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Engineering Archaeological Services Ltd.

Harlech Castle Gate House Steps

Archaeological Watching Brief

Commissioned by
Cadw

Fieldwork by
I.P. Brooks
Engineering Archaeological Services Ltd

EAS Client Report 2023/14

Engineering Archaeological Services Ltd is

Registered in England No 286978

CONTENTS

List of Illustrations

NGR

Centred on: SH 58116 31247

PRN: 2908

NPRN: 93729

Listed Building: 25500, Grade I

Scheduled Monument: ME044

World Heritage: 374, The Castles and Town Walls of King Edward in Gwynedd

Registered Historic Landscape: HLW (Gw) 2

Within the Harlech Conservation Area

Location and Topography (Figure 1)

Harlech Castle is located within the centre of the town on a rocky crag of hard sandstones and mudstones of the Rhinog Formation of the Harlech Grits (Lott, 2010, 116). It has views across Tremadog Bay and towards Snowdonia.

The area of investigation is within the inner ward, immediately to the south of the point where the entrance passage opens into the inner ward. Prior to the works taking place it consisted of a straight flight of stone steps, running parallel with passageway, which lead to a dog-leg flight of stairs leading to the first-floor access to the gatehouse.

Archaeological Background

As part of works to improve the public access to Harlech Castle work was commissioned to convert the existing gatehouse steps back to a design that is thought to be more like that in the medieval period. This involved the removal of a straight flight of steps at right angles to the gatehouse which led to the dog-leg flight of stairs which loop around the south and east sides of the gatehouse (Figure 2, Plates 1 – 4).

Engineering Archaeological Services Ltd were commissioned to carry out an archaeological watching brief and to dig a small test pit to test the survival of archaeologically sensitive deposits in the area in front of the gatehouse.

Soon after taking responsibility for Harlech Castle on 26th December 1914, the Office of Works started a programme of conservation works (Ashby 2017, 22) including excavations in the inner ward. This seems to have revealed the wall running from the junction between Ystumgwern Hall and the Granary to a point in front of the gatehouse. This wall is not shown on the plan prepared by Hughes (1913), but is shown both on the plan by Peers (1923) and on the plate opposite page 77. Its interpretation, however, is not certain and it is ignored on the phase plans up to the latest plan by Ashbee (2017). The early publications also show the stairs up to the first-floor level of the gatehouse as a dog-leg flight of steps with no straight flight of steps parallel with the entrance passage. The plate in Peers (1923, facing p.77) does show a short ramp leading to the foot of the dog-leg flight, but not the shallow flight of steps recorded before the work started.

Aims of Archaeological Work

1. To record any archaeological deposits or features revealed by the demolition of the stairs
2. To investigate the survival of archaeologically sensitive deposits in the area in front of the gatehouse.

SUMMARY OF RESULTS

An archaeological watching brief on the removal of a set of stone steps, just inside the gatehouse at Harlech Castle was carried out between 27/03/2023 and 25/05/2023. This revealed the remains of a possible wall below the steps. A trail trench was also excavated between the gatehouse and a wall crossing the inner ward which suggested that some stratified deposits survive in this area.

The work was commissioned by Cadw.

Rhwng 27/03/2023 a 25/05/2023, cynhaliwyd brîff gwylio archaeolegol ar symud set o risiau carreg, ychydig y tu mewn i'r porthdy yng Nghastell Harlech. Datgelodd hyn weddillion wal bosibl o dan y grisiau. Cloddiwyd ffos llwybr hefyd rhwng y porthdy a wal sy'n yn croesi'r beili mewnol a oedd yn awgrymu bod rhai dyddodion haenog wedi goroesi yn yr ardal hon.

Comisiynwyd y gwaith gan Cadw

Methods

A watching brief was undertaken between 27/03/2023 and 25/05/23 with the majority of the work taking place between 28/03/23 and 13/04/23. The main contractor, Grosvenor Construction Ltd who were responsible for the demolition of the steps which was carried out with the aid of a pneumatic pecker on a micro excavator.

In addition to the watching brief a single, small (approximately 1 x 1 m), trench was dug, by hand, at the junction between the steps and the wall crossing the inner ward. This was intended to investigate the relationship between the steps and the wall and to determine whether any original structure survived below what is clearly a "Ministry of Works" reconstruction of the wall. This proved not to be possible because of concrete skirt running along the side of the wall preventing access to any remains.

Photographs were taken with a Nikon D5300 Digital SLR Camera at a resolution of 24.2 MP with the photographs recorded in RAW format, which was converted to .TIFF for the archive. Where possible the photographs included a metric scale. Further photographs were taken with a Akaso Brave 6 Plus, with a resolution of 20.1 MP, on an extendable pole which were processed with Agisoft Metascape v. 2.0.2 to produce a series of photogrammetric models.

Results

Watching Brief

Prior to the demolition of the steps, the access to the first-floor level of the gatehouse was via an external flight of steps which curved down from a landing (Figure 2, Plates 1 – 4). At the base of these steps a straight flight of steps ran parallel with the main passage through the gatehouse and at right angles to the inner, western face of the gatehouse. The curving steps

are based on the "stately stayer" which was not part of the original castle design, but had been constructed before the sixteenth century (Peers, 1923, 74-75). It is likely that only the large stones at the base of the curved stone are original and that the stairs have been largely re-constructed. This, however, took place before 1913 as it appears on Hughes's plan of the castle (Hughes (1913, 287 and 288). The straight flight is much later having been constructed after 1920 (Peers 1923, facing 79), but before 2007 (Williams and Kenyon 2010, Plate 12). Peers' gatehouse plans (Peers 1923, facing 79) had some sort of structure attached to the western side of the curving stairs, but it was not integrated with the route to the first floor (Peers 1923, Plates opposite pages 74 and 77). The straight flight of steps cut both the bottom of the dog-leg flight and a wall that crosses the inner ward from the junction between Ystumgwern Hall and the Granary, on the southern side of the inner ward, to midway along the straight flight of steps (Plates 3 and 4). The function and date of this wall is unknown, it was not shown on Hughes' plan of 1913, but was recorded on Peers' plan published in 1923, possibly suggesting that the wall was exposed during the conservation works.

The removal of the bulk of the straight stairs structure was undertaken using a micro-digger with a pneumatic pecker. However, during the course of this work it became apparent that there was a change in the colour and texture of the lime mortar exposed. This was further investigated and proved to be a band of yellowish lime mortar with angular stone blocks, approximately 1.0 m wide (Figure 5, Plates 6 and 7). This runs approximately ENE to WSW at an angle of 111° to the wall that crosses the inner ward from the junction between Ystumgwern Hall and the Granary. Whilst no facing blocks survive the relatively straight southern edge of the feature would suggest that only the facing blocks are missing from this edge. The western end and the relationship to the wall crossing the inner ward has been lost as the construction of the steps has destroyed this end of the feature. It would seem, however, likely that the two possible walls were contemporary.

The removal of the steps revealed part of the face of the stair turret (Plate 8, Figure 6) and of the gatehouse (Plate 9, Figure 7). It also showed part of the construction of the stair turret steps (Plate 10). Although the construction of the straight flint of step involved the destruction of the lower portion of the stair turret a few of the facing blocks survived extending the face of the stair turret by approximately 0.5 m (Plate 8, Figure 6). At this lower level it is possible that this facing is part of the "stately stayer" thought to have been constructed before the sixteenth century (Peers, 1923, 74-75).

