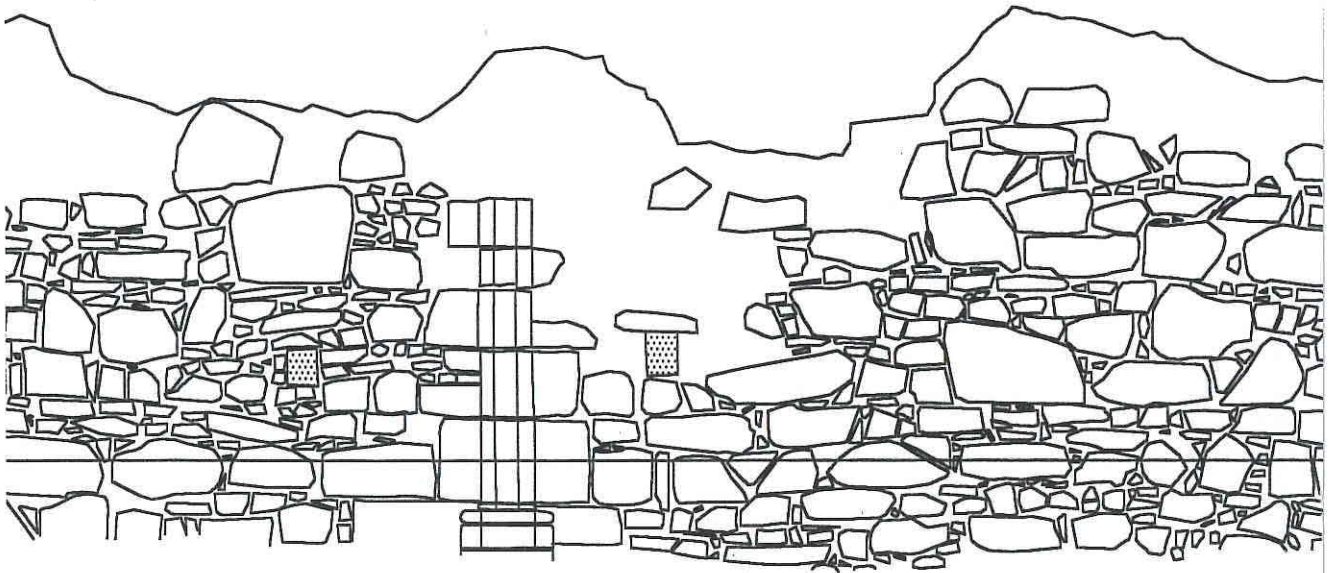


THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Abbeycwmhir

RE-SURVEY OF THE RUINS



pillar base

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CPAT Report No 225.2

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Abbeycwmhir
RE-SURVEY OF THE RUINS

N.W.Jones
October 2000

Report for Cadw/Welsh Historic Monuments

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APPENDIX 1 DIGITAL ARCHIVE

1 THE VISIBLE REMAINS OF THE ABBEY

- 1.1 The 12th-century Cistercian monastery at Abbeycwmhir, in northern Radnorshire, was both the largest and one of the remotest in Wales. A greater part of the monastic complex was dismantled at the Dissolution, and although parts of the original plan are known from small-scale excavations carried out in the 1820s and 1890s, only parts of the church are visible today. A description of the monastery and its historical background are provided by Raleigh Radford (Radford 1982).
- 1.2 Of the nave, all that remains visible above ground are the outer walls of the north and south aisles and three pier bases of the original fourteen-bay colonnade; the west wall of the nave is largely missing, but shows as a bank. At the eastern end, parts of the west walls of both the north and south transepts still survive, as well as a fragment of the north wall of the north transept, and a slight bank suggesting the line of the south wall of the south transept.
- 1.3 It has been suggested that the eastern crossing and chancel were never completed: the reconsolidation work has revealed the base of a wall at the east end of the nave, of poorer construction than the rest of the abbey, and butting against the pier base for the crossing arch. The bases of some of the pillars belonging to vaulting in the north and south aisles and the west walls of the north and south transepts remain, although in most cases the dressed sandstone has been robbed away, leaving gaps corresponding to the original responds. At the eastern end of the nave the southern pier base of the west crossing arch survives, and the base of the respond at the junction between the north aisle and north transept still survives. No windows or doorways remain.

2 SURVEY WORK 1988

- 2.1 A survey of the standing remains and a contour survey of some areas immediately around them, was carried out by CPAT with a small Community Programme team between May and August 1988, funded by the Manpower Services Commission. The survey took the form of a combined drawing and photographic survey of the standing remains, together with a detailed contour survey at 1m intervals of the claustral area, the nave interior and a stretch of the possible precinct boundary to the east of the church (Adams 1988).
- 2.2 Recording of the standing walls proceeded through the following stages:
 - 2.2.1 A base elevation drawing of each stretch of wall was prepared showing certain key features - the outlines of the wall, putlog holes, moulded stonework, and the extent of original facing stones etc - on a 2m grid.
 - 2.2.2 A photographic record on black and white 35 mm negative film was made of all wall surfaces with a standard 50 mm lens at a distance of 8m. This showed the same datum line and grid points used in preparation of the base drawing. Each frame was taken at the centre of the 2m grid, and both the centre of the base grid and its position are indicated on the photographs.
 - 2.2.3 Prints were enlarged to the same scale as the base drawings, and facing stones not recorded on the field drawings were traced onto the base elevation drawings, making a 'best fit' where there was any discrepancy between the field drawing and the photograph due to lens distortion
 - 2.2.4 Subsequent checking in the field showed that the maximum error in the case of wall facings was minimal, and in the order of 40 mm across the width of a 2m grid. The greatest problems were encountered with areas obscured by tree roots, and by parallax in the case of upstanding pillars of core masonry which it proved difficult to draw by conventional methods. In the latter case, some remedy was found by taking an outline of the wall from longer distance shots. Subsequent checking has shown maximum errors of about 300 mm in these instances.

3 SURVEY WORK 1997-2000

- 3.1 The re-survey of the abbey ruins was carried out at the request of Cadw: Welsh Historic Monuments, who provided the funding. The survey was undertaken in three stages following reconsolidation work. The first stage, during Spring 1997, comprised a survey of the south wall of the nave and part of the south transept. The second stage was conducted during December 1997, completing the survey of the south transept as well as recording the interior of the north wall of the nave where reconsolidation had been undertaken. The final stage was undertaken in July and August 2000, completing the survey of the nave north wall, together with the north transept and cross wall. The reconsolidation work had lowered the ground level against parts of the walls, revealing additional facing not visible in 1988. New detail of putlog holes and masons' marks was also uncovered. In the years between the two surveys some masonry had become displaced, while the reconsolidation had inevitably altered the outline of the corework. The aim of the re-survey was therefore to record all new details and provide a drawn and photographic record to enable a comparison of the surviving masonry between the two surveys.
- 3.2 The re-survey was conducted using a Wild TC500 EDM with Penmap survey software (versions 1.27, 2.49 and 3) to record a plan of the nave and transepts, together with outlines of the corework. Targets were then temporarily attached to the wall on a rough 2m grid, their positions being accurately surveyed before being photographed.
- 3.3 The photographic survey involved a series of overlapping views taken in black and white 35mm format with a 50mm lens from a distance of 8m from the wall face, each view including sufficient targets to allow for later rectification. Masons' marks were also photographed, and general views were recorded on colour slide 35mm format.
- 3.4 A 10' x 8' print was made of each view, and these were then rectified and digitised in AutoCAD12, using the data from the EDM survey to provide an accurate base drawing. The results were subsequently plotted at 1:40 to provide the illustrations in this report. In each drawing the level line is at 250.00m OD.

4 BUILDING METHODS

4.1 Building materials

- 4.1.1 A brief study was made of the building materials during the 1988 survey, which showed that the principal stone is a hard, grey, fine-grained quartzite of a type common to the area (not 'hard limestone', as suggested in Radford 1982, 69). It has been suggested that an old quarry at Fowler's Cave (PRN 244; SO 05827154) on the summit of a hill to the north-east of the abbey may have been used as a source of building material. In addition, there are occasional blocks of conglomerate containing quartz clasts in a similar matrix, which were probably obtained from the same source.

- 4.1.2 Minor quantities of slate were used as packing in the facing stones, and as string courses in the core masonry.

