

**INTERIM REPORT  
ON WORK ON THE OUTWORKS BEYOND ST OSWALD'S GATE 2023**



**BRP End of Season Report**

April 2024

Version 3.0

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## **SUMMARY**

*The Bamburgh Research Project (BRP) was set up in the winter of 1996-97 to undertake archaeological investigation of Bamburgh Castle and its environs. As part of the work within the castle the area immediately within St Oswald's Gate was investigated in an effort to identify early elements of the fortification and structures associated with the entrance; documentary evidence indicates that this gate was the principal, and perhaps only, entrance to the fortress in the 8<sup>th</sup> century AD and likely remained such until the main gate was relocated to its present position in the 12<sup>th</sup> century.*

*The rock outcrop on which Bamburgh Castle stands is comprised of volcanic dolerite that rises some 30m above the external ground surface. It measures some 300m south-east to north-west and 70m south-west to north-east. The surface of the plateau is c.3 hectares in area. It undulates somewhat in height, whilst sloping downwards from the Inner Ward area at the south-east, which reaches 45m OD, to the north-west end of the West Ward where St Oswald's Gate lies. Here a natural cleft in the bedrock on the landward side leads out and down the slope of the plateau. This has formed a natural route up to the summit from earliest times bridging, if awkwardly, the height difference between the West Ward at some 22m above sea level and the surrounding ground surface that lay at 13m OD.*

*St Oswald's Gate is written about as the entrance to the fortress of Bamburgh in the 8<sup>th</sup> century AD (Symeon HK, III. pg 37) and was very likely the route up onto the rock plateau since the earliest settlements. The present phase of work, which began in the summer of 2021, is investigating the entrance, the access routes up to the entrance and the structures and outworks built to control this route over many generations. One area of focus was the recovery of the site of the Tower of Elmund's Well, named in records from the 13<sup>th</sup> century (Colvin, H. M. 1973, 556) and onto which a cottage was constructed in the late 18<sup>th</sup> century.*

*The plan outline of the cottage/tower structure was quickly revealed during the first phase of investigation by the removal of foliage and a modest volume of aeolian sand. One of the first exciting discoveries during the 2022 excavation was the presence of two splayed lights (open window-like features) in two of the walls.*

*The elements of the cottage are now exposed fully in plan and when interpreted alongside the available cartographic evidence would suggest that the entrance was re-aligned due to the build-up of sand deposits in the area that have been slowly burying the standing structures during the post-medieval period. Two short flights of more recent stairs, each turning through a right angle, lead to a long straight set of stairs of older character and showing substantial wear, that extended down through the arch to the basement of the tower where we know from cartographic evidence the well was once present, in what is now a basement room. Here excavation must be getting close to the floor level and*

*some four phases of build are seen in the exposed walls that now reach almost two storeys. The lower two of these phases are likely to be elements of the medieval tower and the upper, by default, phases of the cottage that was built on and into the tower from the 18<sup>th</sup> century.*

*There was further work on the postern gate that lies beyond St Oswald's Gate that leads out to the village. This wall had been subject to limited survey and excavation in previous seasons aimed at understanding its age and how it fits into the sequence of outworks. Continued excavation immediately behind the wall that leads back to the castle rock has uncovered more of the structure. The intent for this was to uncover more of the wall, recover some datable finds and identify the level from which it was constructed. The structure as uncovered is a single well-constructed feature of coursed squared masonry that ended abruptly and deliberately short of the rock. A further constructed face abutted the bedrock and the gap between the two faces is a little more than 1m wide, forming what must have been a second gate. The eastern of the two is likely the earlier of them and must have led to a timber stair as it is well above ground level. The western, that is currently still in use, may have replaced it as more practical as it is closer to ground level, though still reached by stairs, the current version of which appear to be late post-medieval. This wall extends well to the west where a form of it turns to the north towards the tower/cottage. All the elements that are currently exposed appear to be late in date and the medieval wall must lie beneath the current ground level.*

*In 2023 we opened Trench 5E, sited outside of the wall with the postern gate and the outworks. It was placed next to a short length of wall that we investigated last season to see if it had once extended further. It has revealed a stone alignment that extends parallel to the two standing walls. Those of the outworks and the short wall length. So far only the upper level has been uncovered, so it is possible that it could be either a wall top or a foundation or the surface of a narrow path.*

*The BRP was awarded funding from the Caste Studies Trust to undertake additional non-invasive survey work to offer additional context to the excavation outlined above during the 2023 season. Initially, and to better frame the results of the geophysics and limited excavation a walk over study – leading to a short report - was undertaken by BRP and Peter Ryder, a regional expert in the historical assessment of standing buildings. This work aimed to provide a description of the standing structures in their historical context, as they are currently understood. This was supported by selected areas of photogrammetry survey.*

*St Oswald's Gate itself extends out through the curtain wall to the landward side at the northern end of the castle. It passes through a vaulted tunnel to the gate and appears to represent two phases of medieval build with a third - post-medieval - phase represented by internal and external refacing, likely of the Sharp era (late 18<sup>th</sup> century).*

One of the most enigmatic features is the Wing Wall (**W2** (see **Figure 3**) that forms a partial barrier between the route down from the gate. It appears to be one of the older elements of the defences with at least four phases of masonry and is relatively narrow compared to the later medieval defensive walls, such as the South Wall (**W2**) that cuts and post-dates it. It also contains an unusual arched doorway of early form that may be reused from elsewhere.

The south Wall (**W1** and **W3**) comprised at least two build elements that joined with an overlapping joint. The wall faced the village, and we now know, through excavation, had two postern gates that would have led to the village.

In addition to the masonry and photogrammetry survey, Dr Kristian Strutt of the Archaeological Prospection Services Southampton University undertook magnetometry, resistivity and Ground Penetrating Radar (GPR) survey of areas of the Cricket Ground to the west of Bamburg Castle. The results indicate the possible presence of a large ditch, some 45m across, immediately to the west of the outcrop, in addition to trackways, walls and other features in the survey area.

One of the principal questions we were hoping to address with the geophysics was if the castle ditch extended across the sports field at the base of the castle rock. A ditch cut through sandstone, can be traced in the area of the modern entrance that is at the site of the 12<sup>th</sup> century gate. This feature extends across the front of the castle as far as the sandstone ridge was present above ground. The results of the GPR do seem to strongly indicate a large feature in the area where we would anticipate the castle ditch to be and the magnetometry and resistance surveys do seem to support this. It is intended to conduct further fieldwork, starting with coring, to confirm this.

In addition, to the probable ditch feature, several features seen on the 1865 1<sup>st</sup> Edition Ordnance Survey (Accessed via National Library of Scotland online 23/04/2024) appear to be picked up on the surveys. Two trackways are evident, that lead to St Oswald's Gate and to a cleft in the castle rock called the 'Miller's Nick', which allowed people to scramble up to the West Ward in the 19<sup>th</sup> century. The second is an S-shaped path that meandered towards the area of St Oswald's Gate, perhaps originally skirting around the edge of the ditch feature. One further route-way or path extends across the field parallel to the road in the village to the south, called the Wynding, that appears from records to have had a medieval origin. This path runs alongside a linear plot boundary and field boundaries and it will be interesting to see if more can be made from a number of anomalies that can be seen within the enclosure areas to the south and west of the plot.

The resistivity and ground penetrating radar surveys so far cover a more limited area, due to time constraints and public access. There is an area of low resistance that lies in just the area that the ditch would lie and matches up to the path towards the Miller's Nick. The enclosure areas picked up in the magnetometry to the south-west also seems to be present on the resistivity.

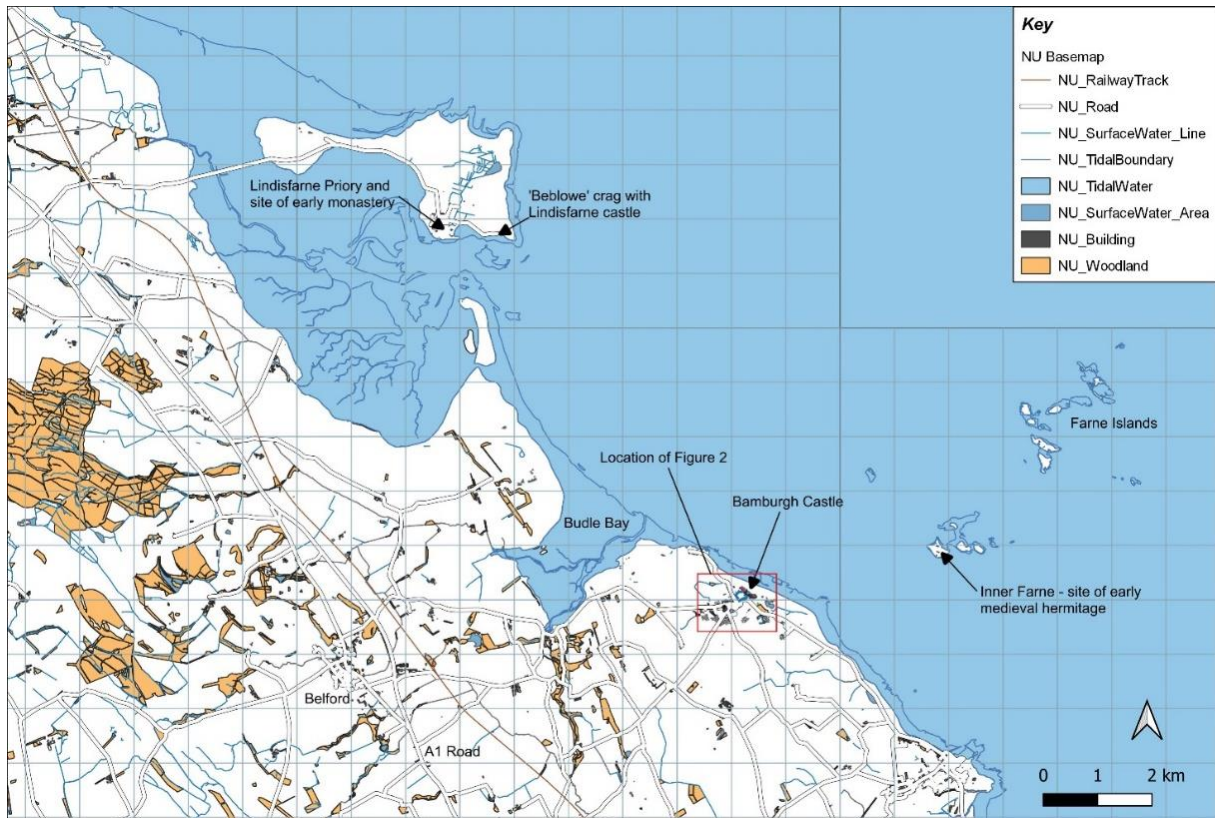
*Notably, there is a high resistance feature that the S-shaped pathway may curve deliberately to avoid at the south part of the plot. A further T-shaped high resistance feature is present in the north-east extending from the area of the modern pavilion that will bear further study. The GPR further reinforces the presence of some of these features and indicates some depth to the anomaly that is interpreted as the ditch, though the signal attenuates before it could indicate a true depth.*

*Together, the on-going excavation and non-invasive survey work undertaken in 2023 are providing us with the opportunity to better understand the castle outworks, north of the castle, and the wider environs in which they were situated. That this area of the castle was its original entrance, and for a time gave access to a modest port, ensures that there is much yet to be discovered and understood.*

## 1. Introduction

- 1.1.1. The Bamburgh Research Project (BRP) was set up in the winter of 1996-97 to undertake archaeological investigation of Bamburgh Castle and its environs. Initial work was conducted, at the request of the Northumberland County Council Conservation Team, to identify the precise location of an early medieval cemetery site known to lie in the dune field 300m to the south of the castle. This was in response to reports in the early 1970s of human bone eroding from the dunes. Identification of the cemetery in 1998 indicated that the site was not under erosion but did contain extremely well-preserved skeletal material. A joint project with Durham University with Professor Charlotte Roberts as principal investigator followed and the results of this are currently pending publication (**Figure 1**).
- 1.1.2. Modest trenching was undertaken within the castle in 2000 and 2001 and expanded following the death of the previous excavator Dr Brian Hope-Taylor in 2001. This programme of excavation was undertaken to facilitate the completion and publication of the work he had begun in the early 1960s and returned to in the early 1970s before abandoning the work unfinished in 1974. As part of the work within the castle, the area immediately within St Oswald's Gate was investigated in an effort to identify early elements of fortification and structures associated with the entrance, known from documentary evidence to have been the principal and perhaps only entrance to the fortress in the 8<sup>th</sup> century AD and likely remained such until the main gate was relocated to its present position in the 12<sup>th</sup> century.
- 1.1.3. As part of the investigation of St Oswald's Gate some work was undertaken to survey and investigate that outworks that lie beyond the gate. The identification of a complex multiphase structures has led to the current investigation that seeks to understand these outworks within their wider landscape that includes a small port as well as the access routes to the gate from Bamburgh Village beyond.

