of an extension to Trench 23 (SCPP-2008-04) on 11/09/08. The work was completed within the day although there was a brief return to plan the features.

This report is intended to help with the interpretation of the larger excavations that were previously carried out in Trench 23 and with this aim in mind attempts interpretations of features that were barely glimpsed. It was thought better to include any speculation which could later be ruled out than comment only on the little that was clearly understood.

Room P20A was located to the N of P20 and measured roughly 1.55m NNW-SSE and 1.00m wide, although it is slightly narrower at the S end. The subsequent descriptions are given on site N which assumes the room is aligned N-S.

The excavation and recording of this area stopped where any structural remnants were encountered.

2 DESCRIPTION

The E wall of P20A, **F23175**, was constructed with bricks and cement blocks at the outer (W) face but a coating of whitewash masked much of the detail. **F23175** measured approximately 1.55m in length and 2.00m high. The N wall, **F23168**, was formed with 23 courses of brick and measured 2.00m high and 1.03m E-W. The individual bricks measured 220mm long and 75mm in height and were whitewashed. The W wall, **F23174**, was a stone construction that was not recorded in detail as part of this work.

The floor surface was formed with thin sandstone slabs, **F23167**, typically measuring 970mm long by 650mm and 70mm thick. There was a thin, less than 10mm thick, smear of concrete over the slabs and below them there was a deposit of loose mortar with fragments of brick, sandstone and slate that generally measured 50mm in depth but was occasionally up to 100mm.

Below **F23167** in the N 750mm of the trench, **F23173** was a deposit of sub angular rubble and light brown sand. **F23173** was uncovered but not excavated, it appeared to be against the N edge of **F23171**.

F23171 was a structural remnant seen E-W across this area and measured 500mm N-S at the E end and approximately 350mm at the W wall. The S edge of **F23171** was straight, against **F23152** and **F23169**, and the N was ragged.

Yellow sandstone block **F23151** was recorded in the earlier excavation but more was revealed and the upper face was seen to be flat and even.

Continuing N from **F23151**, **F23169** was an area of stones with the same neat E edge as that feature. Only the top of **F23169** was uncovered but the E and N limits were seen, **F23174** (the W wall) was constructed over the W part of it. **F23169** measured 460mm N-S and **F23151** 250mm N-S.

Approximately 220mm E of **F23169** and extending throughout the E part of the S end of the trench, **F23152** was previously described as “stone and light brown gritty mortar that contains a lot of ash” although not much more was seen of this feature it was noted that there were at least two courses at the S face. It was noted that the N limit of **F23152** was roughly in line with the N edge of **F23169**.

Seen in the area between **F23152** and **F23151/F23169**, **F23153** was a possible cut measuring approximately 500mm N-S and up to 370mm wide. **F23153** and its fill **F23172** were left in situ but it was noted that **F23172** looked to sit on **F23170** giving the feature an approximate depth of 150mm. **F23172** comprised 60%-70% sub rounded stones measuring 120mm by 80mm on average, with some light brown sand and mortar. The stones within the upper part of **F23172** had no discernible pattern, they were pitched at various angles.

To the S of **F23151**, **F23170** comprises stones and hard and gritty light-mid brown mortar that rose to form raised edges in two places. Only a small part of **F23170** was seen and it was noted to be under or part of **F23152**.

3 DISCUSSION

3.1 Phase 1

The top of the sandstone block, **F23151**, seen in the excavation of P20 was cleared off and further structure, **F23169**, extended further N with the same neat E edge. Combined **F23151** and **F23169** measured 720mm N-S and it may be that this is the E end of a structural remnant, perhaps a wall. The alignment of this structure is notably different to the current room, much closer to N-S. It was also noted that the structure at **F23151** looked to be the same as the P20 walling that continues to the doorway at the W end of that room.

To the S of **F23153** and under **F23152**, **F23170** comprises stones and mortar that included two peaks that may have shown a setting or where a stone has been removed. Only a small part of **F23170** was uncovered but it appeared to be structural, perhaps a surface.

3.2 Phase 2

E of the Phase 1 feature **F23169** and extending beyond the E wall, **F23152** was originally recorded during the work in P20 but during this work it was seen that there were at least two courses at the S face, the N edge was ragged and probably disturbed with **F23173** in-filled against it. This feature may also have been a disturbed wall or a base for structure, perhaps a stairway.

The N limit of **F23152** was roughly in line with the N edge of **F23169** and while these do not seem to be part of the same wall, they could be parts of the same construction phase. However, this is perhaps unlikely.

Between **F23152** and **F23151/F23169**, **F23153** may be a drain although as this feature was not excavated it is difficult to be sure.

To the N of **F23152** and E-W across the room, **F23171** was a structural remnant with a straight S edge, against **F23152** and **F23169**, and a ragged N one that has probably been disturbed. It is difficult to speculate on what this is a remnant of. However, it is feasible that this is the base for a stairway.

The W wall, **F23174**, may have been the only part of the upstanding structure that was *in situ* prior to the current room being formed, but without a greater overview it is difficult to interpret or even phase this. **F23174** was certainly not part of the earliest construction in this area as all of the Phase 1 structure was under it.

3.3 Phase 3

The N wall, **F23168**, is the latest structure seen in P20A and the E, **F23167**, is probably contemporary. It seems likely that the whitewash seen on all of the walls in P20A was applied immediately after the N and E walls were constructed and the current room formed.

The slab surface, **F23167**, that forms the floor was in situ before the brick N and E walls. Whether this was an earlier part of the same phase or **F23167** originally filled a larger space and the surface was reused here could not be said from what was seen in this room. **F23167** had been lifted to put in pipe **F23020** and then replaced. This was the same surface as **F23009** within room P20 and a better sequence will have been seen there.

F23173 is most likely an infill, perhaps deposited when the Phase 2 structure was removed or in preparation for the Phase 3 floor.

4 SUMMARY

- The Phase 1 structure (**F23151** and **F23169**) are probably part of the same E-W aligned wall and **F23170** may be a floor associated with it.
- In Phase 2, **F23152** and **F23171** may have been the remains of a base of a stairway, perhaps with drain **F23153** also put in at this time. It could also be that the phase 1 remains were reused in this phase.
- The W wall, **F23174**, was either constructed in Phase 2 or 3.
- The Phase 3 structure is probably a 20th century feature.

A1. APPENDIX 1: LIST OF CONTEXTS

Context	Description	Date
23151	It was added to the description that the majority of the upper face was flat.	11/09/08
23152	It was added to the description that there were at least two courses at the S face.	11/09/08
23153	It was added to the description that this feature appeared to lie over 23170.	11/09/08
23167	Slab surface within corridor at NW of P20.	11/09/08
23168	Wall at the N end of the corridor in P20.	11/09/08
23169	Stones seen under the W wall of P20A.	11/09/08
23170	Small area of uncovered structure comprising stones and light-mid brown mortar.	11/09/08
23171	Structural remnant roughly E-W across P20A.	11/09/08
23172	Mix of light brown mortar and sand and stones, 60%-70% stones.	11/09/08
23173	Sub angular rubble and light brown sand, seen in the N part of P20A.	11/09/08
23174	W wall of P20A.	11/09/08
23175	E wall of P20A, constructed with bricks and cement blocks at the outer face.	11/09/08

A2. APPENDIX 2: LIST OF PHOTOGRAPHS

Photo	Description	From	Date
1	Extension to trench, post excavation.	S	11/09/08
2	Extension to trench, post excavation.	S	11/09/08
3	Extension to trench, detail of S end post excavation.	S	11/09/08
4	Extension to trench, middle of trench post excavation.	S	11/09/08
5	Detail of E face of stone 23151.	S	11/09/08
6	Extension to trench, detail of S end post excavation.	SE	11/09/08

A3. APPENDIX 3: LIST OF DRAWINGS

Drawing	Description	Scale	Date
1	Post excavation plan	1:20	-

A4. APPENDIX 4: ILLUSTRATION

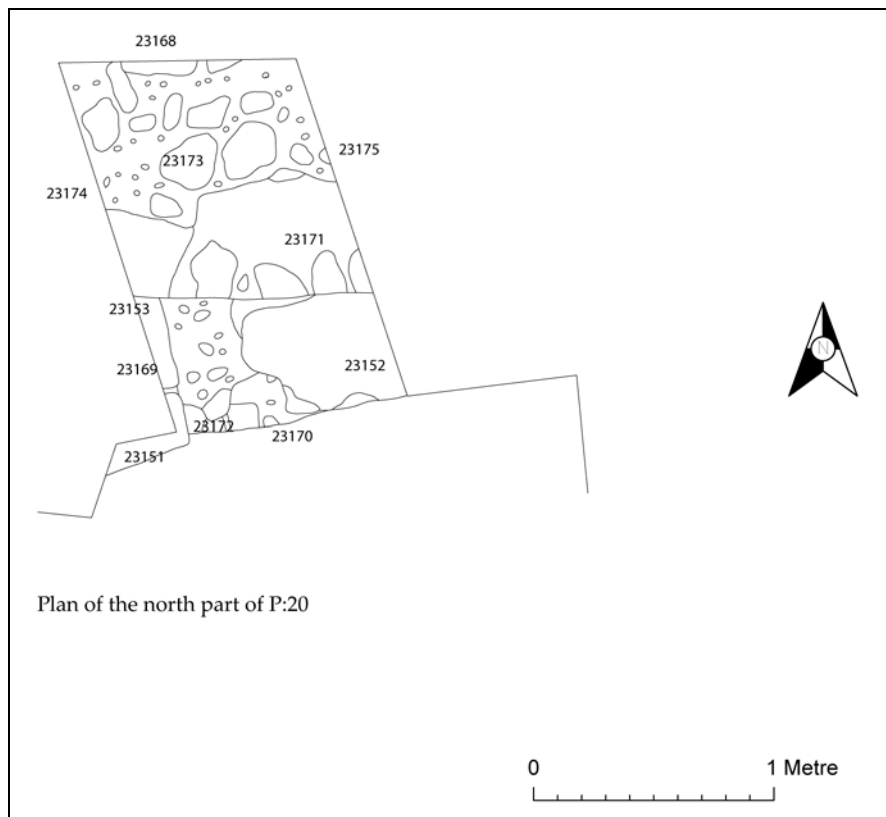


Figure 1: Plan of the Extension to Trench 23

Historic Scotland
SCPP Archaeological Works
2009

Stirling Castle
Douglas Gardens Drain

PIC Index No. 90291

Projects: SCPP-2009-17
SCPP-2009-18
SCPP-2009-19

Archaeological Excavation
February - April 2009



24 June 2009
Kirkdale Archaeology

Site: Stirling Castle Douglas Gardens Drain

N.G.R: NS 7896 9410

Project Description: Archaeological Excavation

Contents

1	Introduction	1
2	Excavations	3
3	Conclusions.....	8
4	Finds Comment	14
A1.	Appendix 1 : List of Contexts	16
A2.	Appendix 2: List of Drawings.....	19
A3.	Appendix 3: List of Photographs.....	20
A4.	Appendix 4 : List of samples.....	24
A5.	Appendix 5: Drawings	25
A6.	Appendix 6: Finds List	31

Figures

Figure 1: Trench Location.....	2
Figure 2: Decorated pot sherd	15
Figure 3: Drawing 1.....	25
Figure 4: Drawing 2.....	26
Figure 5: Drawings 3 & 4	27
Figure 6: Drawing 5.....	28
Figure 7: Drawing 6.....	29
Figure 8: Drawing 7.....	30

1 INTRODUCTION

Kirkdale Archaeology was requested by Historic Scotland to excavate a trench within the Douglas Gardens at Stirling Castle. This was required to allow the insertion of a new pipe running from the ladies toilets in the ground floor of the King's Old Buildings (KOB) to an existing pipe in the gardens.

The Douglas Garden is located towards the NW of the castle, at one of the higher points of the castle rock. It is roughly triangular in shape, enclosed by the KOB and the Chapel Royal to the S, and parts of the curtain walls to W and N. The N curtain wall follows a distinctive NW- SE alignment, one noted in buildings that are thought to be early elsewhere within the castle. These include two possible earlier chapels whose foundations have been exposed under, and at an angle to the current Chapel Royal.

An open space such as this in such a prominent part of the castle may have been intended for high status, probably royal, usage. The ground drops steeply to the N towards the "Nether Bailey", and the height difference either side of the N curtain wall suggests soil build up to its S. Mature trees, including walnuts grow within the garden, and the only building within it currently is a powder magazine in its NW corner. This is thought to sit on the site of a magazine built in 1681, although the present building is later than this. In 1855, after a catastrophic fire the N end of the KOB, overlooking the Douglas Garden, was rebuilt.

In this account the N wall of the upstanding Chapel Royal is assumed to run true E- W. The trench was to run between the E end of the N side of the KOB to a pipe already uncovered just to the N of the Chapel Royal. This was a distance of some 9 m, but as the pipe had to step out to the N around an existing man- hole the total length of 1 m wide track dug was some 12.6 m, with a 2.3 by 2 m hole at the E end of this to allow the construction of a new man- hole. Depths were variable- at the W end only 600 mm was required while at the extreme E end 1.5 m was needed and the trench was graded to slope between these two extremes, with no reference to the archaeological sequence.

At its W end the track ran nearly N- S for 3.8 m from the KOB, this section is referred to below as the W trench. At the N end of this it turned and ran E for some 6.9 m, before angling slightly to the S for its final 1.9 m where it reached the manhole trench, this stretch is referred to as the central trench.

All the excavation was undertaken manually by a team of up to three archaeologists between 23/03/09 and 07/04/09. This phase of work has been assigned the project code S CPP-2009-17. Prior to this phase of work two watching briefs had been carried out, one at each end of the track (S CPP-2009-18 & S CPP-2009-19). That to the W was

relatively shallow and had exposed a mass of services, including a brick built manhole with a cast iron pipe cut through the footings of the (re- built) KOB and entering the manhole on its S side. This marks where the new pipe is to run out of the KOB. A much larger and deeper area had been opened up at the E end. This had exposed the cast iron pipe that the new pipe was to feed into which proved to be some 1.1 m below the ground at this end. This E- W pipe had evidently been dug through a complex sequence of deposits only part exposed in the N side of this trench. The results of these 2 watching briefs (undertaken on 27/02/09 & 02/03/09 and 06/03/09) have been absorbed into the results of the main excavation.

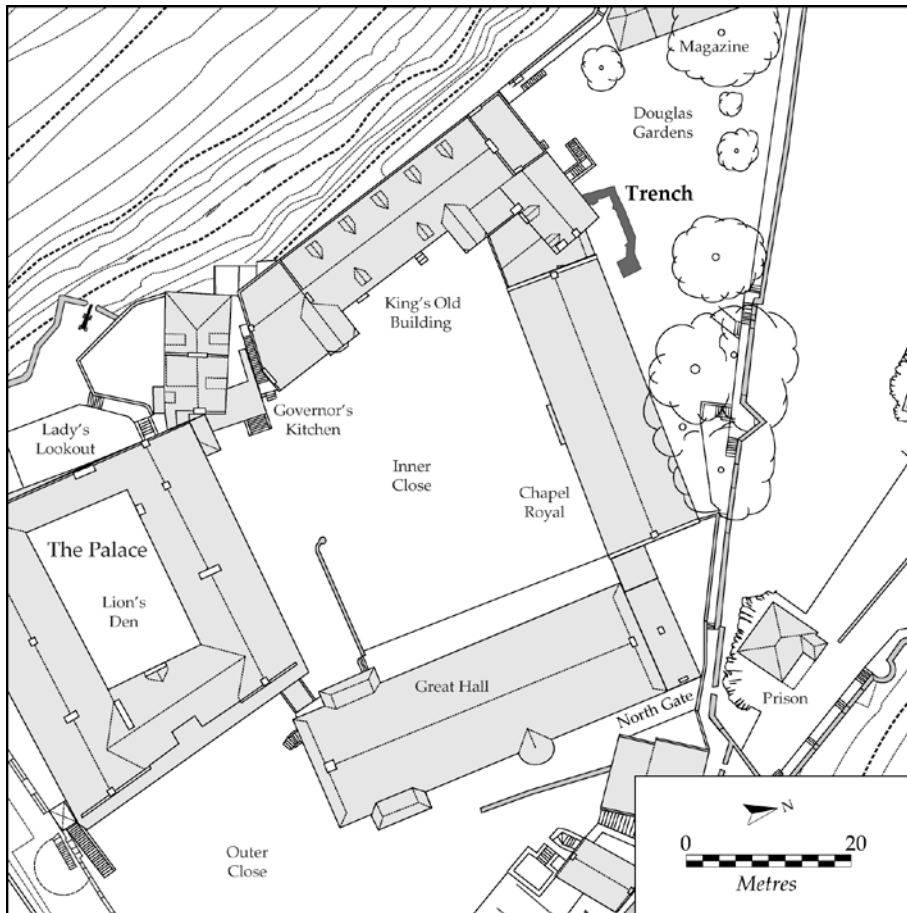


Figure 1: Trench Location

2 EXCAVATIONS

The course of the excavation was covered by a number of different surfaces. Roughly central to the excavated area was an area of concrete slabs **F003**, of which the most Northerly 2 rows (running E- W) were removed. This end of **F003** was tapered so that it narrowed to the N, and two paths ran off from either side of this end, **F002** to the NE and **F004** to the NW. Both of these were formed by narrow concrete strips, initially these were thought to be set into the grass, but both proved to have concrete bases, with **F004** being particularly hard to remove. These surfaces separated the different areas of turf, with that at the E end numbered **F001**, that at the W end **F005** and the central area between **F002** and **F004** (not excavated, but exposed in the N side of the trench) numbered **F052**.

The removal of these areas of topsoil and paving exposed a mass of services. As noted in the introduction the watching brief at the W end exposed a brick built manhole now numbered **F024**. Two cast iron pipes ran into this: **F025** into its S side and **F026** into its W. Footings **F023** to the N wall of the KOB (**F022**) were exposed, roughly dressed rectangular sandstone blocks that stepped out some 200 mm N of the wall proper, pipe **F025** was cut down through the top of these. Two plastic pipes (**F029**) ran along the N face of **F023**, these ended within the trench, it is unclear if they have been cut (perhaps by **F024**), or were never finished. Two further plastic pipes crossed the trench, running against the N face of manhole **F024**, with the upper numbered **F027** and the lower **F028**. A clear cut for **F027** showed it to be the later of the two, a cut **F038** parallel to but 300 mm N of these pipes is probably for **F028**. At this S end of the W trench excavation did not continue down below these various pipes.

Just to the N of **F038** a large but shallow cut **F031** was excavated. Only part of its S edge was seen, continuing under concrete path **F004** to the N and running out the trench to E and W, but it was fairly steep sided with a flat base and at least 1.7 m N- S. Its fill **F030** comprised dark grey charcoal flecked silt 250 mm deep. Directly below this a further cut **F054** was identified. This proved to be orientated NW- SE, 700 mm wide at least 1.1 m long and 400 mm deep. As well as its backfill **F053** this contained a cast iron pipe **F055**.

Parallel to **F054** cut **F021** ran directly below path **F004**, this proved to be 950 mm wide, at least 2 m long and 500 mm deep, with 6 ceramic pipes (all numbered **F019**) within it. A cast iron pipe **F039** ran directly below **F021**, this was only part exposed and no cut for it was firmly identified. These two services were not bottomed, stratigraphically separating the deposits in the W trench from those found elsewhere.

At the S side of the W end of the central trench was **F017**, a stretch of brick walling some

1. 5 m long, thought to be the N wall of a manhole whose presence was indicated in the top of paving **F003**. A cut for this (also numbered **F017**) extended some 400 mm into the trench, but to the N of this (and to the E of **F021**) early deposits survived. To their E they were truncated by a mass of service pipes. No attempt was made to separate their cuts, all were simply assigned a single context number. These included two broken cast iron pipes (**F012** and **F018**), an intact iron pipe (**F013**) next to a ceramic pipe set in concrete (**F042**). Smaller intrusions were represented by lightning conductor **F016** (which seems to be attached to **F013**) and phone cable **F041**. Two blue plastic pipes, one large (**F014**) and one small (**F015**) completed this area. These various services had disturbed this part of the site severely, but at the base of the trench (some 800 mm deep here) earlier deposits were traced below all these pipes.

Two discrete soil deposits, **F084** above **F050** were recorded in this area. **F084** was dark organic rich silt, while **F050** was a mix of silt and sand in discrete lenses. The blue plastic pipes **F014** and **F015** were dug through these layers along with the 6 ceramic pipes in cut **F021**, while all the other pipes seemed sealed by them.

To the E of the Easternmost pipe (**F012**) a large cut **F008** crossed the trench, which again separated deposits to its E and W. This was up to 2.8 m wide at its top, with fairly steep sides, but with its E edge altering profile dramatically some 600 mm down, where it became near vertical, although by now only some 2.1 m wide. At the depth of this change in slope part of its S edge was found, this was also vertical and formed a good right angle with the E edge. It was not bottomed and contained at least three fills. The upper, **F007**, was a compact mix of gravel and whin dust below which **F056** was a thin compact layer of concrete, whose appearance coincided with the change in slope of the E edge. Below 50 mm of **F056** **F093**, the lowest excavated fill was a mix of whin dust and gravel identical to **F007**.

Sitting over the E end of cut **F008**, but unrelated to it as it ran to the S beyond the limits of **F008**, was a low brick wall **F006**. This comprised engineering bricks laid N- S in 2 rows, standing 2 bricks high, which sat on a coarse cement base 100- 150 mm wider than the wall on either side. This formed the W side of the manhole trench, and while the bricks were traced for only 1.5 m, the concrete plinth ran for 1.8 m- and continued to the S outside the trench. The N end seemed real, with no evidence for a continuation of either bricks or base, but on the E side of the N end of the wall there was evidence for a broken off return some 230 mm wide, although no trace of the concrete plinth continuing in this direction.

Within the manhole trench the N- S cast iron pipe **F009** was the major modern feature. This sloped down to the E and sat in a substantial cut **F011**, 600 mm wide and 900 mm

deep. This pipe separated all but the basal deposits in this trench into N and S halves. The initial manhole trench was found to be in slightly the wrong place, and had to be extended by 300 mm to the S. Almost the only features within this extension were two further E- W pipes with only their N sides within the trench. The upper **F059** was a blue plastic pipe within cut **F061**, while the lower **F062** was an iron pipe in cut **F064**.

Away from these numerous service cuts the archaeology of this trench could be split into three discrete areas: the W trench, the central trench and the man- hole trench. Likely connections between these three areas will be made in the discussion at the end, but no further direct stratigraphic links can be made.

Within the W trench a thin spread of ash **F032** survived at the S end of cut **F031**. Below this was **F035**, a mix of mortar, stone and slate, surviving in an island between cuts **F038** and **F054**. This in turn sealed **F036**, a moderately compact grey silty clay rich in fragments of slate and charcoal. Below **F036** **F069** proved to be pale brown silt, rich in fragments of slate, charcoal and mortar up to 250 mm thick. Although not physically connected this is probably the same as **F071** to the N of cut **F054**, although here (in the corner of the trench) no equivalent of **F035** or **F036** was recorded, and **F071** was estimated to be up to 450 mm thick. Under **F071** was **F089**, a thin compacted layer of coarse orange sand, with no equivalent noted to the S of **F054**.