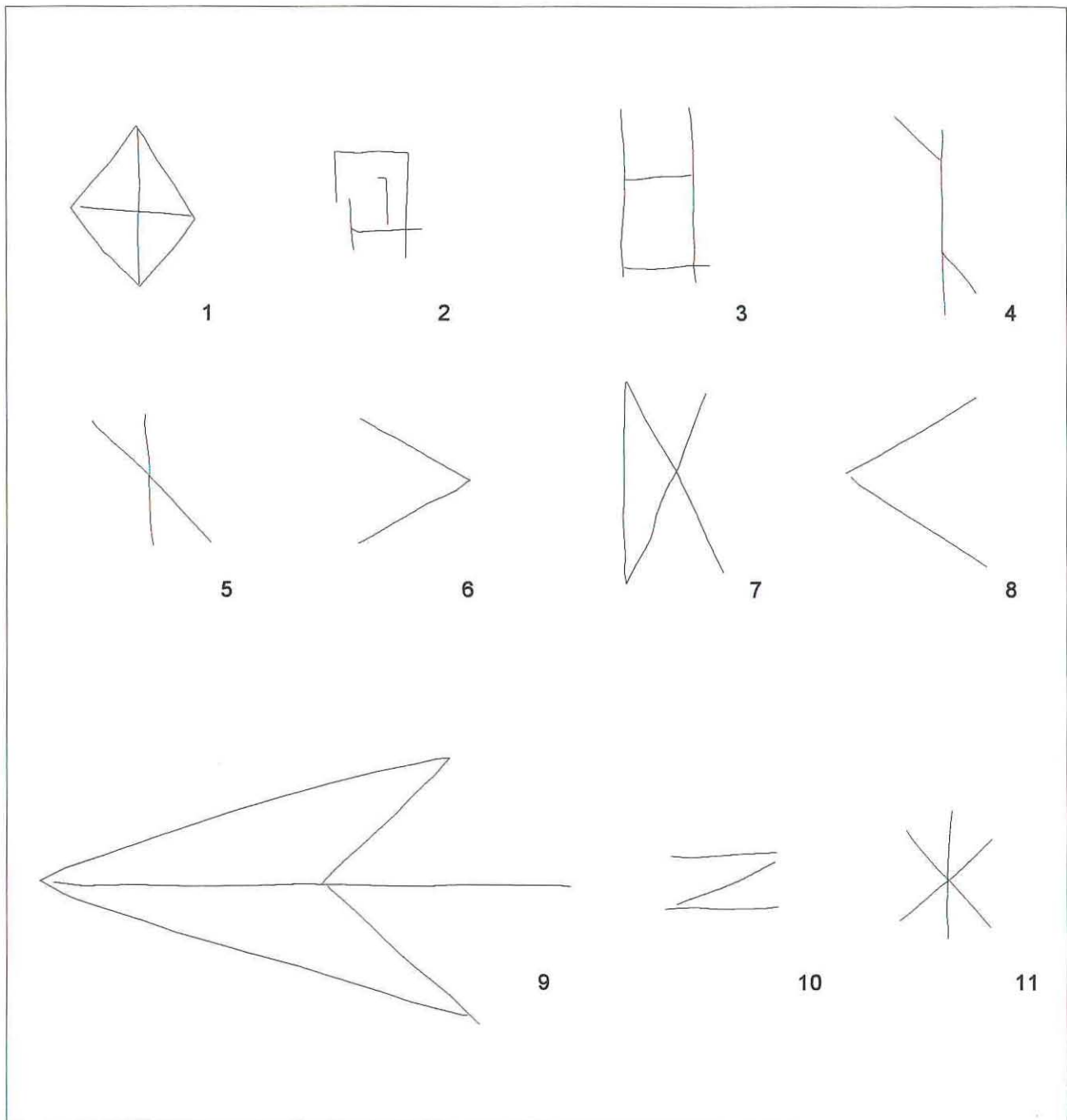
- 4.1.3 The surviving moulded stone at the site is composed of a yellowish-brown, fine-grained sandstone which is said to come from the Grinshill quarries near Shrewsbury (Radford 1982, 69). Blocks of similar dressed sandstone were also used to form the faces of the putlog holes through the core of the walls, which represent waste material or possibly, reused materials from the earlier establishment at Ty Faenor (cf. Radford 1982, 66).

4.2 Constructional methods

- 4.2.1 Putlog holes, about 200 mm across, presumably used to support scaffolding during the construction of the abbey, appear to have been spaced at horizontal intervals of between about 2.5-4m. The walls are between 1.5-1.8m thick, and have a rubble core faced with angular blocks of stone which are characteristically 0.2-0.3m thick. The facing appears to have been built in 'lifts' of about 0.5m, which correspond with courses of the dressed masonry of the vaulting responds, and then filled with a mortared rubble core. Only parts of the original mortaring of the wall faces still survives in places. Occasionally, larger blocks of stone appear to have been used as ties between the inner and outer wall faces.

4.3 Masons' marks

4.3.1 A total of 11 masons' marks were identified, mostly inscribed on dressed sandstone blocks (scale 1:2). See Drawings 7-21 for locations.



5 ACKNOWLEDGEMENTS

The re-survey was conducted with the assistance of Wendy Owen and David Thomas and the overall plan (Drawing 1) was produced by Brian Williams. Thanks are also due to the owner, Mr Hamer, and members of the 1988 survey team, supervised by Mark Adams.

6 BIBLIOGRAPHY

Radford, C A R, 1982. The Cistercian Abbey of Cwmhir, Radnorshire, *Archaeologia Cambrensis* 131, 58-76.
Haslam, R, 1982. *The Buildings of Wales: Powys*, (Penguin Books).

APPENDIX 1**DIGITAL ARCHIVE****EDM Survey (PTS = Penmap survey data)**

Abbeycwm	PTS, DXF	Survey 1997
Abbey2	PTS, DXF	Survey 1998
Cwmhir00	PTS, DXF	Survey 2000a
Cwmhir00b	PTS, DXF	Survey 2000b

Geophysical Survey

Abbey1.BMP	Geophysics bitmap
Abbey2.BMP	Geophysics bitmap
Abbeygeo.dwg, DXF	Geophysics grid
Abbeygeo2.dwg, DXF	Geophysics grid

Rectified photo survey

Abbeycwm.dwg	Survey 1997 with xref Abbey2.dwg, nested xref Abbey00.dwg
Abbycwm.b.dwg, DXF	Survey 1997 without xrefs
Abbey2.dwg	Survey 1998 with xref Abbey00.dwg Abbeycwm.dwg
Abbey2b.dwg, DXF	Survey 1998 without xref
Abbey00.dwg, DXF	Survey 2000
Abbey88.dwg, Abbey97.dwg, sian2.dwg, sian.map	comparisons of section of nave south wall
Strans.dwg	South transept
Transout	Transept exterior south end
mm	Masons mark symbol
grid	Geophysics grid

Layer information**basic layers**

botslope	bottom of slopes
core	outline of core
level	level at 250mOD
plan	plan view/outline of base of walls
plot	text and graphics detail for report illustrations
putlog	putlog holes
sect	section
spot	surveyed photo targets
stone	rectified stone-for-stone of wall facing
topslope	top of slopes

prefixes

cwe	crosswall east face
cww	crosswall west face
n	nave
nn	nave wall interior
ni	nave south wall interior
nx	nave south wall exterior
ti	south transept interior
tn	south transept north end
ts	south transept south end
tx	south transept exterior

AutoCAD user co-ordinate systems (ucs) and views**Abbeycwm.dwg**

<i>ucs</i>	<i>view</i>	
naveint	naveint	nave south wall interior
navext	navext	nave south wall exterior
transend	transend	south transept south end exterior
transect	transect	south transept section

transint	transint	south transept interior
transout	transout	south transept exterior
	plan	plan view of abbey
Abbey2.dwg		
ucs	view	
cweast	cweast	cross wall east face
cwwest	cwwest	cross wall west face
nave	nave	nave north wall interior
ntrans1	ntrans1	north transept west wall interior
ntrans2	ntrans2	north transept north wall interior