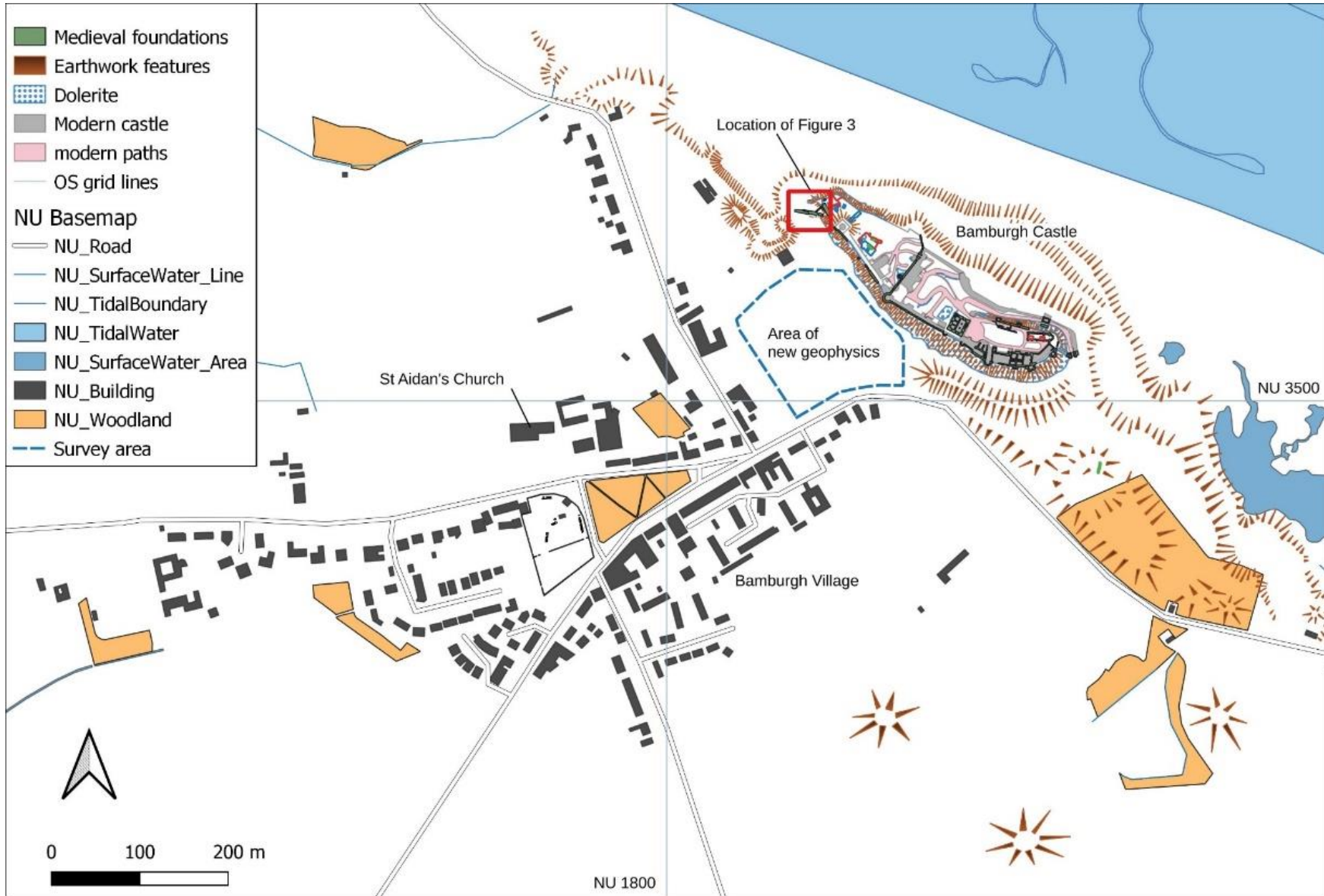




**Figure 1:** Location of Bamburgh and Lindisfarne - © Crown Copyright and database right 2024. Open Government Licence v.3.0

## 2. Geology and topography of the St Oswald's Gate entrance

2.1.1. The rock outcrop on which Bamburgh Castle stands is comprised of volcanic dolerite that rises some 30m above the external ground surface. It measures some 300m south-east to north-west and 70m south-west to north-east. The surface of the plateau is c.3 hectares in area. It undulates somewhat in height, whilst sloping downwards from the Inner Ward area at the south-east, which reaches 45m OD, to the north-west end of the West Ward where St Oswald's Gate lies. Here a natural cleft in the bedrock on the landward side leads out and down the slope of the plateau. This has formed a natural route up to the summit from earliest times bridging, if awkwardly, the height difference between the West Ward at some 22m above sea level and the surrounding ground surface that lay at 13m OD. The gate here therefore gave access to the land beyond, including the village that was present from at least the early medieval period, but just as importantly to a small tidal port to the immediate north of the castle rock. This feature has, since the 15<sup>th</sup> century, silted up and become increasingly cut off from the tidal beach by the development of a Marram Grass dune-field. Nevertheless, its outline can still be traced in the dunes area, and it has been investigated by coring and a small trench (**Figure 2**).



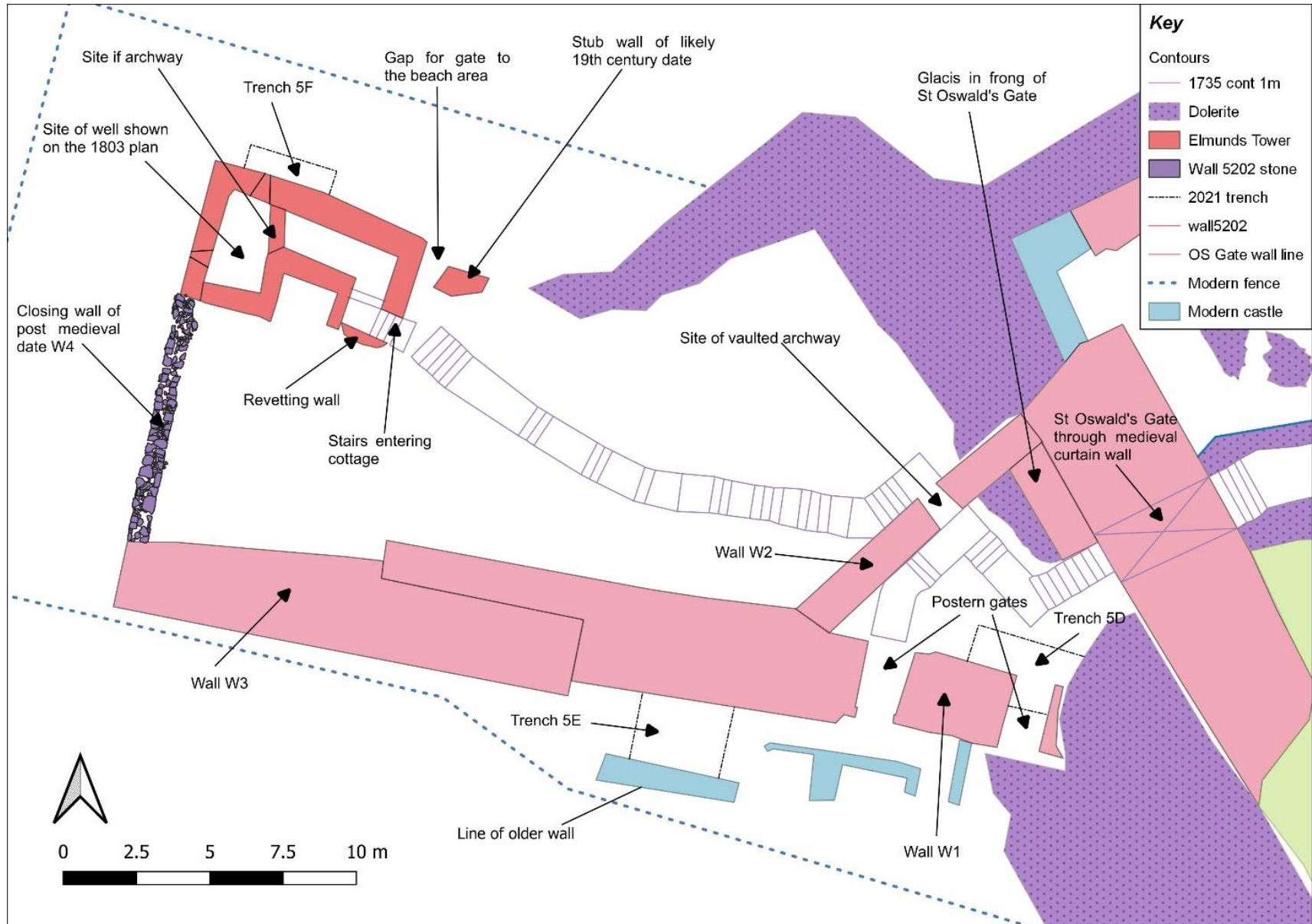
**Figure 2:** Bamburgh Village showing the location of the new geophysics and the area of Figure 3 © Crown Copyright and database right 2024. Open Government Licence v.3

### 3. Background to the 2023 season

#### 3.1. Introduction

- 3.1.1. St Oswald's Gate is written about as the entrance to the fortress of Bamburgh in the 8<sup>th</sup> century AD (Symeon HK, III. pg 37) and was very likely the route up onto the rock plateau since the earliest settlements were constructed in the late Bronze Age (based on a radiocarbon date at the base of Trench 3 West Ward). The present phase of work is investigating the entrance, the access routes up to the entrance and the structures and outworks built to control this route over many generations. One particular area of focus was the recovery of the site of the Tower of Elmund's Well, named in records from the 13<sup>th</sup> century (Colvin, H. M. 1973, 556) and onto which a cottage was constructed in the late 18<sup>th</sup> century. The intention being to identify the origins of the medieval structure and to discover if any trace of the well from which the tower was named can be found (**Figure 3**).
- 3.1.2. During the 2021 and 2022 excavation seasons the outline of the cottage structure has been exposed as it survives at ground level. A great volume of rubble has been removed from within the cottage structure, exposing how it connects with the wider outworks. As a result, the full depth of the structure below the current ground level has slowly become apparent. The removal of the rubble fill being made practical by the survival of the steps within the cottage that lead down to what must be the well-room and the basement of the tower.
- 3.1.3. As the medieval tower that formed the core of the structure had been named after a well it is possible that it had been constructed deliberately to control access to this important resource as well as to dominate the small harbour present beyond the outworks to the west. The tower was already old enough to be in need of repair in 1249-50, which suggests it had stood for some time. We think it is not unreasonable to put its construction back to the 12<sup>th</sup> century. This entry in the records (*ibid.* 556) also describes works and repairs to the adjoining barbican before St Oswald's Gate. It is possible that the broad wall with its postern gate leading out towards the village could be the result of this building work. Its form and style are at least consistent with work of this age.
- 3.1.4. The likelihood that the tower's original construction originally dates back to the 12<sup>th</sup> century created an expectation that the tower would be square or rectangular and not the odd non-parallel sided structure that is currently emerging as we empty the rubble from within it (see **Figure 3**). At least its relatively small size is consistent with such an early date and is close to that of the two 12<sup>th</sup> century towers on the north wall of the Inner Ward and a single, probably 12<sup>th</sup> century, tower on the south wall of the Inner Ward. All around 5m externally on their longest sides and with narrow loops for windows within the wall.





**Figure 3:** The northern extent of Bamburgh Castle showing the site of the outworks and the silted tidal port

### 3.2. Aims of the 2023 season of work

3.2.1. The principle aims of the 2023 season of work was to:

- Continue the investigation of the outworks through targeted trial trenches
- Preliminary structural and fabric survey of the outwork and tower elements
- Capture some of the key elements of the outworks at the present stage of investigation through photogrammetry
- Add context to the early entrance and outworks through wider survey (geophysics) of the area that seeks to link the entrance to the topography and features connected to defence such as a suspected ditch and communications in the form of the now silted port area.
- Work with the specialists to provide a training and skill development opportunities for both staff and students

3.2.2. The intent was that the fieldwork elements would lead to:

- Information that will inform and enable recommendations for future conservation and display of the outworks
- Provide new on-site interpretation with additional information available online.

## 4. Description of the standing structures comprising St Oswald's gate and its outworks (Ryder, P. 2024)

4.1. *As part of the funding provided by the Castle Studies Trust the BRP commissioned Peter Ryder to undertake a rapid assessment of the standing structures comprising St Oswald's Gate and its outworks. The results of the survey are outlined below with discussion.*

4.1.1. Approaching from the west (from the village cricket field) one finds oneself at the foot of a flight of steps that winds its way up to St Oswald's Gate. Initially there are a pair of opposing short flights up to a platform in front of the Outwork South Wall, with a buttress to its front wall.

### 4.2. The Outwork South Wall (W1 – see Figure 3)

4.2.1. From the platform the steps continue up through a postern gate in the Outwork South wall, the rebated jambs of which (maybe partially reconstructed) survive to the height of a metre or so, with a drawbar tunnel in the east jamb. About 6m to the east a second similar gateway, later blocked, is being excavated. The juxtaposition of a pair of posterns is puzzling; possibly the eastern served St Oswald's Gate itself and the western gave access via the gateway in the Wing Wall to the remainder of the Outwork, and Port (**Figure 3**).

4.2.2. You can view part of the 3D photogrammetry model for this area here: [Outwork South Wall and postern gate](#)

4.2.3. Beyond the Eastern Postern the rock face rears up steeply, and any evidence of the junction of Outwork and Curtain walls has been lost due to erosion and/or reconstruction. Though it is just as possible that the rise of the bedrock was

sufficiently steep for the full height of the postern to have butted against the rock-face. West of the Western Postern the Outwork wall stands to some height but is concealed by ivy and other vegetation. About 10m west of the Western Postern the Outwork wall face steps out slightly, and old photographs (1960s-1970s) before the present rampant ivy growth seem to show an overlapped joint of some sort here (walls **W1** and **W3** on **Figure 3**).

4.2.4. Inside the Western Postern the paved path, with several flights of steps (which appear of no great age), rise alongside the Wing Wall (**W2**) to a platform adjacent to an archway through the Wing Wall to a flight of steps dropping to St Elmund's Well Tower before the main flight of steps dogleg right to ascend to St Oswald's Gate (**Figure 4**).



**Figure 4:** Two views of the late post medieval steps that approach the postern gate, facing north-east on right and north-west on left.

### 4.3. The Wing Wall (W2) (Figure 5).

4.3.1. The inner (south-eastern) face of the Wing Wall, although ruined down to ground level and is cut by the Outwork South Wall, generally stands c. 5m high. It shows four distinct phases of masonry. From left to right (uphill) the first looks the earliest (**Phase A**), with only the lower courses of the facing surviving, large almost square blocks, heavily weathered, with rubble core above. Then comes an irregular area of coursed roughly tooled stone (**Phase B**), containing the archway; this looks like secondary re-facing, and has the look of having been fitted round the arch voussoirs. This is followed by a narrow-ragged column of rougher fabric (**Phase C**), just possibly representing the stub of a cross wall, and then a final area of coursed close-jointed stone that looks like 18<sup>th</sup> or 19<sup>th</sup> century refacing (**Phase D**).