At this stage a single deposit, **F090**, ran under cut **F054**, connecting both ends of the W trench. **F090** was a thin pale grey layer of ash, rich in charcoal traced for 1.6 m N- S. This sealed **F091**, a layer of compact dark brown clayey silt up to 150 mm thick, below which the trench was bottomed on pale orange silty clay **F092**, which was not excavated.

Within the central trench deposits were even more disturbed, with an island of better survival at the N side of the W end. Here, below **F050** (mentioned above) was **F051**, mid grey silty clay rich in slate, mortar and charcoal. Within this was a patch that was very rich in mortar. This was numbered separately as **F057**, but was thought to be just a variation in the makeup of **F051**. **F051** then sealed **F058** a thin layer of ash that sloped down gently to the E.

Towards the centre of the central trench a further small island of deposits survived, just to the W of cut **F008**. Here grey silty clay **F067** rich in slate fragments and charcoal, sealed clean brown clay **F068**. Below this was an apparent cut feature **F074** filled by **F073** a loose mix of mortar, silt and rubble. This possibly ended at the S side of the trench, but the area is so disturbed that this is not certain. What could be seen was a steep sided cut with a flat base, 1.1 m wide at its top, 750 mm wide at its base and 350

mm deep.

On its E side **F074** was cut through **F076**, pale brown clayey silt with chunks of mortar, stone and charcoal throughout. This proved to be 200 mm thick, but at the N edge of the trench a very thin (50 mm) layer of pale grey ash **F081** was recorded. **F076** seemed to be both above and below this lens, and on the S side, where **F081** did not extend it was a single layer. **F081** therefore was thought to be a lens within **F076**.

To the W **F074** was cut through rubble deposit **F075**. This was not excavated itself, but at the base of **F074** it seemed to run under **F076** to its E. To the W of this area **F075** ran under **F066**, the silt deposit at the base of the sequence at this end of the trench.

Within the manhole trench deposits (except for the very top and base of the sequence) were split into N and S sides of the trench by drainpipe cut **F011**. On the N side cut **F044**, associated with the laying of path **F002** was under topsoil **F001** but cut through **F045**, a thin dark grey silt layer. This sealed **F046**, a very thin (30 mm) layer of pale brownish yellow mortar which was the last deposit to run over pipe trench **F011**.

Beneath **F046** was **F047**, a 350 mm thick layer of grey coloured clayey silt, rich in slate and mortar fragments and with some mortar and charcoal throughout. At its very base this layer was extremely rich in slates, this was not numbered separately, but a separate sample was taken from this area. This in turn sealed **F048** a 300 mm thick layer, similar to **F047** but pale brown in colour, and with less slate fragments throughout. The base of **F048** proved to be much richer in charcoal than the rest of the deposit, like **F047** above it this was not awarded a different context number, but it was sampled separately.

Below **F048** a cut **F079** seemed to run across this trench from SW to NE, filled by **F078**. This feature was not bottomed, but proved to be at least 600 mm deep, and measured 1.1 m wide. It seemed to finish in the trench, just short of its NE corner, making it at least 2.1 m long. Its fill **F078** proved to be light grey silty clay, with discrete lenses of light brown silty clay. It was rich in shell (oyster), charcoal, mortar and small angular sandstone fragments, with at least one larger dolerite chunk within it. At the base of the trench this feature was traced running below **F011** (the cut for a drainpipe) meaning that its relationships with deposits on the S side of the trench could be determined.

At the extreme E side of the trench an apparent cut **F080** was recorded which seemed to be cut by **F079**. This ran along the N end of the E side of the trench, until truncated by **F011**, it did not reappear to the S of this, making it at least 1.2 m long. Its fill **F049** was a loose mix of orangeish brown sandy mortar and small chunks of sandstone. This was cut through **F072**, a mix of angular sandstone chunks and slightly clayey pale brown silt

250 mm thick. This only survived in the NW corner of the manhole trench between cuts **F008** (to the W), **F079** (to the S) and **F080** (to the E).

Under **F072** lay **F077**, a very thin (up to 50 mm thick) layer of pale grey ash rich in charcoal. This sealed **F083**, moderately compact pale brown silty clay rich in mortar and charcoal, and with occasional small stones throughout. Below 200 mm of **F083** was **F082**, principally comprising large angular chunks of dolerite, but with pale brown silty clay mixed throughout. This was the lowest deposit excavated on this side of the manhole trench.

On the S side of the manhole trench deposits were badly mutilated by pipe trench cuts, but the apparent SW- NE cut **F079** was traced through to this side. The uppermost deposit that was encountered on this side was **F065**, a small surviving island of pale grey clayey silt rich in slate, mortar and charcoal. This proved to be 200 mm thick, and its relationship with **F079** is unclear, as it was destroyed by later cut **F011**. Below this **F070**, a deposit of mostly sandstone rubble, but with some dolerite mixed in up to 300 mm thick, was cut by **F079**.

Below **F070** four separate contexts were exposed on the S side of the manhole trench, none of which were excavated. The latest was **F085**, loose pale grey ash rich in charcoal found only in a small area 700 mm E- W by 300 mm N- S in the extreme SE corner of the trench. This overlay **F086** just to its W, a patch of pale brown slightly clayey silt rich in charcoal. To the W of and below this was **F087**, a small area (500 mm E- W by 300 mm N- S) of mortar. This was fine sandy material, very pale pink in colour and with few inclusions, which formed a fairly even upper surface, sloping down gently to the E. To its N **F087** seemed to have **F086** banked up against it implying that this is a real end to this deposit, while to the W it overlay bedrock **F088**, it seemed to continue to both E and S. **F088** was the only area of bedrock exposed in the whole excavation, found only in the extreme SW corner of the manhole trench, occupying an area 400 mm E- W by 250 mm N- S. Here it was orangeish- brown coarse grained dolerite, with a fairly even upper surface, sloping down gently to the E.

3 CONCLUSIONS

This long fairly narrow trench produced a deep and quite complex sequence, badly mutilated by late service cuts. In spite of this a series of four broad phases have been assigned to the various deposits encountered. Bedrock has not been assigned to any phase, the small area (**F088**) found in the SW corner of the manhole trench seemed to present a surprisingly even upper surface, possibly indicating that it has been quarried here, although too little was seen to be certain of this.

3.1 Phase 1

This phase is marked principally by its uppermost deposit, a thin, but continuous (except where removed by later activity) layer of loose pale grey ash, rich in charcoal, found along the length of the excavation. The contexts that make this layer up from W to E are **F090; F058; F081; F077** and **F085**. The actual source of this material is less clear. Above and below this most horizons are interpreted as dumps of material, used to raise the level of the Douglas Garden. Such an origin seems impossible for a thin yet widely spread and delicate layer like this. An origin in-situ seems more likely therefore, yet there was little or no evidence for heat affecting the surrounding deposits. The most likely option therefore seems to be a period of extensive, but not intensive burning across the site. The burning off of vegetation followed by its immediate covering by deposits of phase 2 seems most plausible. The reason for such an action is not immediately obvious, perhaps the phase 2 deposits represent garden soils, and it was anticipated that this would help to fertilise these.

A variety of contexts were recorded below these ash layers, only in a small area of the manhole trench was the base of this sequence revealed, where bedrock was exposed. Within the W trench two deposits were exposed below ash **F090: F091** and **F092**. Both were similar slightly clayey silts with charcoal mortar and stones mixed in throughout, but the upper **F091** was dark brown in colour, while **F092** (not excavated) was a paler brown, with an orange hue. A small assemblage of finds was recovered from **F091** (bone and pottery), while the ash itself, **F090**, produced window glass, copper alloy pins, pot shards and bone.

Within the area of the central trench deposits were partly separated by later features into a W and an E half. Towards the W, below ash **F058** was **F066**, pale brown clayey silt rich in charcoal, with some slate and mortar throughout. This proved to be 100 mm thick at its E end, where it sealed **F075**, a deposit of sandstone chunks mixed with silt and mortar. Although not excavated **F075** could be seen to continue E below later cuts. At its E end **F075** seemed to underlie **F076**, a small surviving patch of pale brown clayey silt. This had sandstone, mortar and charcoal inclusions throughout it, but a discrete

layer of ash, **F081**, was noted within it, against the N side of the trench. This is the only area where the ash is not taken as the uppermost layer of phase 1, but it was here exposed in such a small area, with so many later cuts around it that the sequence may be misinterpreted. No finds from phase 1 were recovered from this central trench.

The sequence in the manhole trench was split into N and S halves by later cuts. Towards the N ash layer **F077** sealed **F083**, a 200 mm thick layer of pale brown silty clay with numerous mortar and charcoal and some small stone inclusions. This produced a small assemblage of bone and pot, and in turn overlay **F082**. This was a rubble deposit, almost all large chunks of dolerite, at least one of which had mortar attached. Soil from **F083** had filtered down through these stones, and some 200 mm of **F082** was found without bottoming the layer.

On the S side of the manhole trench a complex sequence of deposits of this phase was noted below ash **F085**, but not excavated. The earliest was mortar patch **F087** which lay against the E side of the bedrock patch **F088** in the SW corner of the trench. This presented a fairly even upper surface, and was almost inclusion free. This seems unlikely to represent a structure such as a wall, due to the lack of stones noted, however it could represent bedding material for slabs for something like a path. Perhaps most likely of all is that this is just a dump of mortar directly over bedrock, something that only further excavation could determine. Overlying this on its N and E sides was an area of pale brown slightly clayey silt rich in mortar and charcoal and numbered **F086**. This in turn was sealed below ash **F085**, seen only in the SE corner of the trench.

The phase 1 sequence is characterised by soil deposits, typically pale brown in colour, but often with an orange hue. Rubble rich layers were the other major component below the ash horizons. These seem likely to represent deliberate dumps designed to raise the level of the Douglas Gardens, possibly to give sufficient depth for garden soils, although no clear topsoil like deposits were noted. The orange hue often noted may indicate re-deposited sub-soils from the castle rock, with the colouring being produced by the iron rich dolerite bedrock found here.

3.2 Phase 2

Phase 2 is a more amorphous phase which has suffered much damage from later features, making both its extent and the function of some of the features unearthed unclear. Broadly speaking it covers features overlying the ash layer marking the top of phase 1, yet earlier than the first service cuts.

Within the W trench 5 contexts constitute this phase, with pipe trench cut **F054**

effectively splitting them into N and S ends of the trench. To the S ash **F090** is overlain by **F069**, 250 mm of compact pale brown slightly clayey silt rich in slate, charcoal and mortar fragments. This was sealed by **F036**, a 200 mm thick deposit of mid grey silty clay, again rich in slate and charcoal fragments, and with some mortar and oyster shells throughout. Above this **F035** proved to be a 100 mm thick layer of coarse loose pale yellow mortar, with some slate and sandstone fragments throughout. This material seems likely to be rubble, rather than in-situ, indicating either demolition or construction, although it may well be imported into the Douglas Gardens.

Still within the W trench, but to the N of **F054**, **F089** was a thin (<50 mm) layer of clean coarse orange sand. This was probably derived from the Castle bedrock, and may have been bedding material for robbed out slabs. Certainly this occupied a limited area, with no similar deposit seen anywhere else within this excavation. Above this was a single horizon, **F071**, compact pale brown clayey silt rich in charcoal and slate, and with some mortar fragments throughout. This is doubtless the same as **F069** to the S, but no grey coloured equivalent of **F036** was noted above it, in such a limited area this could have been removed or simply not noticed.

Within the central trench phase 2 deposits were divided into W and E ends by the mass of phase 3 and 4 services found roughly centrally to this trench. To the W of these a single context **F051** is assigned to this phase, although a second number, **F057**, was recorded as being within **F051**. **F051** was mid grey silty clay rich in mortar and slates, with some charcoal and sub-angular stones throughout. **F057** was a particularly mortar rich patch within **F051**. Together they proved to be some 300 mm thick.

To the E of the area of pipe trenches an apparent cut feature **F074** was recorded. This was orientated N-S, and was steep sided with a flat base. It seemed to come to an end just before the S limit of the trench, although massive later disturbance in this area makes this uncertain. It measured 1.1 m wide at its top and 750 mm at its base, and was 350 mm deep. Its fill **F073** was a loose mix of fine brown silt and pale yellow mortar, with sandstone rubble as its principal constituent. This was sealed by **F068**, a badly mutilated deposit of clean brown clay, with discrete lenses of pale grey and pale brown clay throughout. This was only found towards the N edge of the trench where it was up to 150 mm thick, and seemed not to be a fill of **F074**, as it extended beyond its E edge. Over this **F067** barely survived the later disturbances, but proved to be mid grey silty clay rich in slate and charcoal, with some mortar throughout, 150 mm thick.

Phase 2 deposits in the manhole trench were again split N and S by the E-W pipe trench cut **F011**. In the N half ash **F077** was directly under **F072**, a rubble deposit up to 250 mm thick consisting of small to medium sandstone chunks, some with mortar

attached, intermixed with pale brown silt rich in mortar flecks. This seemed to be cut along the N end of the E side of the trench by **F080**, only part of the W side of which was revealed, which was fairly steep sided and 200 mm deep. Its fill **F049** mostly comprised loose orangeish brown sandy mortar, with some angular sandstone chunks throughout.

F049 seemed to be cut itself by **F079**, a substantial cut that ran SW- NE, running out the trench to the SW, but apparently ending within the trench just short of its NE corner. This made it at least 2.1m long by 1.1 m wide, and although not bottomed it proved to be at least 550 mm deep. Its fill **F078** mostly comprised light grey silty clay, but with some discrete lenses of light brown silty clay. Charcoal, shell, mortar and small angular sandstone fragments were found throughout. This feature ran under pipe trench cut **F011**, to connect features in the N and S halves of the manhole trench. Its function remains unclear, although it should be noted that its SW end was angled towards the current entrance to the Douglas Gardens, between the KOB and the Chapel Royal. Its fill seemed to indicate that it was backfilled by the material through which it was dug.

Still in the N half of the manhole trench **F078** was sealed by **F048**, 300 mm thickness of pale brown silty clay rich in charcoal and mortar flecks, and with some small fragments of sandstone and slate throughout, with the basal 60- 80 mm of the deposit noticeably richer in inclusions. This in turn was below **F047**, 250 mm thickness of mid grey silty clay, with much in the way of slate fragments and charcoal flecks, and some mortar flecks and small rounded stones throughout.

On the S side of the manhole trench **F079** was dug down through **F070** which directly overlay ash **F085**. This was a rubble deposit up to 300 mm thick comprising mostly sandstone, but with the larger stones being dolerite. Mixed throughout this was mid grey silty clay rich in mortar, and with some slates and charcoal flecks throughout. Doubtless this is the same as **F072** in the N half of the trench. This was sealed by **F065**, whose relationship to **F079** was removed by later cuts. **F065** was made up of mid grey clayey silt rich in slate, mortar and charcoal. This was up to 200 mm thick, and presumably was the same as **F047** in the N side of the trench.

As noted at the start phase 2 is in many ways unsatisfactory, lumping together poorly preserved features which post date Phase 1 and pre date the first of the service trenches. In the central and the manhole trench apparent cuts have been assigned to this phase, along with deposits sealing these cuts. This indicates that more excavation would probably further sub- divide this phase. As well as these (somewhat enigmatic) cut features a number of soil deposits are assigned to Phase 2. Some of these are pale brown in colour, similar to those of Phase 1, and probably reflect further dumping in

this area. Usually these brown soils are sealed by grey soils, and these may indicate more biologically active soils. These could represent top- soils buried by later activity, and it is possible that at least some of the cut features represent garden associated features, whether functional (e.g. for drainage) or perhaps even decorative (such as a mineral parterre). As well as a tendency for more grey than brown soils when compared to Phase 1, there are noticeably more slates within Phase 2 than Phase 1 deposits. This could reflect origin, but could possibly be deliberate, perhaps as an attempt to improve the drainage of the soils within the Douglas Gardens.

3.3 Phase 3

This phase comprises the earliest service trenches and associated features. In the W trench this would also include the rebuilt N wall of the KOB **F022** and its footings **F023**. Cast iron drains **F025** and **F026** are assigned to this phase, although **F025** is cut through **F022**. Towards the N end of the W trench cast iron pipe **F055** in its cut **F054** belongs to this phase, as does **F039** the only partially exposed cast iron pipe below later pipe **F019**.

Within the central trench mid grey silt **F050** is the major signifier of phase 3, this sealed a whole sequence of pipe trenches: **F012**; **F013**; **F018** and **F042** which are also assigned to this phase.

In the manhole trench the thin spread of mortar **F046** at the N side of the trench indicates some form of construction during phase 3. This is sealed by **F045**, mid grey slightly clayey silt probably representing buried topsoil which has formed, or been laid over this. The two service pipes, **F059** and **F062** running E- W along the S edge of the trench could belong to either this phase or the next.

Most of the activity assigned to this phase relates to services, probably principally concerned with drainage. Topsoil deposits testify to the continued use of this area as a garden. The N end of the KOB is re- built following the 1855 fire.

3.4 Phase 4

This phase brings us up to the present day. In the W trench man- hole **F024** is built over phase 3 pipes **F025** and **F026**. Just to the N of this man- hole two plastic pipes **F027** and **F028** are laid. At the N end of the trench large shallow cut **F031** is thought to be a flower bed, this underlies path **F004**, and seals ceramic pipes **F019**.

In the central trench man- hole **F017** is built, and plastic pipes **F014** and **F015** are inserted during this phase. At the E end deep cut **F008** is created, and then in filled by

gravel (F093), a thin layer of cement (F056) and finally further gravel (F007). Slabs F003 are then laid over almost the entire length of the central trench.

Within the manhole trench the E edge of cut F008 has low brick wall F006 built over it. This is of uncertain function, but presents hints that originally it turned to the E at its N end, and doesn't appear to be associated with F008, running beyond its S limit. Concrete path F002 running off to the NE is inserted via cut F044.

During this phase further services are put in place, along with surfaces to allow public access. The large cut (F008) and the brick wall (F006) at the E end of the excavation are of uncertain function.

This long narrow trench has demonstrated the significant archaeological potential of the Douglas Gardens. Deep deposits which seem to reflect late Medieval or later activity were encountered, with bedrock only found in one small area. Earlier deposits may be well preserved within the Douglas gardens below these. This may be one of the few places in Stirling Castle where deeply stratified early archaeology which has been little affected by later building work can be found. Although much damage from the digging of service trenches was recorded, this is likely to be localised to the entrance to the Douglas Gardens. Earlier features were recorded, but generally poorly understood and some are likely to reflect the use of this space as a garden. It is recommended that any further archaeological excavation in this area should be carried out on a sufficient scale to properly explore these features.

4 FINDS COMMENT

This assemblage can be generally characterised as a late medieval to post-medieval group. The exceptions to this are finds from the late-19th to 20th century service trench cuts and fills. In general however, the stratified deposits appear to have a *terminus post quem* of the late-17th century on the basis of the clay pipe evidence (D Gallagher pers comm). Earlier deposits appear to show material from a general 16th century and later date. This is particularly marked with the presence of reduced greywares of the Throsk type. Within this general group of ceramics an array of vessels appears to be represented including jugs, cooking pots, and at least one fragment of a platter. In addition there are a few more exotic items which may represent imports.

One item of note, although not an import, is the decorated body sherd from F058 (figure 2) which appears to be from a propaganda or heraldic decorated vessel (1255-026). Similar motifs have been found in mid-16th century contexts at Eyemouth fort and more recently at Cadzow Castle. The symbols in this instance a fragment of the Scottish saltire alongside a 5 pointed star or mullet, and then a floriet design comprising 5 small circular pellets. The iconography of this represents the nation (the saltire), the mullet is most typically used to refer to the 3rd son in the hierarchy of siblings, while the 5 pellet image is part of the Hamilton arms. The combination of the saltire and the pellet design was noted on floor tiles at Cadzow Castle, the significance of the mullet is not apparent at this stage except that it refers to a Knight. Further specialist comment could confirm whether this is a hamilton vessel associated with a particular 16th century figure but at the very least this vessel is a further example of the use of emblematic decoration for clear statements of allegiance, both personal and political.



Figure 2: Decorated pot sherd (1255-026)

The material along with the animal bones and fragments of roofing slate are clearly finds associated with debris strewn in this part of the castle complex. But their general homogeneity may reflect progressive landscaping to create a sequence of gardens post-dating the construction of the Chapel Royal in the 1590s.