ABBEYCWMHIR

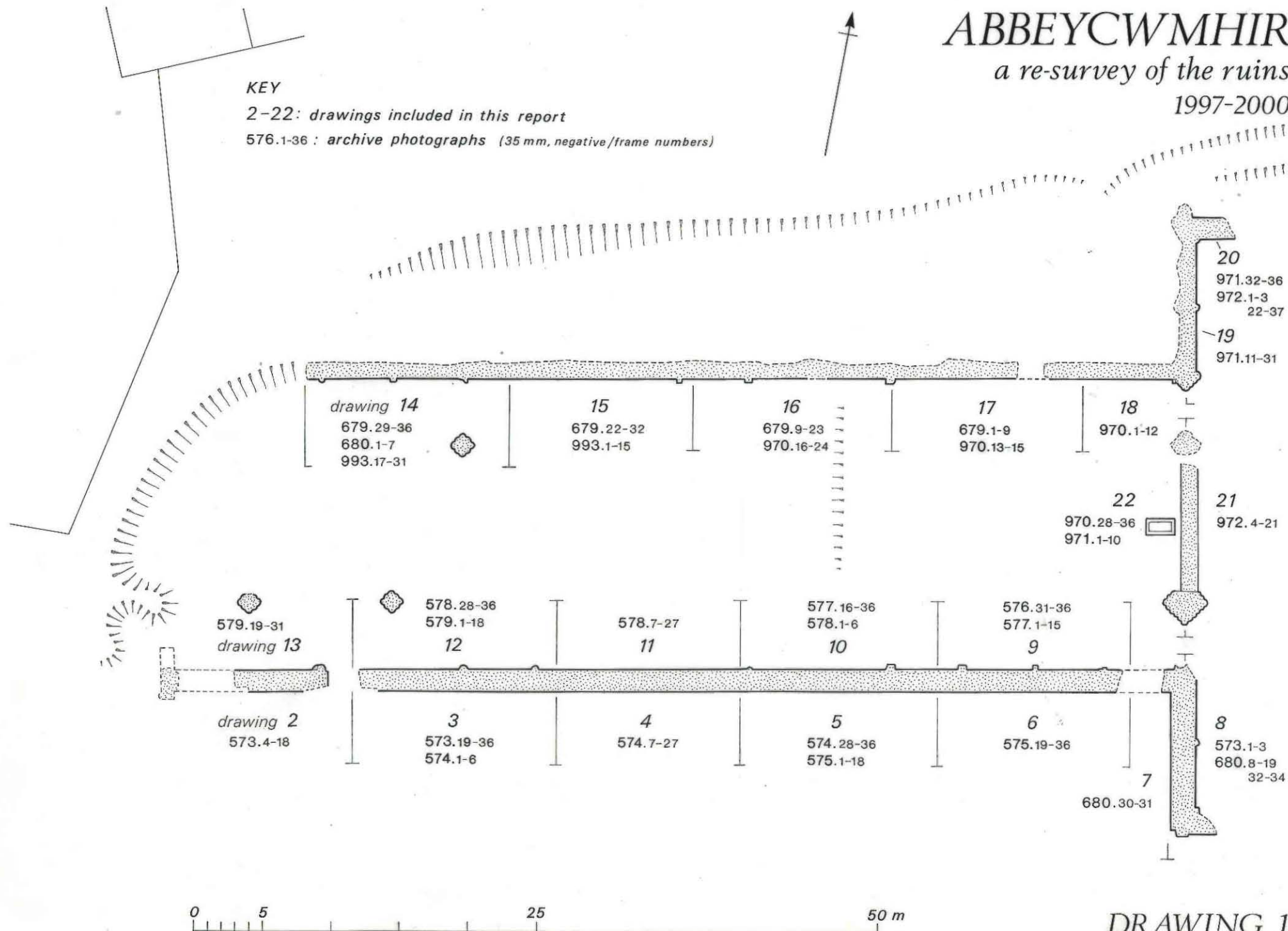
a re-survey of the ruins

1997-2000

KEY

2-22: drawings included in this report

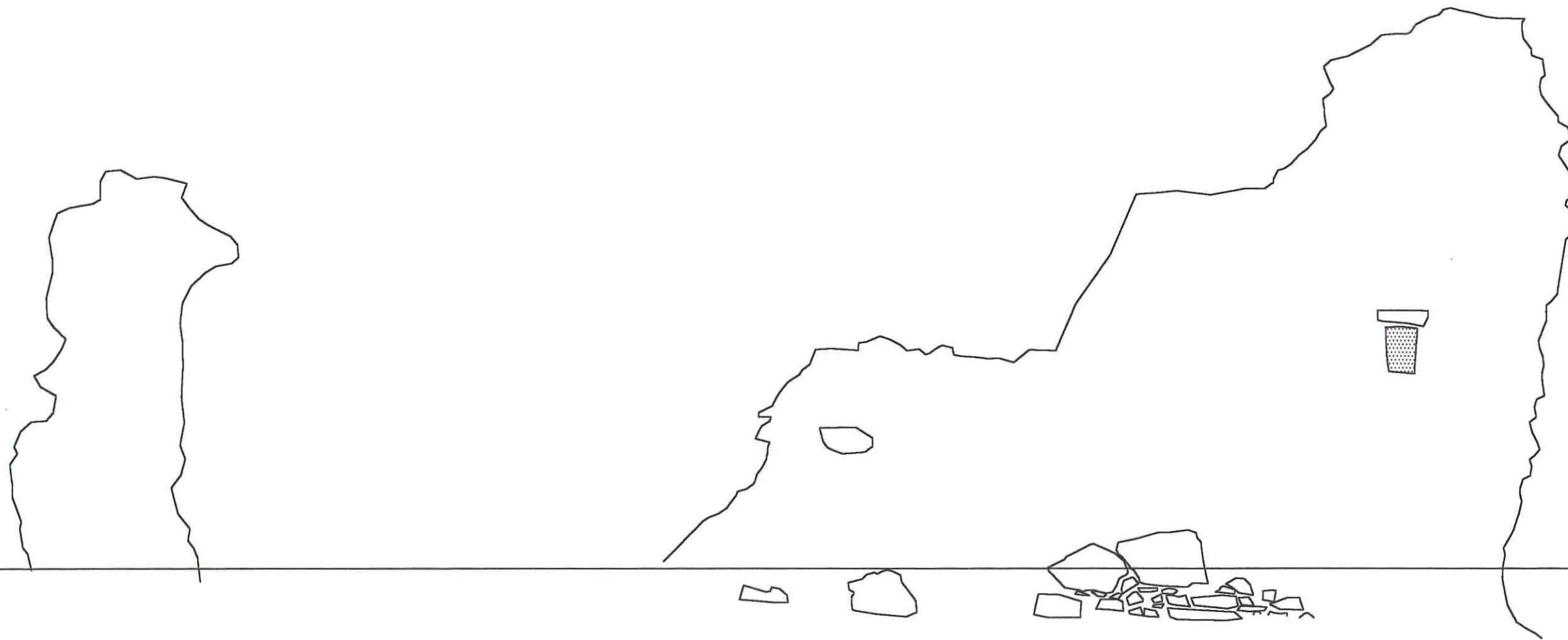
576.1-36 : archive photographs (35 mm, negative/frame numbers)