The original face of the gatehouse was also exposed (Plate 9, Figure 7). Although the quoins, to the gate passage, were well defined the remaining area has a skim of lime mortar making the definition of any blocks difficult. It is clear that water had been running down the crack between the stair turret and the gatehouse as the mortar had mobilised in places forming small stalactite like structures.

Below the steps of the stair turret its rubble core was exposed by the works (Plate 10).

Excavation

A small trench, approximately 1 m square, was excavated (Figure 8). This was originally designed to investigate the relationship between the wall crossing the inner ward and the possible wall revealed by the works. Unfortunately, the use of concrete on the side of the cross wall and the steps as a drain meant that it was not possible to investigate this relationship. The removal of approximately 60 mm of topsoil (Context 1) (Figure 9.1 and 10, Plate 11) revealed a layer of mid orangish brown sandy clay (Context 4) which appears to be

silting in the base of the concrete drain (Context 16) running alongside the steps and the wall. The inner edge of this feature was defined by a series of slate slabs (Context 3). The presence of the concrete meant that it was not possible to investigate the relationship of the wall crossing the inner ward and the steps. It was also not possible to assess if any of the original structure of the wall survives below the relatively modern reconstruction.

Within the bulk of the trench Context 1 sealed Context 2, a dark brown sandy loam with fragments of stone and slate, which was 100 mm thick. This layer sealed Context 5 (Figures 9.2 and 11, Plate 13), a mixed yellow/brown clay with building rubble up to 240 mm in size, including limestone blocks, slate and sand patches. This layer was up to 120 mm thick and was cut by a narrow trench (Context 7). This was dug to hold the slate border to the drain associated with the wall crossing the inner ward. Context 7 was filled with Context 6, a mid-brown sandy soil with some patches of lime mortar.

Also within the north eastern corner of the trench was a pad of lime mortar 300 x 200 mm in size (Context 8) with an iron pin at its centre (Plate 12). The pin was 25 mm in diameter and presumably originally supported a notice.

Below Context 5 was a layer of yellow gravelly clay with patches of lime mortar up to 100 mm thick (Context 9). Which, in turn, sealed a patch of clay heated to a bright red colour (Context 10), at least 500 mm wide, in the south east corner of the trench (Figure 10.1 and 11, Plates 14, 16, 19 and 20). This possible hearth had a heat, hardened, top surface and it filled a hollow up to 150 mm deep (Context 17). At the same level as the possible hearth was a burnt surface with a spread of charcoal fragments on a discoloured clayey surface (Context 11). The lower part of this layer contained a series of angular stone chips and fragments up to 150 mm in size. This lower part of the layer was quite loosely packed, whilst the top of the layer was compact and trampled.

Below Contexts 11, Context 12 was a dump of dark grey and dark yellowish-brown sand up to 80 mm thick.

Below this level and running across the trench was a layer of mid yellowish brown sandy gravel (Context 13) which had a moderate quantity of angular stones up to 100 mm in size. The layer also contained the rare fleck of charcoal and a few animal bones including a boar's tusk.

Context 13 sealed a possible, shallow, linear feature 600 mm wide and up to 100 mm deep which was cut into the natural clay (Figures 10.2 and 11, Plates 18, 19 and 20). It was filled with mid yellowish brown sandy gravel with many, small (up to 20 mm) angular stones and rare larger stone fragment up to 100 mm in size.

Discussion

The demolition of the steps in Harlech Castle, surprisingly, revealed the remains of a wall which probably is an extension of the wall which crosses the inner ward from the junction between Ystumgwern Hall and the Granary to a point in front of the gatehouse. These walls are, however, are at an angle of approximately 110 ° to each other. The position of the wall crossing the inner ward and the angle between two wall sections may suggest that neither were structural in nature and may represent an internal division within the inner ward.

Unfortunately, the relationship between these two walls has been destroyed by the construction of the steps and the reconstruction of the wall crossing the inner ward.

The trail trench has shown that at least some *in situ*, stratified deposits survive within the inner ward and that the conservation works undertaken in the early twentieth century has not removed all of the internal stratigraphy. At least five phases of activity are suggested by the excavation. The earliest of which is the possible gulley (Context 14) crossing the trench which is cut into the underlying natural clay (Phase 1). This was sealed by a dump of gravel with some domestic waste (Context 13), presumably to level the area (Phase 2).

Above this is a possible hearth (Context 10) surrounded by a trampled surface (Context 11) which had also been affected by the heat of the possible hearth (Phase 3). The location of the hearth is curious being so close to the stair turret and the wall crossing the inner ward. It would seem probable that the burning took place before the wall across the inner ward was constructed as it is only 0.5 m away from the edge of the possible hearth.

Phase 4 is another phase of levelling up (Context 5). Which was cut by the construction of a concrete based (Context 16) and slate sided (Context 3) drain alongside both the wall across the inner ward and the steps (Phase 5). Given the relatively moder construction of the steps this phase is also late twentieth century in date. It also contains the lime mortar pad with an iron pin (Context 8) which probably originally supported a sign of some sort.

Care must be taken with the interpretation of this trench because of its small size, but it does suggest that there may be at least some surviving stratigraphy, at least between the gatehouse and the wall running across the inner ward.

References

Ashby, J.A. 2017. *Harlech Castle.* Cadw, Cardiff

Hughes, H. 1913. Harlech Castle. *Archaeologia Cambrensis 13, 275 - 316*

Lott, G. 2010. The Building Stones of the Edwardian Castles. In Williams and Kenyon 2010.

Peers, C.R. 1923. Harlech Castle. *Transactions of the Honourable Society of Cymmrodorion 1922. 62 – 82*

Royal Commission on the Ancient and Historical Monuments and Constructions in Wales and Monmouthshire. 1921. *An Inventory of the Ancient Monuments of Wales and Monmouthshire. VI County of Merioneth.* HMSO London.

Williams, D.M. and Kenyon, J.R (eds.) 2010. *The Impact of the Edwardian Castles in Wales. The proceedings of a conference held at Bangor University, 7-9 September 2007.* Oxbow Books, Oxford.

Acknowledgements

The work was commissioned by Cadw and thanks are due to Ian Halfpenney and Chris Wilson for this. The main contractor was Grosvenor Construction Ltd and the support of Will Mellor and his team is gratefully acknowledged, in particular Lee the foreman for the project and Sam the labourer for their help on site.