A1. APPENDIX 1 : LIST OF CONTEXTS

Context	Description
001	Topsoil over manhole trench
002	Slatted path at E end of trench
003	Concrete slabs over central trench
004	Slatted path at W end of trench
005	Topsoil at W end of trench
006	N- S brick wall over F007
007	Gravel backfill of cut F008
008	N- S cut filled by F007, F056
009	Cast iron pipe in cut F011
010	Fill of cut F011
011	E- W pipe trench cut in manhole trench
012	Broken iron pipe (NW- SE) at E end of F003
013	Intact iron pipe (N- S) central to F003
014	Thick blue plastic pipe
015	Thin blue plastic pipe (SW- NE) over F014
016	Lightning conductor over F013
017	N wall of manhole at W end of F003
018	Broken iron pipe (NW- SE) just to W of F014
019	Six ceramic pipes (NW- SE) in cut F021
020	Fill of cut F021
021	NW- SE cut for F019 below F004
022	N wall of KOB (as rebuilt 1855)
023	Footings for F022
024	Brick manhole at S end of W trench
025	Cast iron pipe (N- S) cuts F022, feeds into S side of F024
026	SW- NE cast iron pipe, feeds into W side of F024
027	E- W grey plastic pipe just to N of F024
028	E- W yellow plastic pipe just below F027
029	E- W ceramic pipe (cut at E end) just to N of F023
030	Dark loamy fill of F031
031	Cut at N end of W trench, flowerbed?
032	Ash lens cut by F031
033	Thin gravel layer below F032
034	Mixed deposit below F033
035	Mortar and slate below F034

Context	Description
036	Grey silt below F035
037	Fill of F038
038	Cut (E- W) at S end of W trench, probably for F028
039	Iron pipe below F019 (W end of central trench)
040	Concrete at SE end of F019
041	BT (?) cable in central trench
042	Ceramic pipe under concrete, just to W of pipe F013, central trench
043	Fill of cut F044
044	Cut (N side of manhole trench), demolition of F006/ laying of F002
045	Buried topsoil in manhole trench
046	Thin mortar layer below F045
047	Thick deposit of dark grey silt below F046
048	Reddish brown silty clay below F047
049	Loose mortar and rubble below F048- fill of F080
050	Mixed silt and sand at N side of W end of central trench
051	Silt and slate below F050
052	Topsoil over central area
053	Fill of cut F054
054	NW- SE cut in W trench, filled by F053 and F055
055	Cast iron pipe within F054
056	Reinforced concrete below F007, within F008 (central trench)
057	Mortar and silt deposit in central trench
058	Charcoal and ash rich deposit in central trench
059	Blue plastic pipe in F061
060	Fill of F061
061	E- W cut along S side of manhole trench
062	Iron pipe below F059, within cut F064
063	Fill of F064
064	E- W cut below F061 for pipe F062
065	"Island" of grey silt in manhole trench between cuts F011 and F064
066	Orangeish brown clayey silt under F058, central trench
067	Mid grey silty clay rich in slate and charcoal between cuts F008 and F012
068	Clean brown clay below F067
069	Orangeish- brown silty clay below F036, W trench
070	Rubble in S side of manhole trench, cut by F079
071	Orangeish brown silty clay in W trench, to N of cut F054
072	Rubble in NW corner of manhole trench

Context	Description
073	Rubble fill below F068, central trench
074	Cut (N- S) filled by F068 and F073, central trench
075	Rubble to W of cut F074, below F066
076	Dark silt to E of F074, also cut by F008
077	Layer of ash below F072
078	Fill of F079
079	Large cut (SW- NE) in manhole trench, filled by F078
080	Cut for F049
081	Ash lens within F076
082	Rubble deposit below F083, N side of manhole trench
083	Pale brown clayey silt below F077
084	"Buried topsoil" under F052, central trench
085	Ash lens S side of manhole trench below F070
086	Pale brown clayey silt below F085
087	Fine pinkish mortar below F086
088	Bedrock below F087
089	Coarse orange sand under F071, W trench
090	Ash layer under F069 and F089
091	Compact dark brown clayey silt below F090
092	Pale orange silty clay below F091, unexcavated
093	Lower gravel fill of F008 below F056, central trench

A2. APPENDIX 2: LIST OF DRAWINGS

Drawing	Type	Description	Scale
001	Plan	Initial plan of trench, showing services	1: 20
002	Plan	Final plan of trench	1: 20
003	Section	S facing section of most of trench	1: 20
004	Section	E facing section of W trench	1: 20
005	Plan	Plan of fill F073, central trench	1: 20
006	Plan	Plan of fill F078, manhole trench	1: 20
007	Plan	Final plan of manhole trench	1: 20

A3. APPENDIX 3: LIST OF PHOTOGRAPHS

Photo	Description	From	Date
1	Shot of test pit during excavation	SE	27/02/2009
2	Working shot	SE	27/02/2009
3	Rubble & concrete in SE-facing section	SE	27/02/2009
4	Close up of pipe showing some of the rubble above it	SE	27/02/2009
5	Location shot. The spade shows the line of the pipe	N	27/02/2009
6	Close up of rubble in SE-facing section	SE	27/02/2009
7	Close up of pipe	SE	27/02/2009
8	Example of the concrete that was situated above the pipe	N	27/02/2009
9	Test pit with the pipe at the bottom	SE	02/03/2009
10	Example of one of the bricks found within the test pit	-	02/03/2009
11	Test pit with pipe	SE	02/03/2009
12	Test pit with pipe	SE	02/03/2009
13	DGD 09 manhole test pit, W section	E	23/03/2009
14	DGD 09 manhole test pit, W section, detail of N end	E	23/03/2009
15	DGD 09 manhole test pit, W section, detail of S end	E	23/03/2009
16	W trench services, manhole F024 etc cleaned up	N	24/03/2009
17	W trench services, manhole F024 etc cleaned up, detail of E end	E	24/03/2009
18	W trench services, manhole F024 etc cleaned up, detail of N end	E	24/03/2009
19	W trench services, manhole F024 etc cleaned up, detail of far N end	S	24/03/2009
20	Services under F003, E end	S	25/03/2009
21	Services under F003, W end	S	25/03/2009
22	General shots of trench	-	25/03/2009
23	General shots of trench	-	25/03/2009
24	General shots of trench	-	25/03/2009
25	W trench, mortar F035 cleaned up	W	26/03/2009
26	W trench, mortar F035 cleaned up	W	26/03/2009
27	Wall F006 cleaned up	E	26/03/2009
28	Cut F008's E end emptied	S	26/03/2009
29	Cut F008's S end emptied	N	26/03/2009
30	Manhole trench, E section	W	26/03/2009
31	Manhole trench, E section, detail of N end	W	26/03/2009
32	Manhole trench, E section, detail of S end	W	26/03/2009

Photo	Description	From	Date
33	DGD 09, W trench fill F053 exposed	W	27/03/2009
34	DGD 09, W trench fill F053 exposed	W	27/03/2009
35	DGD 09 F007 in section, F056 exposed	SW	27/03/2009
36	F056 cleaned up	SW	27/03/2009
37	Cut F054 empty	E	27/03/2009
38	Mortar F057 cleaned up, central trench	S	30/03/2009
39	Pipes F059 and F062 exposed, manhole trench	W	30/03/2009
40	Pipes F059 and F062 exposed, manhole trench	N	30/03/2009
41	Rubble F070 in manhole trench	N	30/03/2009
42	Rubble F070 in manhole trench	N	30/03/2009
43	W trench F069 cleaned up, trench finished	E	30/03/2009
44	Cut F079 NW end through rubble F072, manhole trench	SE	31/03/2009
45	Cut F079 NW end through rubble F072, manhole trench	SE	31/03/2009
46	Central trench silt F066 cleaned up	S	31/03/2009
47	Central trench silt F066 cleaned up	E	31/03/2009
48	Central trench F073, F075 and F076 cleaned up	S	31/03/2009
49	Central trench F073, F075 and F076 cleaned up	S	31/03/2009
50	Manhole trench F083 cleaned up	SE	31/03/2009
51	Central trench cut F074 emptied	S	31/03/2009
52	Central trench cut F074 emptied, showing fill F073 in section	S	31/03/2009
53	Cut F079 part excavated	S	31/03/2009
54	Cut F079 part excavated	S	31/03/2009
55	Cut F079 part excavated	E	31/03/2009
56	Cut F079 part excavated, detail of SW end	S	31/03/2009
57	Pot sherd from F057	-	31/03/2009
58	W trench, E facing section, taken from S to N	E	01/04/2009
59	W trench, E facing section, taken from S to N	E	01/04/2009
60	W trench, E facing section, taken from S to N	E	01/04/2009
61	W trench, E facing section, taken from S to N	E	01/04/2009
62	Cut F008's SE corner as finished	W	01/04/2009
63	Cut F008's SE corner as finished	NW	01/04/2009
64	Manhole trench, S facing section	S	01/04/2009
65	Manhole trench, S facing section, detail of W end	S	01/04/2009
66	Manhole trench, S facing section, detail of E end	S	01/04/2009
67	Manhole trench, W facing section	W	01/04/2009
68	Manhole trench, W facing section, detail of N end	W	01/04/2009
69	Manhole trench, W facing section, detail of S end	W	01/04/2009

Photo	Description	From	Date
70	General shots	-	01/04/2009
71	General shots	-	01/04/2009
72	General shots	-	01/04/2009
73	Central trench S facing section taken from E to W	S	01/04/2009
74	Central trench S facing section taken from E to W	S	01/04/2009
75	Central trench S facing section taken from E to W	S	01/04/2009
76	Central trench S facing section taken from E to W	S	01/04/2009
77	Central trench S facing section taken from E to W	S	01/04/2009
78	Central trench S facing section taken from E to W	S	01/04/2009
79	Central trench S facing section taken from E to W	S	01/04/2009
80	Central trench S facing section, detail of area to W of cut F008	S	01/04/2009
81	Manhole trench cleaned up	N	03/04/2009
82	Manhole trench cleaned up	E	03/04/2009
83	Manhole trench cleaned up	S	03/04/2009
84	Manhole trench cleaned up	N	03/04/2009
85	Manhole trench, E facing section	E	03/04/2009
86	Cut F079, detail of SW end	E	03/04/2009
87	Cut F079, section through fill F078	E	03/04/2009
88	Cut F079, section through fill F078	S	03/04/2009
89	Manhole trench cut F079 as finished	S	03/04/2009
90	Manhole trench cut F079 as finished	E	03/04/2009
91	Manhole trench cut F079, detail in E facing section of trench	E	03/04/2009
92	Manhole trench cut F080 emptied	W	03/04/2009
93	Manhole trench rubble F082 cleaned up	S	03/04/2009
94	Manhole trench rubble F082 cleaned up	S	03/04/2009
95	Manhole trench as finished	S	03/04/2009
96	Manhole trench as finished	N	03/04/2009
97	Manhole trench as finished, detail of ash F085	N	03/04/2009
98	Manhole trench as finished, detail of mortar F087	N	03/04/2009
99	Manhole trench as finished, detail of bedrock F088	N	03/04/2009
100	Manhole trench as finished, base of S facing section	S	03/04/2009
101	Manhole trench as finished, base of W facing section	W	03/04/2009
102	Manhole trench as finished, base of N facing section	N	03/04/2009
103	Manhole trench as finished, base of E facing section	E	03/04/2009
104	W trench, N end cleaned up	W	07/04/2009
105	W trench, N end cleaned up	W	07/04/2009
106	W trench, N end cleaned up	S	07/04/2009

Photo	Description	From	Date
107	W trench, coarse orange sand F089 exposed	E	07/04/2009
108	W trench, coarse orange sand F089 exposed	N	07/04/2009
109	W trench, ash F090 cleaned up	E	07/04/2009
110	W trench, ash F090 cleaned up	N	07/04/2009
111	W trench, N end as finished	E	07/04/2009
112	W trench, N end as finished	N	07/04/2009
113	W trench, N end as finished, E facing section	E	07/04/2009
114	W trench, N end as finished, E facing section, detail of S end	E	07/04/2009
115	W trench, N end as finished, E facing section, detail of N end	E	07/04/2009
116	W trench, N end as finished, S facing section	S	07/04/2009
117	General shot	-	07/04/2009
118	Decorated pot sherd (1255-026)	-	24/06/2009

A4. APPENDIX 4 : LIST OF SAMPLES

Sample #	Context #	Description	Bags
001	F035	Mortar spread in W trench	2
002	F036	Grey- black loam in W trench- garden soil?	2
003	F057	Mortar and silt in central trench	2
004	F058	Charcoal and bone rich silt in central trench	2
005	F047	Slate rich silt in manhole trench	4
006	F047	Base of deposit, very rich in slate and charcoal	2
007	F065	Garden soil in manhole trench	1
008	F067	Garden soil in central trench	1
009	F068	Brown clay below F067	1
010	F048	Orangeish brown silty clay in manhole trench, S side	1
011	F048	Ash rich lens within F048, manhole trench S side	1
012	F048	Orangeish brown silty clay in manhole trench, N side	1
013	F048	Lower charcoal rich part of F048, N side	1
014	F072	Rubble layer N side of manhole trench	1
015	F077	Ash layer below F072	1
016	F078	Fill of cut F079	1
017	F071	Orangeish brown silty clay in W trench	1
018	F066	Orangeish brown silty clay in central trench	1
019	F070	Rubble deposit, S side of manhole trench	1
020	F081	Ash rich lens within F076	1
021	F076	Pale brown clayey silt in central trench	2
022	F073	Rubble rich fill of cut F074	2
023	F049	Rubble fill of F080	1
024	F070	Rubble deposit, S side of manhole trench	1
025	F078	Silt fill of cut F079	2
026	F083	Pale brown silt infill, N side of manhole trench	2
027	F090	Ash layer in W trench	1