DRAWING 1

ABBEY CWMHIR

Survey 1997–2000



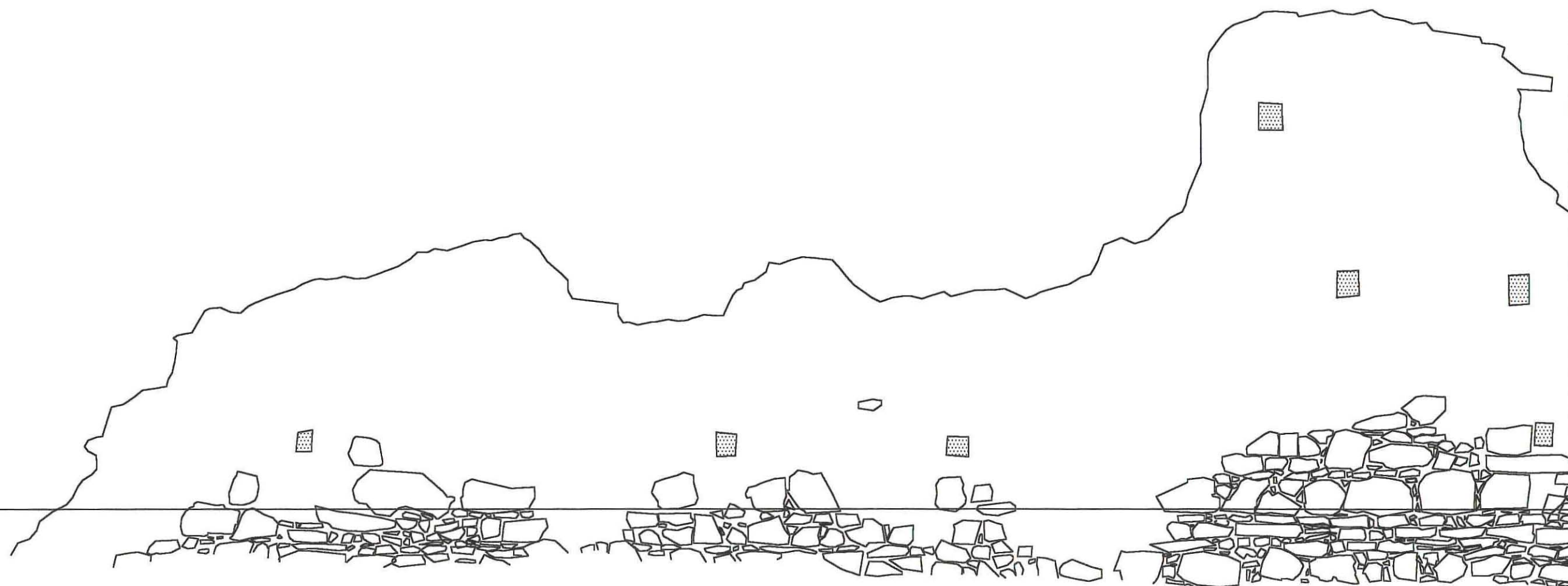
putlog holes

0 1 2 3 4 5m

DRAWING 2

ABBEY CWMHIR

Survey 1997-2000



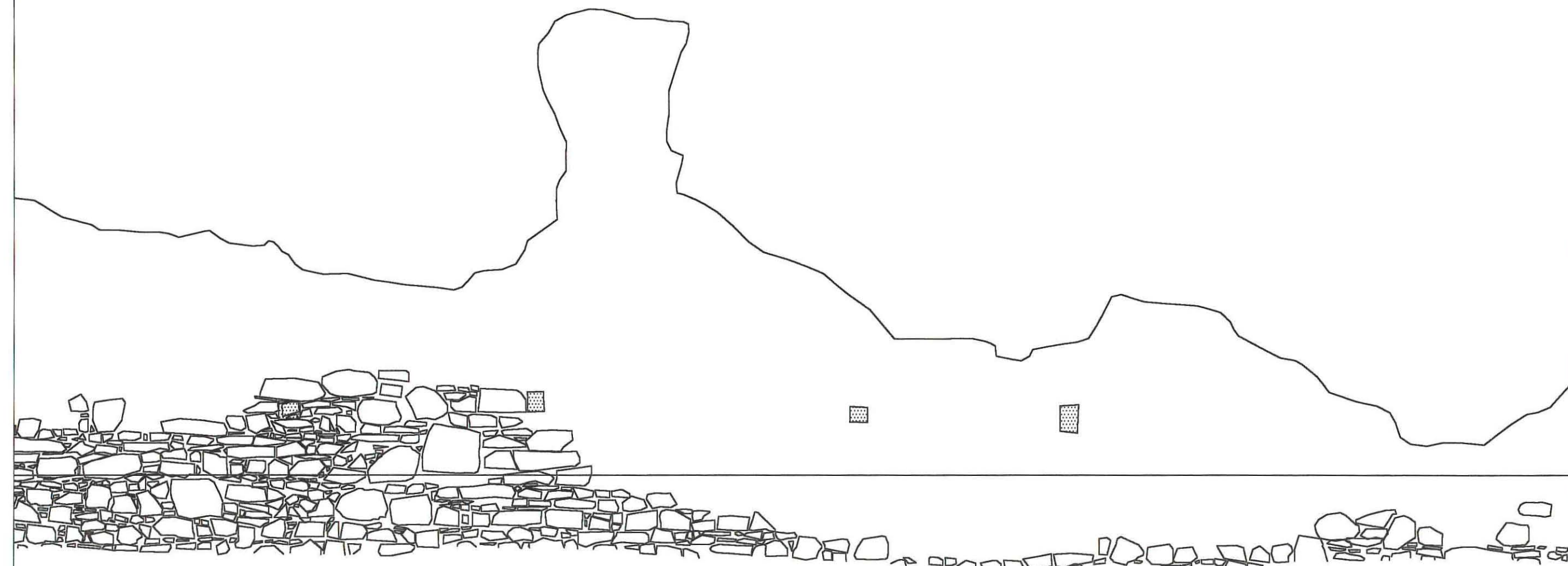
putlog holes

0 1 2 3 4 5m

DRAWING 3

ABBEY CWMHIR

Survey 1997–2000



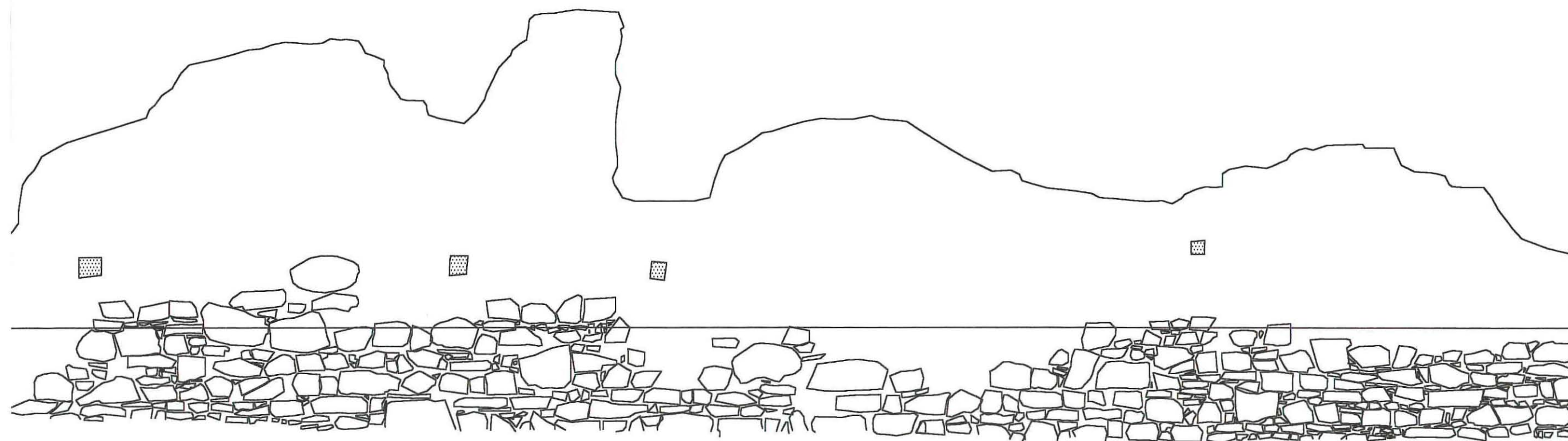
putlog holes

0 1 2 3 4 5m

DRAWING 4

ABBEY CWMHIR

Survey 1997–2000



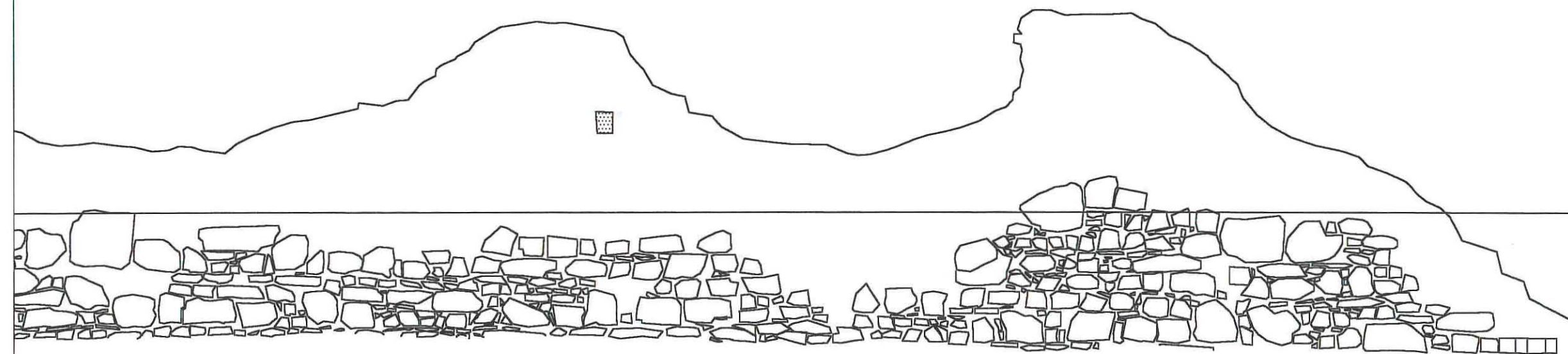
putlog holes