Figure 1: Location
Scale 1:25,000

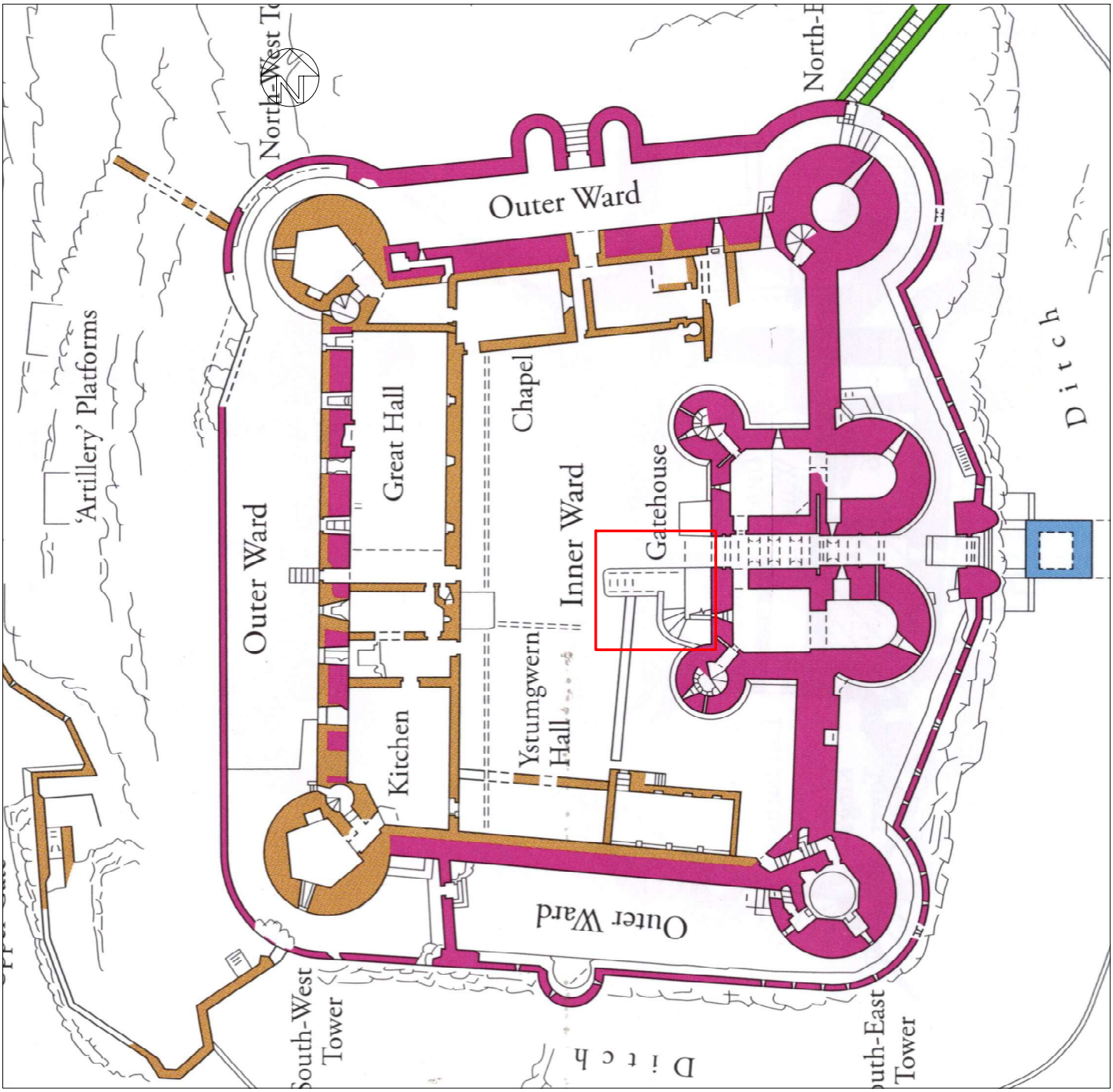


Figure 2: Location of the Works
Scale 1:500

Based on Williams and Kenyon 2010, Plate 12

Figure 3: Photogrammetric Plan of the Existing Steps
Scale 1:100

Figure 4: Photogrammetric Elevation of the Existing Steps
Scale 1:100

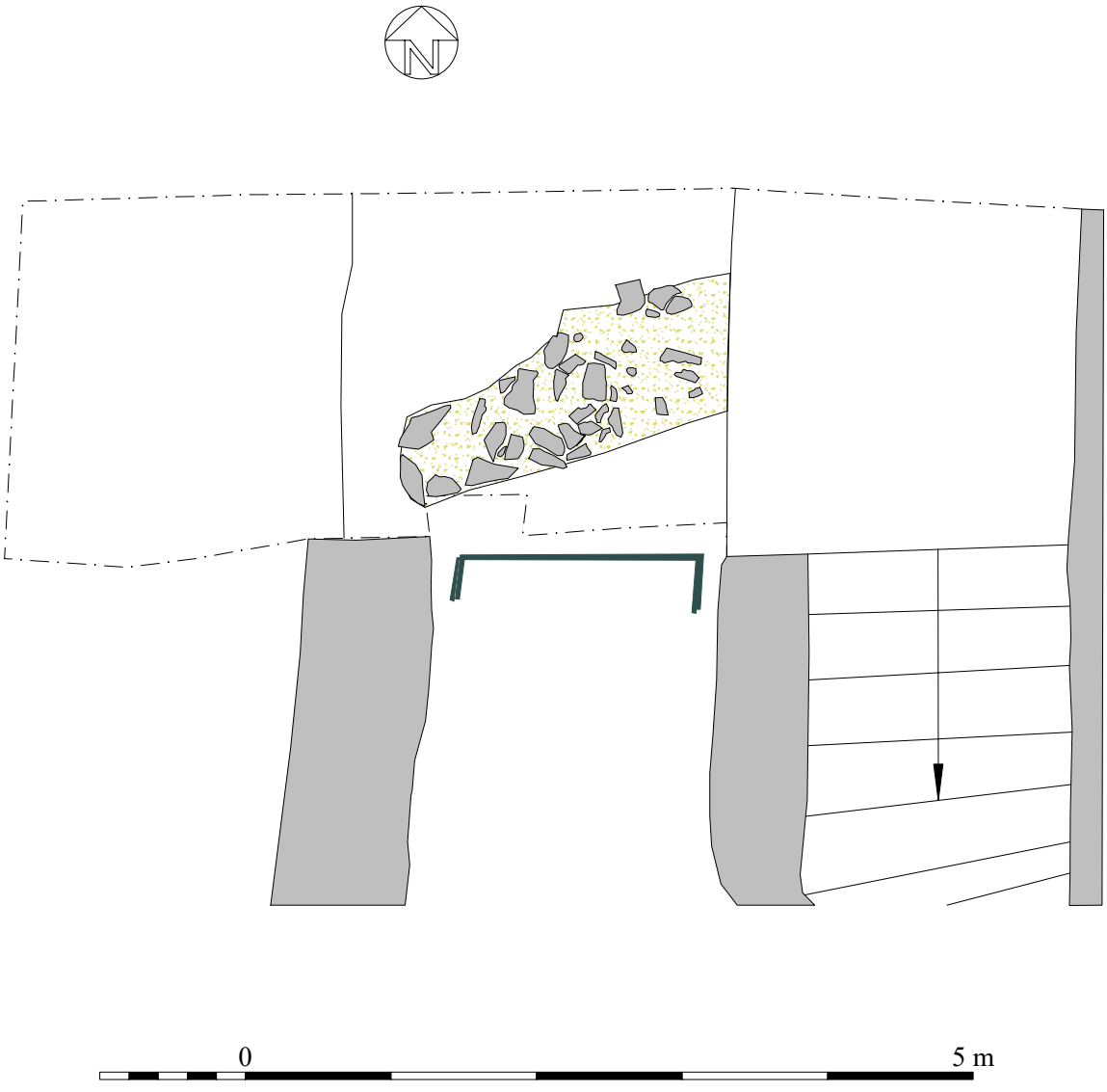