A5. APPENDIX 5: DRAWINGS

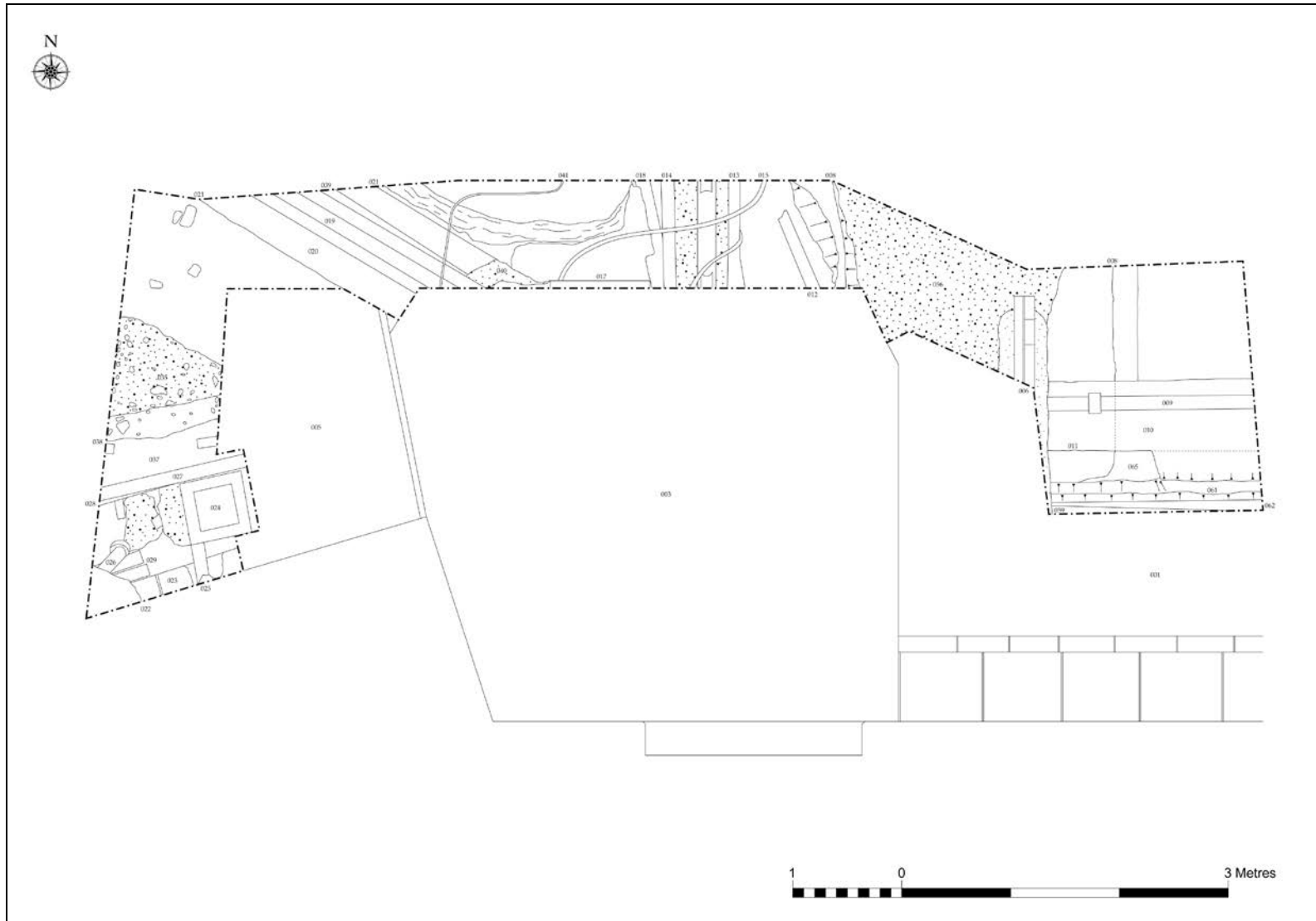


Figure 3: Drawing 1

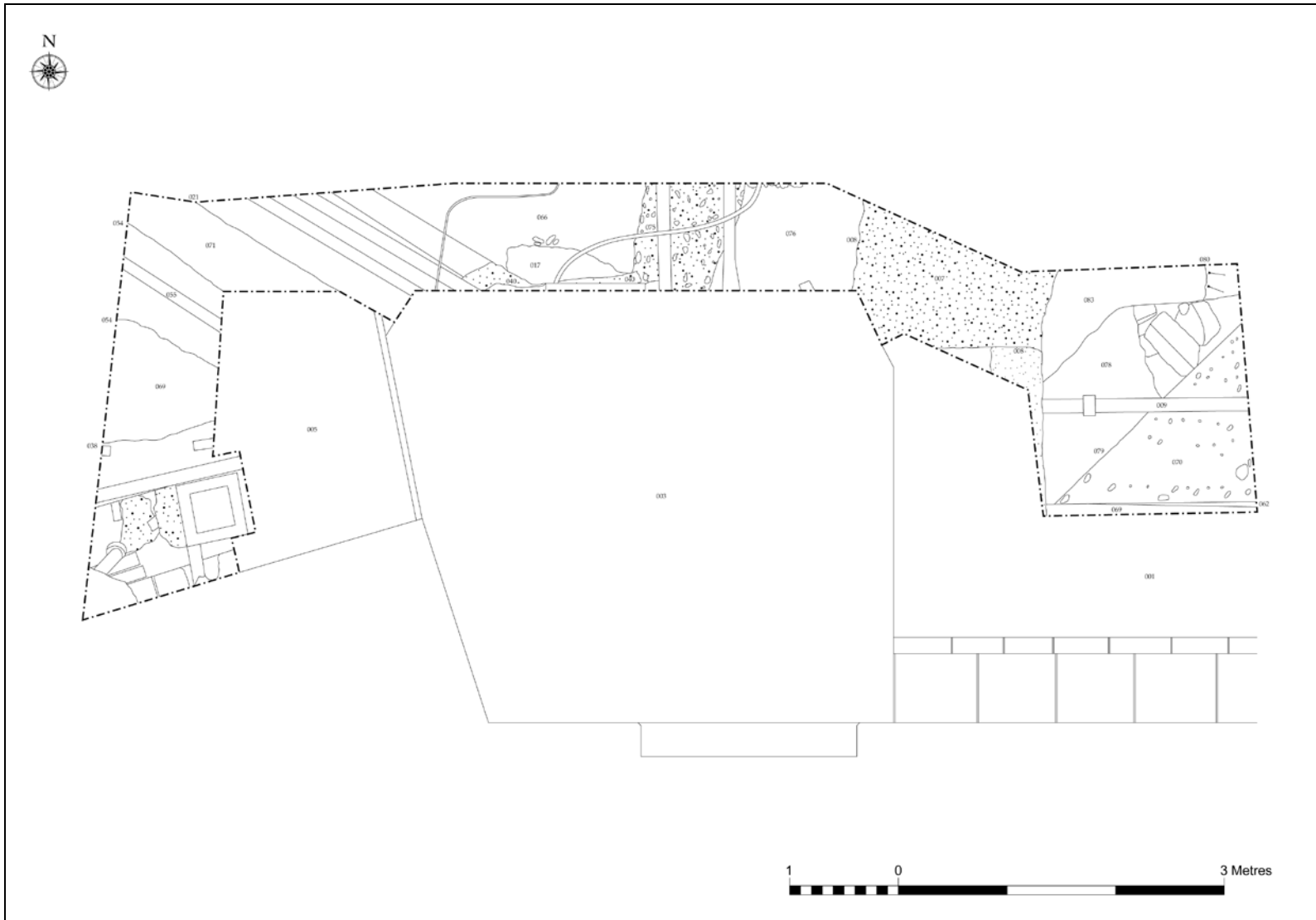


Figure 4: Drawing 2

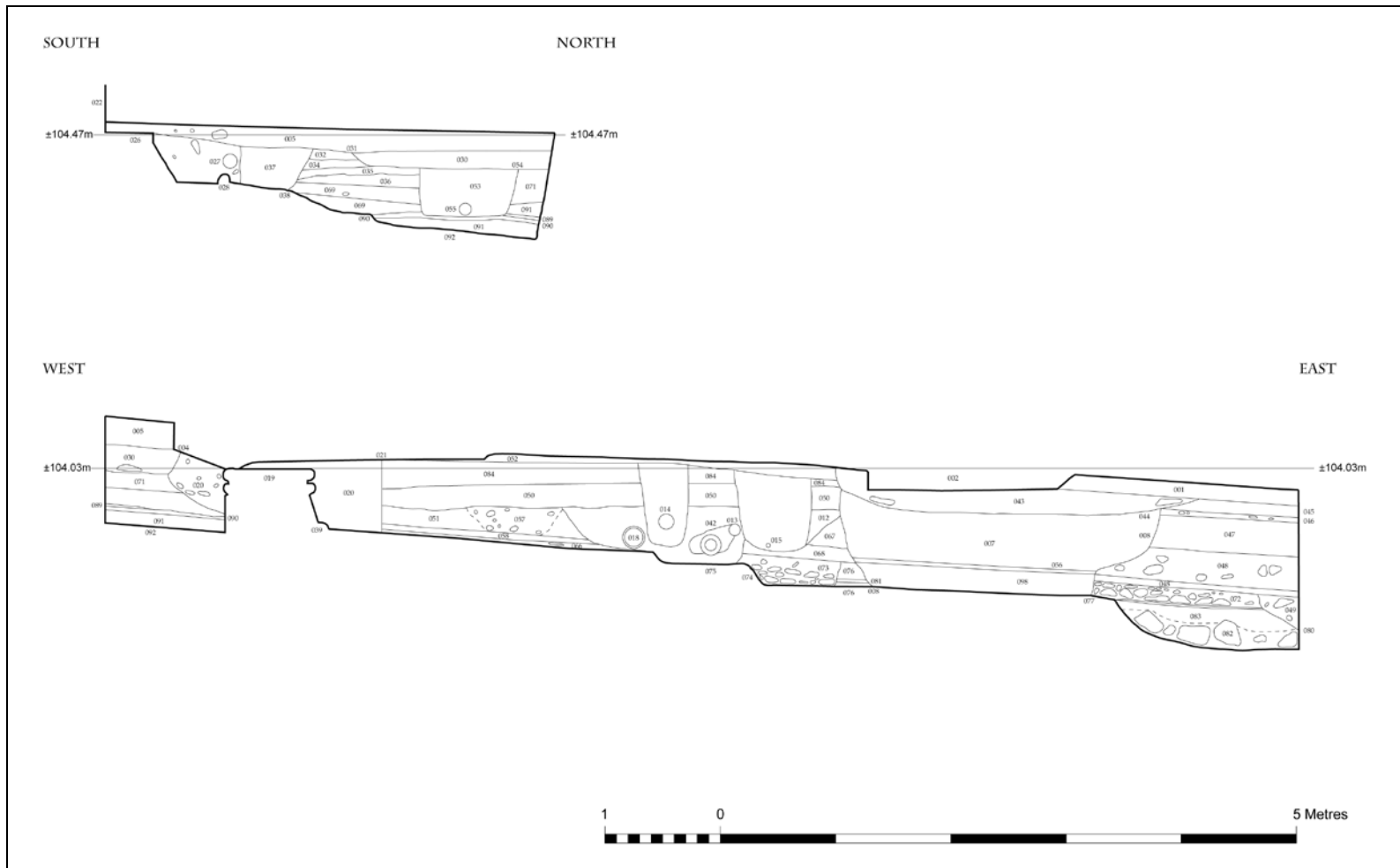


Figure 5: Drawings 3 & 4

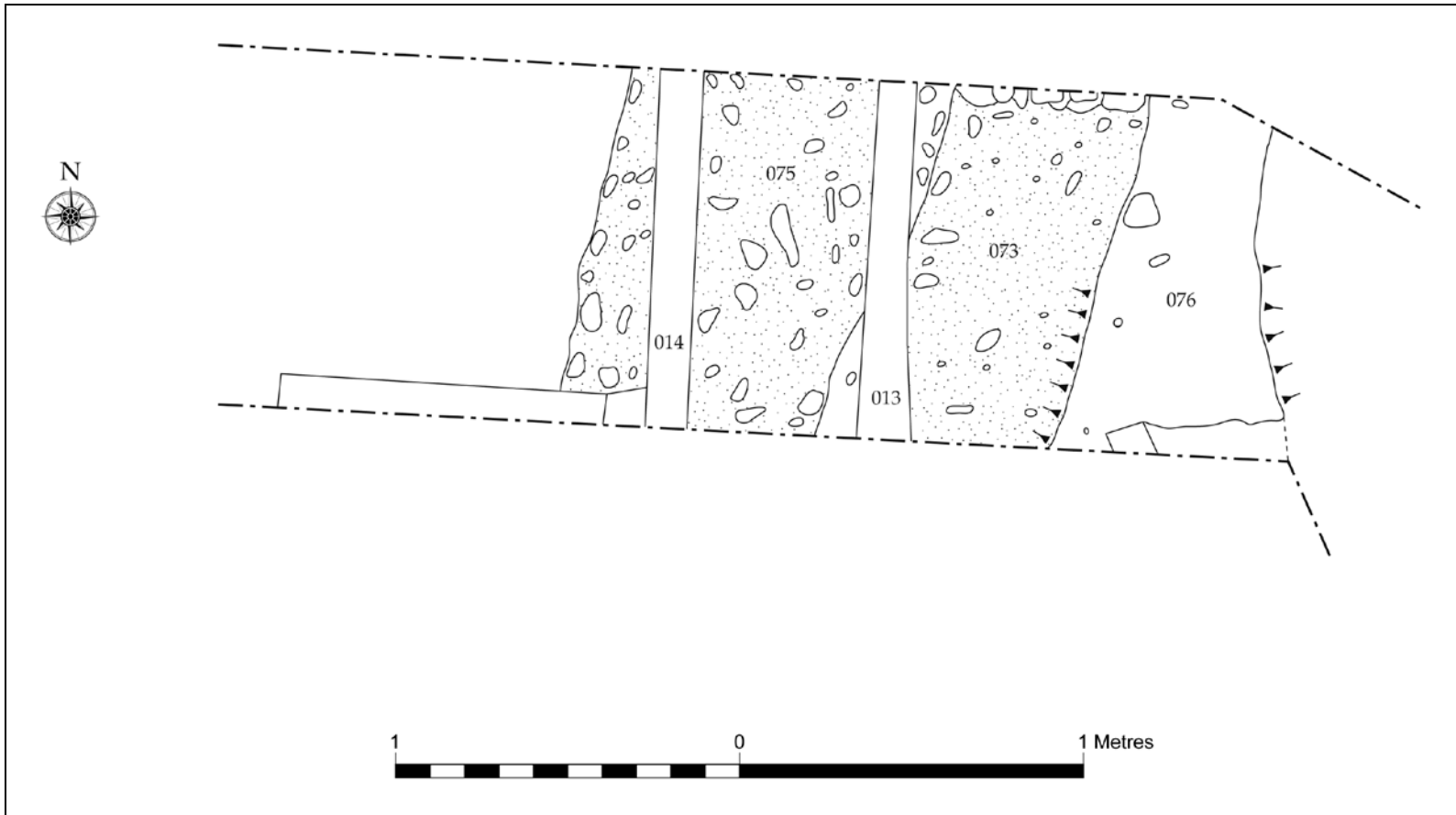


Figure 6: Drawing 5

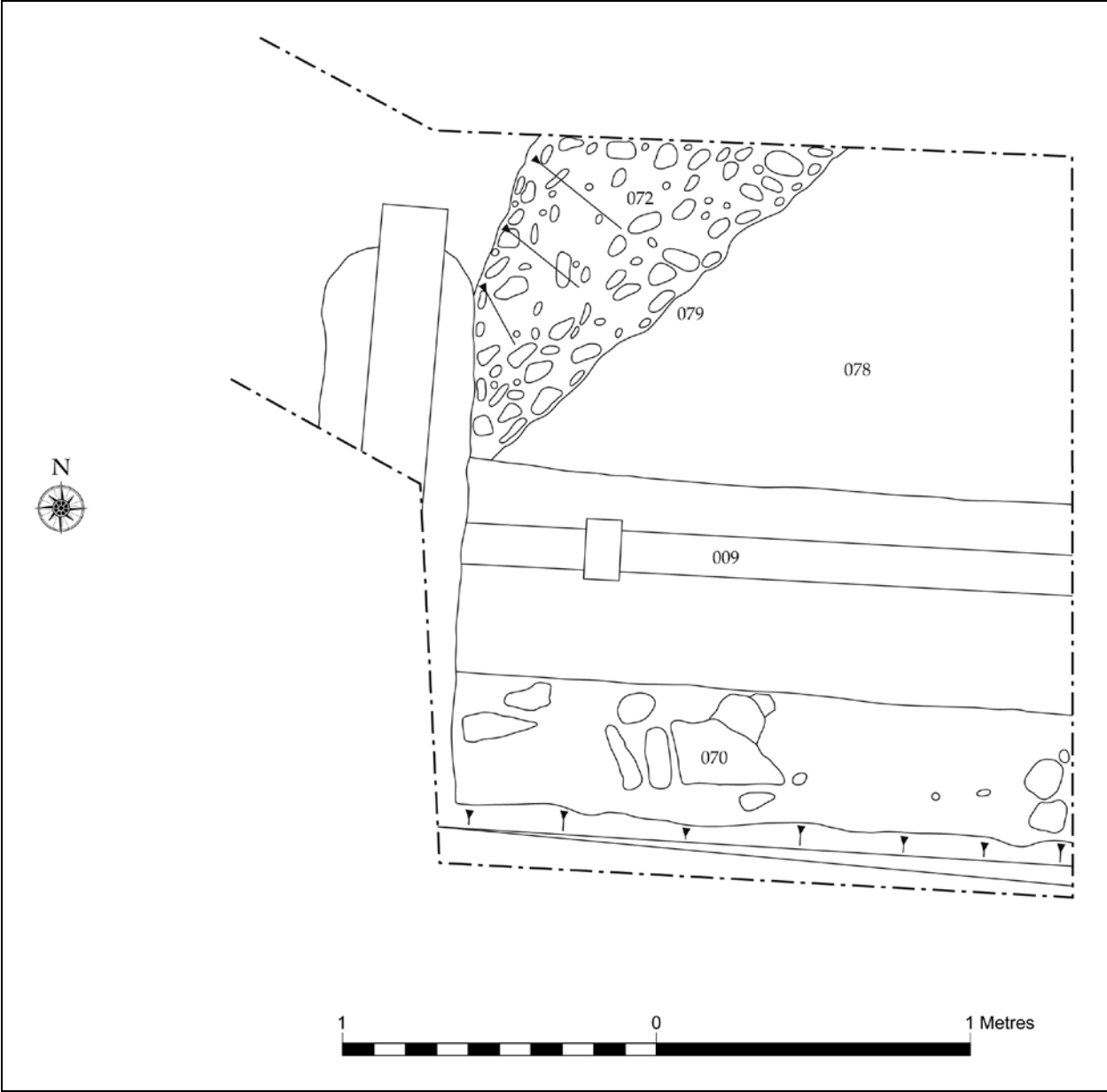


Figure 7: Drawing 6

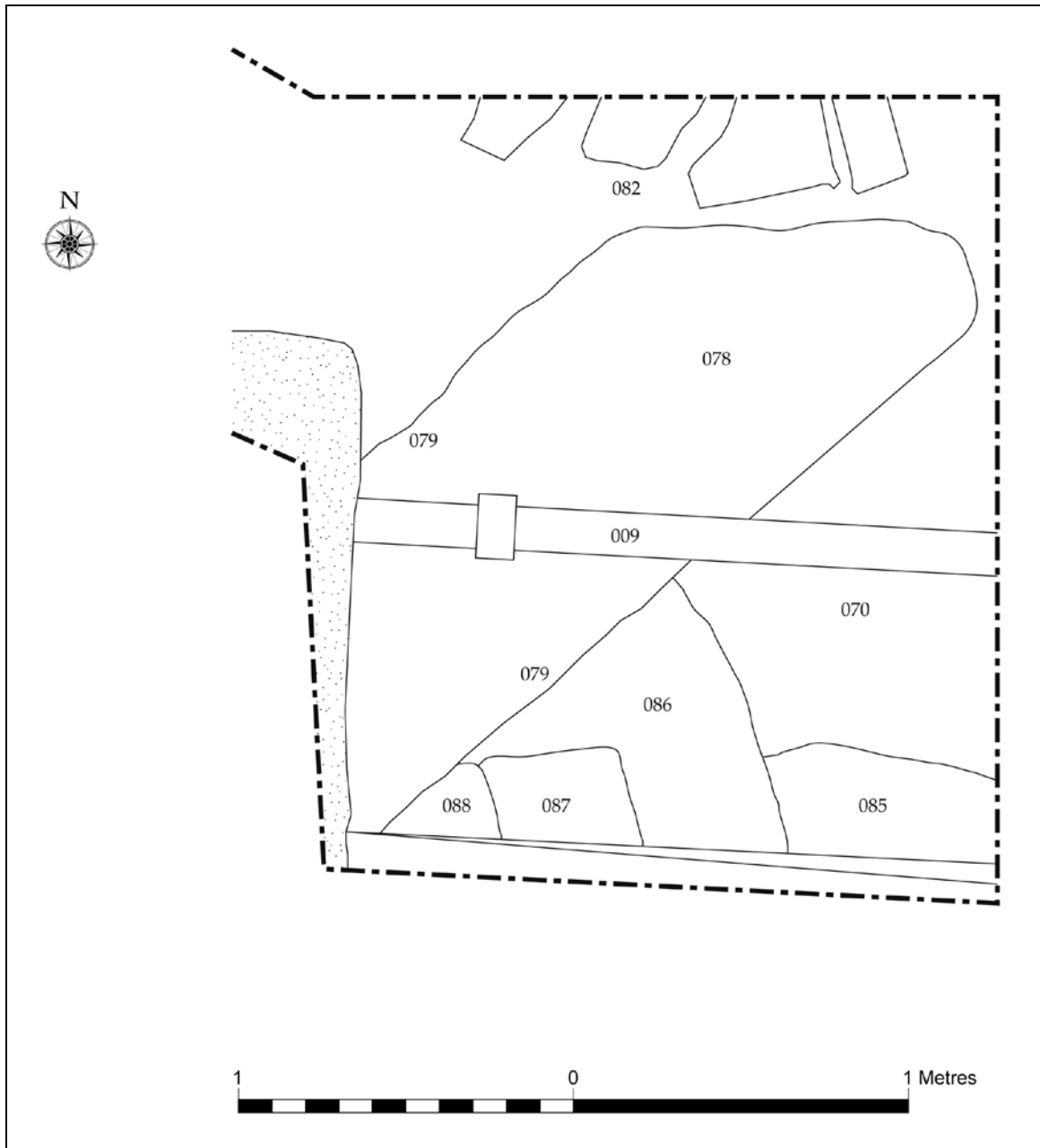


Figure 8: Drawing 7

A6. APPENDIX 6: FINDS LIST

NB The bag numbers were assigned as a running list for the entire project and not by box.

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos	Smpl no(s)	Other info?
1254	1254-001	SCPP-2009-17	March 2009	Animal bone & shell	c.18 bone, 1 oyster shell	F069	-	-
1254	1254-003	SCPP-2009-17	March 2009	Bone	15+	F090	-	-
1254	1254-005	SCPP-2009-17	March 2009	Bone & Shell	20+ (2 oyster shell)	F070	-	-
1254	1254-008	SCPP-2009-17	March 2009	Animal Bone	7	F078	-	-
1254	1254-009	SCPP-2009-17	March 2009	Animal Bone	3	F083	-	-
1254	1254-014	SCPP-2009-17	March 2009	Animal bone	7 frags	F091	-	-
1254	1254-015	SCPP-2009-17	March 2009	Animal and bird bone	c.20 frags	F036	-	-
1254	1254-016	SCPP-2009-17	March 2009	Oyster Shell	5 oyster shells	F054	-	-
1254	1254-017	SCPP-2009-17	March 2009	Animal Bone	c.25	F053	-	-
1254	1254-018	SCPP-2009-17	March 2009	Animal Bone	c.15 animal bone frags	F048	-	-
1254	1254-019	SCPP-2009-17	March 2009	Bone and Shell	1 oyster shell, c.20 bone frags	F048	-	-
1254	1254-020	SCPP-2009-17	March 2009	Bone and Shell	2 Shell frags, c. 10 bone frags	F020	-	-
1254	1254-021	SCPP-2009-17	March 2009	Animal Bone	c.10	F010	-	-
1254	1254-022	SCPP-2009-17	March 2009	Shell and Bone	3 bone, 3 oyster shell	F072	-	-
1254	1254-023	SCPP-2009-17	March 2009	Animal Bone	10	F047	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1255	1255-002	SCPP-2009-17	March 2009	4 sherds greyware, 6 sherds bcw	10	F069	-	-
1255	1255-004	SCPP-2009-17	March 2009	2 sherds bcw, 1 sherd greyware, 1 sherd pale sandy fabric with external vivid green patchy glaze (sainteange?)	4	F090	-	-
1255	1255-006	SCPP-2009-17	March 2009	1 greyware rim sherd (external gg), 1 sherd bcw (clear glaze), 1 sherd white gritty (ug)	3	F070	-	-
1255	1255-007	SCPP-2009-17	March 2009	5 sherds greyware, 3 sherds bcw, 1 sherd white gritty?	9	F078	-	-
1255	1255-010	SCPP-2009-17	March 2009	1 sherd greyware (gg), 1 sherd greyware (ug)		F083	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1255	1255-013	SCPP-2009-17	March 2009	1 sherd bcw (ug), 2 sherds bcw (white slip), 1 sherd stoneware? with grey to brown glaze (import?), 1 sherd crude greyware rim with brown glaze interior and exterior	5	F091	-	-
1255	1255-024	SCPP-2009-17	March 2009	1 platter? Sherd buff fabric with pale green to brown glaze on upper surface, 1 sherd salt galzed stoneware, 1 sherd delfed type, 1 sherd porcelain/china	4	F037	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1255	1255-026	SCPP-2009-17	March 2009	1 body sherd reduced greyware with buff interior, external decoration comprising "cording" + applique saltire + mullet + 5 globed floriét pattern	1	F058	-	-
1255	1255-027	SCPP-2009-17	March 2009	4 sherds greyware, 3 sherds bcw	7	F020	-	-
1255	1255-028	SCPP-2009-17	March 2009	3 frags floor tile, 5 sherds bcw, 4 sherds greyware, 1 sherd basal sherd delfed style	13	F053	-	-
1255	1255-029	SCPP-2009-17	March 2009	1 basal sherd bcw (patchy glaze), 1 body sherd greyware (gg)	2	F048	-	-
1255	1255-030	SCPP-2009-17	March 2009	3 conjoining basal sherds (gg on interiro with buff coloured exterior fabric) - jug	3	F020	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1255	1255-031	SCPP-2009-17	March 2009	2 sherds greyware (gg), 3 sherds bcw (yg)	5	F010	-	-
1255	1255-032	SCPP-2009-17	March 2009	3 x greyware (gg), 1 sherd bcw (yg)	4	F051	-	-
1255	1255-033	SCPP-2009-17	March 2009	1 sherd greyware (gg)	1	F048	-	-
1255	1255-034	SCPP-2009-17	March 2009	1 greyware (ug), 1 buff coloured ware [bcw] (ug), 1 sherd of transfer ware/porcelain	3	F048	-	-
1255	1255-035	SCPP-2009-17	March 2009	1 sherd greyware (gg), 1 sherd bcw (gg internally)	2	F030	-	-
1255	1255-036	SCPP-2009-17	March 2009	1 floor tile fragment (gg), 1 rim sherd and handle (ug – import?), 1 body sherd	3	F047	-	-
1255	1255-037	SCPP-2009-17	March 2009	2 sherds bcw, 1 frag porcelain/china	3	F036	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1256	1256-011	SCPP-2009-17	March 2009	Remains of a glass fragment	-	F069	-	-
1256	1256-012	SCPP-2009-17	March 2009	3 cu alloy objects (2 wireloops, 1 blob)	3	F069	-	-
1256	1256-038	SCPP-2009-17	March 2009	3 sherds of clear vessel glass	3	F010	-	-
1256	1256-039	SCPP-2009-17	March 2009	Fe objects – large wire nails	c.6	F010	-	-
1256	1256-040	SCPP-2009-17	March 2009	2 fragments roofing slate	3	F072	-	-
1256	1256-041	SCPP-2009-17	March 2009	2 frags clear glass	2	F020	-	-
1256	1256-042	SCPP-2009-17	March 2009	2 clay pipe stems	2	F053	-	-
1256	1256-043	SCPP-2009-17	March 2009	c.6 iron nails + 1 metal fragment (possible vessel/pot)	c.7	F020	-	-
1256	1256-044	SCPP-2009-17	March 2009	2 clay pipe stems	2	F072	-	-
1256	1256-045	SCPP-2009-17	March 2009	1 clay pipe stem	1	F030	-	-
1256	1256-046	SCPP-2009-17	March 2009	1 clay pipe stem	1	F048	-	-
1256	1256-047	SCPP-2009-17	March 2009	3 clay pipe stems	3	F037	-	-
1256	1256-048	SCPP-2009-17	March 2009	1 clay pipe stem	1	F065	-	-
1256	1256-049	SCPP-2009-17	March 2009	4 clay pipe stems	4	F020	-	-
1256	1256-050	SCPP-2009-17	March 2009	1 fe object	1	F036	-	-
1256	1256-051	SCPP-2009-17	March 2009	1 pipe bowl with makers marks	1	F047	-	-
1256	1256-052	SCPP-2009-17	March 2009	3 fe nails	3	F053	-	-

Box No.	Bag No.	Site code	Date	Material(s)	Quantity	Cntxt Nos.	Smpl no(s)	Other info?
1256	1256-053	SCPP-2009-17	March 2009	1 small chert flake	1	F103	-	-
1256	1256-054	SCPP-2009-17	March 2009	1 fragment of window glass?	1	F090	-	-

Historic Scotland
SCPP Archaeological Works
2009

Stirling Castle Palace
U03/U04 Door Unblocking

PIC Index No. 90291

Project: SCPP-2009-20

Standing Building Recording
June 2009



21 July 2009
Kirkdale Archaeology

Site: Stirling Castle Palace, U03/U04

N.G.R.: NS 7898 9404

Project Description: Standing Building Recording carried out in June 2009 during the unblocking of an early door between U03 and U04 in James V's Palace, Stirling Castle

Contents

1	Introduction.....	1
2	Description	3
3	Conclusion.....	6
A1.	Appendix 1: List of Amended and Newly Recorded Features	7
A2.	Appendix 2: List of Digital Photographs	8
A3.	Appendix 3: List of Drawings.....	10
A4.	Appendix 4: List of Samples	11

Figures

Figure 1:	Location of work.....	1
Figure 2:	U03.3 Elevation of unblocked door (Drawing 1)	5
Figure 3:	Details of unblocked doorway in U03.3 (Drawings 2, 3 & 4).....	5

1 INTRODUCTION

Kirkdale Archaeology was contracted to monitor the unblocking of a doorway in the Upper Floor of the North Range of Stirling Palace. The location of the doorway was known from its representation on early 18th century plans, between corridor U03 and room U04 in the NW portion of the upper floor of James V's Palace, Stirling Castle.

An existing doorway in the SW corner of U04 was to be blocked so that a stone-lined shaft running into it (through the wall thickness from the basement) could be utilised to carry services between all the levels of the Palace. As there was a known door of historical significance blocked behind the N Wall of U04 (U04.1) and the S Wall of U03 (U03.3) this presented a solution to the question of access to the room.

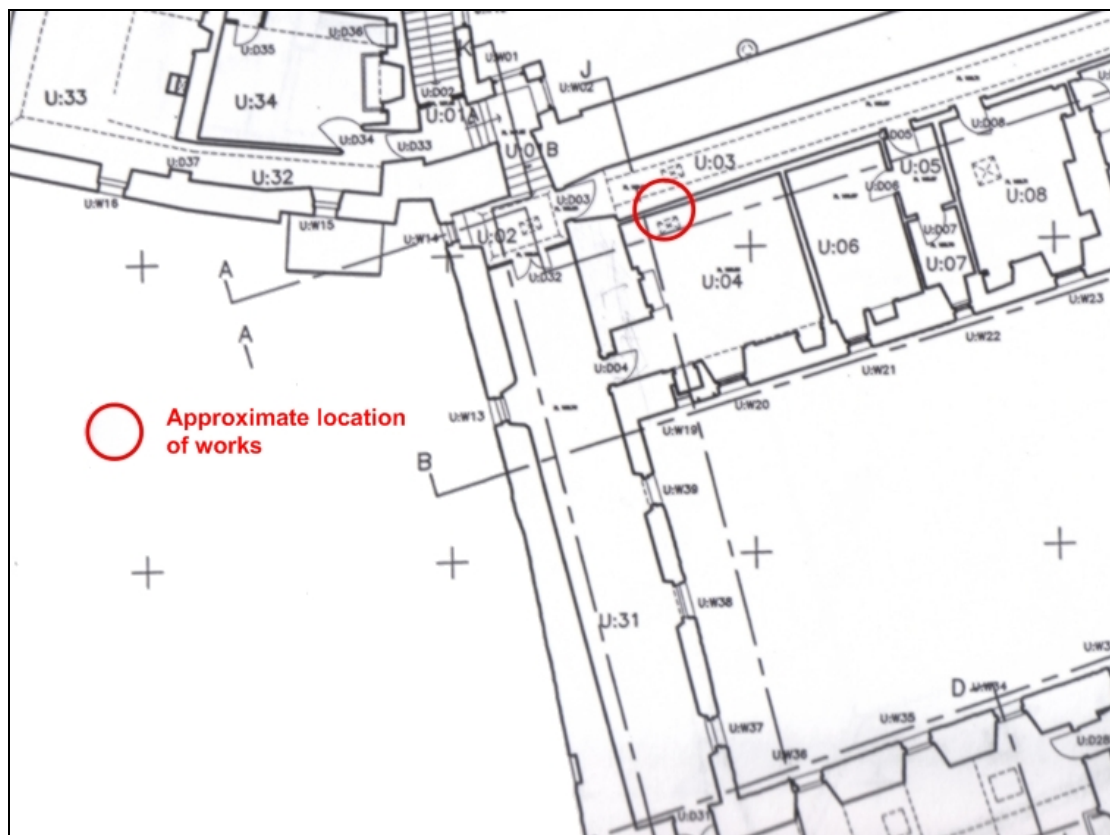


Figure 1: Location of work

The unblocking of this doorway required archaeological recording consisting of a drawn plan and elevations, photography and accompanying field notes. A series of observations were made which were relevant to the development of this portion of the upstairs of the Palace and to the likely date of construction and blocking of the uncovered doorway. The work was carried out from 8th -10th June '09.