0 1 2 3 4 5m

DRAWING 5

ABBEY CWMHIR

Survey 1997–2000



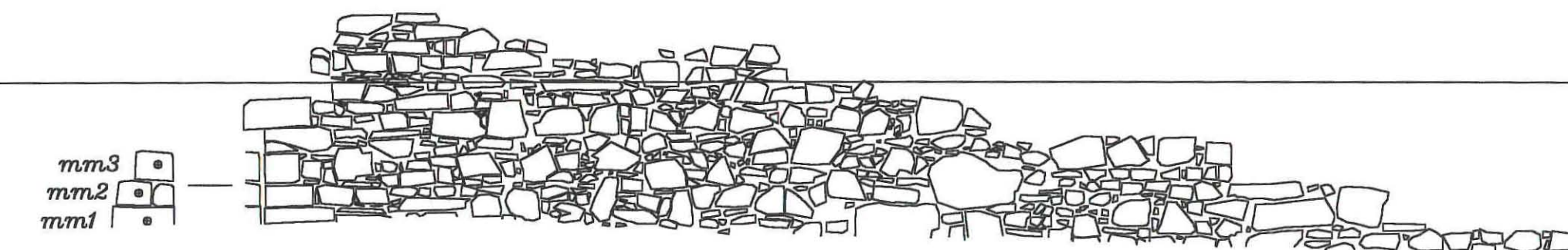
putlog holes

0 1 2 3 4 5m

DRAWING 6

ABBEY CWMHIR

Survey 1997-2000



nave exterior,
SE corner

south transept exterior

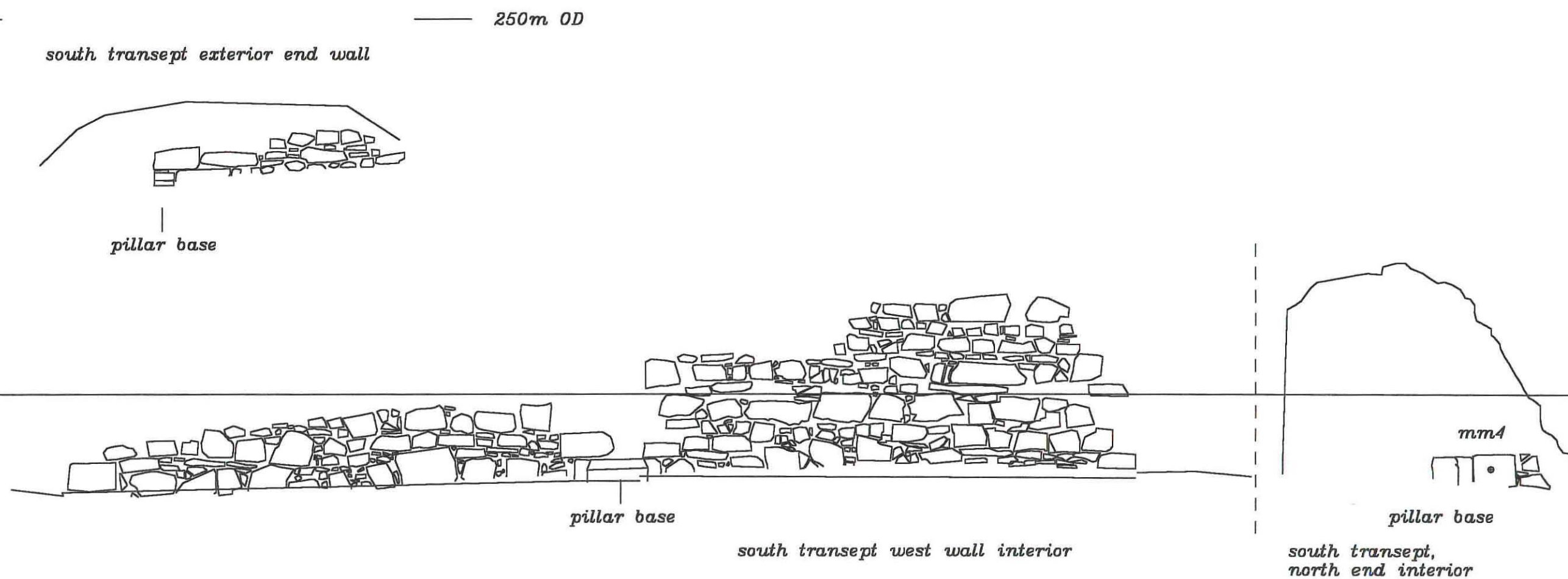
• mm masons' marks



DRAWING 7

ABBEY CWMHIR

Survey 1997-2000



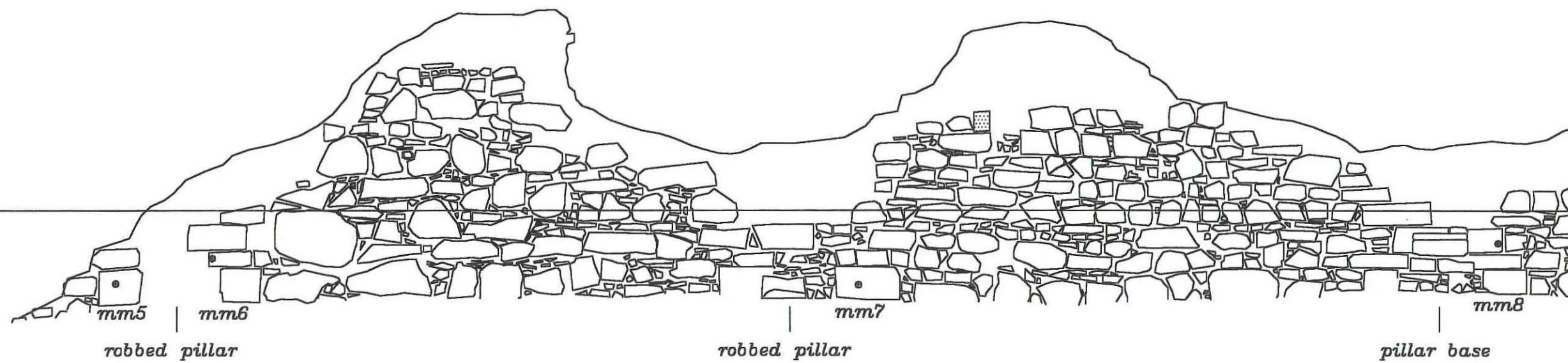
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0 1 2 3 4 5m