Figure 5: Plan of the Possible Medieval Wall
Scale 1:50

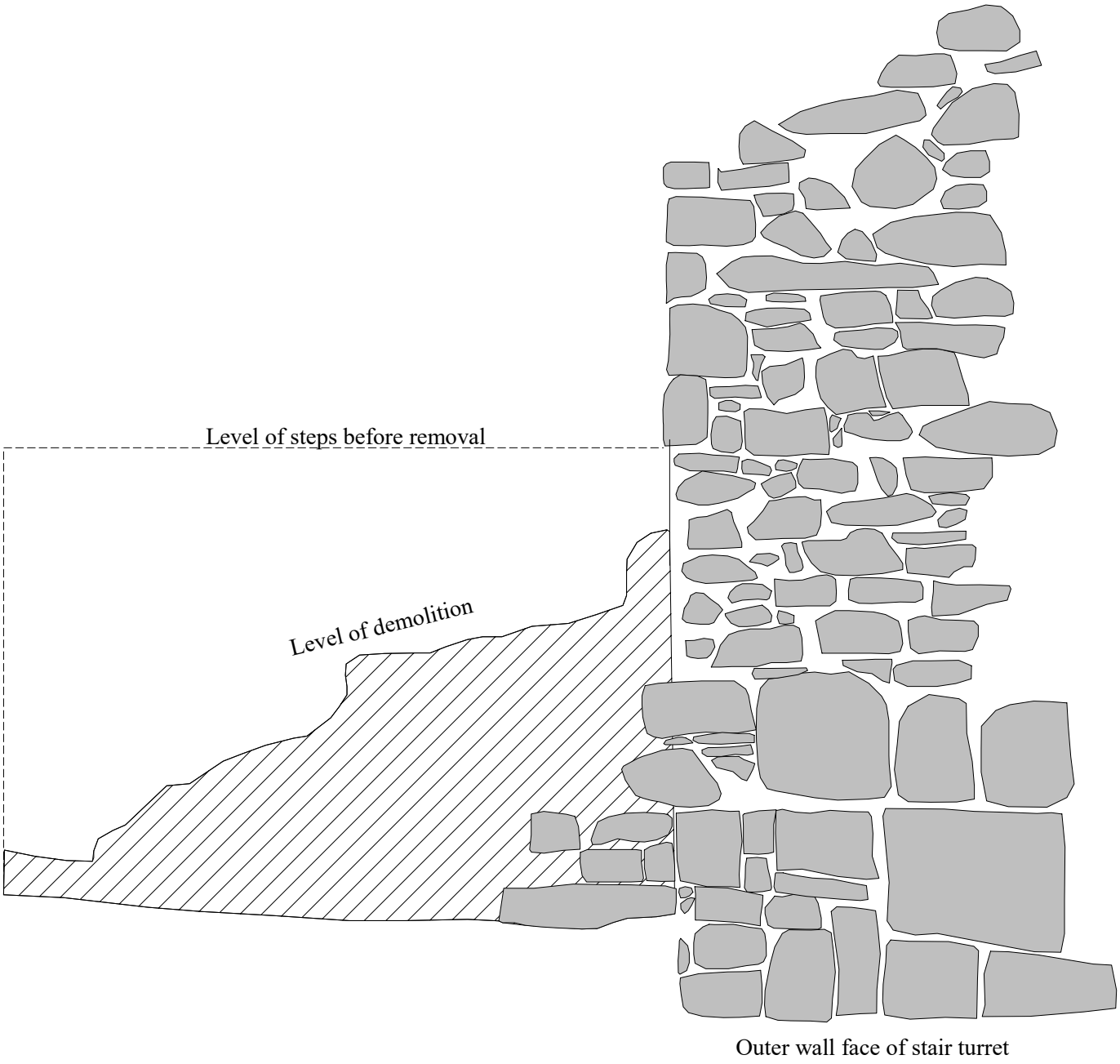


Figure 6: Extension of the Stair Turret Wall into the Steps
Scale 1:20

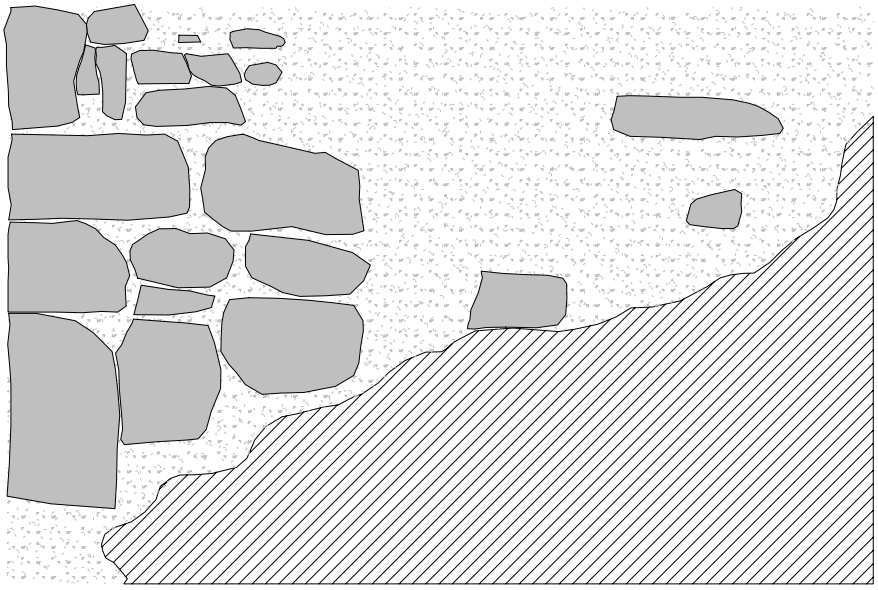


Figure 7: Face of the Gatehouse behind the Steps
Scale 1:20

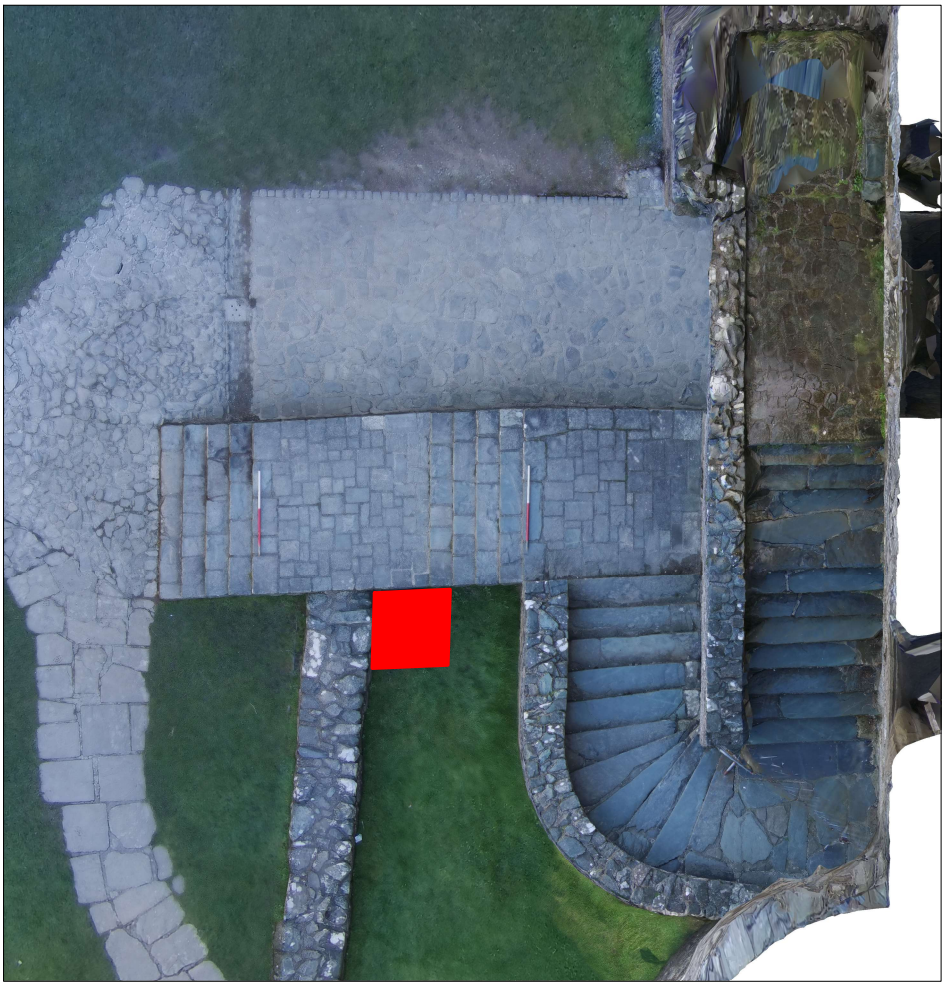