2 DESCRIPTION

The door was revealed by a ragged cut **U03.3.067** 2.15m high x 1.14m across through lath and plaster **U03.3.002**. Two timber uprights of a 20th century partition **U03.3.010** had to be removed from the middle of the door aperture. The skirting board **U03.3.025** was also to be cut away. The original aperture was 910mm E-W x 2.12m high.

What became apparent was that the original Type A Beams held the ceilings of the chambers below – the Type A Beams did not carry a floor until the insertion of various smaller beams c.1670 and it was at this point that the upper floor (in this area) was inserted. Trapped 35mm thick floorboards **U03.3.074** and **U03.3.075** beneath the E **U03.3.69** and W **U03.3.070** uprights of the doorway **U03.3.068** indicate that the Type B beams were inserted, the floor was sheeted with tongue-and-groove pine floor boards and the internal partitions were then laid out. These were constructed from hand-cut pine frames **U03.3.064** which had lath and plaster **U03.3.063** applied with a finishing over-plaster and paint **U03.3.065** on top. As part of the partitioning, the door uprights and lintel **U03.3.071** of the sub-frame were installed and the moulded outer frames were added. Lathe and plaster was then applied to the partitions and brought into to meet the door frame – this is indicated by a scar running vertically and horizontally around the doorway **U03.3.073** where the original moulded doorframe was removed when the door was blocked (due to the need to make the wall flush for the addition of the later lath and plaster). Only the sub-frame of the door remains- this has at least six phases of paint **U03.3.072** on its reveals and on the underside of the sub-frame lintel. Although difficult to see the paint scheme appears to be: Wood > (possible Greenish Yellow Paint) > Dark Brown Paint > Olive Green Paint > Light Yellowish Green Paint > Cream Paint > Paper > Mauve Paint. Only the upper

layer of paint on the doorway was sampled – it was impossible to remove the lower paint without it breaking or without damaging the timber frame. Further paint analysis would require *in-situ* cutting back of the paint layers on the door frame itself. The paint sequence indicates that the door must have been open for some considerable time before its blocking in the early 20th century (as evidenced by the modern lath and plaster used to cover it **U03.3.002**). An early piece of painted timber **U03.3.066** was used as packing to secure the modern lath and plaster to the E upright of the door.

The original lath and plaster **U03.3.063** that clad the wall partitions is suggestive of an early date. This same type of lath and plaster is found in the suite of rooms in the E range of the Palace. The lath is wider and thicker than its modern counterpart and instead of using relatively straight pieces of wood they are often curved and of inconsistent height and square sectioned nails with 'pyramidal' heads are used to secure it to the uprights. The plaster used does not contain 'balls' of hair like modern plaster **U03.3.002** but rather fine single strands of yellowish hair.

Scans of the field drawings are presented below (figs 2 & 3). These have been converted to CAD which is supplied on the CD

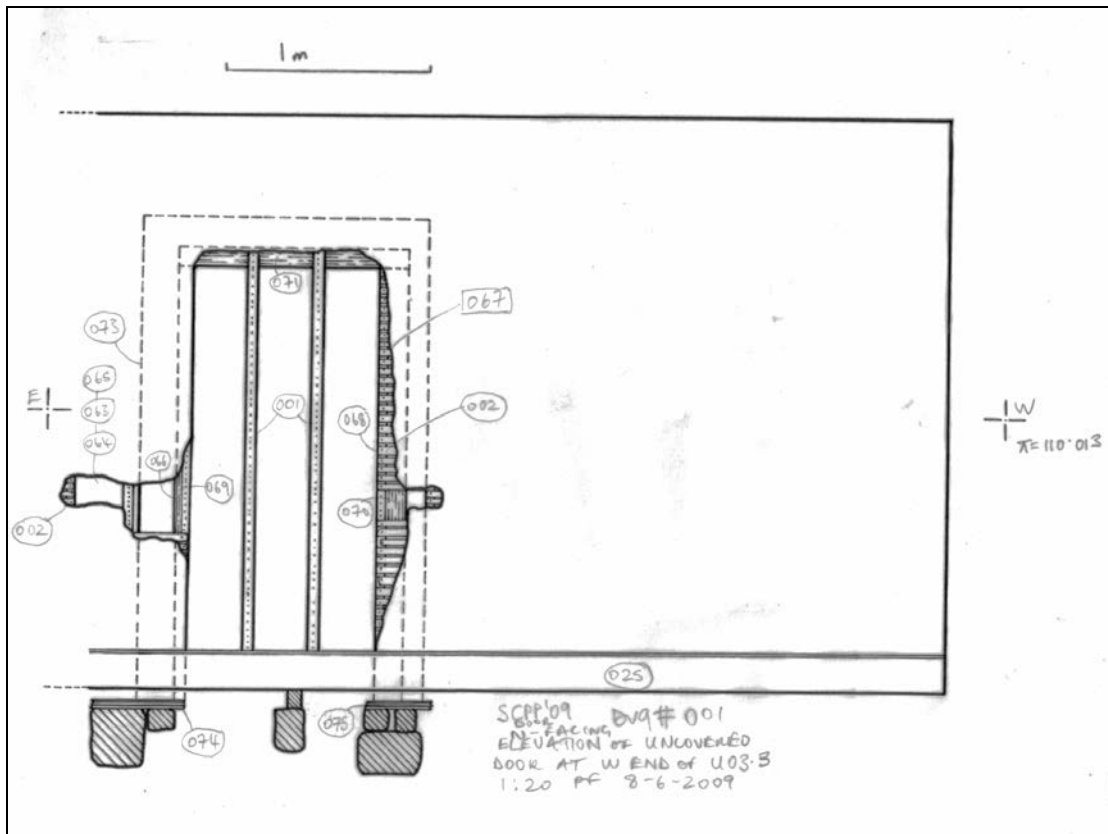


Figure 2: U03.3 Elevation of unblocked door (Drawing 1)

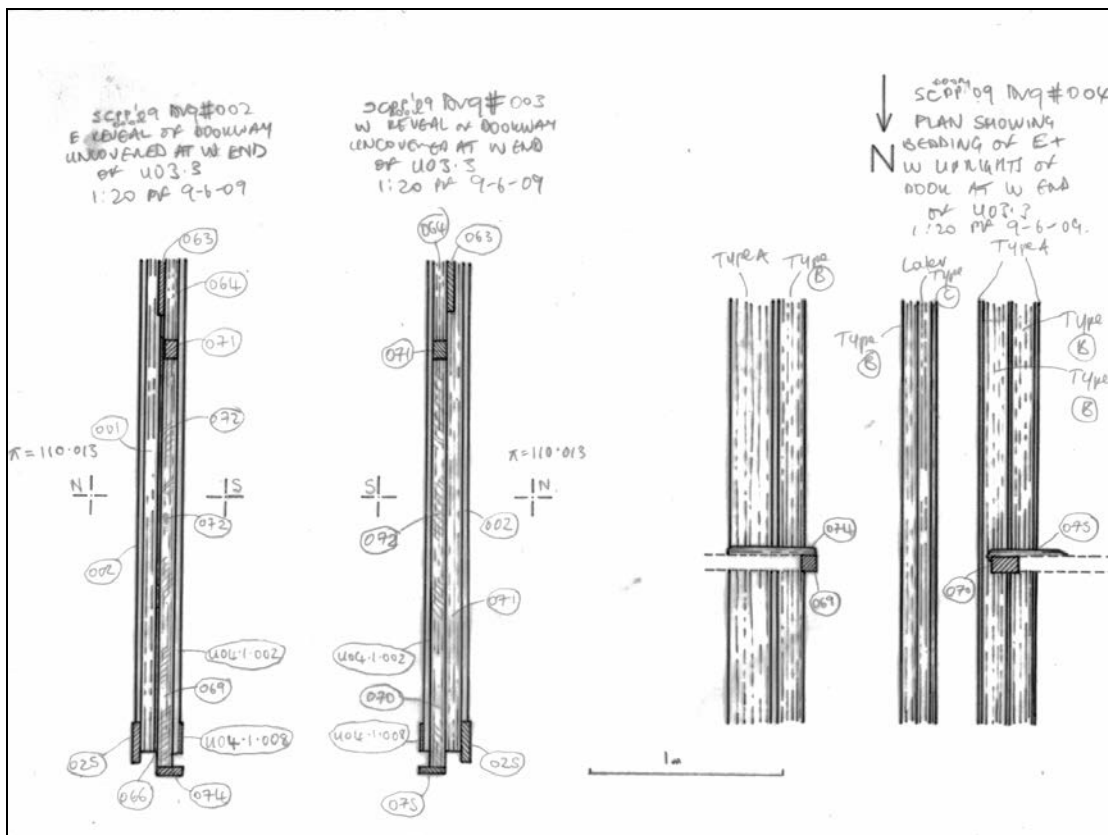


Figure 3: Details of unblocked doorway in U03.3 (Drawings 2, 3 & 4)

3 CONCLUSION

The bedding of the doorway on the earliest phase of floorboards above the earliest type of floor joists in this particular part of the Palace suggests that the door has its origins in the last quarter of the 17th century. The other doorways in U03 carry their original moulded surrounds but these have been re-set to bring them flush with the latest phase of lath and plaster – this may mean that their original sub-frame reveals do not survive – the doorways have been widened by the addition of modern lath and plaster to the original wall face. This may mean that the sub-frames were replaced when the corridor was re-clad. This suggests that in the context of this corridor, the revealed sub-frame of the doorway may be something of a rare survival. It was further noted that none of these surrounds had the same dimensions, suggesting that they were bespoke as opposed to a standard template.

One further area of study that could be considered is an examination of the paint on the reveals of the doorway – this would provide a comparison with paint schemes already studied elsewhere in the upstairs of the Palace.

A1. APPENDIX 1: LIST OF AMENDED AND NEWLY RECORDED FEATURES

Feature	Description	New or Amended
U03.3.066	Strip of beaded moulding attached to 064	Amended
U03.3.067	Cut through 002 to expose doorway	New
U03.3.068	Early door aperture	New
U03.3.069	E upright of 068	New
U03.3.070	W upright of 068	New
U03.3.071	Lintel over 069 and 070	New
U03.3.072	Paint scheme over 069 – 071	New
U03.3.073	Scar of removed moulded door fram	New
U03.3.074	Relict piece of early tongue and groove floorboards under 069	New
U03.3.075	Relict piece of early tongue and groove floorboards under 070	New

A2. APPENDIX 2: LIST OF DIGITAL PHOTOGRAPHS

No.	Description	From	Date
1	Looking NE at Doorway in U04.1	SW	08/06/09
2	Looking SE at Doorway in U03.3	NW	08/06/09
3	Looking SW at Doorway in U03.3	NE	08/06/09
4	Looking SW at lintel of Doorway in U03.3	NE	08/06/09
5	Looking S at lintel of Doorway in U03.3	N	08/06/09
6	Looking SE at lower part of E Reveal of Doorway in U03.3	NW	08/06/09
7	Looking SE at upper part of E Reveal of Doorway in U03.3	NW	08/06/09
8	Looking S at upright of W Reveal 070 on W side of Doorway in U03.3	N	08/06/09
9	Looking up at underside of sub-frame lintel 071 (W Part)	-	08/06/09
10	Looking up at underside of sub-frame lintel 071 (Central Part)	-	08/06/09
11	Looking up at underside of sub-frame lintel 071 (E Part)	-	08/06/09
12	Looking S at upright of W Reveal 070 on W side of Doorway in U03.3	N	08/06/09
13	Looking SE at lower part of E Reveal of Doorway in U03.3	NW	08/06/09
14	Detail of W Reveal 070	E	08/06/09
15	Detail of E Reveal 069	W	08/06/09
16	Looking up at underside of sub-frame lintel 071	-	08/06/09
17	Looking SE at lower part of E Reveal of Doorway in U03.3	NW	08/06/09
18	Looking SW at sub-frame and Lathe and Plaster	NE	08/06/09
19	Looking NW at joists below W Reveal 070 in U04	SE	09/06/09
20	Looking N at joists below E Reveal 069 in U04	S	09/06/09
21	Looking N at how the doorway beds on the inserted floor joists in U04	S	09/06/09
22	Looking NW at Joists and Door in U04	SE	09/06/09
23	Looking NE at joists below E Reveal 069 in U04	SW	09/06/09
24	Moulded Door Frame in room to the S of the E end of U03	E	09/06/09
25	Moulded Door Frame in room to the E of the E end of U03	E	09/06/09
26	Joists and Door looking S in U03	N	09/06/09

No.	Description	From	Date
27	Joists and Door looking S in U03	N	09/06/09
28	Horizontal Plaster above lintel- Scar 073 of removed moulded door frame	-	09/06/09
29	Looking SE at early plaster 063 and Scar 073 of removed moulded door frame	NW	09/06/09
30	Trapped Floorboard 074 under W Reveal	SE	09/06/09
31	Trapped Floorboard 075 under E Reveal	N	09/06/09
32	Detail of W Reveal (Upper)	E	09/06/09
33	Detail of E Reveal (Upper)	W	09/06/09
34	Shot of Cut to open door in U04.1 looking W	E	09/06/09
35	General Shot looking SE in U03	NW	09/06/09
36	Detail Shot of trapped early lath and plaster with timber frame, finishing plaster and paint looking SE	NW	09/06/09

A3. APPENDIX 3: LIST OF DRAWINGS

Drawing	Type	Description	Scale
1	Elevation	N facing elevation of unblocked door U03.3.018 at W end of U03.3	1:20
2	Elevation	E reveal of unblocked door between U03 & U04	1:20
3	Elevation	W reveal of unblocked door between U03 & U04	1:20
4	Plan	Plan showing bedding of E & W uprights of door structure.	1:20

A4. APPENDIX 4: LIST OF SAMPLES

Sample	Feature	Description	No. of Bags
1	U03.3.002	Latest Phase of Lathe and Plaster	1
2	U03.3.072	Paint from Doorway Sub-Frame	1
3	U03.3.063	Earliest Phase of Lathe and Plaster	1

Historic Scotland
SCPP Archaeological Works
2009

**Stirling Castle Palace
West Range Breach and Chute**

PIC Index No. 90291

Project: SCPP-2009-21

Standing Building Recording,
and Archaeological Monitoring

May - June 2009



7 August 2009
Kirkdale Archaeology

Site: Stirling Castle Palace, V19, V20, P12 & U04

N.G.R.: NS 7898 9404

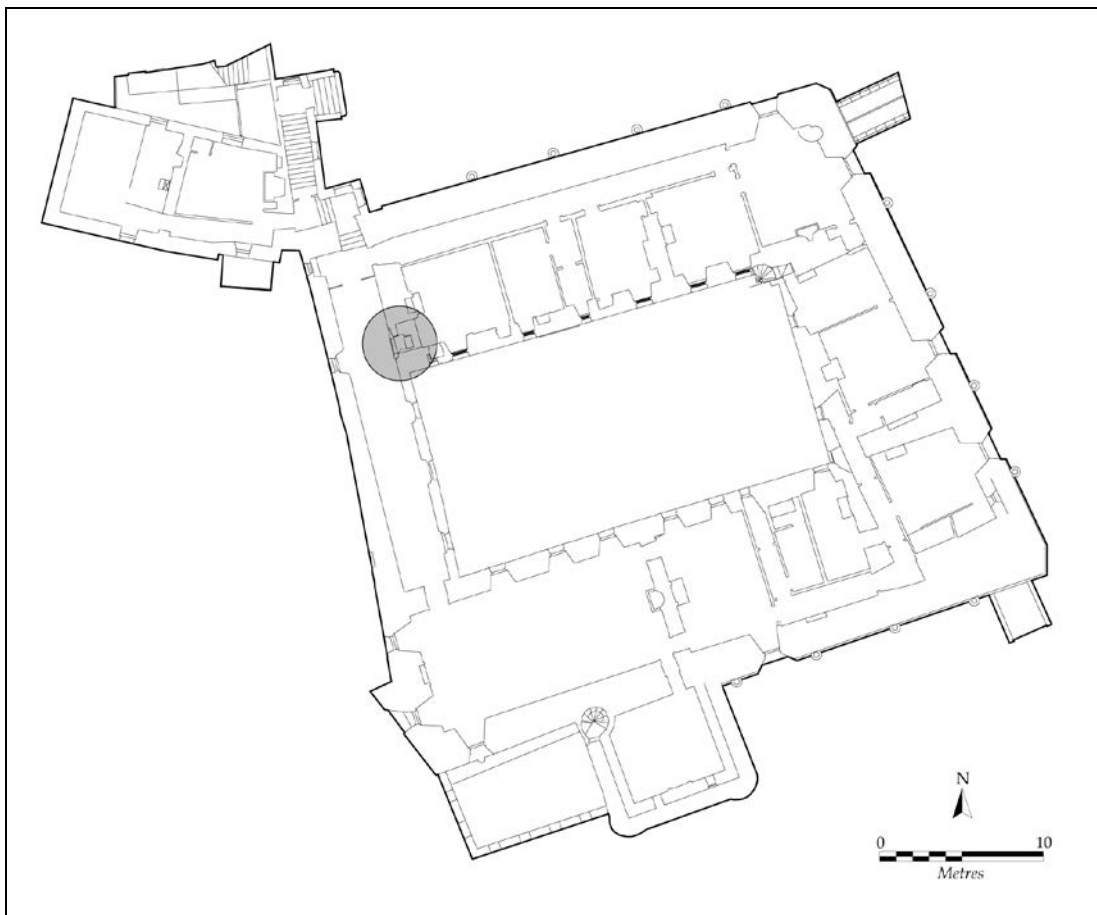
Project Description: Standing Building Recording and monitoring carried out in May and June 2009 during the opening of a breach in the E wall of the West Range to locate a chute running between U04 on the Upper floor and V19 in the Vaults.

Contents

1	Introduction	1
2	The Chute	3
3	The Breach.....	5
4	Observation and Assessment of the Chute to V20.....	6
4.1	Vault Level	7
4.1.1	West-Range & North-Range, V19 [Annotated numbers 1 & 2].....	7
4.1.2	West-Range & North-Range, V19 [Annotated numbers 2-11]	8
4.1.3	West-Range & North-Range, V19 [Annotated numbers 4-10]	9
4.1.4	West-Range & North-Range, V20 [Annotated numbers 12-14]	10
4.1.5	West-Range & North-Range, V20 [Annotated number 15]	11
4.1.6	West-Range & North-Range, V20 [Annotated number 15]	12
4.1.7	West-Range & North-Range, V20 [Annotated number 16]	13
4.1.8	West-Range & North-Range, V20 [Annotated numbers 17 & 18].....	14
4.1.9	West-Range & North-Range, V20 [Annotated numbers 19 & 20].....	15
4.1.10	West-Range & North-Range, V20 [Annotated numbers 21-24]	16
4.1.11	West-Range & North-Range, V20 [Annotated number 15]	17
4.1.12	West-Range & North-Range, V20 [Annotated number 25]	18
4.1.13	West-Range & North-Range, V20 [Annotated number 26]	19
4.1.14	West-Range & North-Range, V21 [Annotated number 27]	20
4.1.15	West-Range & North-Range, V20 [Annotated numbers 28 & 29].....	21
4.2	Principal Level (breached area)	22
4.2.1	West-Range & North-Range, V20 & P12 [Annotated numbers 30 & 31].....	22
4.2.2	West-Range & North-Range, V20 & P12 [Annotated number 32]	23
4.3	Upper Level.....	24
4.3.1	West-Range & North-Range, V20 & U04 [Annotated number 33]	24
4.3.2	West-Range & North-Range, V20 & U04 [Annotated number 33]	25
4.3.3	West-Range & North-Range, V20 & U04 [Annotated number 34]	26
A1.	Appendix 1: Feature List	27
A2.	Appendix 2: Drawing List.....	29
A3.	Appendix 3: Photo List.....	30

1 INTRODUCTION

Kirkdale Archaeology was asked to monitor the breaching of the N end of the E wall of P12 (the West Gallery of Stirling Castle Palace) as part of the ongoing SCPP restoration works. The purpose of this breach was to locate the enigmatic duct that runs between the Vaults and the Upper floor in the NW corner of the Palace. This breach would allow the gathering of cables and other services that were to be routed through the chute to be gathered at this point.



General location of works at Upper Floor Level (works also took place at Vault and Principal Levels in the same location)

This not only provided the opportunity to view the construction of the E wall of the West range at this point but also gave the chance to record and re-interpret the chute itself. The chute between U04 and V20 has long been regarded as an enigmatic feature. Its relatively well constructed fabric and the small arched entrance to it at vault level

implied that it had a relatively important purpose due to the effort that had gone in to constructing it. Prior to this opportunity to re-interpret it the two main interpretations of it's use were a chimney flue and a form of primitive dumb-waiter.

The work took place between 20/05/09 and 05/06/09 with periodic monitoring of the breach and the recording of the chute by 1 to 2 archaeologists.

2 THE CHUTE

This enigmatic chute was not recorded in detail during the SPARC project (2003-2005). It is a small confined space that is accessed at vault level at the N end of the West Range from V19 (the northernmost of the west range vaults). The chute runs vertically between U04 and V20. It is well constructed from a combination of roughly hewn sandstone blocks and un-hewn dolerite rubble. The chute appears to be a single stage construction that was presumably contemporary with the construction of the North Range.

However, the slightly wider space of V20 at its base at Vault Level would appear to be a multi-phase construction.

The lower parts of the walls of V20 appear to be contemporary and represent an earlier building operation than the upper parts of the walls and the chute. This probably represents a residual structure (possibly forming a pre-palace structure along with V19 to the W. The lower walls of V20 are constructed directly onto bedrock outcropping. The floor of the space is currently covered with a mix of dusty material and rubble with some modern brick. This material was undoubtedly created when the aperture to V22 to the E was created in the early 20th century to create a service route for electrical and other conduits.

The upper limit of the chute is unclear. It can certainly be observed in the floor of the doorway between U31 and U04. The wall here has been breached by a later doorway. It is possible that the flue continues up into the ceiling of what is now a doorway but this is obscured by a plaster surface.

At first glance the feature would appear to be a fireplace for V19 and its associated flue or chimney space. However, the flue shows absolutely no sooting or other evidence that it was used as a fireplace. The possibility of a hoist or dumb waiter has also been raised in the past. However, the space narrows towards the top and the wall faces are not

smooth which would make its use as a service hoist unfeasible. Other possible purposes could have been as a garderobe (toilet chute) or as a rubbish chute. However, there is a lack of any obvious staining on the walls from use as a chute.