4.3.2. The archway through the Wing Wall is a plain round-headed one, with a rebate on its outer (north-west) face, which does not extend onto the head, which has some voussoirs that extend for much of the thickness of the wall. On both faces of the wall the jambs include some large upright blocks, hinting at Pre-Conquest forms, although in fact most of these look suspiciously fresh and may be a relatively recent restoration, though photographs from before the restoration does confirm



many of these were accurate replacements. The fact that this opening is not in its original form is also suggested by the presence of a drawbar socket in the south-west jamb, but absence of any corresponding tunnel opposite



**Figure 5:** The narrow 'Wing Wall' showing the narrow archway and multiple phases of construction, facing north-west

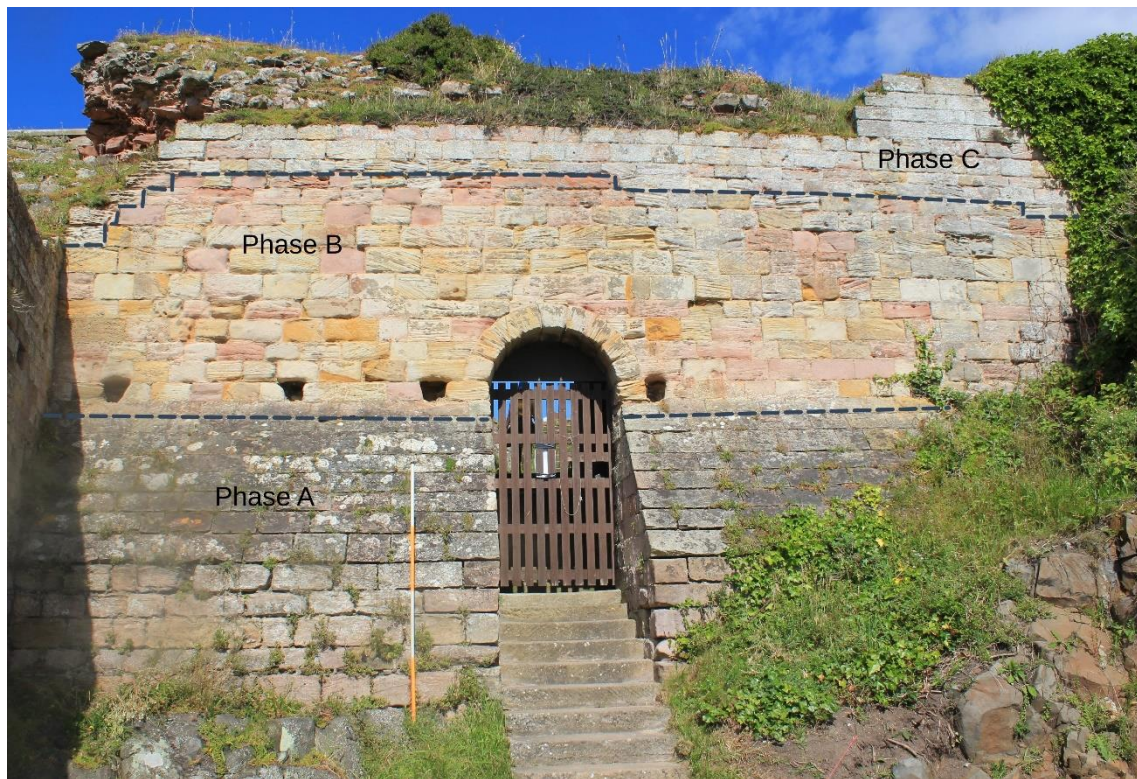
4.3.3. The outer (north-west) face of the Wing Wall shows the same four phases/areas of facing as the inner, the oldest masonry (with facing only surviving low down) being downhill of the arch. The neat square stonework of the uppermost section gives away its late date on this side by the way it overlaps the external face of the Curtain Wall and abuts on its core. An 1803 plan (Storer, J. Accessed via Northumberland Archives online 23/04/2024) seems to show the Wing Wall ending against the foot of the Curtain Wall glacis, which could mean that the section which over-rides the glacis is in fact 19<sup>th</sup> century work.

4.3.4. You can view part of the 3D photogrammetry model for this area here: [Crosswall with early form arch.](#)

#### 4.4. The Curtain Wall (Figure 6, Figure 7)

4.4.1. The outer face of the length of Curtain, with St Oswald's Gate at its centre, is quite an impressive section of fabric, stretching from the Wing Wall (**W2**) to a point at which it is obscured by vegetation or abuts on bedrock. At its base is a chamfered plinth, then three courses of vertical face followed by eight courses sloping back forming what is technically a glacis. All this is of predominantly grey sandstone, well squared and regularly coursed (**Phase A**). The upper wall uses much more yellowish stone (with some pink), and in the course immediately above the glacis are a series of large open sockets, three to the left of the gate and two to the right (**Phase B**). Three or more courses at the wall head are of more close-jointed grey stone (as is most of the internal face) and may well be Armstrong's late 19<sup>th</sup> century work (**Phase C**). Above and behind the facing rise crags of rubble core.

4.4.2. The gateway has a plain semicircular arch, with square-edged voussoirs; there is an internal rebate, with a drawbar tunnel in the north-west jamb but no sign of any corresponding socket beyond the sign of crude filling in on the opposite side in which a modern latch is set. The stone steps continue to climb through the gate passage, which has a slight offset on each wall at the internal ground level. The vault of the passage is considerably higher than the external arch, and seems to be in two parts, the first is of roughly two-centred in form and shows traces of plaster and may be medieval; the second (inner) is semicircular and is in close-jointed grey stone with a pecked finish. This goes with the plain semicircular internal arch and the whole internal face of the curtain as part of the Armstrong restoration.



**Figure 6:** Exterior of the curtain wall showing phases, facing north-east



4.4.3. It is difficult to ascertain how much of the structure is genuinely medieval. The Northumberland County History (Bateson, E. 1893, 57), which describes the Castle before the Armstrong restoration, states that 'the postern itself has been refaced by Lord Crewe's Trustees'. The yellow stone of the outer wall face above is probably medieval as are, presumably, the open sockets which would have carried a brattice (timbers supporting a defensive external gallery) although there may have been some reconstruction. One might have expected the gateway arch to show some further defensive features (other than the one surviving drawbar tunnel) and evidence of door hanging. The upper courses, and the whole internal wall face (and inner part of the passage vault) are Sharp's 18th century work and their grey stone matches that of the glacis. This is clearly there on an 1803 plan and is probably Sharp's reconstruction of a genuine medieval feature (Storer, J. Accessed via Northumberland Archives online 23/04/2024).



**Figure 7:** Interior of the curtain wall showing the vaulted passage and the interior of the gate arch, facing south-west

#### **4.5. The Outwork West Wall (W4)**

4.5.1. For most of its length this is represented by a low and thin wall of dolerite rubble, which seems of no great age, although surmised to be raised on an older structure. The last section forms the west side of St Elmund's Well Tower and is described separately.

#### **4.6. St Elmund's Well Tower.**

- 4.6.1. At ground level the Tower/Cottage now forms an irregular U-shaped structure consisting of entrance lobby, stair and basement chamber, the floor of which is currently excavated to a depth of around 2m (although the floor has not been reached). None of the external walls survive to more than a metre above the ground, and their upper sections are all quite thin (under a metre) and of small roughly coursed stone including some dolerite. Better-quality and presumably earlier masonry survives in the lower walls (of which only the internal faces are visible), and parts at least of these may survive from the medieval tower. The 1803 map locates St Elmund's Well in the basement (Figure 8).
- 4.6.2. At the south-east corner of the structure is a small square entrance lobby, entered by an external doorway on the east. Two steps descend in the thickness of the wall to a landing, from which two further steps drop to the north to a further landing at the head of the main flight of a dozen or so steps, steep and now very worn, descending to the west, under a semicircular arch to open into the basement chamber. This is of rather irregular plan, around 3m north to south but less than 2m east-west, narrowing at its north end.





**Figure 8:** Aerial photo of the outworks with the cottage/tower seen in the top right corner. The steps that lead back to St Oswald's Gate, through the Wing Wall, at the bottom of the photo. Facing west

4.6.3. You can view part of the 3D photogrammetry model for this area here: [Elmund's Tower Well Room](#)

4.6.4. The arch has neatly cut voussoirs of white and pinkish sandstone, of plain square section, and is set at a skew angle to the wall on the south. In the west face of the wall above the southern springing of the arch are a series of angle quoins, implying that the arch and wall above are of a secondary build. The wall above the arch carries a course of brick, which looks like the threshold of a door, at the same level as a slight offset in the south wall of the stair (

4.6.5. Figure 9).

4.6.6. In the south end of the basement, at about two-thirds height near the east end is a rectangular opening, partly infilled, with a crudely chamfered surround. The walling above it looks to have been rebuilt in smaller stone. Close to its north end of the west wall, are the remains of a splayed loop (its head gone) which suggests medieval work, although the wall is of no great thickness; lower down and further north is a rough socket, perhaps for a ceiling beam. The north end wall of the basement has the remains of a splayed slit, very like that on the west, and similarly lacking its head (Figure 10).

4.6.7. Several old illustrations show the Cottage as a low building with a north-south gabled roof. Map evidence suggests it was demolished in the earlier 20<sup>th</sup> century.



**Figure 9:** Archway leading to the basement of the Tower of Elmund's Well, facing west

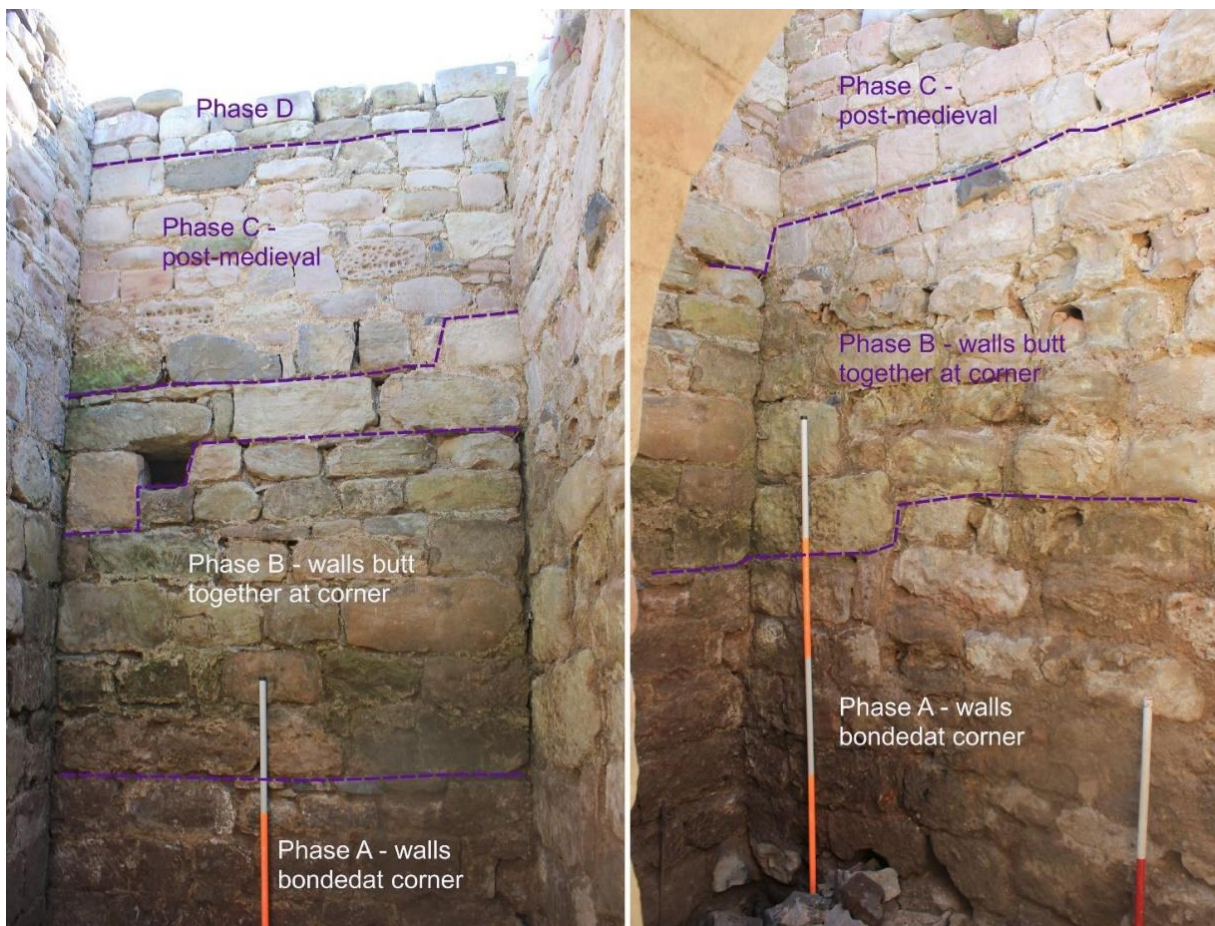




**Figure 10:** The tower from above showing the partially blocked narrow windows, facing east



4.6.8. The walls within the basement room have now been exposed to some considerable depth, well below the level of a single storey and show several build phases. The room oddly lacks right angles and is an odd shape making the interpretation of the build order and date of phases rather problematic. It is not even entirely clear if the tower was constructed as a stand-alone structure or constructed into an already existing enclosure outwork. At present the lowest exposed parts of the tower walls shows that the southwest corner, that is where the tower would be connected to the closing wall of the outwork, is keyed in at the lowest part that is exposed but shows a butt joint at a somewhat higher level above (**Figure 11**). The southeast corner, in contrast, is butt jointed at the lowest level making the build order unsure and making it hard be sure that the east wall is original even at this low level. The various types of masonry and phases present make the full interpretation problematic and very challenging and as a result the best chance will be when the tower is fully uncovered and further trenches external to the tower are able to define the core medieval structures from the later cottage reconstruction.