DRAWING 8

ABBEY CWMHIR

Survey 1997–2000



• mm masons' marks



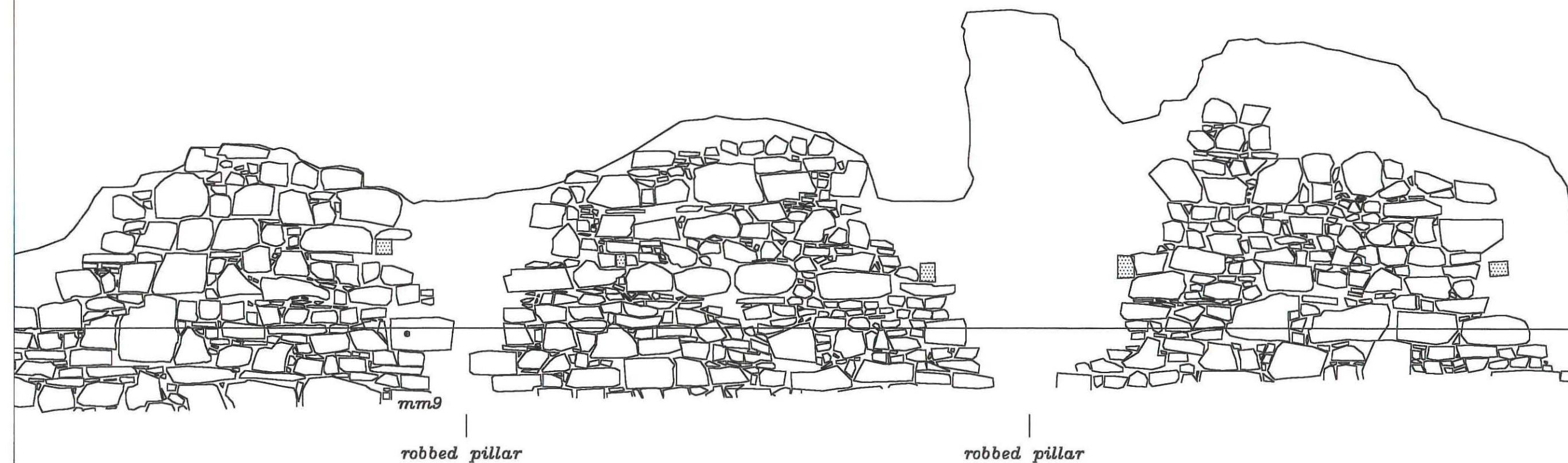
putlog holes

0 1 2 3 4 5m

DRAWING 9

ABBEY CWMHIR

Survey 1997–2000



• mm masons' marks



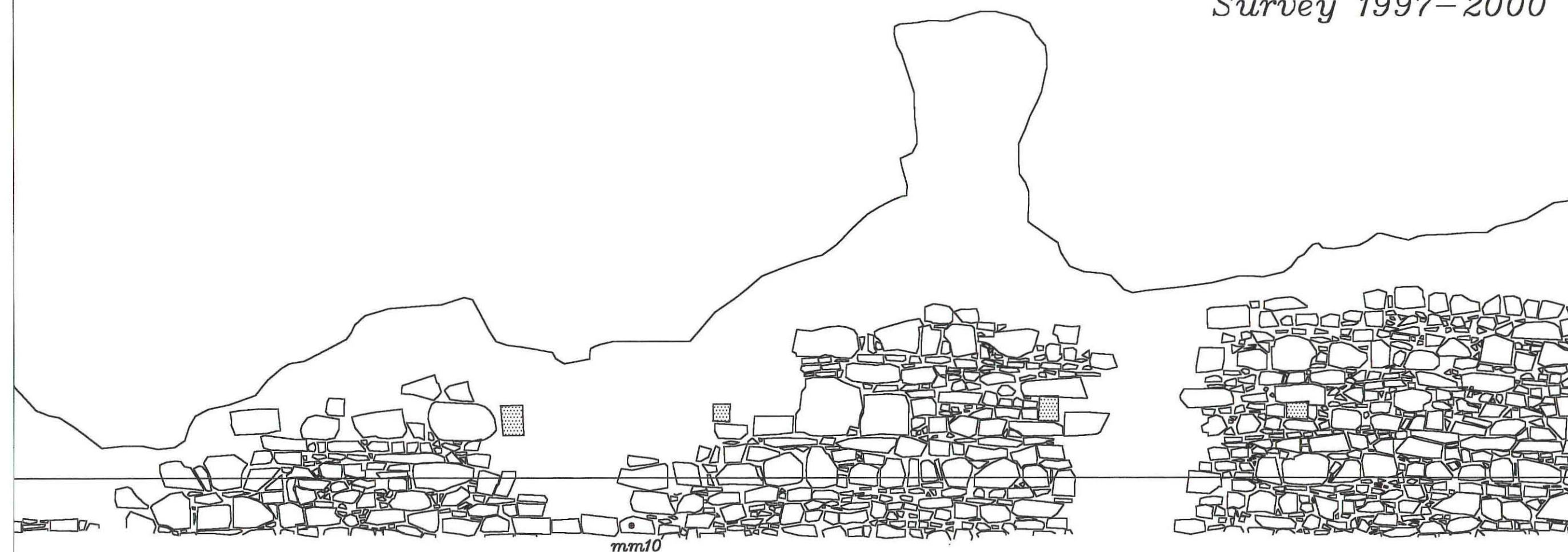
putlog holes

0 1 2 3 4 5m

DRAWING 10

ABBEY CWMHIR

Survey 1997–2000



robbed pillar

robbed pillar

robbed pillar

• mm

masons' marks



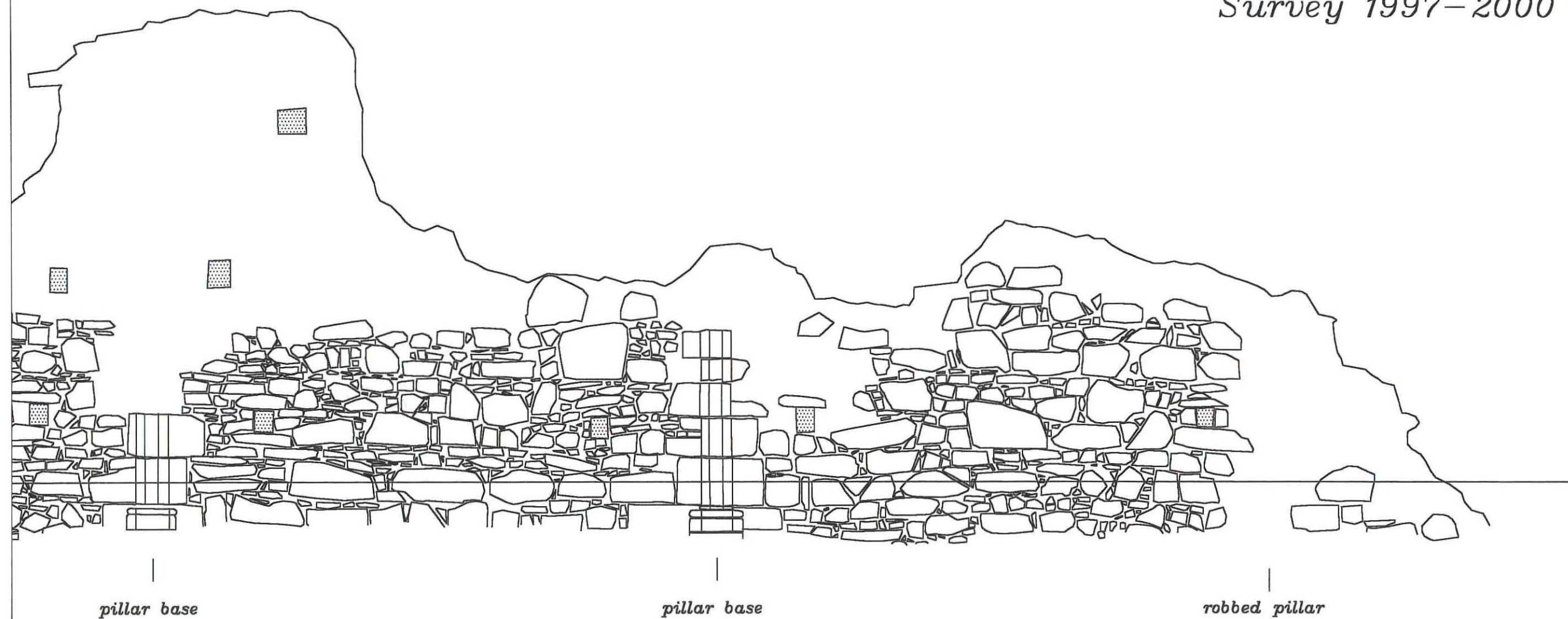
putlog holes

0 1 2 3 4 5m

DRAWING 11

ABBEY CWMHIR

Survey 1997–2000



putlog holes

0 1 2 3 4 5m

DRAWING 12