After careful consideration, the date of this space remains enigmatic. While it is feasible that the chute is sandwiched between two buildings of differing date this is unlikely as all the walls of the chute do seem to key into each other and appear contemporary. What is more likely is that the area of V19 at the base of the chute is at least in part a residual structure that is associated with the northernmost room of the West range vaults, V19. This space is on a slightly different alignment to the rest of the rooms of the West vault and is probably a residual structure pre-dating the vaults. Therefore, it seems very likely that the base of the vault is a residual space that has been fossilised between 2 ranges of the Palace while the chute itself is a later construction dating to 1538-1542 and the construction of the North Range.

The most likely intended purpose of the chute is that of a a garderobe. Although the upper limit of the chute is not known for certain it is likely that it didn't continue much further up than its current aperture in U04. The existence of a large recess in the SW corner of U04 (S of the fireplace) is perhaps the most telling evidence that this is a garderobe chute. This had previously been assumed to be a part of the doorway to U31 (the Upper West Gallery) but creating such a large recess for a doorway would have been unnecessary. The large recessed area is more likely to be a primary feature of the SW corner of the N range and would appear to be the residual structure of a garderobe closet and its associated chute.

3 THE BREACH

The location of the new breach in the West Gallery was approximately 1m S of the N wall and 1.3m above the current floor level. As originally planned it was a roughly 1.5m x 1.5m but this was later expanded to the S in order to correctly locate the chute between V19 and U04. The location of the breach straddled the upper limit of P12 and the lower limit of M01 (the now removed mezzanine level in the West Gallery). Photos were taken of the site (with its individually numbered stones) prior to the initial removal work beginning.

The breach initially removed the S side of joist hole P12.2.046, the whole of joist holes 047 and 048 and the N side of 049, this was later expanded. The bottom part of the breach is sited in P12.2.001 and is through a single build of masonry of the wall. The upper part of the breach is sited in M01.2.001.

The removal of the stonework from this area took much longer than originally anticipated due to the nature of the stonework. The wall face was removed to reveal an area of dressed but clawed back sandstone blocks. These blocks did not form an ashlar wall face but were monumental in size and of relatively good construction (compared to the random rubble wall face of P12.2.001/M01.2.001). The blocks had been deliberately clawed and stippled to create a surface to key mortar and the random rubble stonework onto. This is likely to be related to the re-modelling of the West range in the late 16th century when the W side of the Lion's Den was heavily re-modelled and the West Range was repaired. It would seem that at this point the E wall of the W gallery (at least in the location to the N of the windows) was re-faced during the repair works.

4 OBSERVATION AND ASSESSMENT OF THE CHUTE TO V20

This section analyses and interprets Space V20 at Stirling Palace, confining itself to the description of spaces that were safely accessible. The report comprises a typological assessment of V20, as well as a short catalogue which discusses its most important aspects. The catalogue uses plans, sections and photos for aiding the identification of findings. These drawings were partly drawn on site to a scale of 1:25. Inaccessible yet visible details were reconstructed by using photos. All room-denotations refer to the nomenclature used in the SPARC project.

Feature numbers are given in the SPARC format (eg P01.1.001). The cross section and drawings have been annotated with single numbers representing certain features of note. These annotated numbers are interspersed throughout this text in square brackets (eg [1])

4.1 Vault Level

4.1.1 West-Range & North-Range, V19 [Annotated numbers 1 & 2]

Observations:

The north and east wall of V19 (V19.2.010 & V19.2.001) form a structural entity [1]. Both walls, together with the related south and west walls, are covered with a thin coating of one layer of whitewash [2].

Interpretation:

Both walls, as well as the barrel vault, belong to one construction stage. The whitewash may have been applied comparatively recently as only one layer is ascertainable



4.1.2 West-Range & North-Range, V19 [Annotated numbers 2-11]

Observations:

The aperture [3] (V19.2.002) between V19 and V20 possesses a carefully created relieving arch with purpose-made springers [4,5] (V19A.1.004) and a dowel-filled drill-hole (diameter 7 cm) [11], with the position of the vertex dictated by the barrel vault of V19. The base of the opening is formed by a concrete apron [6] (V19.2.009?), which, at its eastern part, is heightened by two layers of modern bricks, 8 x 22 x ca.12 cm [7] (V20.4.004). Both opening-scuncheons possess a slot (7 x 7 cm) [8,9] (V19A.1.002 & V19A.3.002) at a corresponding level, which extends over the entire width of the wall. Additionally the northern scuncheon possesses a groove (0.8 x 1 cm) [10] (also recorded as V19A.1.002 in 2004), running 9 cm under the slot and equally extending over the width of the aperture. The aperture is covered with a thin layer of whitewash [2], this coating can also be testified on a small number of stones inside V20.

Interpretation:

The careful execution of springers, slots and relieving arch suggest a deliberate construction of the aperture in one consistent building operation. The original purpose of the opening is unknown but it may be speculated that the slots originally received timber rails either for fixing wooden boards or for operating a sort of drawer. The original base of the aperture cannot be ascertained due to the existence of the C20 concrete apron but it may well have extended to the current floor-level of V19, resulting in a floor-to-vertex height of approximately 120 cm



4.1.3 *West-Range & North-Range, V19 [Annotated numbers 4-10]*

Observations:

The northern and southern parts of the relieving arch [4,5] (V19A.1.004) differ in their composition. While the northern part sees its slot carved into one single stone [8] (V19A.1.002) does the southern part use three separate stones for the creation of the slot [9] (V19A.3.002). Further to this the groove [10] (also recorded as part of V19A.1.002 in 2004) carved into the northern stone does not appear at the south side and the sloping face of the northern slot has no counterpart at the south side. However, the bottom of both slots corresponds in height.

Interpretation:

The non-matching appearance of both parts of the relieving arch possibly points to the employment of reused material that was utilised in the construction of the aperture. The only important common elements are the slots carved at a corresponding height into the lateral faces of the aperture, suggesting deliberate arrangement of the slots at a height of ca. 81 cm above current floor-level



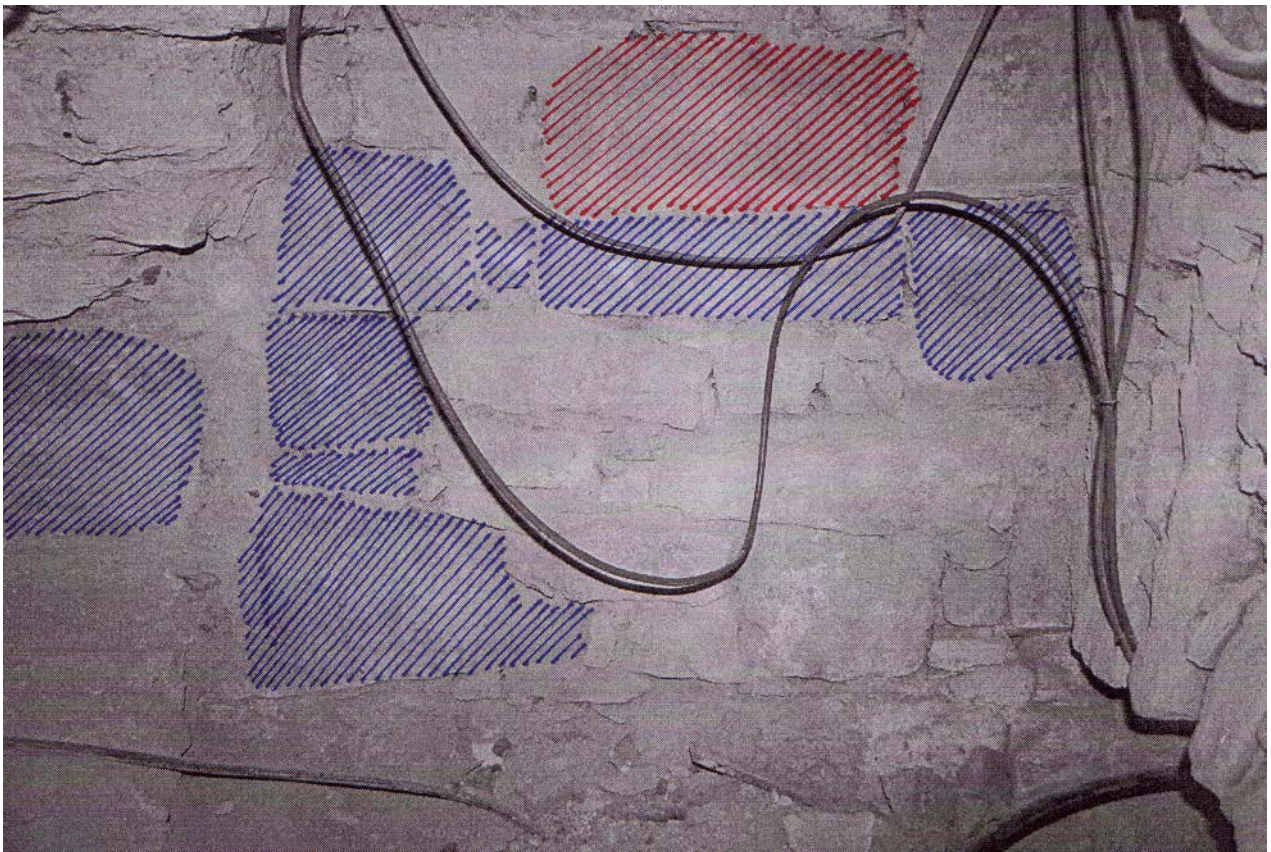
4.1.4 West-Range & North-Range, V20 [Annotated numbers 12-14]

Observations:

The south-wall of V20 (V20.3.001) comprises three different types of stone: a) slightly yellow sandstone [12], b) brown [13] rubble and c) grey stone characterised by a fairly regular plain surface [14]. The latter predominately appears from ca. 80 cm above ground level upwards. Around the aperture the adjoining west-wall exclusively uses stones belonging to type a.

Interpretation:

The west wall of V20 and the immediately adjoining base of the southern wall represent one construction phase. The remaining part of the south-wall, as well as the entire shaft above lintel-level, must have been erected in a second step



Key

- Type a) stone
- Type b) stone
- Type c) stone

4.1.5 *West-Range & North-Range, V20 [Annotated number 15]*

Observations:

The shaft-walls of V20 [15] (recorded as V20.1.003, V20.2.002, V20.3.002 & V20.4.002) significantly taper up to a height of ca. 50 cm above principal floor level. From that level the remaining parts of the walls rise more or less vertically.

Interpretation:

The way the shaft-walls taper suggests that the builders attempted to achieve a minimum wall-width of ca. 70 cm. Further to this it may also be suggested that the required position of the shaft-outlet at upper floor-level dictated the tapering of walls



4.1.6 *West-Range & North-Range, V20 [Annotated number 15]*

Observations:

The abundant employment of brown rubble is characteristic of the southern and western shaft-walls [15] (V20.3.002 & V20.4.002) of V20 from lintel-level upwards.

Interpretation:

The particular distribution of brown rubble in corresponding parts of the adjoining walls suggests contemporary erection of this part of the south and west walls of V20.



4.1.7 *West-Range & North-Range, V20 [Annotated number 16]*

Observations:

The aperture [16] (V20.4.003) linking V19 and V20 possesses a carefully constructed relieving arch made of keystones showing the texture and colour of the west-wall of V20. The same type of stone can be seen at the bottom part of the adjoining south-wall.

Interpretation:

The opening must be integral with the surrounding wall. This assessment, however, does not prove that wall and aperture are contemporary as the opening could have been inserted into existing masonry. The bottom parts of the south-wall (roughly up to aperture level) and the west-wall (roughly up to lintel level) appear to be a single construction unit.



4.1.8 West-Range & North-Range, V20 [Annotated numbers 17 & 18]

Observations:

Stone A [17], belonging to the north wall of V20, obviously disappears behind stone B [18] of the adjoining west wall.

Interpretation:

It seems that the joint between the west and north walls was not created by butting one wall against the other but forms a structural entity.



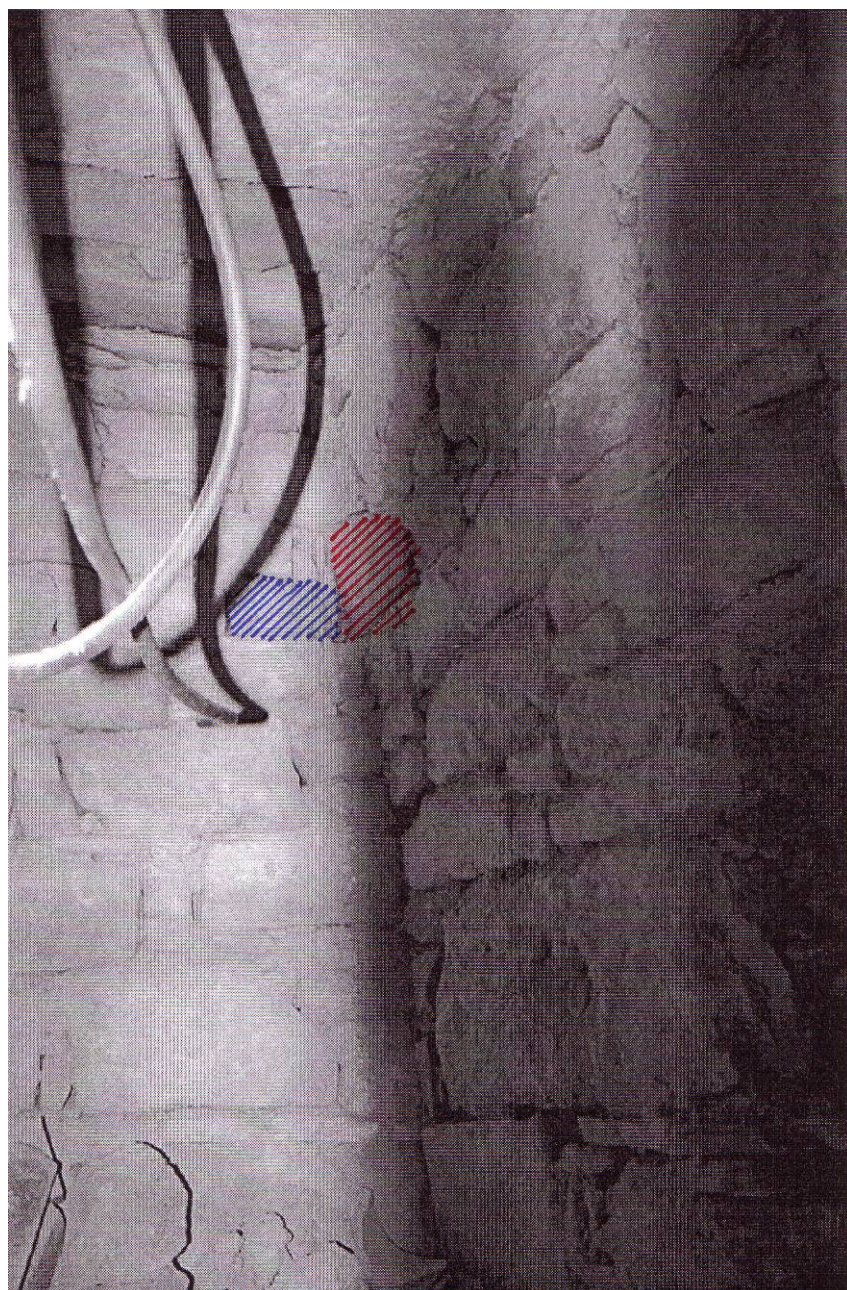
4.1.9 West-Range & North-Range, V20 [Annotated numbers 19 & 20]

Observations:

Stone C [19], belonging to the east wall of V20, is butted against stone D [20], which belongs to the adjoining north wall.

Interpretation:

It is very likely that the north and east walls have been created in one operation



4.1.10 West-Range & North-Range, V20 [Annotated numbers 21-24]

Observations:

Three possibly reused sandstones blocks [21,22,23] (V20.1.002) sit on the western and eastern walls of V20. These stones act as lintels for a further wall which narrows the sectional area of V20, transforming it above lintel-level into a space of chimney-like dimensions. Bands of similarly shaped and coloured stones [24] in both west (V20.4.001) and north walls (V20.1.001) appear immediately underneath the lintels.

Interpretation:

The reduction of the sectional area of V20 at lintel-level suggests original usage of V20 either as service duct, chimney or garderobe. The appearance of similar stones immediately underneath the lintels in the west and north-walls strengthens the assumption that the shaft was created in one construction phase.



4.1.11 West-Range & North-Range, V20 [Annotated number 15]

Observations:

Above lintel-level brown rubble prominently appears in all walls of the shaft [15]. Wall-coating, as well as soot, is not ascertainable.

Interpretation:

The usage of matching material in all walls of the shaft suggests one construction phase. The absence of soot rules out any active former usage as a chimney stack



Key

● Brown rubble

4.1.12 West-Range & North-Range, V20 [Annotated number 25]

Observations:

The aperture [25] (V20.2.003) linking V20 with the irregularly shaped space east of V20 (V21) was created in an extremely crude way, not making use of any arches or lintels.

Interpretation:

The aperture is not contemporary with the remaining parts of V20. Its creation may have happened in the 19th or 20th century for providing service access between V19, V20 and P02 (King's Guard Hall).



4.1.13 West-Range & North-Range, V20 [Annotated number 26]

Observations:

A sandstone block [26] (within V20.2.001) at the bottom part of the opening was clawed back when the aperture between V20 and P02 was created.

Interpretation:

Massive blocks of sandstones, probably sitting on a layer of bedrock, form the foundation of the wall between the King's Guard Hall and the West Range.



4.1.14 *West-Range & North-Range, V21 [Annotated number 27]*

Observations:

Coarse, undressed masonry [27] defines the architectural character of V21 east of the east wall.

Interpretation:

The space, which is the result of a C19 or C20 intervention, did not serve any kind of distinguished architectural purpose. The void was driven into infill which adjoins the palace wall between P02 and West Range to the east below P02 floor-level.



4.1.15 *West-Range & North-Range, V20 [Annotated numbers 28 & 29]*

Observations:

The upper portions of the southern and western walls of V21 are harmonised using bricks [28] of modern production. The bricks support a concrete slab [29] that acts as a part of the floor of P02.

Interpretation:

These works most likely relate to the capping of this void after the asbestos removal works of 2005.



4.2 Principal Level (breached area)

4.2.1 West-Range & North-Range, V20 & P12 [Annotated numbers 30 & 31]

Observations:

The western surface (P12.1.001) of the wall between the King's Guard's Hall and the West Range shows the homogenous use of yellow sandstone[30]. The shaft of V20, by contrast, uses stones that predominately show a greyish colour[31].

Interpretation:

The different architectural character may reflect the different function of both wall-parts. Alternatively it could suggest different erection dates of wall-surface and wall-core



4.2.2 *West-Range & North-Range, V20 & P12 [Annotated number 32]*

Observations:

The western part of the wall dividing P02 and West Range seems to be butted against the north and south walls of V20. Only stone E [32] interlocks ca. 8 cm into the western wall of V20.

Interpretation:

The poor structural interlocking strengthens the impression that the wall between P01 and West Range comprises two construction stages, with the western surface being of more recent construction.



4.3 Upper Level

4.3.1 West-Range & North-Range, V20 & U04 [Annotated number 33]

Observations:

The shaft of V20 runs through the entire height of the wall dividing the King's Guard Hall and the West Range and having its outlet [33] (U04.5.106) east of the doorway leading into U04. No apertures apart from those at vault level and upper floor level exist and nothing suggests the blocking of any additional openings.

Interpretation:

V20 thus creates a strong architectural relation between the upper floor and the basement, suggesting that it functioned as a service duct or chute rather than a chimney.



4.3.2 *West-Range & North-Range, V20 & U04 [Annotated number 33]*

Observations:

The specific lay-out of shaft and surrounding walls at the upper floor allows one person to comfortably fit on the northern side of the shaft-aperture [33].

Interpretation:

This arrangement may point to an original function of V20 as a garderobe



4.3.3 *West-Range & North-Range, V20 & U04 [Annotated number 34]*

Observations:

The platform [34] (U04.5.107) created at upper floor level at the northern side of the shaft corresponds with the location of the lintels at vault level.

Interpretation:

The principal purpose of the lintels is to narrow the area of the chute in order to allow the creation of the platform at the upper floor level.



A1. APPENDIX 1: FEATURE LIST

Feature	Description
V20.5.001	Dolerite bedrock outcropping. This is typical of the locality with large rounded outcroppings of brown, hard dolerite that apparently drops slightly to the S. Only clear in the N half of the space as rubble V20.5.002 covers the floor.
V20.1.001	Lower N wall of V20. Coursed sandstone and dolerite rubble but mainly sandstone. Mortar bonded but unpointed. Built into (ie contemporary with) V20.2.001 and V20.4.001.
V20.1.002	"Lintels" supporting V20.1.003. 3 roughly dressed sandstone lintels that form the roof of the N part of V20 at ground level. V20.1.003 is built on top and narrows the space to form the chute part of V20.
V20.1.003	Upper N wall of V20. Coursed sandstone and dolerite wall build. Batters out slightly as the chute narrows as it rises.
V20.2.001	Coursed bottom of the E wall of V20. Formed from a mix of dressed (apparently re-used) sandstone and roughly dressed sandstone blocks. Larger blocks than that of V20.2.002.
V20.2.002	Upper E wall of V20. Built on top of V20.2.001 this forms the E wall of the chute. Coursed roughly dressed sandstone blocks that are smaller in size than that used in V20.2.001
V20.3.001	Lower S wall of V20. Coursed sandstone wall formed from large dressed sandstone blocks including some fine ashlar blocks. V20.3.002 is built directly on top.
V20.3.002	Upper S wall of V20. Randomly coursed mix of large dolerite boulders and roughly dressed sandstone. Least well built of all the chute walls.
V20.4.001	Lower W wall of V20. Formed from coursed, large roughly dressed sandstone blocks. This is in essence the supporting wall of the vault of V19.
V20.4.002	Upper W wall of V20. Perhaps should be divided into 2 builds. Immediately above V20.4.001 there is a predominance of dolerite boulders that gives way to coursed sandstone rubble above.
V20.4.003	Aperture/recess to V19. Squared, arched recess/aperture 730mm wide x 760mm high x 780mm deep. Formed from dressed sandstone margins and a semi-dressed sandstone arch. 2 slots cut into the margins are probably related to a cupboard and therefore contemporary with bricks V20.4.004
V20.2.003	Breach/cut to V21. A roughly square hole cut through V20.2.001 to access a previously dead space of V21, or alternatively to entirely create this space. This hole is c 1.5m high x c 1.5m wide and was cut in the early 20th century for routing services.
V20.5.002	Rubble material at base/floor of V20. Loose random rubble from breaching of V20.2.003 and demolition of V20.4.004. Very dusty and dry. Little

Feature	Description
	archaeological potential.
V20.4.004	Brick build between V20.4.003 and main part of V20. Only survives to a height of 2 courses. Presumably once blocked the back of aperture V20.4.003 to create a cupboard and was demolished at the same time that V20.2.003 was created/breached.
V20.6.001	General number for the main part of the chute formed by the structural elements V20.1.003, V20.2.002, V20.3.002 & V20.4.002

A2. APPENDIX 2: DRAWING LIST

NB these have been rendered into CAD and the file is included on the CD.