**Figure 11:** Two adjacent walls within the tower at the end of the 2023 excavation. The lower wall (right hand image) shows a change from the two walls keyed together and above the masonry butting. The upper wall (left hand side) shows at least two phases, C and D

## 4.7. Discussion

- 4.7.1. The section of curtain wall that St Oswald's Gate passes through, while re-faced on the inside and some elements of the outside faces, in the post-medieval period, is for much of its core of medieval date. The exterior entrance has a gate of some width with a semicircular arch above that extends into a vault of some 1m in depth. This in turn leads to a much deeper and more extensive vault that is somewhat pointed in form in the extent behind the gate and changes to a semicircular vault as the interior face is approached. Examination of the stone suggests that the semicircular element is part of the post-medieval refacing. The best interpretation is that there are two medieval phases of structure here, a relatively narrow wall that was much widened at a later time. This may be consistent with the limited documentary evidence that references a substantial amount of additional work to the gate and outworks during the 13<sup>th</sup> century (Colvin, H. M. 1973). The sockets for timbers on the front face are of potentially medieval date and again could be interpreted through the documentary record that references a brattice structure said to be used at Bamburgh after its recovery from an adulterine castle in 1216 (*ibid* 1973).
- 4.7.2. With regard to the outworks beyond St Oswald's Gate the earliest element would appear to be the narrow Wing Wall **W2** that was cut by the later wall element **W1** that faced the village. At least four phases of masonry can be seen to be present and this, together with the fact that the wall is quite thin, does make it likely that this is the earliest part of the masonry outworks. The archway, in particular, could be quite an early feature but may have been reused from elsewhere on site. The presence of this cross wall which appears to have been constructed as an additional control for access into the area of the port and the well does suggest that control of these areas was seen as a particular priority, at least until the port goes out of use.
- 4.7.3. The outwork South Wall, that faces the village, seems to have at least two alignments that overlap (**W1** and **W3**), which strongly suggest two periods of construction. This rebuilding and reconstruction may have something to do with changing priorities for access, from a need to service access to both the borough/village and the coast and port initially, to a more borough/village focussed requirement later. Access to the port ceasing in relevance after its replacement by a deeper water anchorage in Budle Bay in the middle 13<sup>th</sup> century. The discovery of the second postern gate was unexpected and not easy to interpret at present. It seems likely that one predates the other and the most obvious interpretation would be to see the blocked door as the earlier of the two. The presence of what appears to be a late post-medieval set of stairs and walls in front of the western of the posterns shows that this was the gate in the south wall that was in use in that later time. The c. 1897 2<sup>nd</sup> Edition Ordnance Survey 25 inch to the mile map (Accessed via Communities Northumberland online 23/04/2024) depicts the step structure in place at that time.
- 4.7.4. The paired postern gates are a surprising discovery that will bear more study. The entrance of the eastern of the two only survives a few courses high and with one course and the bedrock on the east side so there may not be too much scope for further work to reveal any new features on the inside but as the gate opens

out well above ground level externally there must have been some form of stairs externally and so a trench at the base there might help with interpretation.

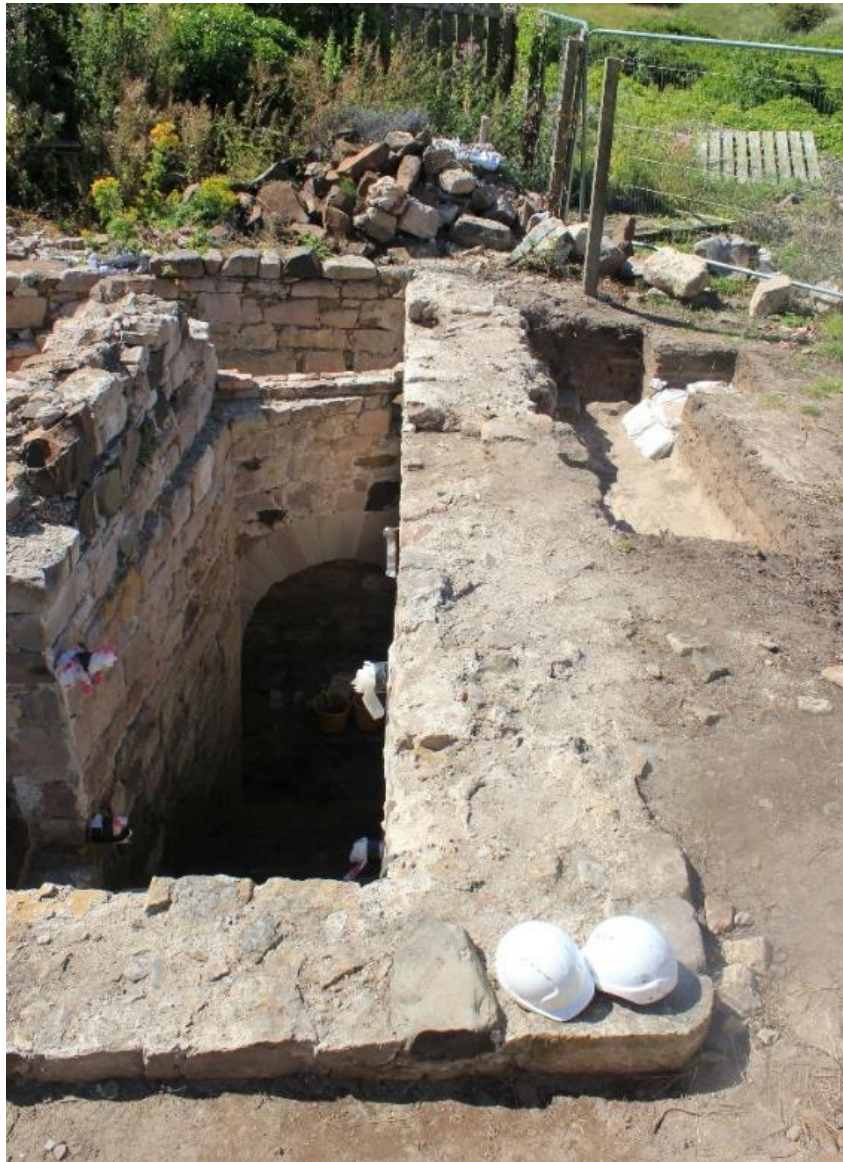
- 4.7.5. The western stretch of outwork wall that faces the village stands a substantial height, which is in contrast to the outworks wall that closes the outwork area to the cottage/tower which survives just above ground level. This section of walling is narrow, irregularly coursed and contains a very mixed set of masonry, strongly suggestive of very late and likely 19<sup>th</sup> century date. Limited trenching that has been undertaken in previous seasons has revealed that beneath ground level the wall is both wider and constructed with more regular sandstone blocks. More work is needed but provisionally it seems likely that the original medieval walling only survives below modern ground level. It is notable that even this lower and wider wall is substantially narrower than the wall **W3** and this may be an indication that it is a different build phase. It can be speculated that the land facing wall was rebuilt to a more substantial standard as it is more likely to be subject to attack.
- 4.7.6. The cottage/tower itself, in a similar manner, has a rather mixed and irregularly coursed masonry forming its above ground structure, the walls of which are also relatively narrow. From plans and map evidence the entrance to the structure appears to have changed over time. On the earliest plans, particularly the survey of 1803, that depicts the well within the tower basement, the stairs down from the wing wall (**W2**) parallel wall (**W3**) and the entrance to the cottage is to the south. Later plans, particularly the 1<sup>st</sup> Edition OS and C. J. Bates plan of the castle compiled for the 1<sup>st</sup> Lord Armstrong, show a curving stair to an entrance on the east side. It seems likely that this is a response to the increasing accumulation of sand within the outworks against the tall standing wall to the south that may have started to block the south facing version of the entrance.
- 4.7.7. The stairs down into the basement room do seem to reflect several phases in themselves. The steps to the first and second landings are both well-constructed and relatively unworn and clearly are later than the long straight run of steps down through the archway and into the basement room. These are composed of worn masonry blocks, some of which seem to preserve features that are strong indicators that some of the stone has been repurposed from elsewhere. The archway near the base of the steps seems very fresh and well-constructed and is hard to identify for age. The corner into the basement immediately beneath the arch shows a good deal of wear on the stone suggesting an older element of the build. This, as with the arch through **W2** allows for the possibility that it has been reused (
- 4.7.8. Figure 9).
- 4.7.9. The construction and phasing of the tower has proven to be complex and to comprise many phases of medieval and post-medieval date. The completion of the excavation to basement level (hopefully completed in 2024) should reveal the form of the tower as originally constructed and allow for the alterations to be mapped as they appear higher in the structure. The current state of the excavation is described below.

## 5. Excavation

### 5.1. The cottage and tower

- 5.1.1. The outline of the cottage/tower structure was quickly revealed during the first phase of investigation by the removal of foliage and a modest volume of aeolian sand. Excavating the fill of the structure has proved to be a much more substantive body of work as it extends below the present ground surface to a considerable depth. The fill comprises mostly stone rubble, strongly indicating that a ground floor or upper storey of the structure has been demolished into the below ground structure to fill it.
- 5.1.2. One of the first exciting discoveries during the 2022 excavation was the presence of two splayed lights (open window-like features) in two of the walls (**Figure 10**). Only the base of the features survived, but their form, rather like arrow loops, strongly suggested that they were medieval features and were our best indication yet that this part of the structure was indeed the part of the building that originated as a medieval tower. Given that the windows were quite high in the wall it can be speculated that they may be re-used rather than *in situ*. The discovery of the top of a stone archway that formed the entrance to the well-room confirms both the depth of the basement, there must after all be depth to pass under the arch, but also suggests that the floor level cannot be too much deeper (
- 5.1.3. **Figure 9**).
- 5.1.4. The archway had been well constructed and was a solid structure that showed little wear, unlike some of the stone in the corner of the wall beneath it. Perhaps, as with the windows, the archway may have been reused from elsewhere. The steps that led down to it were built more crudely and some had clearly been reused. They were also rather worn suggesting they were of some age.
- 5.1.5. In advance of the 2023 season the area of the outworks was re-fenced following damage to the existing fence in a winter storm. The opportunity to expand the enclosed area was taken as this would allow for more extensive investigation and will ultimately aid in the consolidation and display of the uncovered structures.
- 5.1.6. The revealed depth of the room within the tower and the presence of the windows quite close to the modern ground surface leads to speculation that the ground level in the area has changed. This is likely the case for the era of the cottage construction that included the tower, but it may also have been the case that the ground level of the medieval tower at the time of its construction was lower still. As the ground level today lies at 10m OD there is clearly some scope for this.
- 5.1.7. A new trench (Trench 5F) was started this season on the seaward side of the tower structure and has already removed a considerable volume of wind-blown sand. This was sited to give us a proper understanding of the width of the wall, the top of which had been altered substantially when the tower was converted into a cottage. Here, less than a metre down, we found that the wall survives wider than it appears at the top, where some facing stones had been removed. We will continue, and further extend this trench during the 2024 season, in the hope of uncovering buried ground surfaces (Figure 12).





**Figure 12:** North wall of the cottage/tower showing Trench 7F on the outside where the full width of the wall has been encountered at around 0.6m deep, facing west

5.1.8. Within the tower itself, as more and more of the structure emerged, it became increasingly obvious that multiple phases were present, showing many different building and alteration events in the history of the structure. The shape of the well-room itself continues to confuse. When originally uncovered it seemed broadly rectangular, with internal dimensions close to 4m north to south and nearly 2m east to west. There was, right at the start, the impression that there were few, if any, right angles at the corners where walls joined, and this has been confirmed as we have excavated deeper and exposed more of the walls. The east wall, that was the continuation of the east wall of the outworks, was seen to curve inwards at the north end of the room. On the other side, where the arch has now been found, the stone wall that contains the arch also curved in to narrow the



room at this north end. The north wall appears to be without any curvature. Variations in the build of the room suggest a structure much altered over the centuries and with many phases to unpick. The lower courses of the east wall (uncovered so far) are butt jointed to the south wall and so not the same building event. Once the floor level is uncovered it should be apparent if the tower was constructed as a tower or formed by closing off the corner of the outworks wall.

5.1.9. At the end of the 2023 season some work remains to reach the base of the tower room and identify what remains of the well. Despite this, a substantial depth of wall face has been revealed within the structure that shows it to be very complex in terms of phasing and alterations as outlined in Section 4.5 above.

## 5.2. Trench 5D: The postern gate area

5.2.1. There was further work on the postern gate that lies beyond St Oswald's Gate that leads out to the village. Continued excavation immediately behind the wall that leads back to the castle rock has uncovered more of the structure. The intent for this was to uncover more of the wall, recover some datable finds and identify the level from which it was constructed. The structure as uncovered was a single well-constructed feature of coursed squared masonry that ended abruptly and deliberately short of the rock. A further constructed face abutted the bedrock and the two faces formed a 1m wide gap that has been interpreted as a second gate (**Figure 13**).



**Figure 13:** The recently discovered blocked doorway in wall W1 (see **Figure 2**) with some of the blocking still in place, facing south-west

5.2.2. The outside face that looks out to the village had been blocked by a single layer of masonry backed by soil and rubble to close off the gap. It was also evident that it was quite high up (on the outside) as it bottomed onto a spur of the bedrock. This means the gate was at ground level on the inside but a couple of metres above it on the outside. There is no trace of a stair up to it, so it seems likely that there would have been a wooden stair, which perhaps would have made it a little more defensible as it could be discarded in the face of an enemy.