Figure 8: Location of the Trench
Scale 1:100

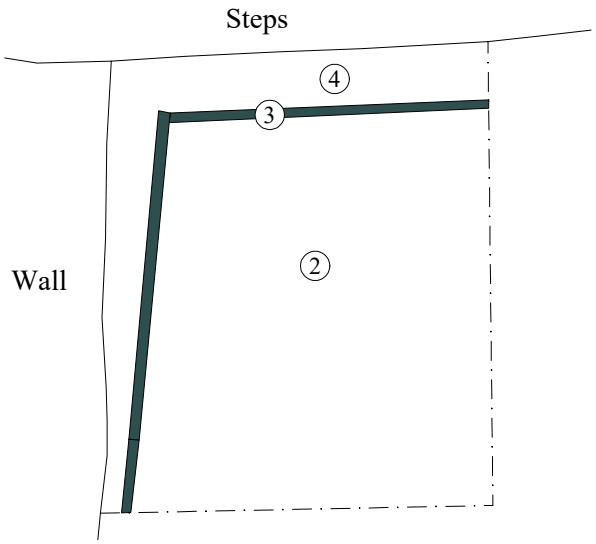


Figure 9.1: Plan after the removal of Context 1

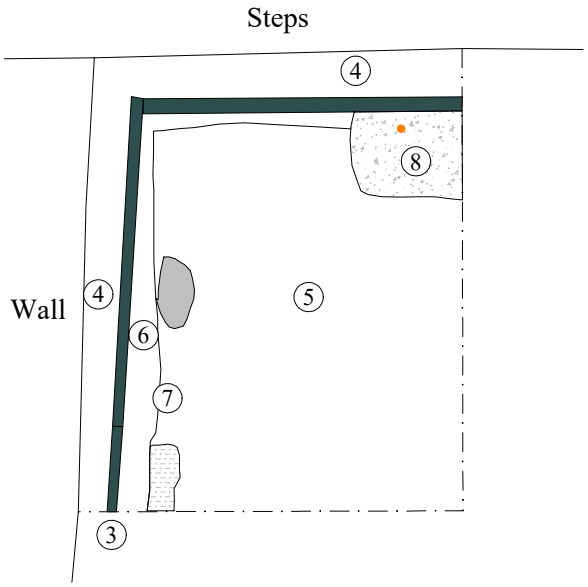


Figure 9.2: Plan after the removal of Context 2

Figure 9: Plans
Scale 1:20

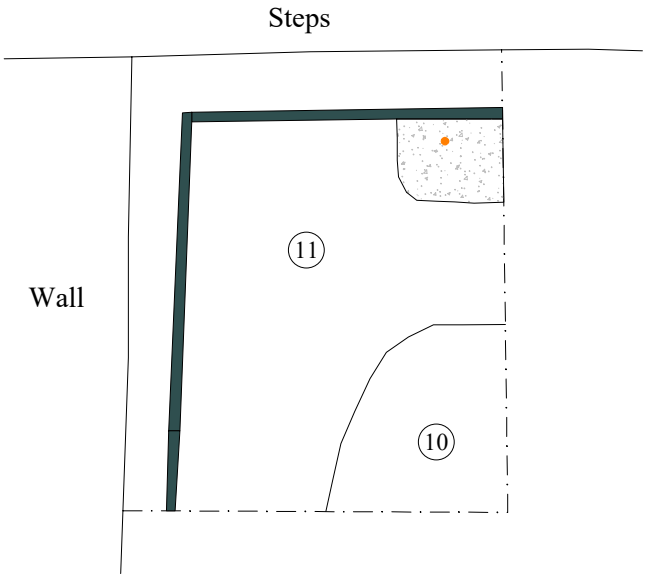
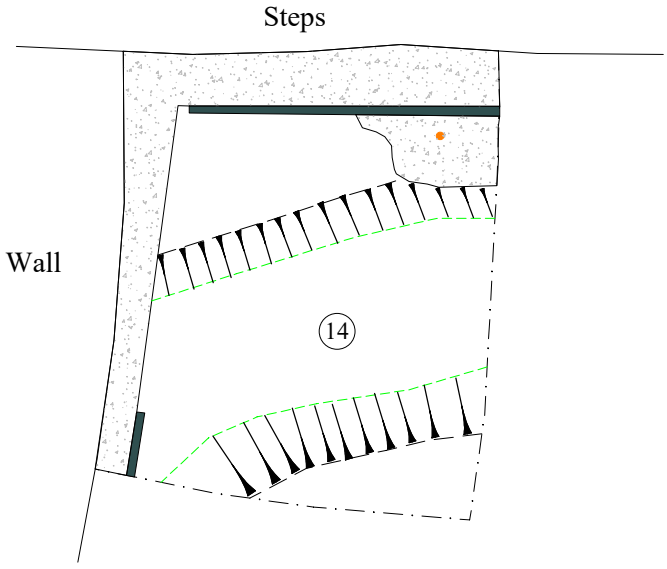