Drawing	Description	Type
1	Plan Vault Level	Plan
2	Plan Upper Floor	Plan
3	Section A-A	Section
4	Section B-B	Section

A3. APPENDIX 3: PHOTO LIST

Photo	Description
1	Shots of Aperture in V19 from SW
2	Shots of Aperture in V19 from SW
3	Shots of Aperture in V19 from NW
4	Shots of Aperture in V19 from NW
5	N side of aperture/recess showing slot
6	S side of aperture/recess showing slot
7	S side of aperture/recess showing slot
8	View from V19 to V20
9	N wall of V20
10	N wall of V20
11	E wall of V20
12	E wall of V20
13	E wall of V20
14	E wall of V20
15	S wall of V20
16	S wall of V20
17	S wall of V20
18	W wall of V20
19	W wall of V20
20	W wall of V20
21	W wall of V20
22	Floor of V20
23	Floor of V20
24	View to V21
25	View of flue to V20
26	View of flue to V20
27	View of flue to V20
28	Shots of numbered stones in area of breach
29	Shots of numbered stones in area of breach
30	Shots of numbered stones in area of breach
31	Shots of numbered stones in area of breach
32	Shots of numbered stones in area of breach
33	Shots of numbered stones in area of breach
34	Shots of numbered stones in area of breach
35	Shots of numbered stones in area of breach
36	Shots of location of proposed breach
37	Shots of location of proposed breach
38	Shots of location of proposed breach

Photo	Description
39	Shots of location of proposed breach
40	Shots of location of proposed breach
41	Shots of location of proposed breach
42	Shots of location of proposed breach
43	Work commencing
44	Work commencing
45	Work in progress
46	Work in progress
47	Base of E wall of V19 built on bedrock
48	Bedrock floor of V19
49	Bedrock floor of V19
50	Bedrock floor of V19
51	Hole cutting for Acro Prop
52	Hole cutting for Acro Prop
53	Hole cutting for Acro Prop
54	Hole cutting for Acro Prop
55	Hole cutting for Acro Prop
56	Hole cutting for Acro Prop
57	Hole cutting for Acro Prop
58	Thorsten Recording V20
59	Area of breach showing stones exposed/removed on 21/5/09
60	Area of breach showing stones exposed/removed on 21/5/09
61	Area of breach showing stones exposed/removed on 21/5/09
62	Work in progress
63	Largest of the 3 sandstone blocks (tape set @ 500mm)
64	Largest of the 3 sandstone blocks (tape set @ 500mm)
65	Working shot
66	Top of chute (U04)
67	Top of chute (U04)

Historic Scotland
SCPP Archaeological Works
2009

**Stirling Castle Palace
U19/U20 Partition Wall (Toy Soldiers)**

PIC Index No. 90291

Project: SCPP-2009-22

Archaeological Recording

July 2009



7 August 2009
Kirkdale Archaeology

Site: Stirling Castle palace, U19/ U20 partition wall

N.G.R: NS 7901 9403

Project Description: Recording exercise to record the original location of Toy Soldiers discovered on the Upper Floor of Stirling Castle Palace and to sample the dust and detritus.

Contents

1	Introduction	1
2	Recording	3
3	Conclusions.....	5
A1.	Appendix 1: List of Photographs.....	7
A2.	Appendix 2: Post Conservation Photographs	8

Figures

Figure 1:	Location map	1
Figure 2:	Location of the discovery (in the SW corner of U20).....	4
Figure 3:	The Soldiers	8
Figure 4:	The Marble/Bottle Stopper.....	8

1 INTRODUCTION

After the discovery of a series of wooden model soldiers during renovation work at Stirling Palace Kirkdale Archaeology was requested to examine their find spot. The figures were discovered on 08/07/09 while repairing lath and plaster work in the upper floor of the Palace. This work was undertaken at the S end of the W wall of room U: 20 (wall U: 20.4), where the timber framework of the internal partitions survives, with its lath and plaster stripped off.

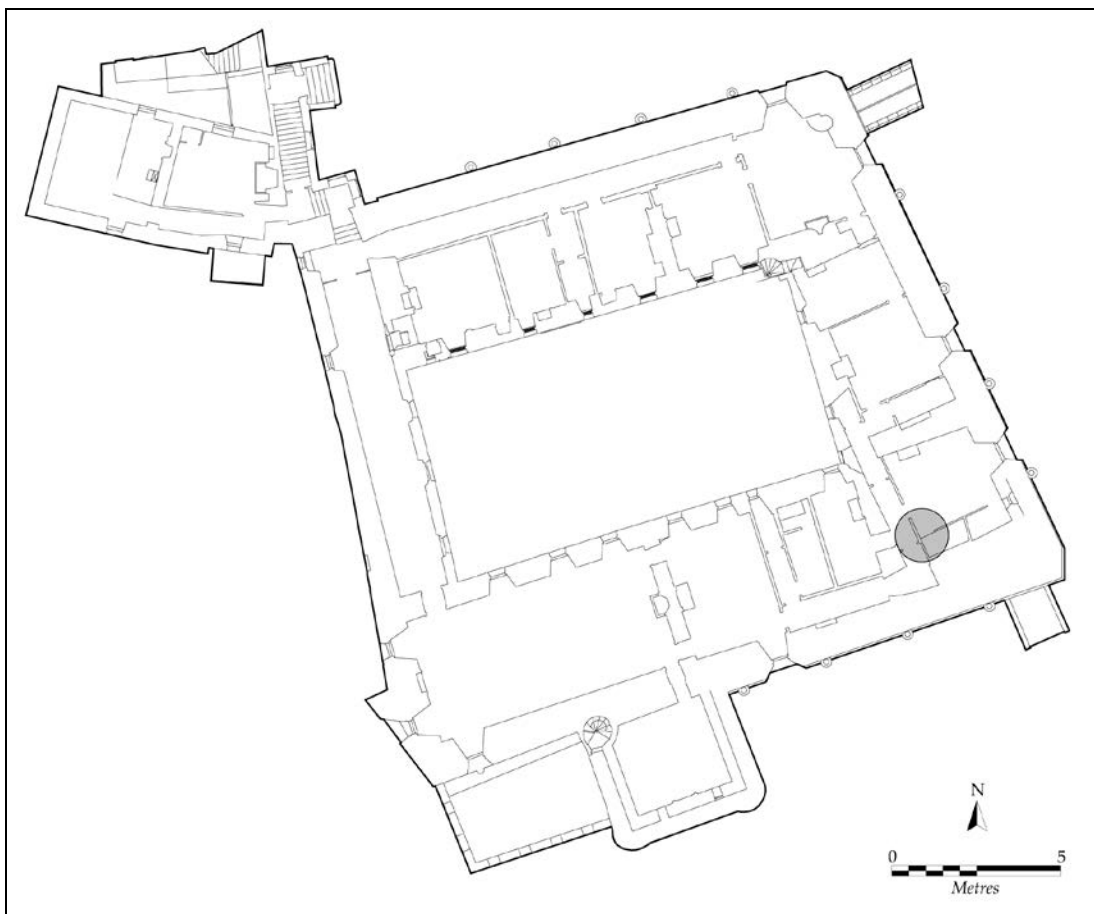


Figure 1: Location map

The area in question is the base of the stretch of wall to the S of the door into U: 19 and to the N of the S wall of the room. While preparing to replace the lath and plaster over the timber framework of the wall dust and general detritus that has settled into the gap

between the walls was brushed off, where it collected onto the planks of the original (16th century) floor some 400 mm below the current floor. Five painted wooden figures of soldiers and half of a mounted soldier were recovered from this lower floor level. On 10/07/09 (in the intervening period between the original discovery and the archaeologist's arrival on site on 13/07/09) a further small wooden horse and a ceramic ball were recovered from the same lower floor level.

2 RECORDING

By the time of the archaeologist's arrival the original finds (5 wooden soldiers and a fragment of a horse) had been removed by Historic Scotland's Conservation Unit, and only the later find of a single horse and a ceramic ball could be examined ON SITE. The clay ball is probably to be identified as a bottle- stopper, while the horse was very small (<40 mm long), carved from wood and painted dark brown. Apparent evidence for a painted saddle could be seen on its back.

On examining the find spot it was realised that this was an area where the lath and plaster had been removed, exposing the timber framework behind. This took the form of a horizontal sill beam on which rested three vertical members and one diagonal bracing beam. All were substantial squared timbers, and the bracing beam rose from the N side of the base of the S beam diagonally up to the N. The middle vertical member was sawn in two and attached to top and bottom of this diagonal beam, which ended against the S face of the most northerly vertical one.



Figure 2: Location of the discovery (in the SW corner of U20)

The floorboards have been removed from up against the E side of this wall (within U: 20), and the planks of the lower earlier floor in this range could be seen. The contractor responsible told the archaeologist that he had swept the top surface of the sill beam before starting work. The detritus that had collected here included chunks of plaster, strips of lath, dust and general rubbish. Pieces of plastic and modern screws could be seen in this material.

The figures were spotted lying on the lower floor level where this material had fallen. A careful examination of the remaining material on both the lower floor and the little still left on the top of the sill beam was undertaken, but no further finds were made. What was left on the floor was sampled and retained.

3 CONCLUSIONS

By the time of the arrival of the archaeologist the finds were essentially out of context. It seems most likely that the figures had rested on the sill beam, but were not spotted until they had dropped off during clearance. Unfortunately this cannot be proved, but the lower floor level where they were found has little material lying on it elsewhere, and much use has been made of this surface for services etc in the past. It seems unlikely therefore that they could have sat on this level for long without being spotted.

The open nature of this part of the walls means that this would never be a secure context. It is of course possible that that they were sealed in when the lath and plaster partition was first built, thought to be in the late 17th to early 18th century.

Unfortunately they could also have been slid into a gap, placed there at any time during earlier repair works, or simply placed there once the lath and plaster was removed.

Photographs of the figures have been examined by Jonathan Ferguson (Assistant Curator, Military History, National Museums Scotland). His opinion is that

“Really all we can say about these figures is that they are impressions of soldiers of one or more Guards (and presumably Horse Guards too!) regiments of c1830-1850, created at any time from then onwards.

Surprisingly detailed for what they are, but hardly faithful recreations of anything more specific than that.” (J Ferguson pers comm)

At this stage this small group of toy soldiers represents an unusual discovery within the site and in general. They appear to be toys but the circumstances of their final context are somewhat obscure. They could arguably be described as being part of a long tradition of miniature military figures for gaming or play. Certainly examples of toys,

let alone toy soldiers, retrieved in archaeological excavations is a relatively rare occurrence.

In terms of their use as datable artefacts in the complex sequence of rebuilding and subdivision on the upper floor of the Palace they do offer a mid-19th century date at earliest. The uniforms have been identified as they were reasonably faithfully executed. It is unfortunate that the precise context has been lost as this would have provided some evidence for the development of U20, on one hand, and also provided some insight into why and how these objects were lost or deliberately hidden. In conclusion it is worth emphasising that any sub-floor deposits throughout the site, particularly in relation to floorboards, will contain a wide range of archaeological material. Archaeological deposits should be treated with some care.

The unexpected discovery of these figures has implications for the ongoing works. Any further unusual discoveries should wherever possible be left *in-situ*, and if this cannot be achieved at least a photo of the discovery in its original context should be taken.

A1. APPENDIX 1 : LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	E side of wall (U: 20.4), showing replacement laths	E	13/ 07/ 09
2	E side of wall (U: 20.4), showing replacement laths	E	13/ 07/ 09
3	W side of wall (U: 19.2)	W	13/ 07/ 09
4	E side of wall (U: 20.4) showing early floor level below	NE	13/ 07/ 09
5	E side of wall (U: 20.4) showing early floor level below	NE	13/ 07/ 09
6	Post Conservation Photographs	-	-
7	Post Conservation Photographs	-	-
8	Post Conservation Photographs	-	-
9	Post Conservation Photographs	-	-
10	Post Conservation Photographs	-	-
11	Post Conservation Photographs	-	-
12	Post Conservation Photographs	-	-
13	Post Conservation Photographs	-	-
14	Post Conservation Photographs	-	-
15	Post Conservation Photographs	-	-
16	Post Conservation Photographs	-	-
17	Post Conservation Photographs	-	-
18	Post Conservation Photographs	-	-
19	Post Conservation Photographs	-	-
20	Post Conservation Photographs	-	-
21	Post Conservation Photographs	-	-

A2. APPENDIX 2: POST CONSERVATION PHOTOGRAPHS



Figure 3: The Soldiers



Figure 4: The Marble/Bottle Stopper

Historic Scotland
SCPP Archaeological Works
2009

**King's Old Building
P22 Service Duct Enlargement**

PIC Index No. 90291

Project: SCPP-2009-23

Archaeological Watching Brief

April 2009



2 September 2009
Kirkdale Archaeology

Site Stirling Castle, King’s Old Building, P22.

N.G.R NS 790 940

Project Summary A watching brief took place during the enlargement of a service aperture at the SE corner of the King’s Old Building, in the East Wall of P22. The base of the wall of the KOB was found only 50 mm below the current ground surface, where it sat on the bedrock. The existing service duct was cut through the bedrock and as such the enlargement of the duct only required drilling through the bedrock. The masonry of the KOB was not disturbed during this work.

Contents

1 Introduction.....1
2 Excavations3
3 Conclusions3
A1. Appendix 1 : List of Photographs4

Figures

Figure 1: Location of Works2

1 INTRODUCTION

Kirkdale Archaeology was contracted by Historic Scotland to monitor the enlargement of an existing service aperture in the fabric of the King's Old Building (KOB) at Stirling Castle. This work was undertaken as part of the ongoing renovation works at the Palace of James V, located just to the SE of the KOB. A new plant room was being installed in P: 19, a small room located between the SW corner of the KOB and the NW corner of the Old Chapel. This required the creation of an enlarged service duct to feed into P: 19. Rather than run this enlarged duct in a convoluted route through the Old Chapel it was decided to enlarge an existing duct, running from the upper square into P: 22, the SE room of the KOB.

The KOB is recorded as being constructed in the 1490s and represents the royal lodging of James IV. Immediately N of where the aperture was to be enlarged a stair tower projects out to the E of the main building line. The original wall of the KOB is set back to the W of this (in the area where the work took place) with the wall affected being a probable 18th century addition, itself altered in the 19th century. This may well replace a timber gallery which used to occupy this area.

Externally the wall is of random rubble build formed by a mix of dolerite and smaller sandstone, some of the stones of which bear traces of whitewash. Two windows and a door pierce this wall today, with the existing service duct below the S window. This S window has been altered, originally being slightly lower and to the S of its present location, as evidenced by a sill and part of the S margin of the earlier arrangement. The window to the N of this may originally have been a door, implying that the current door is inserted. The cobbles of the Upper Square (of probable 19th or even 20th century date) run right up to the base of this wall.

Internally this wall is plastered and painted, but within the W wall of P: 22 is a blocked window, and the N wall carries a wash course which carries round to the E face of the projecting stair tower. The floor is wooden with a hatch in its SE corner allowing access to the service duct.

While the main course of the existing service duct is carried by a 100 mm diameter clay pipe, where it runs through the E wall of P: 22 this narrows to 30 mm. The new plant room required two 50 mm diameter cables, hence the requirement to enlarge the existing aperture. The work took place on 21/04/09.

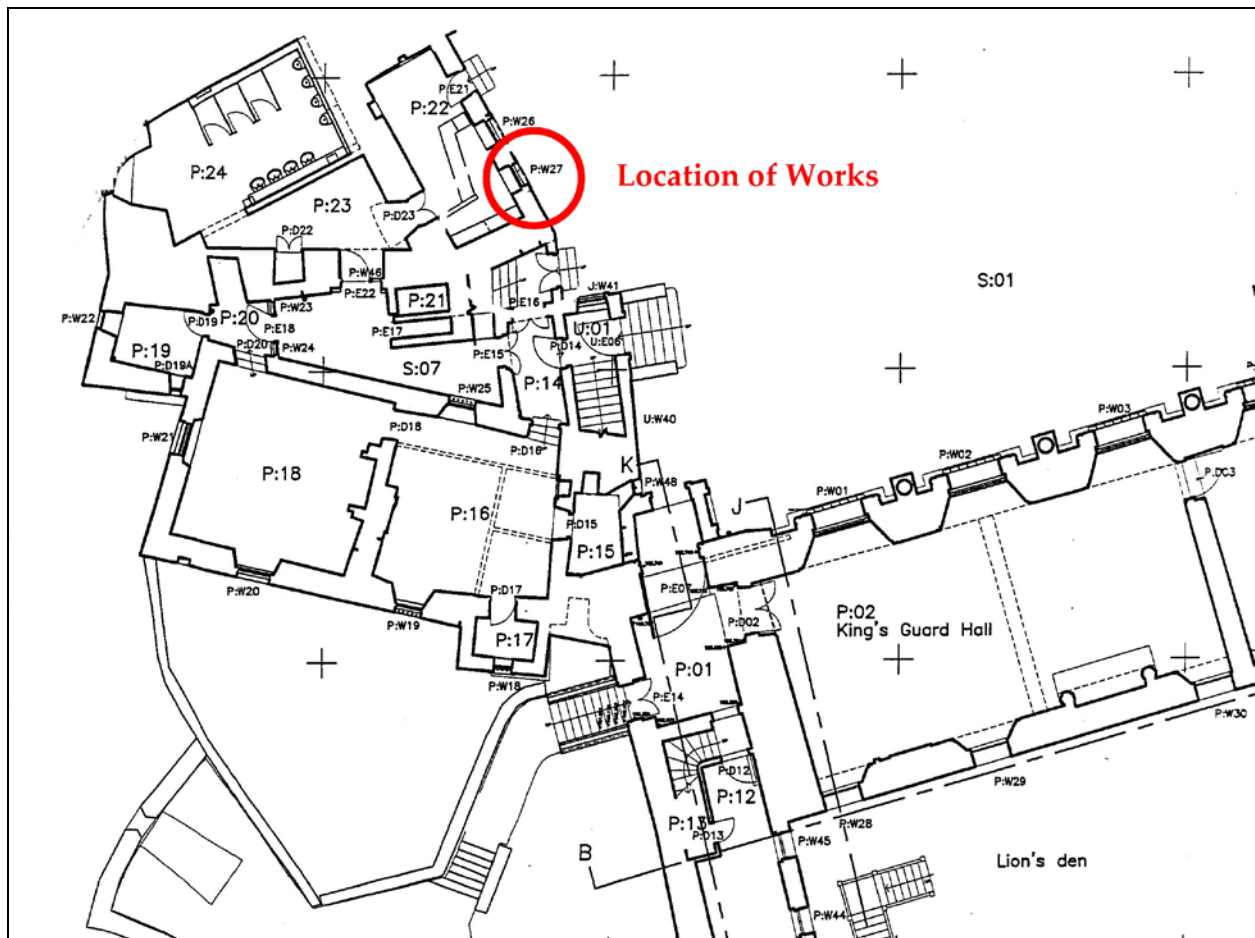


Figure 1: Location of Works

2 EXCAVATIONS

On lifting an area of cobbles roughly 700 mm N-S by 350 mm E-W against the E side of the wall it was found that these were dolerite setts bonded by hard white cement. These then sat on coarse dark brown sand, which the existing cable was within. The wall was found to run only 50 mm below the current ground surface, after which it sat on bedrock. The existing service duct appeared to have only been dug through the bedrock, leaving the masonry undamaged. The top of the bedrock was 1.67 m below the top of the S end of the current sill to window P: W27 and it appeared to slope down to the E. The enlarged duct was drilled through this bedrock, again avoiding damaging the fabric of the building.

3 CONCLUSIONS

While this exercise successfully avoided damaging the masonry of the KOB, it also revealed little new information. It is evident that the KOB occupies a ridge of bedrock along the W limit of the Castle rock. This means that there is little masonry below the modern ground level, and also indicates that such a prominent high part of the Castle is likely to have seen occupation prior to the current KOB, although no evidence for this was recorded during this work.

A1. APPENDIX 1: LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	P22 E wall (E side) before work started	E	21/ 04/ 09
2	P22 E wall (E side) before work started	E	21/ 04/ 09
3	P22 E wall (E side) before work started	E	21/ 04/ 09
4	P22 E wall (W side) before work started	W	21/ 04/ 09
5	Hatch in P22 for existing pipe	N	21/ 04/ 09
6	Hatch in P22 for existing pipe	W	21/ 04/ 09
7	Cobbles being lifted	N	21/ 04/ 09
8	Cobbles being lifted	N	21/ 04/ 09
9	Hole as finished	E	21/ 04/ 09
10	Hole as finished	E	21/ 04/ 09
11	Hole as finished	E	21/ 04/ 09

Historic Scotland
SCPP Archaeological Works
2009

**Princes Tower
M01 Beam Removal**

PIC Index No. 90291

Project: SCPP-2009-24

Archaeological Watching Brief

April 2009



2 September 2009
Kirkdale Archaeology

Site Stirling Castle, Princes Tower, M01.

N.G.R NS 790 940

Project Summary A watching brief took place during the removal of a ceiling beam in room M01 of the Princes Tower at Stirling Castle. The removal of the beam confirmed that it was not in its original position and had been moved at some point in the late 19th or early 20th century.

Contents

1	Introduction.....	1
2	Monitoring.....	2
3	Conclusions	2
A1.	Appendix 1 : List of Photographs	4

Figures

Figure 1:	Location of Works	1
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1 INTRODUCTION

At Historic Scotland's request Kirkdale Archaeology monitored the removal of the middle of the three beams forming the ceiling of room M: 01 and the floor of U: 30 in the Princes Tower at Stirling Castle. These beams all run N-S across the room and are embedded in the walls of the tower at both ends. There was a requirement to move this beam to the side, to permit the installation of a stair to improve the access to the upper floor of the Palace. The work took place on 30/04/09.