5.2.3. It does not seem to make sense that there would be two contemporary posterns next to each other, so it is tempting to see one as replacing the other. As the current path leads to the one that is still, in its way in use, it is natural to assume that this is the later, but this may be false as we simply cannot be sure about the position of the path in earlier times at this stage.

### 5.3. Trench 5E further investigation of a stub wall beyond the outworks

5.3.1. Trench 5E was a new trench sited outside of the wall with the postern gate and the outworks. It was placed next to a short length of wall that we investigated last season to see if it had once extended further. Rather disappointingly we found that it confusingly just ended rather abruptly with no trace of foundations extending further, or even of a robber cut where one could have been removed.

5.3.2. It has revealed a stone alignment that extends parallel to the two standing walls. Those of the outworks and the short wall length. So far only the upper level has been uncovered, so it is possible that it could be either a wall top or a foundation or the surface of a narrow path (**Figure 14**).

5.3.3. The feature is made of dolerite and sandstone and in this, along with its width and general form, it is very reminiscent of some of the early medieval features that we have excavated within Trench 3 in the West Ward of the castle. Here these features occurred low in the stratigraphy and have been interpreted as stone foundations for timber walls. It is that we are seeing the same kind of feature here in the area of the outworks, potentially of similar early medieval date? One of the questions we asked ourselves at the beginning of the work on the outworks was 'could we find any evidence for structures and arrangements from the early medieval period?' We know the entrance was in use from this time and likely centuries earlier, so there must have been access routes and perhaps structures associated with this period of use.

5.3.4. You can view part of the 3D photogrammetry model for this area here: [Trench 5E](#).



**Figure 14:** The newly discovered stone feature in Trench 5E, facing west

## 6. Discussion

- 6.1.1. The cottage structure was backfilled with stone rubble and mortar, almost certainly the result of the upper storey being demolished into the basement part of the building. The ground around the structure was turf over sand which had been accumulating in the area throughout the post-medieval period, extending the area of the dune field. As discussed above, it seems likely that the increasing accumulation of sand forced a realignment of the cottage entrance and this and the presence of the base of two narrow loop-like windows close to the modern ground level makes it seem very likely that the ground surface from which the medieval tower, at the heart of the cottage, was constructed was considerably lower than that at present.
- 6.1.2. Trench 5F was sited to explore the outside wall face as the upper surface had no clear exterior facing stones so the width of the wall was uncertain and could only be properly defined if facing stones were present lower down. In addition, if it can be safely reached the trench may be able to identify earlier ground surfaces and perhaps the construction cut of the foundations. Though this can now be seen to be very deep and will be a challenge. Within the depth that has been reached so far facing stones were encountered at some 0.6m below ground level on the north side. This would broadly correspond to Phase B seen within the structure.
- 6.1.3. The final trench of the season Trench 5E has produced what may be the most interesting and enigmatic feature of all. Identified only close to the end of the season it appears to be a foundation rather than a path or surface but one of crude form that could possibly be of early character. It extends broadly parallel with the adjacent outwork south wall **W1** and was of a similar width to the cross wall **W2** (**Figure 14**). It will be interesting to see how far the feature extends, or

survives, and if we can associate it with any currently known structures or find any dating evidence.

## **7. Geophysical survey (Strutt, K. 2024)**

**7.1.** *In addition to the funding provided by the CST for the masonry and photogrammetry survey, we were also awarded funding to undertake a series of geophysical surveys around the exterior of Bamburgh Castle. The results of the survey are outlined below.*

### **7.2. Introduction**

**7.2.1.** As part of the Bamburgh Research Project 2023 season magnetometry, resistivity and GPR survey was conducted by a team from the Department of Archaeology at the University of Southampton, between 11<sup>th</sup> and 19<sup>th</sup> July. The focus of the survey was the Cricket Ground to the west of the castle. The principal surveyors were Dominic Barker and Kristian Strutt, who were ably assisted by volunteers and staff from the BRP team.

**7.2.2.** The reason for focusing on the Cricket Ground to the west of the castle was to locate the line of a potential ditch associated with the western defences of the castle where it would approach the outworks and postern at St Oswald's Gate. In addition, we hoped to identify any other archaeological features. Results of the geophysical surveys appear to have located evidence for the ditch, and other anomalies. The weather conditions during the survey, with alternating dry sunny weather followed by torrential rain did have an effect on the earth resistance results, and an impact on the GPR survey results. However, various features are clearly visible in the data.

### **7.3. Geology at Bamburgh**

**7.3.1.** Bamburgh Castle is located on an outcrop of the Great Whin Sill quartz-dolerite. The surrounding area, including the Cricket Ground is situated on an Alston Formation of limestone, sandstone and mudstone bedrock, covered with blown sand British Geological Viewer (Accessed February 2024).

### **7.4. Survey Methodology**

**7.4.1.** For the 2023 survey magnetometry, earth resistance and GPR (Ground Penetrating Radar) were applied. Results of these techniques are extremely dependent on the geology of the particular area, and whether the archaeological remains are derived from the same materials. Magnetometry is a passive technique which uses sensors to measure variations in the strength of the Earth's magnetic field in nanotesla (nT). Earth resistance is based on the passing of an electrical current through the soil and measuring the resistance to the current. GPR is based on the propagation of a radar wave into the ground and measuring the returned wave reflecting off buried objects and deposits.



## 7.5. Survey Strategy

7.5.1. For the survey at Bamburgh, a grid system was established using a Leica Viva Real Time Kinetic (RTK) GPS (Figure 15) utilising the Ordnance Survey coordinate system OSGB36. Wooden survey pegs and spray markers were set out at 30m-by-30m intervals, and the grids for all areas were georeferenced with the OS grid system through the Smartnet function of the GPS.



**Figure 15:** Volunteers from the Bamburgh Research Project using the GPS to establish a survey grid in the Cricket Ground (photo: K. Strutt)

7.5.2. The magnetometer survey was conducted using a Bartington Instruments Grad 601 dual sensor fluxgate gradiometer (Figure 16). Measurements were taken at 0.25m intervals on 0.5m traverses, with data collected in zig-zag fashion. The survey data were processed using Geoplot 4.0 software. The processing of data was necessary to remove any effects produced by broad variations in geology, or small-scale localised changes in magnetism of material close to the present ground surface. Magnetometer data were despiked to remove any extreme magnetic values caused by metallic objects. A zero mean traverse function was then applied to remove any drift caused by changes in the magnetic field. A low pass filter was then applied to remove any high frequency readings, and results were then interpolated to 0.5m resolution across the traverses.





**Figure 16:** Dominic Barker using the Bartington Grad 601-2 instrument on the Cricket Ground (photo: K. Strutt)

7.5.3. Earth resistivity was carried out using a Geoscan Research RM15 resistance meter, with measurements taken at 1.0m intervals along traverses spaced 1.0m apart (**Figure 17**).

7.5.4. The Ground Penetrating Radar (GPR) survey was carried out using an Impulse Raptor 8-channel system, set up to collect data and establish location using a the RTK GPS (**Figure 18**). The spacing between channels was 0.125m with traces initiated at every 0.05m along each traverse. Data were processed using GPR Slice software. The different survey profiles were presented in their relative positions, and all profiles were then processed to remove background noise. A bandpass filter was applied to each profile to remove all high and low frequency reading, and a Hilbert Transform was also applied to increase the strength of responses when the data were sliced.





**Figure 17:** Earth resistance survey being carried out by BRP volunteers (photo: K. Strutt)

7.5.1. The data from each survey were exported as a series of bitmaps, and were imported into and georeferenced in a GIS, relating directly to other salient spatial information such as AutoCAD maps of the site and relevant air photographic imagery. An interpretation layer of archaeological and modern features was digitised deriving the nature of different anomalies in the survey data from their form, extent, size, and other appropriate information. As no direct chronological information can be derived from the geophysical survey data, much of this had to be inferred from the morphology of anomalies, and the relationships between different features.



**Figure 18:** GPR survey under way across the Cricket Ground using an Impulse Raptor 8-channel system and GPS (photo: K. Strutt)

## 7.6. Survey Results

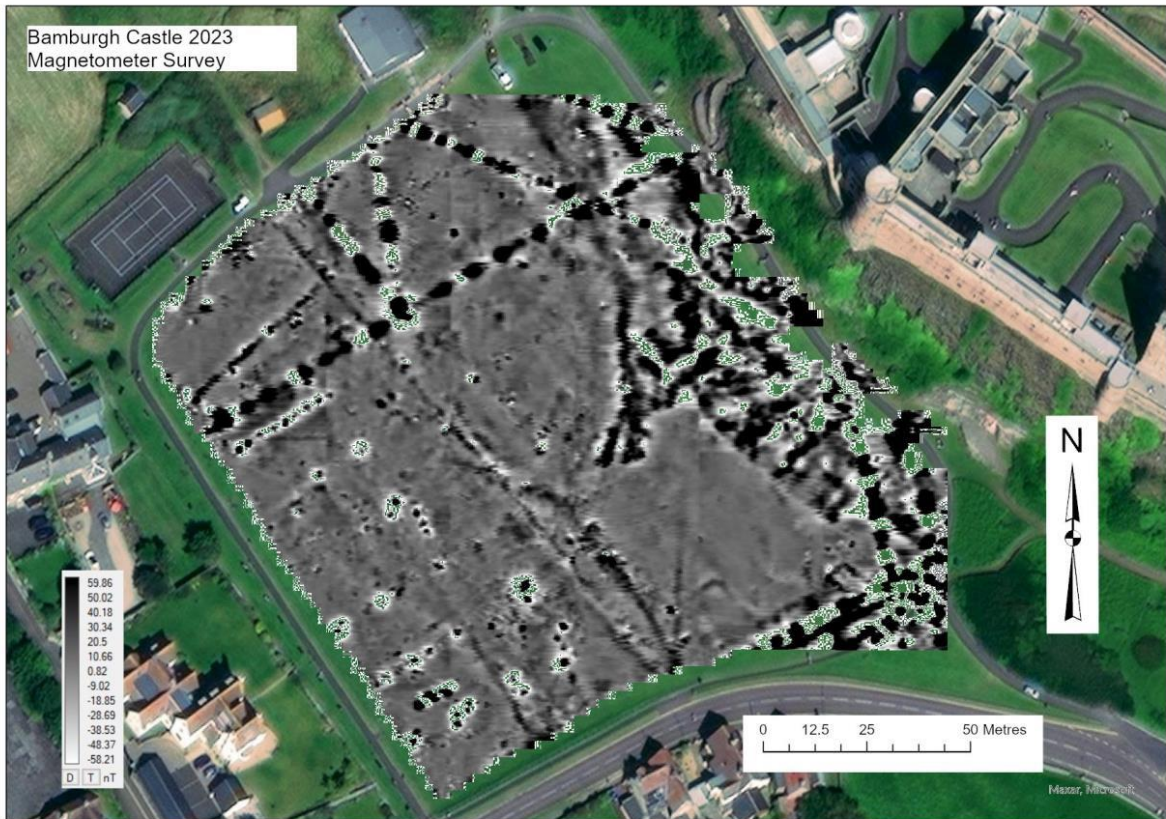
7.6.1. The magnetometer, earth resistance and GPR surveys in July 2023 covered 2.1, 1.0 and 1.1 hectares respectively in the Cricket Field. The resistivity and ground penetrating radar surveys so far cover a more limited area, due to time constraints and public access. The survey was designed to map the nature and extent of buried features in the area related to a potential ditch and other features.

### The Magnetometer Survey

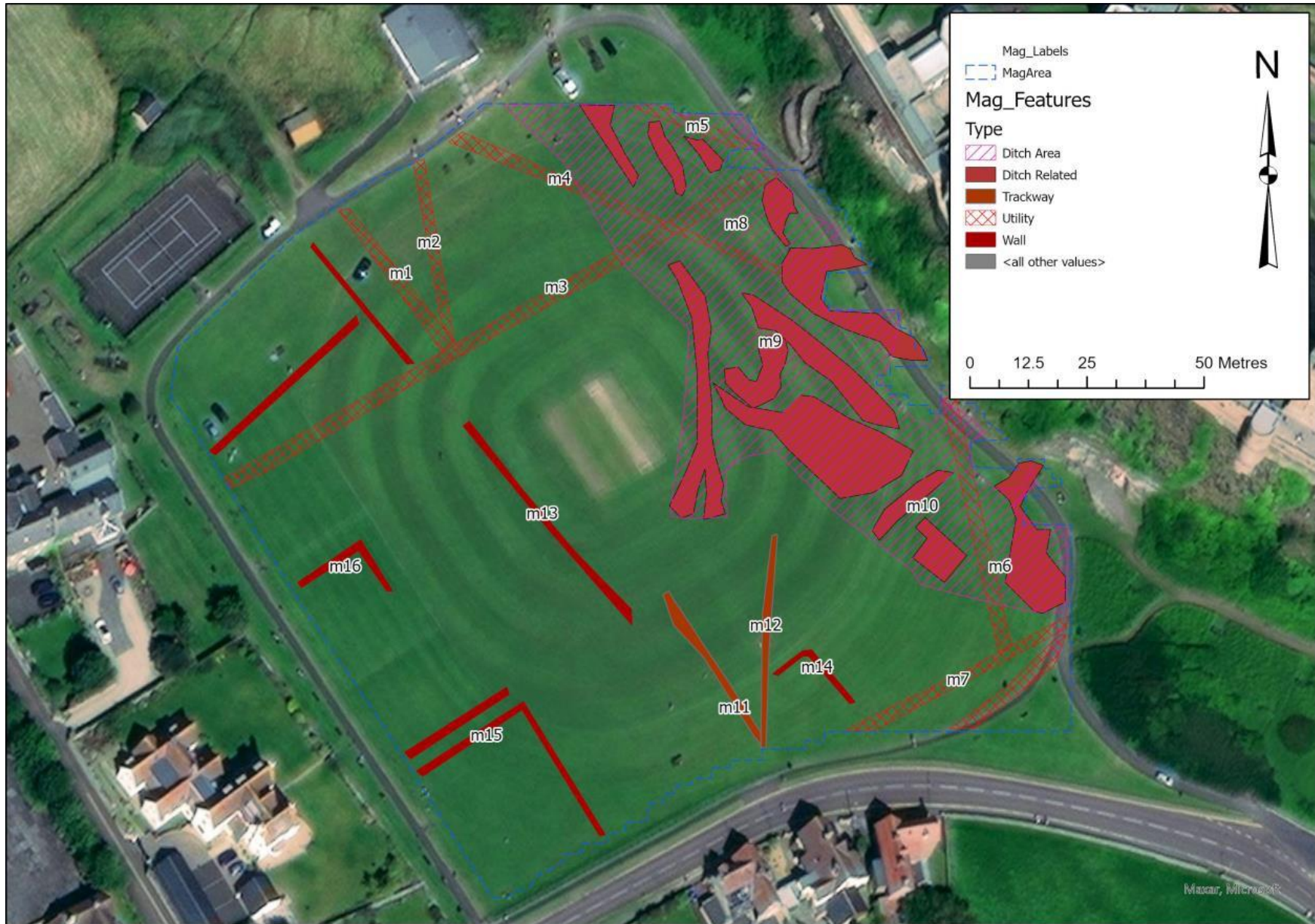
7.6.2. The magnetometry covered the largest area in total (**Figure 19, Figure 20**), almost the entire extent of the Cricket Ground, some 2.3 hectares in size. The results indicate several modern utility pipes **[m1]-[m5]** in the north of the area. These are matched by similar anomalies **[m6]** and **[m7]** in the south-west corner of the Cricket Ground. A series of strong magnetic anomalies seem to indicate the area of the castle ditch **[m8]**, measuring up to 45m across. Dipolar anomalies of considerable size were located within the area **[m9]** and **[m10]**, ranging from 10m to 20m in size. There is a rectilinear pattern to these, and perhaps they suggest cuttings made into the bedrock along the line of the ditch. Two fainter positive linear anomalies **[m11]** and **[m12]** in the south of the area suggest the lines of two