ABBEY CWMHIR

Survey 1997–2000



pillar base



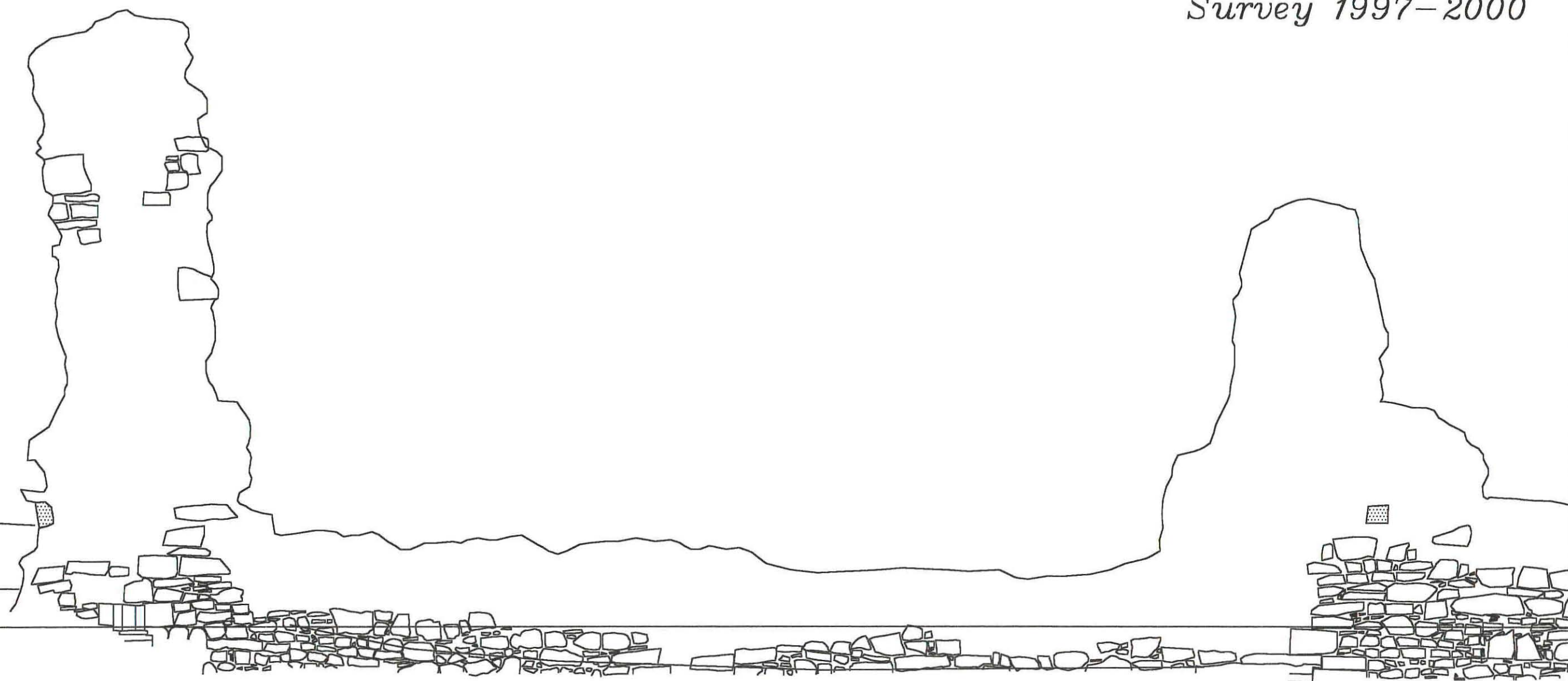
putlog holes

0 1 2 3 4 5m

DRAWING 13

ABBEY CWMHIR

Survey 1997–2000



pillar base

pillar base

pillar base



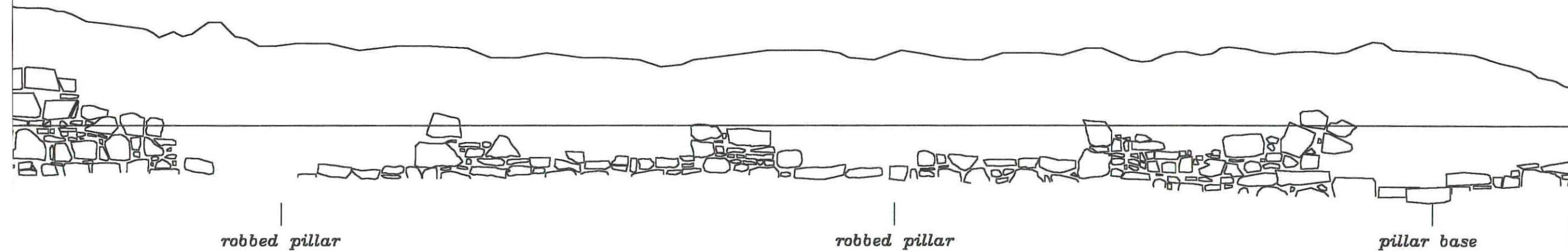
putlog holes

0 1 2 3 4 5m

DRAWING 14

ABBEY CWMHIR

Survey 1997–2000



robbed pillar

robbed pillar

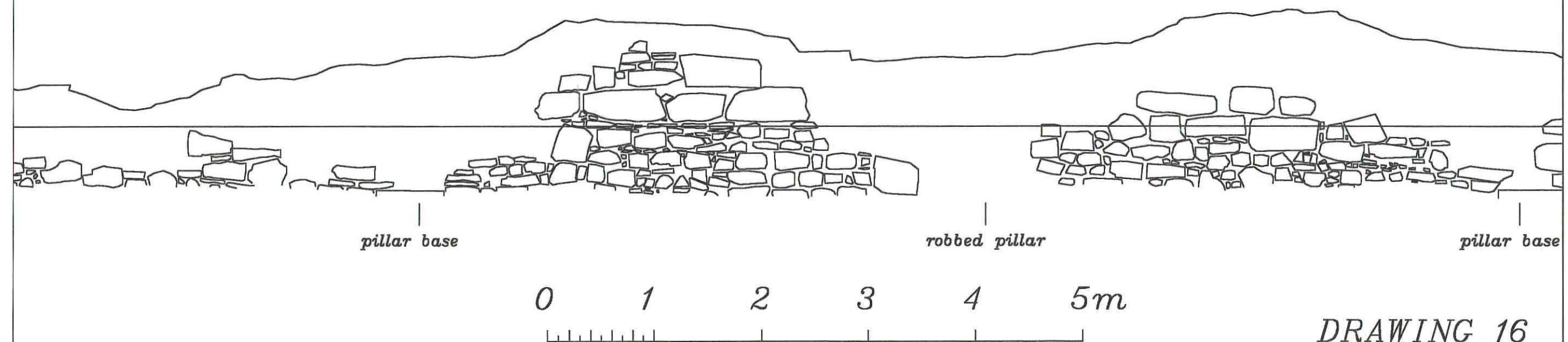
pillar base

0 1 2 3 4 5m

DRAWING 15

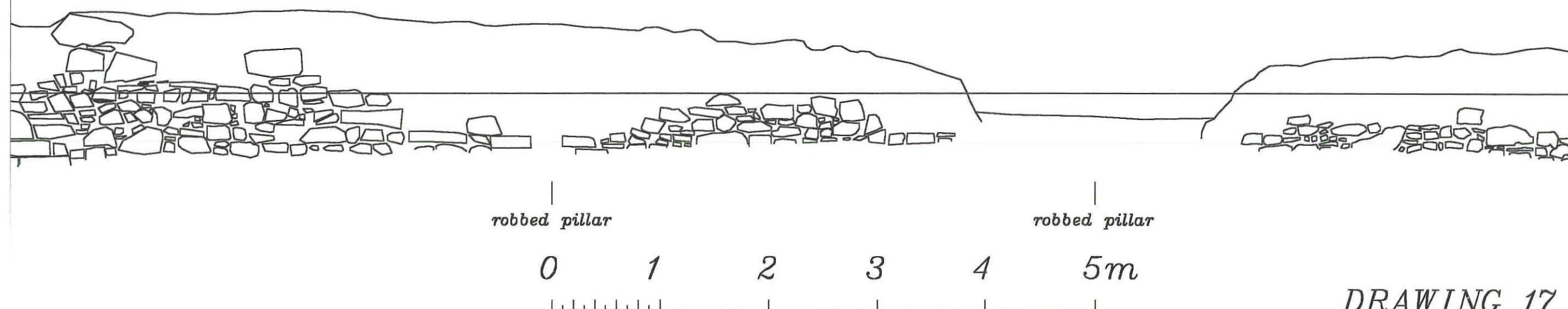
ABBEY CWMHIR

Survey 1997–2000



ABBEY CWMHIR

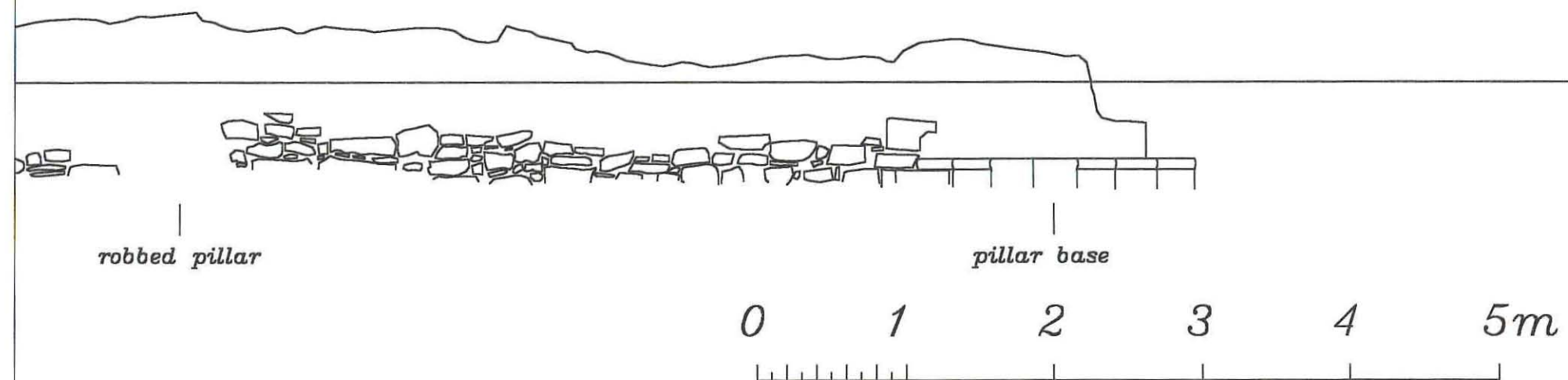