Figure 10.1: Plan after the removal of Context 5



Plan 10.2: Plan after the removal of Contexts 10 and 11

Plan 10: Plans
Scale 1:20

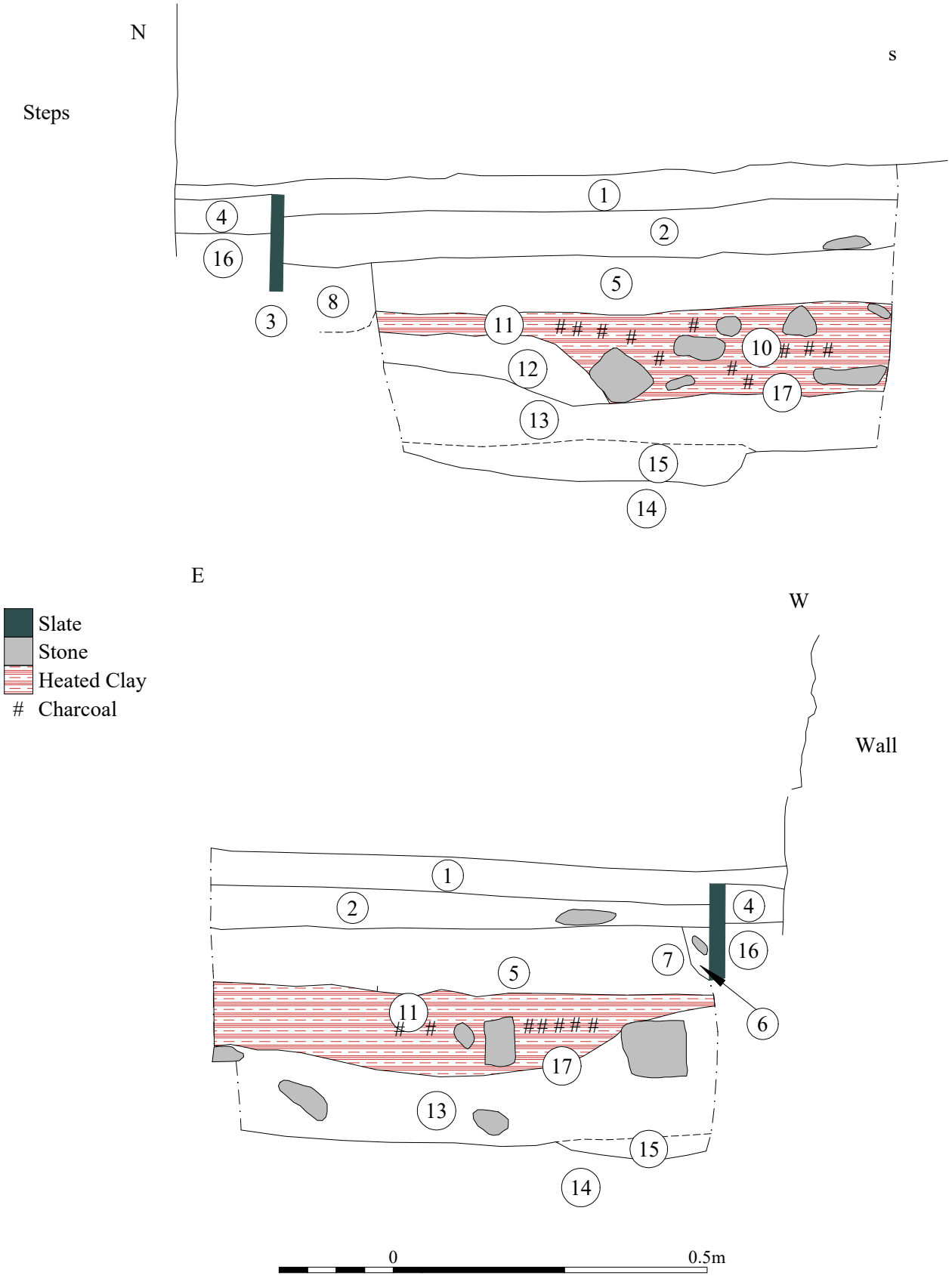


Figure 11: Sections
Scale 1:10

Figure 12: Summary of the work undertaken
Scale 1:100

Plate 1: Steps looking east

Plate 2: Steps, looking south

Plate 3: Steps looking north

Plate 4: Steps, looking NE

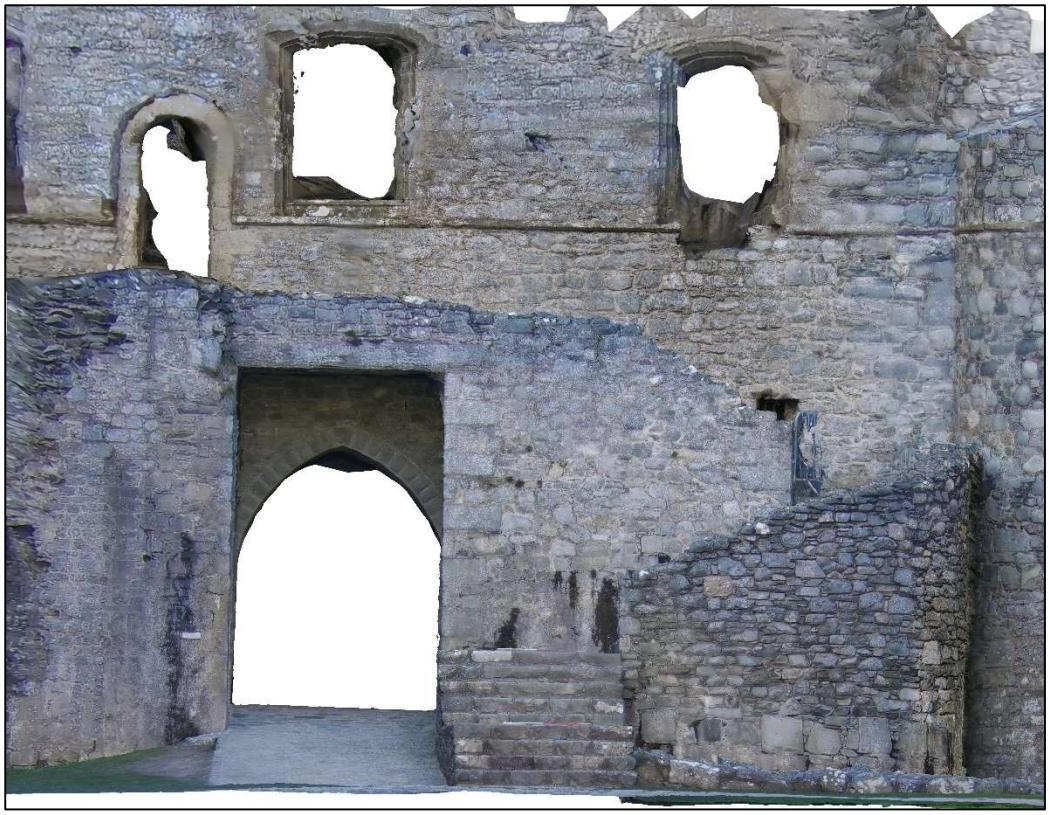


Plate 5: Photogrammetric image of the western face of the gatehouse

Plate 6: Possible wall below the stairs

Plate 7: Photogrammetric plan

Plate 8: Face of the stair turret wall

Plate 9: Face of the gatehouse

Plate 10: Rubble fill below the gatehouse steps

Plate 11: Trench after the removal of the topsoil (Context 1)

Plate 12: Concrete pad (Context 8) in the north east corner of the trench

Plate 13: Trench after the removal of Context 2

Plate 14: Trench after the removal of Context 9, showing the burnt surface and possible hearth (Contexts 10 and 11)

Plate 15: Trench after the removal of Contexts 10 and 11

Plate 16: Section through the possible hearth (Context 10)

Plate 17: Trench showing Context 12

Plate 18: Possible gully (Context 14)

Plate 19: Section of possible gully (Context 14), looking east

Plate 20: Section of possible gully (Context 14), looking south

Appendix 1: Specification

Specification for the Recording of Works Undertaken to Replace Steps in the Inner Ward of Harlech Castle

Specification written by I.P. Brooks 04/03/2023

1. Background

1.1. Cadw wish to remove the later stone steps within the inner ward of Harlech Castle and replace them with the original arrangement of steps. This will reveal the remains of medieval walling already exposed to the side of the steps.

1.2. Harlech Castle is a scheduled ancient monument (ME044) as well as being a Grade I Listed building (25500). It is also within the UNESCO "Castles and Town Walls of King Edward in Gwynedd World Heritage site

1.3. The proposed works includes the removal of the later stone steps together with some work to the wall walk.

1.4. This specification is based on;

1.4.1. Emails from Chris Wilson and Ian Halfpenney of Cadw

1.4.2. A telephone conversation with Ian Halfpenney of Cadw

2. Aims

2.1. To record any archaeologically significant deposits or features disturbed by the proposed wor

3. **Method**

3.1. A suitably qualified archaeologist will be present during all groundworks associated with the works.

3.2. The medieval structure assumed to be behind the later steps will be recorded.

3.3. All features or archaeologically significant deposits revealed by the ground works will be fully recorded including:

3.3.1. A written description of deposit: type, components etc.

3.3.2. Drawn plans and sections at suitable scales

3.3.3. Photographs will be taken with Nikon D5300 Digital SLR Camera at a resolution of 24.2 MP at a resolution of 24.2 MP in RAW, subsequently converted to TIFF and JPEG for archiving and presentation

3.3.4. Plan drawing showing extent of deposit.

3.3.5. Section drawing of any feature recorded to record vertical stratigraphy

3.3.6. Cadw will be notified immediately if significant archaeological deposits, features or artefacts are located.

3.3.7. The photographs will include metric scales

3.3.8. All artefacts and ecofacts will be recorded by context.

3.3.9. Each deposit, feature or layer will be identified by a unique context number to which all other records will be related

3.3.10. Where possible, features will be sampled to obtain dating and functional evidence.

3.3.11. Where possible, elevation drawings of feature half sections to record vertical stratigraphy.

3.3.12. Where appropriate, deposits will be sampled for environmental, dating or technological evidence. Samples will be fully recorded and packed appropriately for future analysis.