trackways, with a further linear anomaly indicating the line of a wall [m13], matched by a number of possible wall features in the south [m14] and west [m15] and [m16] of the area.



**Figure 19:** The magnetometer survey of the sports field georeferenced to the modern map with Google Earth imagery beneath  
Map Data: Google ©2023, Airbus 11/05/23

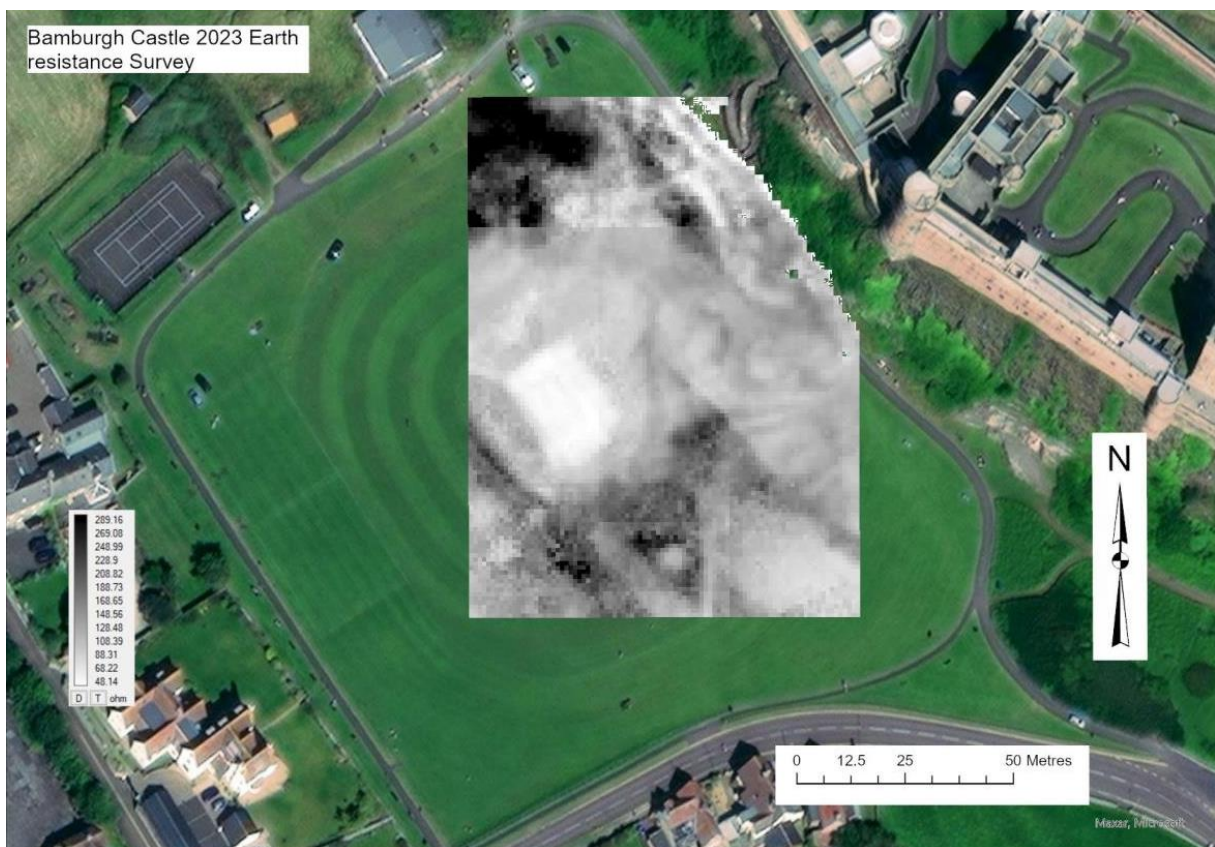


**Figure 20:** Interpretation of the magnetometer survey. Map Data: Google ©2023, Airbus 11/05/23

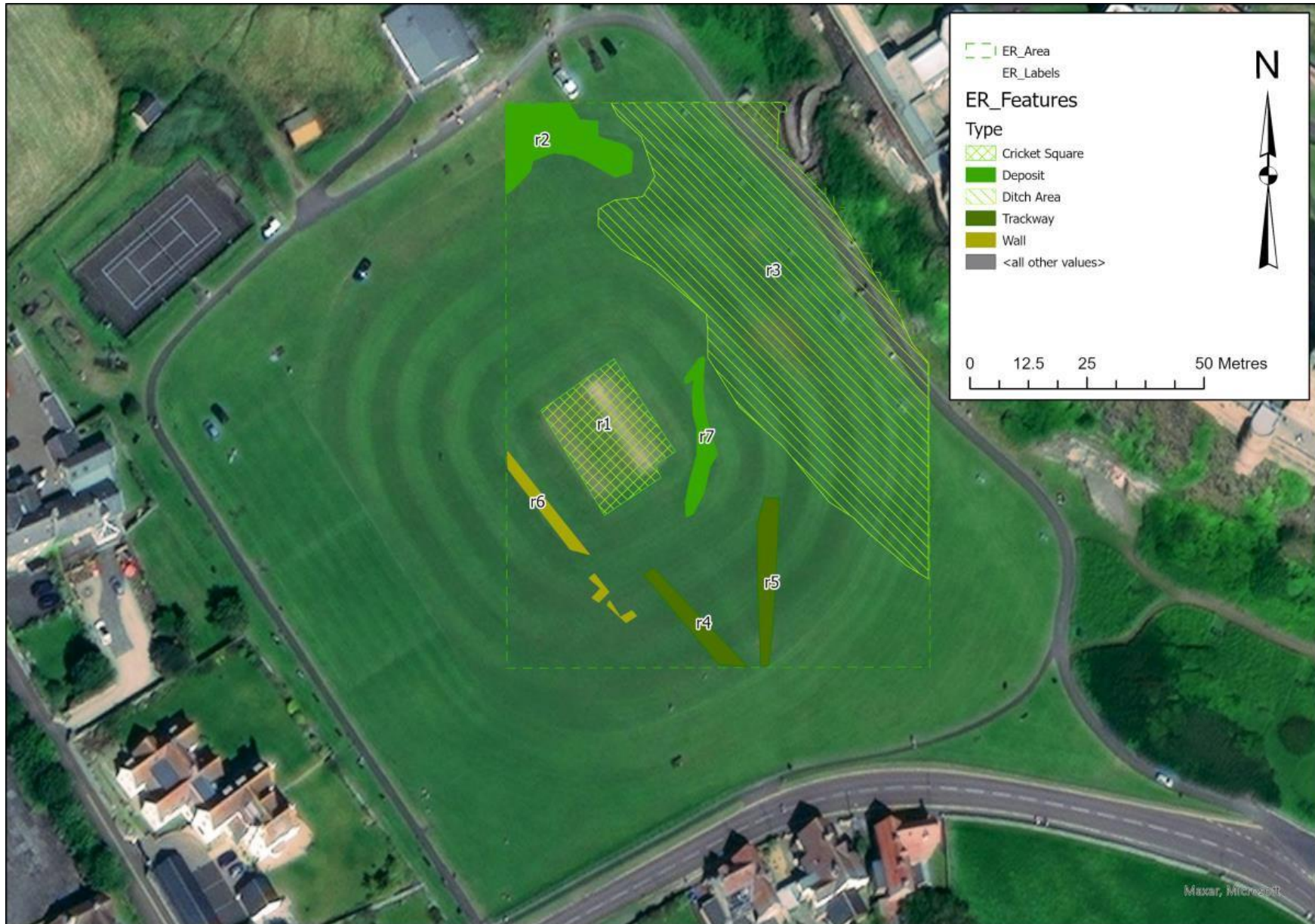


## Earth Resistance Survey

7.6.3. A smaller area of earth resistance survey was conducted during the season (Figure 21, Figure 22), and with a 0.5m twin probe array being utilised, provides a relatively shallow set of data for the area. The results are dominated by the low resistance responses of the modern cricket square **[r1]** caused by the difference in the shallow deposits across the cricket square, and presumably from the maintenance and treatment of the square over many years. Evidence for the castle ditch, and high resistance deposits to the west **[r2]** and **[r3]** are evident, presumably the latter caused by sandy material. The two trackways are evident **[r4]** and **[r5]** as two low resistance linear anomalies. The wall associated with one of the trackways **[r6]** is also visible as a high resistance linear feature.



**Figure 21:** Results of the earth resistance survey  
Map Data: Google ©2023, Airbus 11/05/23



**Figure 22:** Interpretation plot for the earth resistance survey. Map Data: Google ©2023, Airbus 11/05/23



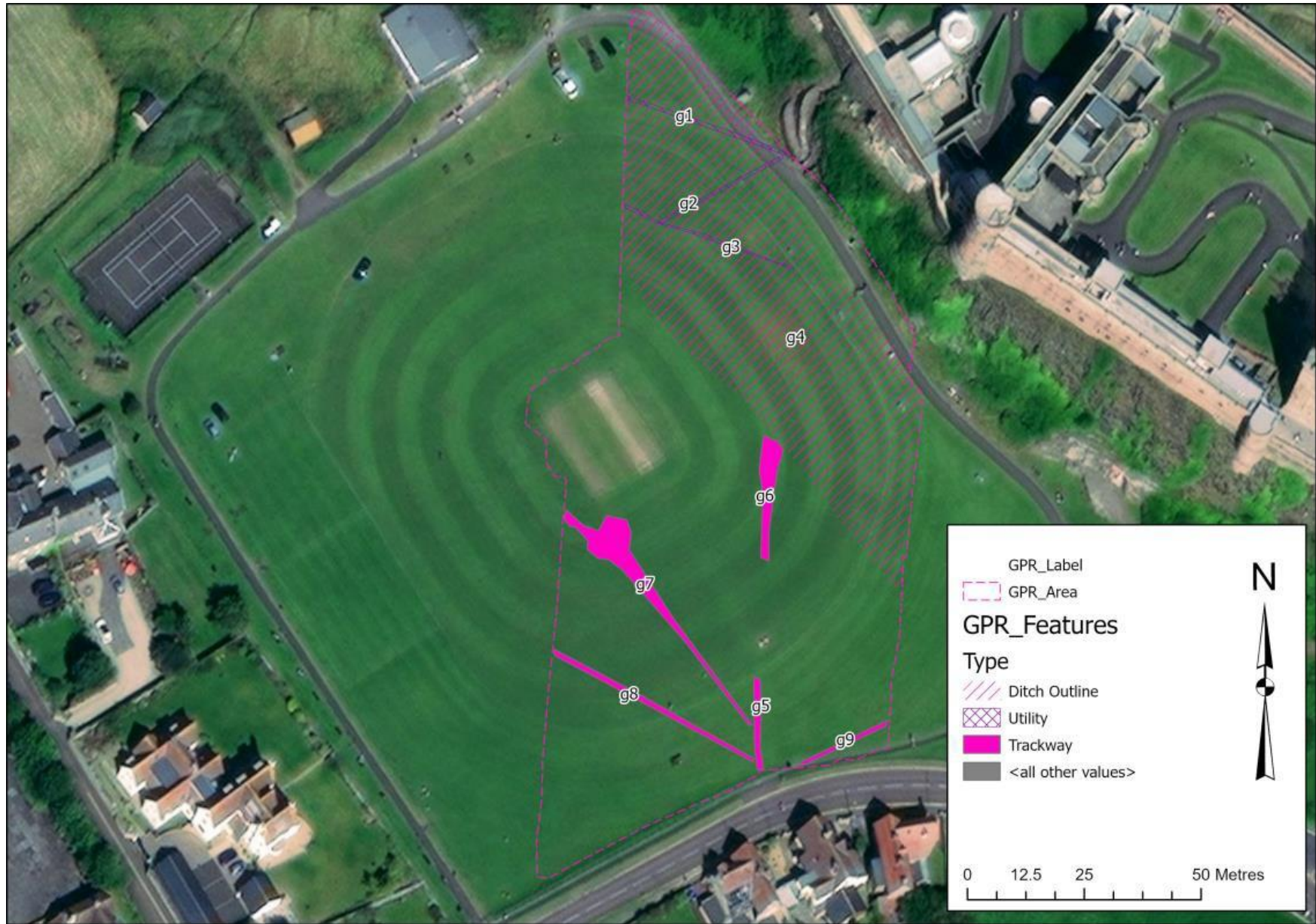
## Ground Penetrating Radar Survey

7.6.4. The results of the GPR survey (**Error! Reference source not found.** Figure 24) indicate anomalies that match the utilities mapped in the magnetometry **[g1]** – **[g3]**. In addition, the area of the castle ditch is clearly visible as a low amplitude area **[g4]** measuring over 45m in width. What is interesting is that the cut of the ditch is not clearly represented in the data, but there is a contrast in the subsoil between the ditch area and the rest of the survey area that defines the feature. The ditch is also defined slightly by the line of a possible trackway **[g5]** and **[g6]** that in the data runs up to the edge of the ditch but is then not visible further to the north. The trackway visible in the earth resistance can also be seen **[g7]** running north-west, together with two further linear anomalies **[g8]** and **[g9]** suggesting possible surfacing or trackways.