Survey 1997–2000



DRAWING 17

ABBEY CWMHIR

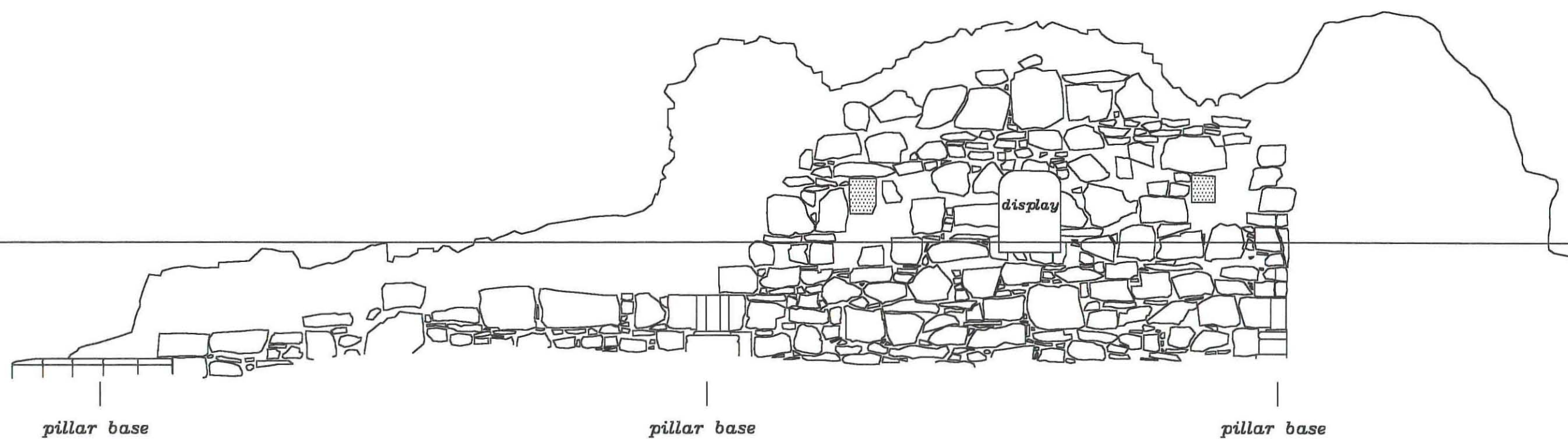
Survey 1997–2000



DRAWING 18

ABBEY CWMHIR

Survey 1997–2000



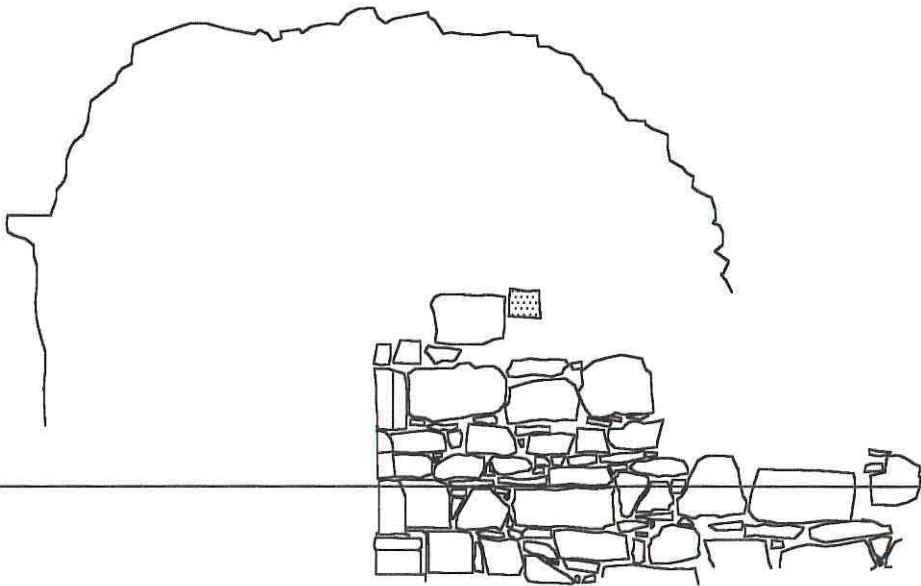
 putlog holes

0 1 2 3 4 5m

DRAWING 19

ABBEY CWMHIR

Survey 1997–2000



|
pillar base



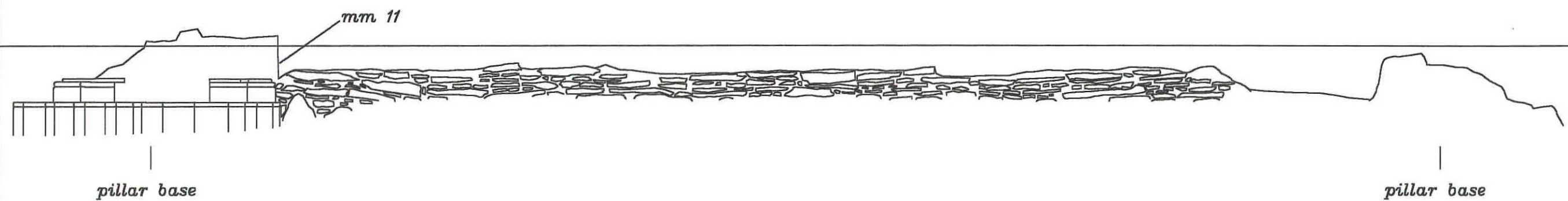
putlog holes



DRAWING 20

ABBEY CWMHIR

Survey 1997–2000



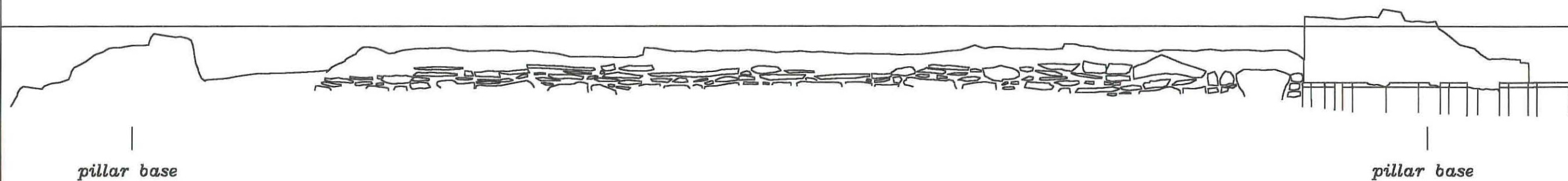
• mm Mason's mark

0 1 2 3 4 5m

DRAWING 21

ABBEY CWMHIR

Survey 1997–2000



0 1 2 3 4 5m

DRAWING 22