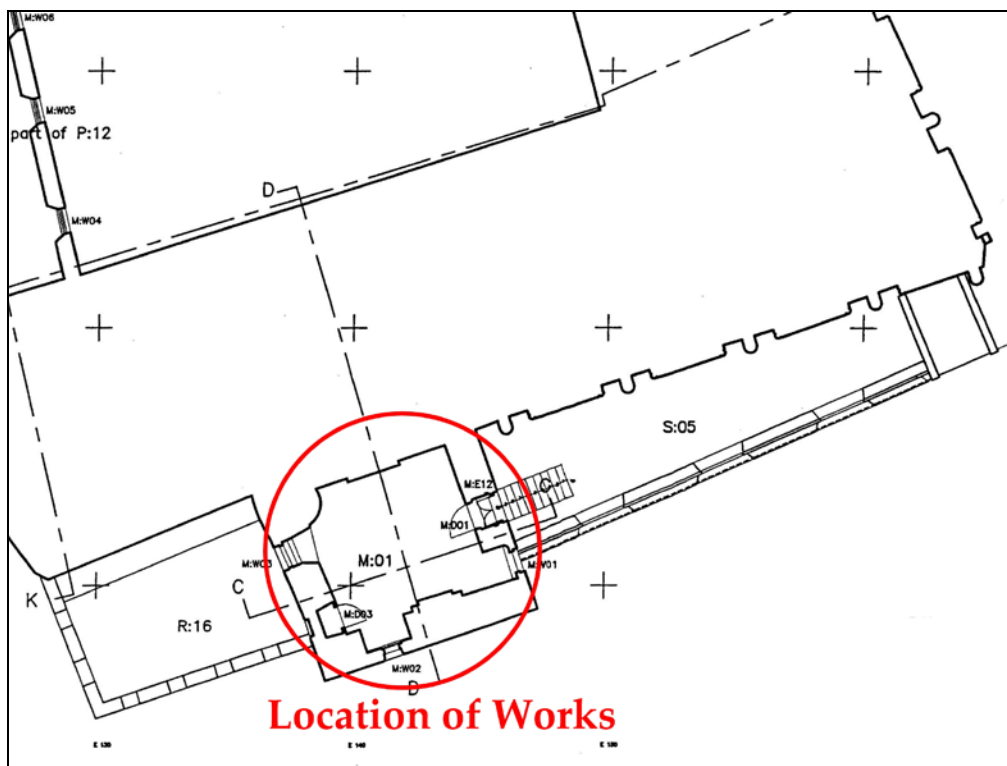


Figure 1: Location of Works

Room M: 01 was recorded as an earlier part of the Palace project and the beams had been dendrochronologically dated. While the Prince's Tower was built in the very early years of the 16th century by James IV, it was evident that these beams were not an original feature. The beams had been dated to the early 1590s and they also appeared to cut through surfaces on the walls.

2 MONITORING

When the archaeologist arrived, a small amount of work had already been undertaken to free the N end of the beam. Work then was halted temporarily while the scaffolding holding the current floor was strengthened to allow it to carry the weight of the beam once it was removed. The beam spanned a gap of 5.53 m and was 190mm square, although often with its sharp edges rounded off.

Once the floor had been made safe to receive the beam work began in earnest to free it, with the holes opened up being wider than the beam to allow room to extract it. The socket at the N end was extended to the W and that at the S end to the E to give room for its removal. Their overall dimensions were both roughly 450 mm wide by 350 mm high, and they varied in depth from 150 to 200 mm deep.

The backfill of both sockets proved to be a mix of handmade brick (measuring 210 by 60 by 80 mm) and sandstone fragments, all bonded by a pale grey cement. The N end of the beam extended 170 mm into the wall, and the S end 150 mm, making the beam 5.85 m in overall length. Both ends of the timber were well squared off.

3 CONCLUSIONS

This exercise confirmed that these beams had been reinstated at a late date in their history, as shown by the fill and position of their sockets. This is likely to date to the late 19th century/early 20th century panelling of the upper floor of the tower (U: 30). A door at the E end of the N wall of U: 30 feeds into U: 29 on the top floor of the Palace and although the short passage through the wall is still panelled, bricks are visible at the base of this. This may well indicate that access between U: 29 and U: 30 was only possible at this late date, making the Prince's tower and the Palace effectively separate

structures until late in their histories. This link between the two may well be the prompt for the altering of the floor height of U: 30, allowing these formerly separate spaces to operate together.

This work has helped to confirm that the layout of the ceiling of M01 and floor of U30 (the room above) has changed on at least 3 different occasions. The first being the original layout of which no trace is visible; the second being the installation of the oak beams in the 1590s; and the third being the reinstatement of these beams when the room above was panelled and the height of the floor changed to match that of the upper floor of the Palace.

A1. APPENDIX 1 : LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	N end of beam	S	30/ 04/ 09
2	N end of beam	SW	30/ 04/ 09
3	S end of beam	N	30/ 04/ 09
4	General shot of beam	SW	30/ 04/ 09
5	N end of beam- socket as finished	S	30/ 04/ 09
6	S end of beam- socket as finished	N	30/ 04/ 09
7	S end of beam- socket as finished	NE	30/ 04/ 09

Historic Scotland
SCPP Archaeological Works
2009

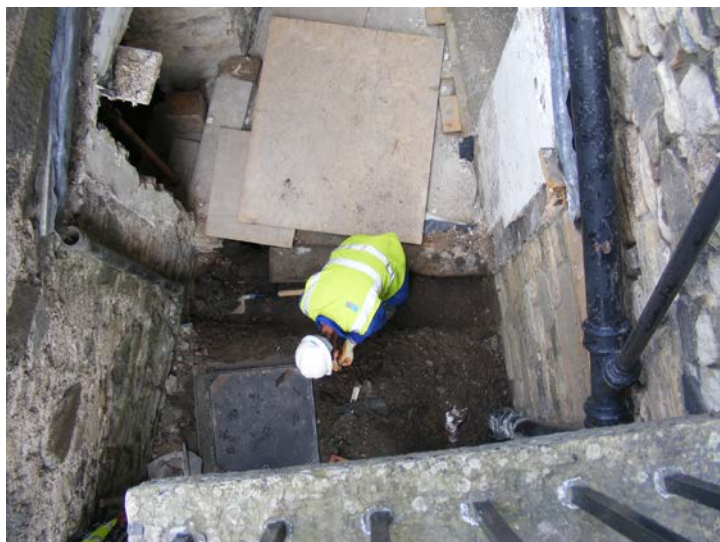
**King's Old Building
S07 Wall Removal**

PIC Index No. 90291

Project: SCPP-2009-25

Archaeological Watching Brief

June 2009



2 September 2009
Kirkdale Archaeology

Site Stirling Castle, Old Chapel / King's Old Building, S:07.

N.G.R NS 790 940

Project Summary In the area between the Old Chapel and King's Old Building of Stirling Castle, the dountaking of the remaining parts of the E wall of P: 20 was monitored. This exercise involved the excavation of a narrow strip below the E wall of P: 20 which had not been dug during the 2008 excavation. The material excavated suggests an 18th or 19th century date for the construction of the wall. No other archaeological observations were made.

Contents

1	Introduction.....	Error! Bookmark not defined.
2	Excavations.....	Error! Bookmark not defined.
3	Conclusions	Error! Bookmark not defined.
A1.	Appendix 1 : List of Photographs	Error! Bookmark not defined.

Figures

Figure 1:	Location of Works	Error! Bookmark not defined.
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1 INTRODUCTION

Historic Scotland requested that Kirkdale Archaeology monitor some small scale excavation work carried out as part of the ongoing Palace renovation programme. This work was to be carried out at the W end of S: 07, the small irregularly shaped area of open ground filling the space between the N side of the Old Chapel and the S end of the King's Old Building. Both these buildings lie to the NW of the Palace complex, and both run on different alignments, leaving S: 07 as a 'wedge' shaped space, wider to the E than the W.

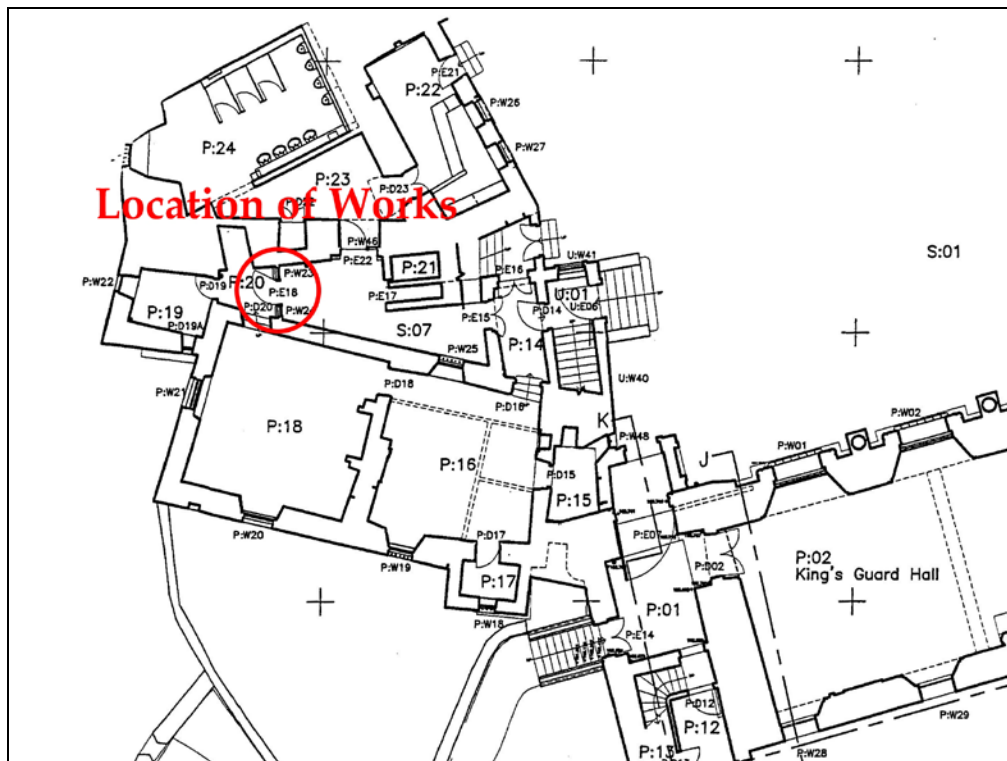


Figure 1: Location of Works

In April 2008 Kirkdale Archaeology had carried out extensive excavation in this area, but at that point a N- S brick and wood wall at the W end of S: 07 created a small room (P: 20) in this area. This wall was in poor condition, so it had been removed down to its

foundation level by the time of the current work. There was a single sandstone slab forming a threshold in the centre of this wall, with a single course of bricks (two bricks thick) to the N of this, to the S the wall had already been completely removed.

The intention was to remove all traces of this wall to allow the insertion of a concrete floor along the length of the space occupied by P: 20 (which had already been re-floored) and S: 07. The work was undertaken manually by the contractors, with a watching brief maintained throughout all excavation. This work took place on 18/06/09.

2 EXCAVATIONS

Work started with the digging of a trench 350 mm wide (E- W) and 250 mm deep along the outside (E face) of the threshold and remaining wall, a distance of 1.95 m. Much of this was through the gravel backfill of our previous excavation, and it could be seen that the threshold slab leading into P: 20 sat over the concrete floor already laid to its W, showing that this had already been lifted and re-laid. To the N of this only a single course of hand- made bricks survived, and beneath these was 200 mm of loose dark brown silt rich in pale yellow mortar. To the S of the slab, where the bricks had already been removed was similar material, while a cast iron pipe ran under the S end of this slab.

The bricks and slab were then removed, widening the trench to some 550 mm, and the fill below removed. Three fragments of bottle glass (including one neck) and a large piece of white china were recovered from the soil removed in this area.

3 CONCLUSIONS

This exercise involved the excavation of a narrow strip below the E wall of P: 20 which had not been dug during the 2008 excavation. The material excavated is best interpreted as the construction trench for this wall, and the finds recovered (as well as the form of the wall) suggest an eighteenth or nineteenth century date for its construction. No other archaeological observations were made.

A1. APPENDIX 1 : LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	General shot	E	18/ 06/ 09
2	General shot	E	18/ 06/ 09
3	Threshold slab in situ	E	18/ 06/ 09
4	N end of trench, brick wall in situ	S	18/ 06/ 09
5	General shot inside Old Chapel (P: 18)	NW	18/ 06/ 09
6	N end of trench as finished	SE	18/ 06/ 09
7	N end of trench as finished	S	18/ 06/ 09
8	S end of trench as finished	N	18/ 06/ 09

Historic Scotland
SCPP Archaeological Works
2009

**Stirling Castle, Old Chapel
P18/P20 Service Duct**

PIC Index No. 90291

Project: SCPP-2009-26

Archaeological Watching Brief

July 2009



2 September 2009
Kirkdale Archaeology

Site Stirling Castle, Old Chapel, P18 & P20

N.G.R NS 790 940

Project Summary A watching brief took place during the creation of a service aperture between P18 and P20 in the Old Chapel of Stirling Castle. The work confirmed the survival of relatively early masonry within the complex structures of the Old Chapel.

Contents

1	Introduction	1
2	Excavations.....	3
3	Conclusions	4
A1.	Appendix 1 : List of Contexts	6
A2.	Appendix 2 : List of Photographs.....	7

Figures

Figure 1: Location of Works	1
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1 INTRODUCTION

As part of the ongoing renovations of the Palace at Stirling Castle, Kirkdale Archaeology was asked to monitor the cutting of a small duct through the N wall of the Old Chapel (also known as the Army Kitchen). This duct was to carry services between the Palace and the new plant room constructed in P: 19, to the NW of the Old Chapel (itself to the NW of the Palace). The area directly affected was below the door connecting P: 18 (the W room of the Old Chapel) with room P: 20 just to its N, within which a short flight of steps rise up to the N within the thickness of the wall.

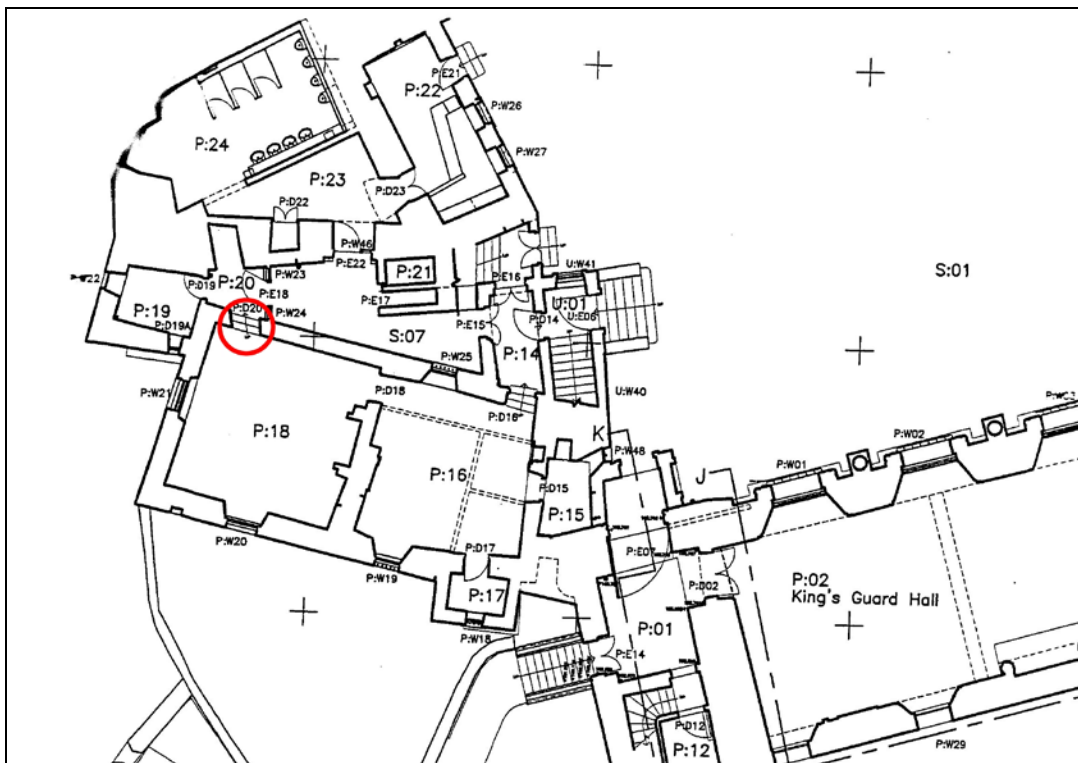


Figure 1: Location of Works

This is a building with a long and complex history. Long thought to be an 18th century construction it was recognised that it was orientated in an unusual and apparently ‘early’ alignment, which seems to have become redundant by the late 15th century. Excavations within the “Army Kitchen” in 1997 by Kirkdale Archaeology revealed a

series of inhumations below its floor. These, along with structural information gleaned at the same time have been used to suggest that the current building sits over at least the footprint of an early chapel. This predates the current Chapel Royal to its NE, and has been identified with the Chapel of St. Michael dedicated by Alexander I at the very beginning of the 12th century.

Further excavations just to the N of the Old Chapel by Kirkdale Archaeology in 2008 provided more structural evidence. A wash course of fine masonry was recorded low down along much of the N wall, although it appeared that most of the upper parts were substantially rebuilt, probably in the 18th century. It was also noted that the door connecting P: 18 and P: 20 which had long been thought to be inserted, or at least altered, sat over an earlier aperture. Only part of the W margin of this was exposed but it seemed likely to be an earlier form of this door, albeit slightly offset to the W from the later door.

The complex structural history of this area of masonry meant that archaeological monitoring of this area was essential. This took the form of a watching brief, with the work carried out by the MCU. The primary objective was to preserve any potentially early masonry, while also hoping to further refine the sequence already recorded here.

Much of the masonry observed during this operation had already been recorded during the 1997 excavation. However, the relevant area was recorded anew during this work, as there is now a much greater understanding of this building's complex history. The work took place on 7/7/09.

2 EXCAVATIONS

The main wall fabric **F001** was formed by small to medium sized rectangular blocks of sandstone, bonded by a fine pale yellow mortar. Within this was cut **F008**, some 1.1 m wide at its base and used to insert the doorway. This was near vertical, widening slightly as it rose, on the W side this had been brought back to the vertical by the insertion of **F011**. This comprised fragments of 'fire brick' bonded by pale grey cement. Within this aperture 3 rectangular coarse grained sandstone blocks, numbered **F009**, were laid horizontally to provide the steps leading up to the N. The lowest of these measures 950 mm long by 150 mm wide, all three had replacement upper treads (**F010**) of fine pale grey cement.

Below **F008**, and slightly offset to its E, was a further cut, **F006**. This measured 600 mm high by 1.55 m wide at its top, narrowing to 1.2 m at its base. This was then in-filled by **F007**, a mix of whin and sandstone of varying sizes, with little evidence for dressing. A thin strip of fine dark grey silt was observed at the base of this. Under **F008** was a strip of clean coarse orange sand, **F005**, some 1 m long by 150 mm thick. This in turn was banked up against masonry at both its E and W ends. To the E **F003** was a small stretch of E- W walling, only surviving for a length of 250 mm long- cut to the E by a pipe (unnumbered), and evidently continuing to the E beyond this. It was formed by small to medium rectangular sized blocks of sandstone bonded by fine pale yellow mortar. It stood 300 mm high and its top projected 250 mm S of the line of **F001**, but it was built with a batter so that its base, which seemed to stand on bedrock, was 400 mm S of **F001**.

At its W end sand **F005** was banked up against **F004**. This was a single block of pale grey fine grained sandstone 100 mm high, 250 mm N- S and 200 mm E- W. Although damaged the SW corner of **F004** seemed to carry a roll moulding 120 mm in diameter, and the SE corner had a rebate 100 mm E- W by 80 mm N- S cut into it. At its W end it

was bonded to a further stretch of walling **F002** by a fine pale yellow mortar, traces of which were also noted on the upper surface of **F004**. **F002** like **F003** was built of small to medium sized rectangular sandstone blocks, and also projected 200 mm S of **F001** at its top, and 320 mm at its base. It was 350 mm high and c 700 mm thick, and ran from the NW corner of the room to **F004**, a distance of 1.2 m.

The required duct was excavated by hand through **F007**, directly over the top of **F004**. Its final size was 200 mm wide by 300 mm high, and a small amount of bottle glass (18th or 19th century) was recovered from the fine silt at the base of **F007**.

3 CONCLUSIONS

This project has confirmed the survival of relatively early masonry on the S side of this wall. This phase is represented by **F002** and **F003**, which represent footings to a wall situated over the bedrock. Both are constructed in a similar style of small yellow sandstone blocks, bonded by pale yellow mortar. Both features project S of the main wall line, and are built with a batter directly over the bedrock. At the E end of **F002** a single block of sandstone **F004** was recorded. Although poorly preserved this seems to carry a roll moulding and a rebate, and is thought to represent the base of the W margin of the door recorded in 2008 in room P: 20. The mortar noted on the top of **F004** indicates that this has been reduced in height (by **F006**), and this side appears to be more elaborately moulded than the N side of the door. Any equivalent to **F004** on the E side of this aperture has presumably been completely removed.

Between **F004** and **F003**, and banked up against them, was coarse but clean orange sand

F005. This is likely to be bedding sand to provide a level surface for a threshold slab or slabs, now completely removed. Similar sand was noted in the 1997 excavation used as bedding for a cobbled surface within room P: 18 and continuing to the E into room P: 16. This may imply that these features are contemporary, but the distinctive orangeish brown colour of this sand is likely to derive from the erosion of the basalt rocks on which the castle is built, so this may simply be a coincidental use of a local material. A later cut (**F006**) had damaged **F002**; **F003** and **F004**, and this appears to continue up the wall through the main wall fabric **F001** to the W of the current door. Although much obscured by plaster surfaces this may indicate that a substantial part of at least the W end of the N wall of this room is early. The style of construction and mortar used in **F001** is so similar to **F002** and **F003** that they are likely contemporary.

The cut **F006**, in filled by **F007**, is responsible for the destruction of much of this early masonry, and finds recovered from this indicate an 18th or 19th century date for this action. Although this could relate to an intermediary stage there is nothing at present to suggest that it is not contemporary with **F008**, the main cut used to insert the present door. In this scenario it might be suggested that **F006** represents a cut to remove the early door, presumably to allow its masonry to be recycled, which is then built up with **F007**, allowing the new door to be inserted above this.

The use of fire bricks in **F011** on the W side of the new door may indicate a later repair, as these will not predate the late 19th century. The stone steps **F009** within the current door all have replacement upper surfaces in concrete, **F010**, and this presumably represents a further stage of repair.

This small scale piece of work has again demonstrated the survival of relatively early masonry within the complicated make up of the Old Chapel.

A1. APPENDIX 1 : LIST OF CONTEXTS

Context	Description
001	Main wall fabric
002	Footings to W of F006
003	Footings to E of F006
004	Roll moulded (?) stone at E end of F002
005	Coarse orange sand between F003 and F004
006	Cut through F002, F003 and F004 filled by F007
007	Infill of cut F006
008	Cut for current door
009	Bottom step in current door
010	Concrete tread replacement at top of F009
011	Infill around sides of F008

A2. APPENDIX 2 : LIST OF PHOTOGRAPHS

Frame	Description	From	Date
1	Blocking F007 pre- ex	S	07/ 07/ 09
2	Blocking F007 pre- ex	S	07/ 07/ 09
3	Blocking F007 pre- ex	S	07/ 07/ 09
4	Blocking F007 pre- ex, detail of W end	S	07/ 07/ 09
5	Detail of roll moulded stone F004	S	07/ 07/ 09
6	Detail of roll moulded stone F004	S	07/ 07/ 09
7	Detail of roll moulded stone F004 and sand F005	S	07/ 07/ 09
8	Detail of roll moulded stone F004 and footings F002	S	07/ 07/ 09
9	Detail of roll moulded stone F004	SE	07/ 07/ 09
10	General shot	SE	07/ 07/ 09