**Figure 23:** Results of the Ground Penetrating Radar (GPR) Survey. Map Data: Google ©2023, Airbus 11/05/23



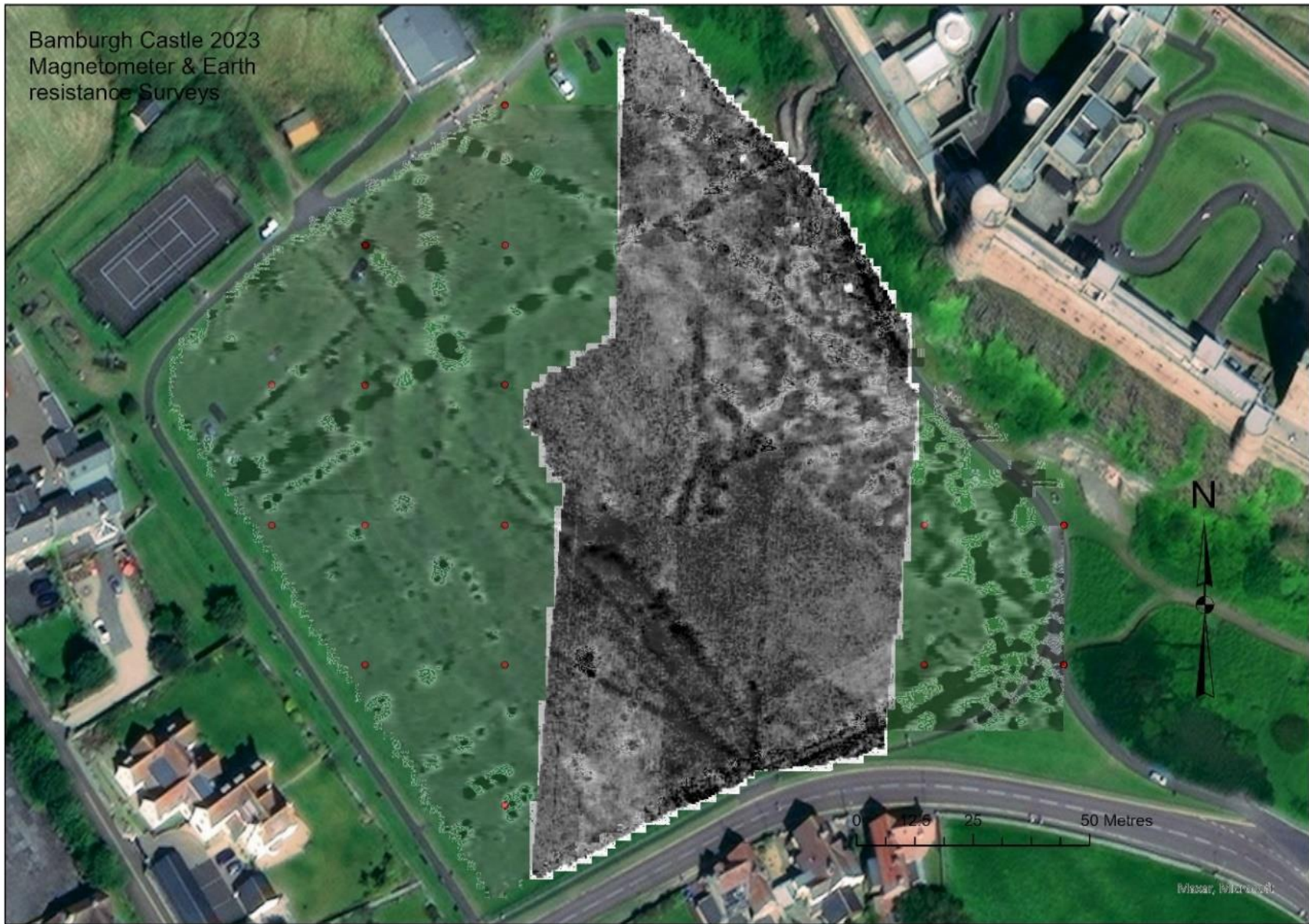


**Figure 24:** Interpretation plot for the Ground Penetrating Radar (GPR) survey. Map Data: Google ©2023, Airbus 11/05/23

## 8. Discussion

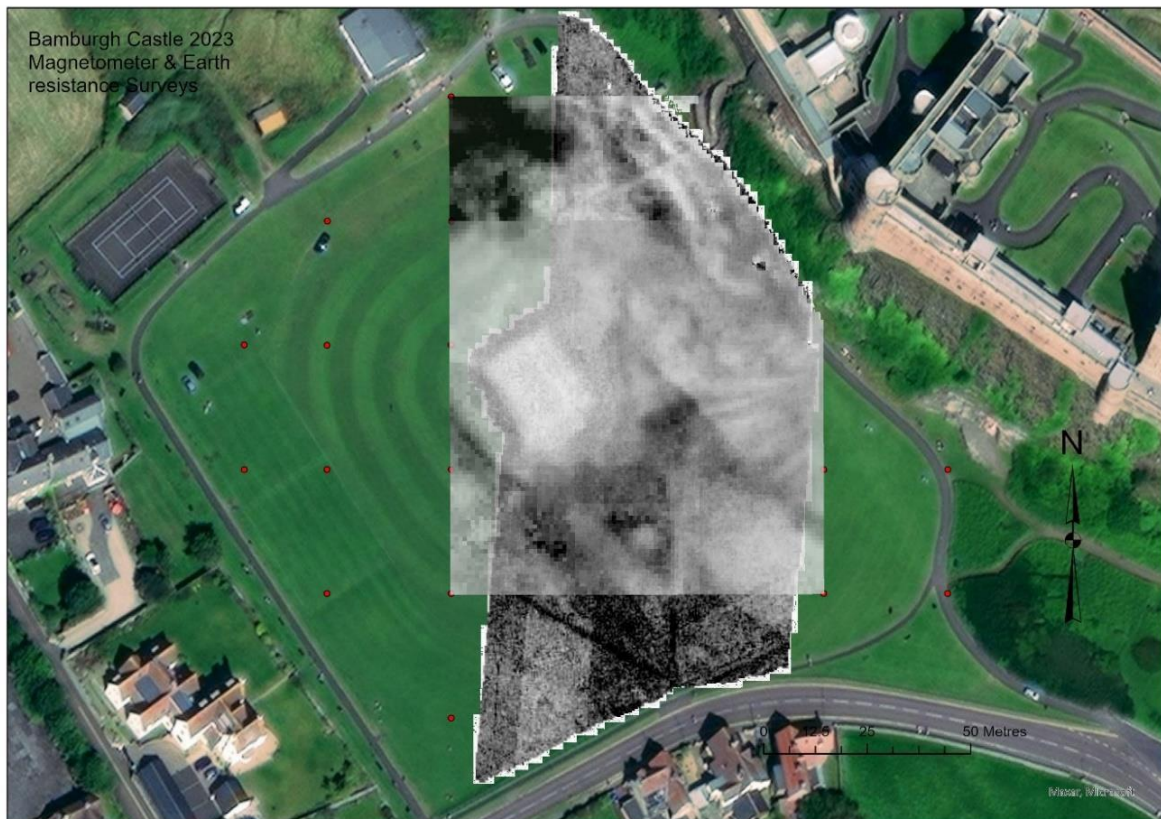
- 8.1.1. The geophysical survey was aimed to investigate the likely continuation of the ditch feature seen rock cut in the area of the gate. The aim being to try to and trace it closer to St Oswald's Gate and the early port area. In addition, allow some investigation of the area closer to the village to identify if there may be earlier features indicative of the extent of the medieval borough. In conduction of these investigations, it was also possible to offer training and experience in geophysics for those attending the BRP field school during the survey.
- 8.1.2. In spite of the variable weather conditions during the season, and the effect on the earth resistance and GPR data (see the varying grids in the earth resistance and the more subtle variations in the GPR data), the surveys picked up several modern services as well as features of potentially greater age. Though not part of the initial aims, but a useful bonus, the castle estate was very keen to have an accurate location for these so that that they could be protected.
- 8.1.3. All three techniques, magnetometry, resistance and GPR, revealed anomalies that indicate the presence and line of the ditch running along the western side of the rock outcrop at Bamburgh. This is particularly apparent in the transparency overlays produced from maps of the different techniques (**Figure 25, Figure 26**) and the overlaid interpretation plots (**Figure 27**).
- 8.1.4. The GPR results suggest a large ditch, some 45m across at its largest extent, and 40m at its narrowest, comparing with the extant remains of the ditch to the east of the cricket ground which measure c. 36m across. The feature seems to be at least 2.5m deep at the centre, and possibly much deeper as the GPR signal attenuated before picking up the base of the feature. The GPR results, while indicating the extent of the ditch, show very minor changes in terms of background measurements, suggesting a degree of homogeneity in the form of the sub-soil and the backfilling of the ditch. This is also apparent in the earth resistance survey, in which the 0.5m twin probe array, giving shallow readings, shows limited contrast between the ditch fill and the surrounding area. Crucially greatest contrast for both methods shows where near-surface anomalies to the west and south of the ditch provide clear evidence for the edge of the feature. In the earth resistance and GPR (**Figure 26**) the edge of the feature seems relatively smooth. However, in the magnetometry (**Figure 25**) the strong magnetic anomalies show a more irregular form, potentially due to them representing deeper magnetic deposits, or cutting into underlying bedrock.





**Figure 25:** Overlaid transparencies of the magnetometer and GPR result . Map Data: Google ©2023, Airbus 11/05/23

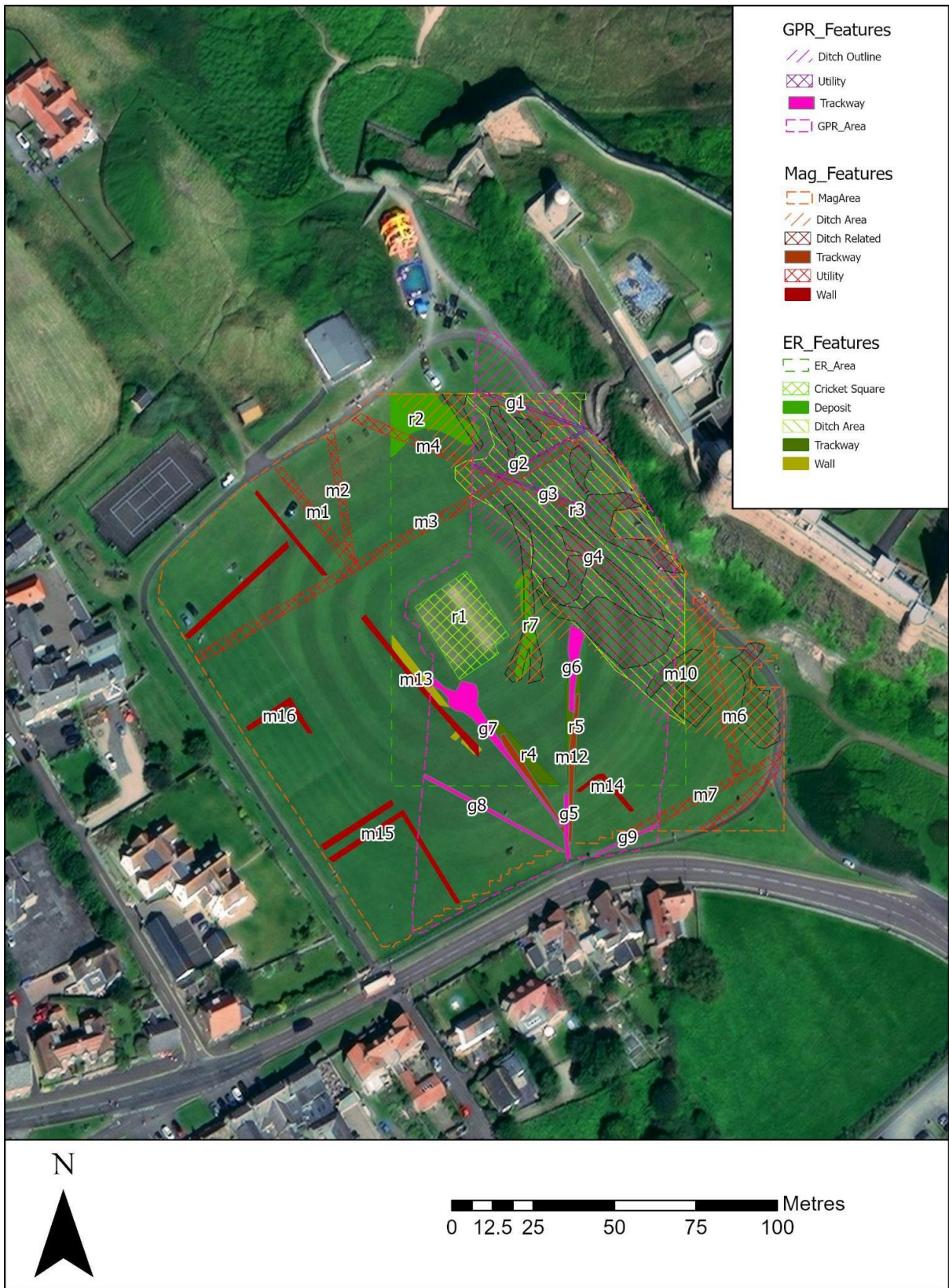




**Figure 26:** Overlaid transparencies of the earth resistance and GPR results.  
Map Data: Google ©2023, Airbus 11/05/23

- 8.1.5. The large, strong angular maculaic and rectangular anomalies in the magnetometry seem to map a strong magnetic response within the area of the ditch **[m6]**, **[m9]** and **[m10]**, possibly marking cuts into the bedrock within the ditch, or alternatively marking strongly magnetic deposits in the deeper ditch fill. Further investigation of these deposits, possibly through auger survey, would be beneficial to establish the nature of the deposits.
- 8.1.6. The full depth of the feature was not discernible and there seemed to be relatively low levels of variation between the surrounding area and the fill. As the ditch would be cut through sandstone, beneath the dolerite outcrop on which the castle stands, in this area and the soils and subsoil will have a high sand content this is perhaps not too surprising. The high resistance feature (**r2**) is of interest as it can be speculated that the resistance could suggest a sand feature, and this further can be speculated as related to the sand earthworks that are our best candidate for the siege castle of 1095 (Swanton, M. 1996, 230-32). A spur of the siege defences closing the gap between the main mounds and the ditch would make sense to enclose St Oswald's Gate, the principal entrance at that time, though it is fair to say it may be equally likely that the material is dumping from the pavilion construction and so as late as the 20<sup>th</sup> century (**Figure 27**).