3.3.13. Sampling will be carried out in accordance with the procedures outlined in English Heritage. 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation.

3.3.14. If human remains are encountered all works will stop until the appropriate permissions have been obtained.

3.4. Finds

3.4.1. Post medieval finds will be recorded by M. Jones of CR Archaeology.

3.4.2. If any other finds are recovered, they will be studies by an appropriate specialist. The selection of the specialist will be made in consultation with Cadw

3.4.3. Any metal or other special finds will be studied by an appropriate specialist to be agreed in consultation with the Cadw.

3.4.4. All ceramic, bone and stone artefacts will be cleaned and processed immediately following the watching brief.

3.4.5. Metal artefacts will be stored and managed on site according to the UK Institute of Conservation Guidelines.

3.4.6. Any samples taken for environmental analysis will be assessed and studied by an appropriate specialist to be agreed in consultation with Cadw.

3.4.7. All finds will be bagged by context with the exception of closely datable or "special" finds which will be recorded with a 3 D position and will be bagged separately

3.4.8. The requirement for specialist archaeological reports will be discussed with Cadw. The extent and cost of any such report will be discussed with the client and a suitable level of response formulated in discussion between the Archaeologist and Cadw.

3.5. Archive Preparation and Report Preparation

3.5.1. On competition of fieldwork an archive of the results will be prepared.

3.5.2. The digital records will be archived with the Royal Commission on Ancient and Historic Monuments of Wales

3.5.3. The digital archive will be prepared in line with Royal Commission on Ancient and Historic Monuments of Wales. 2015. Guidelines for digital archives

3.5.4. The deposition of any find with a local museum will be discussed with Cadw and the development control archaeologist with a strong recommendation that any finds are deposited in a suitable local museum.

3.6. A summary report on the findings of the investigations will be prepared and completed within four weeks from completion of the project. This will summarise the results of the project including;

3.6.1. A site location plan

3.6.2. A plan of the site locating any features or archaeological deposits located.

3.6.3. An outline methodology

3.6.4. The results excavations.

3.6.5. A full bibliography

3.6.6. A copy the agreed specification

3.6.7. An assessment of the potential for further archaeological investigation

3.6.8. Up to five copies of the report will be provided.

3.6.9. A digital copy of the report will also be provided.

3.6.10. A digital copy of the report will be supplied to the Gwynedd Historic Environment Record

3.6.11. A draft copy of the report will be submitted to the Cadw Inspectorate for comment within one month of the completion of the fieldwork

3.7. The preparation of the report will conform to the Welsh Archaeological Trusts 2018 "Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)"

4. Personnel

4.1. The project will be directed by Dr I.P. Brooks MCIfA FSA

4.2. Project Staff will include Dr I.P. Brooks MCIfA FSA

4.3. Engineering Archaeological Services Ltd was formed in 1993 and has carried out numerous archaeological projects including the assessment and evaluation of Porth Mawr.

5. General

5.1. IFA Code of Conduct

5.1.1. All staff will abide by, and all procedures be carried out in accordance with the Institute of Field Archaeologists' Code of Conduct.

5.2. Health and Safety

5.2.1. EAS Ltd adopts and adhere to safe working practices at all times. A copy of the company's general statement of policy is available on request.

5.3. Liaison

5.3.1. Cadw and the Gwynedd Archaeological Planning Service will be informed in advance of the works being carried out.

5.3.2. Procedures will be put in place for the monitoring of the project by the Gwynedd Archaeological Planning Service and Cadw

5.4. Insurance

5.4.1. EAS Ltd carries all necessary Public and Employee Liability Insurances.

5.4.2. EAS Ltd carries Professional Indemnity Insurance.

5.5. Copyright

5.5.1. EAS Ltd shall retain full copyright of any commissioned reports, tender documents or other project documentation, under the Copyrights, Designs and Patents Act 1988 with all rights reserved: excepting that it hereby provides an exclusive license to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

5.5.2. EAS Ltd is prepared to assign copyright at the request of the client.

6. Data Management

6.1. Photographs will be taken in Nikon NEF (Raw) format

6.1.1. These will be converted to TIFF for archiving and JPEG for illustrations and general use.

6.1.2. Photographs for photogrammetry will be taken in JPEG format and processed using Agisoft Metascape v. 1.6.3. Orthographically corrected elevations photos will be produced in JPEG format and converted to TIFF for archiving.

6.2. Any topographic survey will be carried out using a Leica TS06 total station with the data processed using NRG Engineering Surveying System V2016.00.

6.2.1. Survey files will be converted to DXF format.

6.3. Initial written notes will be made on an "i Pad" using the "Pages" app. These will be converted to WORD format (.docx) format on downloading

6.4. The text for the report will be produced in Word (.docx) format

6.5. Drawing will be made in TurboCad 2021 v. 28.0 and stored in .TCW format. These will be converted into .DXF or .DWG format for archiving.

6.6. The report will be converted to .PDF format using Expert PDF 14.

6.7. All files will be stored on the company laptop computer and backed up onto a suitable storage device.

7. Timetable

7.1. It is not possible to give a timetable for the works as it is reactive to the programme of the main contractor. It is believed that the work will start on 20th March 2023.

7.2. A suitably qualified archaeologist will be available to record any archaeologically significant feature revealed by the construction works.

Appendix 2: Context Summary

Context	Description	Relationships
1	Turf and topsoil. Humid rich very dark brown soil up to 90 mm thick	Above 2, 3 and 4
2	Dark brown sandy loam with fragments of stone and slate	Below 1 Abutting 3 Above 5 and 8
3	Slate border, upright slate slabs, 20 mm thick running parallel to both the straight steps and the wall crossings the inner ward	Below 1 Abuts 2, 4 and 6 Within 7
4	Mid orangish brown sandy clay between Context 3 and the walls. Probable silting within the drain	Below 1 Abuts 3 Above 16
5	Mixed yellow/brown clay with building rubble up to 240 mm including limestone blocks, slate and sand patches	Below 2 Cut by 7 and 8 Above 9
6	Mid brown sandy soil with some patches of lime mortar	Below 2 Within 7 Cut by 8
7	Cut for slate slabs running parallel to both walls	Below 2 Contains 3, 4 and 6, Cuts 5
8	Bowl of lime mortar with an iron pin at its centre. 300 x 200 mm in size with iron pin 25 mm in diameter	Below 2 Cuts 7
9	Yellow gravelly clay with patches of lime mortar. Layer 100 mm thick. Contains some angular stones up to 50 mm and rare large limestone fragment up to 250 mm	Below 5, Above 10 and 11
10	Patch of red, heated clay in the corner of the trench probably originally a circular burnt feature with a diameter of about 500 mm. Fills a hollow up to 150 mm deep	Below 9, Abuts 11 Above 13
11	burnt surface with spread of charcoal frags and smears on a discoloured clayey surface. The lower part of this layer contained a series of angular stone chips and fragments up to 150 mm in size. This lower part of the layer was quite loosely packed, whilst the top of the layer was compact and trampled. Possible deliberate layer.	Below 9 Abuts 10 Above 12
12	Dump of dark grey and dark yellowish-brown sands	Below 10 and 11 Above 13
13	Mid yellowish brown sandy gravel with a moderate quantity of angular stones up to 100 mm in size, but generally less than 50 mm. Rare fleck of charcoal and a few animal bones including a boar tusk	Below 12 Above 14 and 15