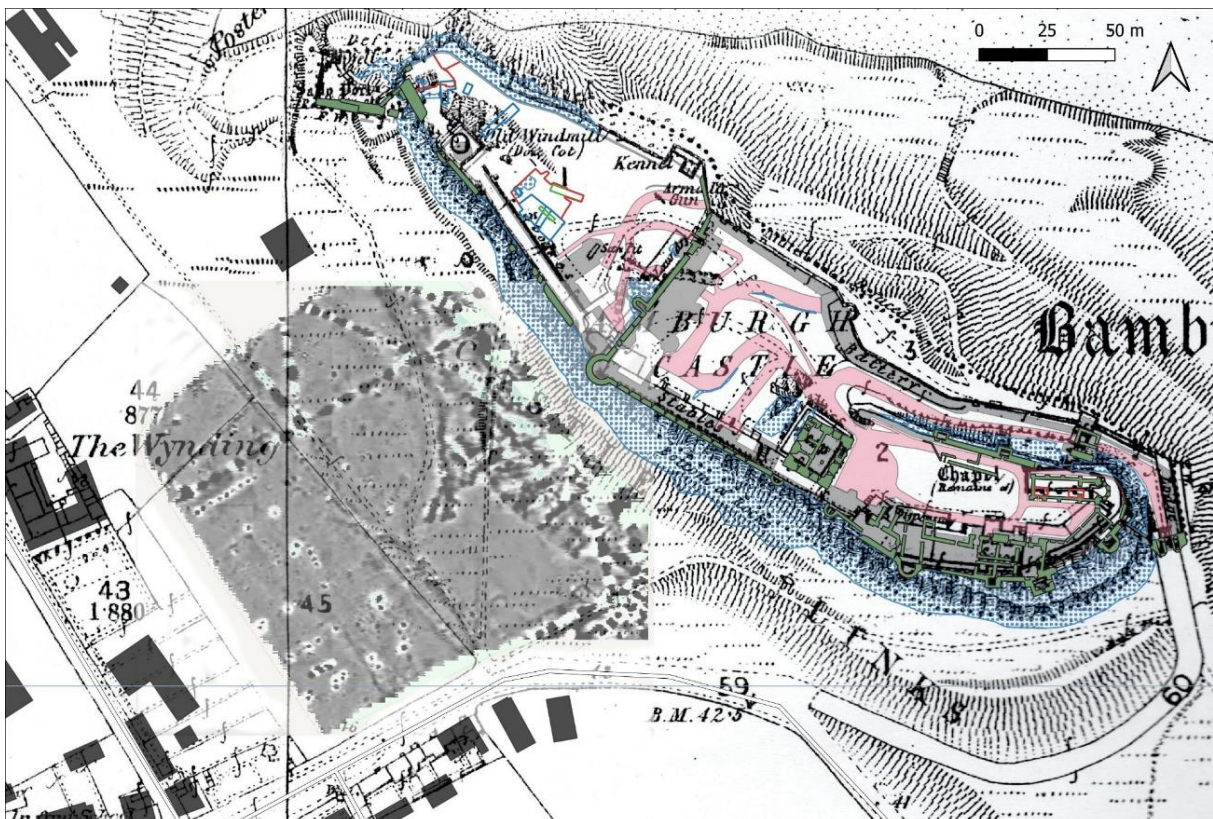


**Figure 27:** Interpretation plot of all three surveys, labels link to the text  
 Map Data: Google ©2023, Airbus 11/05/23



8.1.7. There are also some variable anomalies running from the line of the ditch in the magnetometry and earth resistance [r7]. This appears to be represented as a rather amorphous and unlabelled feature on the magnetometry survey and can be interpreted as a trackway when the results are compared to the 1<sup>st</sup> Edition OS. It is seen as an irregular spur, from the track that extends across the playing field area parallel to the Wynding Road, and that heads to the area of the former port where the beach could be accessed at that time (Figure 28).

8.1.8. To the south a series of trackways seem to run from a point along the southern side of the Cricket Ground. One feature **m12** on the Magnetometry survey, **r5** on the resistance survey and **g5** and **g6** on the GPR survey is depicted as a trackway on the Tithes Map of 1846 (Accessed via Communities Northumberland online 23/04/2024) and c.1860 1<sup>st</sup> Edition Ordnance Survey (Accessed via National Library of Scotland online 23/04/2024) and is absent by the time of the c. 1897 2<sup>nd</sup> Edition Ordnance Survey (Accessed via Communities Northumberland online 23/04/2024). The trackway leads directly from the village to a cleft in the bedrock on which the castle stands that is known as the Miller's Nick. This is recorded as a common access to the castle in records of the 19<sup>th</sup> century and led to the windmill in the West Ward built in the era of the Sharp Trustees to grind corn for the poor of the district.



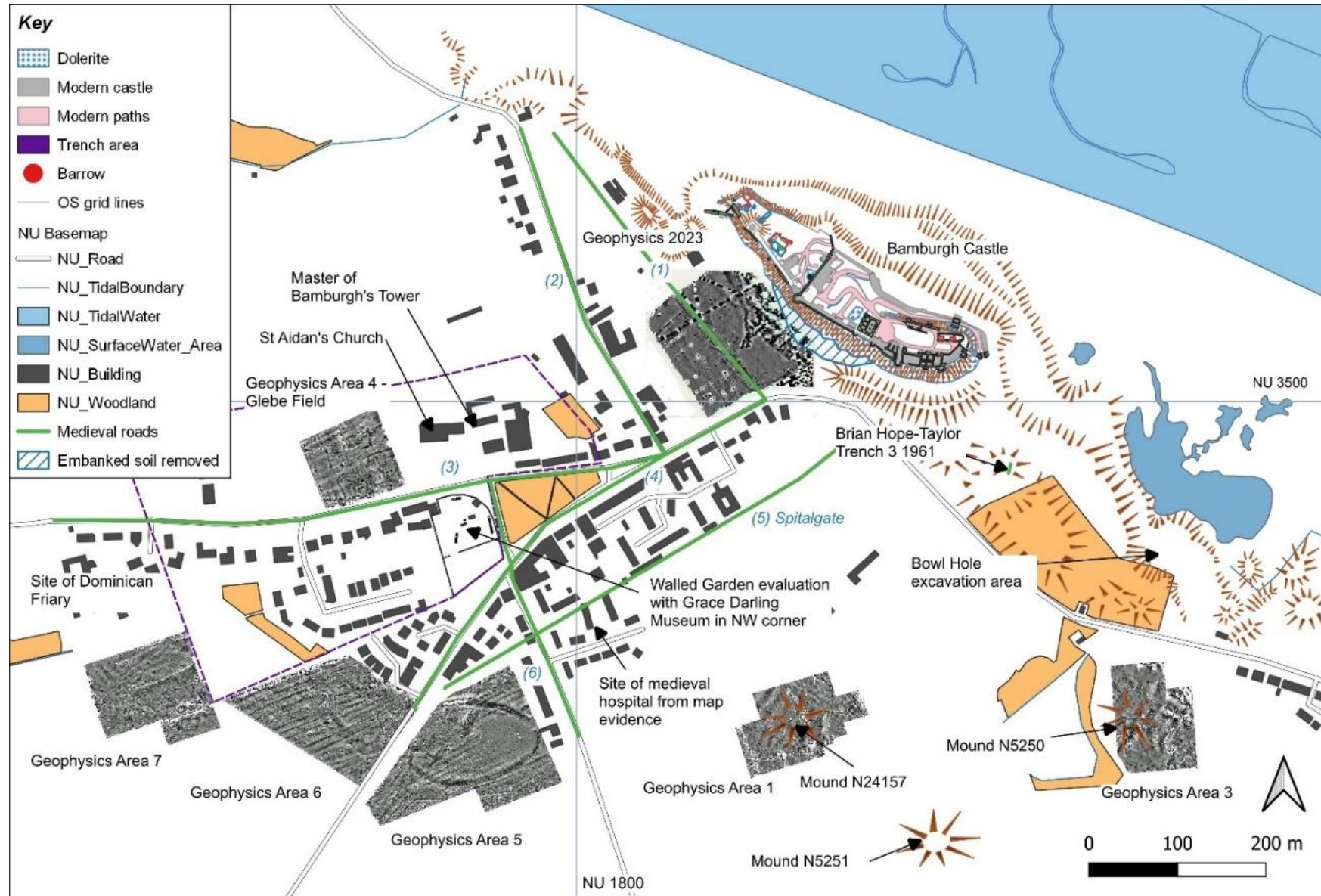
**Figure 28:** Magnetic Resistance Survey georeferenced with c. 1860 1<sup>st</sup> Edition Ordnance Survey Map (Accessed via National Library of Scotland online 23/04/2024)



8.1.9. Less clear from the map evidence but clearly seen through some of the early photography, is that at some point during the later 19<sup>th</sup> century some considerable volume of soil had been removed from where it had been embanked against the face of the castle rock. This was likely undertaken around the time of the Armstrong reconstruction as a good deal of landscaping and path construction was conducted at this time. The best explanation for this would be that the work was undertaken to enhance the drama of the setting of the castle. There appears to have been a considerable depth of this soil removed from the area of the rock cut ditch to the Clock Tower. The depth of material removed seems to diminish substantially further to the north-west. This may explain the absence of any trace of the trackway (**m12**, and **r5** and **g5** and **g6**) in the area in which the ditch can be traced. The surface where it would have run having been reduced by sufficient depth to remove any trace.

There is an additional wall (**m13**) and indications of boundaries or trackway that parallels the road line of the Wynding [**g7**], matching a wall and track shown in Historic England photos of the site from the 19<sup>th</sup> century (Historic England Archive, Ref: OP052798, Accessed February 2024) The presence of linear features to the village side of the wall, and perpendicular to **m13**, may hint at surviving enclosures later removed by the creation of the sports field. It is something of a stretch, though not out of the question, that these could hint at the former presence of burgage-style plots. As we have documentary records from the time of the medieval borough that name more roads than are present in the modern village the presence of a road here is plausible. One of these additional roads 'Spitalgate' we likely can locate as today its line is still marked by earthworks (**Figure 29, 5**) but at least one, that is not the Wynding, was known to have an extension off towards the sea (marked as a speculative **1** on **Figure 29**).

8.1.10. A series of linear features along the western part of the survey area seem to indicate further walls or garden boundaries associated with Bamburgh village. These anomalies could relate to either post-medieval or even medieval walls in the layout of the village, with a trackway running north-south, joining the fence line and an extant trackway running alongside the dunes to the west and north-west of the Castle.



**Figure 29:** Bamburgh Castle and Village showing significant archaeological interventions © Crown Copyright and database right 2024. Open Government Licence v.3.

## 9. Conclusion

- 9.1.1. **Phasing and Functionality of Structures:** Further investigation is needed to fully understand the phasing and functionality of the various structures within St Oswald's Gate and its outworks. Unravelling the complexities of multiple construction phases and alterations will provide insights into the site's use and evolution over time.
- 9.1.2. **Origins of the Tower and Well:** Determining whether the tower was originally constructed as part of the fortification or repurposed from existing structures, as well as locating any traces of the original well, will increase our understanding of the site's early medieval history.
- 9.1.3. **Interpretation of Postern Gates:** The discovery of paired postern gates presents intriguing questions regarding their function and chronology. Further study and analysis are required to elucidate the purpose of these gates, their relationship to each other, and their significance in the defensive layout of the fortress.
- 9.1.4. **The results of the geophysical survey:** These have provided glimpses into potential archaeological remains. Continued investigations of these findings will offer valuable clues about the extent of the ditch, the presence of additional structures, and the layout of the medieval borough.
- 9.1.5. **Summary:** As excavation and survey data accumulate, efforts to contextualize and interpret the findings within the broader historical and archaeological framework will be paramount. Integrating new discoveries with existing knowledge will enhance our ability to reconstruct the past and communicate its significance to diverse audiences.



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