Context	Description	Relationships
14	shallow linear feature crossing the trench in a SW - NE direction. 600 mm wide, but only up to 100 mm deep with sloping sides and a flat base	Below 13, Contains 15
15	mid yellowish brown sandy gravel with many, small (up to 20 mm) angular stones and rare larger stone fragment up to 100 mm	Below 13 Within 14
16	Concrete base to the drain running alongside the wall crossing the inner ward and the steps. Layer is 170 mm wide and of unknown depth	Below 4 Abuts 3
17	Hollow containing the possible hearth (Context 10) Hollow at least 550 mm wide and 150 mm deep with sloping sides and a flat base	Contains 10 Cuts 12

Appendix 3: Photographic Index

File	Scale	Description
Harlech2023_01.TIF	1 m	The steps before demolition looking east
Harlech2023_02.TIF	1 m	The steps before demolition looking south
Harlech2023_03.TIF	1 m	The steps before demolition looking north. Includes the wall crossing the inner ward
Harlech2023_04.TIF	1 m	The steps before demolition, looking NE
Harlech2023_05.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_06.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_07.TIF	1 m	The steps after partial demolition, looking east
Harlech2023_08.TIF	1 m	The steps after partial demolition, looking east
Harlech2023_09.TIF	1 m	Possible wall emerging from the demolition of the steps, looking east
Harlech2023_10.TIF	1 m	Possible wall emerging from the demolition of the steps, looking east
Harlech2023_11.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_12.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_13.TIF	1 m	Face of the gatehouse behind the steps
Harlech2023_14.TIF	1 m	Face of the gatehouse behind the steps
Harlech2023_15.TIF	1 m	Structure of the stair turret, looking south
Harlech2023_16.TIF	1 m	Structure of the stair turret, looking south
Harlech2023_17.TIF	1 m	Wall within the steps, looking east
Harlech2023_18.TIF	1 m	Wall within the steps, looking east
Harlech2023_19.TIF	1 m	Wall within the steps, looking east
Harlech2023_20.TIF	1 m	Wall within the steps, looking east
Harlech2023_21.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_22.TIF	1 m	Face of the stair turret extending behind the steps structure
Harlech2023_23.TIF	1 m	Face of the gatehouse behind the steps
Harlech2023_24.TIF	1 m	Face of the gatehouse behind the steps
Harlech2023_25.TIF	1 m	Relationship between the stair turret and the steps, looking south
Harlech2023_26.TIF	1 m	Relationship between the stair turret and the steps, looking east
Harlech2023_27.TIF	1 m	Relationship between the stair turret and the steps, looking east
Harlech2023_28.TIF	1 m	Section through the wall crossing the inner bailey
Harlech2023_29.TIF	1 m	Section through the wall crossing the inner bailey
Harlech2023_30.TIF	1 m	Possible wall within the steps, looking east
Harlech2023_31.TIF	1 m	Southern side of the possible wall within the steps
Harlech2023_32.TIF	1m	Trench after the removal of Context 1
Harlech2023_33.TIF	1m	Trench after the removal of Context 1
Harlech2023_34.TIF	1 m	Trench after the removal of Context 2
Harlech2023_35.TIF	1 m	Trench after the removal of Context 2
Harlech2023_36.TIF	100 mm	Detail of Context 8
Harlech2023_37.TIF	100 mm	Detail of Context 8
Harlech2023_38.TIF	1 m	Trench showing Context 5
Harlech2023_39.TIF	1 m	Trench showing Context 5
Harlech2023_40.TIF	1 m	Trench showing Contexts 10 and 11
Harlech2023_41.TIF	1 m	Trench showing Contexts 10 and 11
Harlech2023_42.TIF	1 m	Trench showing Contexts 10 and 11
Harlech2023_43.TIF	1 m	Trench showing Contexts 10 and 11
Harlech2023_44.TIF	1 m	Trench showing Context 17

File	Scale	Description
Harlech2023_45.TIF	1 m	Trench showing Context 17
Harlech2023_46.TIF	1 m	Section through Context 17, looking south
Harlech2023_47.TIF	1 m	Section through Context 17, looking south
Harlech2023_48.TIF	1 m	Section through Context 17, looking south
Harlech2023_49.TIF	1 m	Trench showing Context 17, from above
Harlech2023_50.TIF	1 m	Trench showing Context 17, from above
Harlech2023_51.TIF	1 m	Trench showing Context 14, from above
Harlech2023_52.TIF	1 m	Trench showing Context 14, from above
Harlech2023_53.TIF	1 m	Section through Context 14, looking east
Harlech2023_54.TIF	1 m	Section through Context 14, looking east
Harlech2023_55.TIF	1 m	Section through Context 14, looking south
Harlech2023_56.TIF	1 m	Section through Context 14, looking south
Harlech2023_57.TIF	1 m	Section through Context 14, looking south
Harlech2023_58.TIF	1 m	Wall within the steps, looking east
Harlech2023_59.TIF	1 m	Wall within the steps, looking SE
Harlech2023_60.TIF	1 m	Wall within the steps, from above
Harlech2023_61.TIF	1 m	Wall within the steps, from above
Harlech2023_62.TIF	1 m	Wall within the steps, looking east
Harlech2023_63.TIF	1 m	Wall within the steps, looking SE
Harlech2023_64.TIF	1 m	Wall within the steps, from above
Harlech2023_65.TIF	1 m	Wall within the steps, from above
Harlech2023_66.TIF	1 m	Section through the wall crossing the inner ward, looking south
Clean oblique.TIF	1 m	Extract from the photogrammetric model looking SE showing the wall within the steps after final cleaning
Clean_plan.TIF	1 m	Photogrammetric plan after final cleaning
Clean_plan2.TIF	1 m	Photogrammetric plan after final cleaning
Existing frontage.TIF		Gatehouse, stair turret and steps looking east from the photogrammetric model. Orthographic projection
Existing iso1.TIF	none	Isographic image from the photogrammetric model of the gatehouse, steps and wall crossing the inner ward, looking NE
Existing iso2.TIF	none	Isographic image from the photogrammetric model of the gatehouse, steps and wall crossing the inner ward, looking SE
Existing Left.TIF	none	Orthographically corrected image of the steps from the photogrammetric model, looking south
Existing Plan.TIF	1 m	Orthographically corrected image of the steps from above, from the photogrammetric model
Existing Right.TIF	none	Orthographically corrected image of the steps from the photogrammetric model, looking north
Gatehouse elevation exposed.TIF	none	Orthographically corrected image of the Gatehouse wall revealed by the demolition of the steps, from the photogrammetric model, looking east
Prestart_elevation.TIF	none	Orthographically corrected image of the gatehouse and stair turret, before the demolition of the steps from the photogrammetric model, looking east
Stair elevation.TIF	none	Orthographically corrected image of the stair turret showing the extension of the facing behind the step. From the photogrammetric model, looking east

File	Scale	Description
Stair elevation_01.TIF	none	Orthographically corrected image of the stair turret showing the extension of the facing behind the step. From the photogrammetric model, looking east