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ARO50: "…a plantation of Scotch firs and forest-trees of considerable extent…": Locating the Parks of Culloden House at the time of the Battle of Culloden

By Kevin Munro

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

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ARO50: "…a plantation of Scotch firs and forest-trees of considerable extent…": Locating the Parks of Culloden House at the time of the Battle of Culloden

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Summary

In the mid-eighteenth century, a substantial designed landscape existed around Culloden House near Inverness, and elements of this landscape would play a significant role in the Battle of Culloden in 1746. Since then, the designed landscape features connected to the battle had been believed lost to landscape changes, but in 2018, new evidence was discovered by Historic Environment Scotland during routine work as part of their statutory role to compile and maintain the inventory of historic battlefields. This paper presents the results of the subsequent research and analysis of this evidence.

Introduction

In the 1720s John Forbes of Culloden laid out a new designed landscape around Culloden House, near Inverness, including improved fields and a large forestry plantation. A few decades later, a single corner of this designed landscape would play a significant role in the Battle of Culloden in 1746. Despite the significance of the "Culloden Parks", changes in land ownership and use since the eighteenth century had led to its location being lost. This paper presents new evidence for Culloden Parks gathered by Historic Environment Scotland through a combination of analysis of historic mapping using Geographic Information Systems (GIS) and investigation of landscape features. The research has rediscovered some of these missing elements, allowing us to identify the location of this feature of the designed landscape, and in turn the location of significant events of the battle linked to it.

Background to the Research

The research presented below has been conducted by Historic Environment Scotland (HES). HES has a statutory role to compile and maintain an Inventory of Historic Battlefields and an Inventory of Gardens and Designed Landscapes. As these are both important conservation tools within the planning process, it is important that inventory records are up to date and accurate. In 2018 HES received a request from an academic researcher to review details in the Culloden entry on the Inventory of Historic Battlefields (Battle of Culloden (BTL6) 2012) in the light of new historical research. While looking into this matter, the author noted an unrelated potential discrepancy in the mapping evidence, specifically relating to the location of the Culloden Parks. Subsequent research uncovered more evidence to support a new interpretation of the location of this historic landscape feature, and hence of the battlefield itself.

The history of Culloden House and the origin of Culloden Parks

The earliest reference to Culloden House and its predecessors dates to around 1323. The estate passed through numerous owners between the fourteenth and seventeenth century, including Alexander Stewart, the Wolf of Badenoch, the Edmundsons, the Strachans and the MacIntoshes. Timothy Pont's map of the Moray and Nairn region (Known as Pont 8) clearly depicts *Coulloddinn Castle*, confirming the presence of the house at the end of the sixteenth century (Pont 1595).

In 1626, the MacIntoshes sold Culloden to Duncan Forbes, the 1st Forbes Laird of Culloden (1572-1654). His family would not only own the house and grounds for over 300 subsequent years, they would also have some of the most significant impacts on both the history and the physical design of the house and surrounding policies. Late in the seventeenth century, the 3rd Laird, also Duncan (1644-1704), was among those who opposed the succession of James VII to the throne, opposition that led to the Culloden estate being ravaged by the Jacobites during the First Rising in 1688-89, causing damages valued at £54000 and for which Forbes was compensated by Parliament.

Whether necessary, as a result of the damage caused by the Jacobites or not, at some point in the first half of the eighteenth century, both the house and policies were redesigned. It was in this form that the estate existed in April 1746, when the Battle of Culloden was fought. In the aftermath of the battle, Duncan Forbes, 5th Laird (1685-1747) stated that the house itself was largely undamaged, but the surroundings policies had been ransacked by both Jacobite and Hanoverian forces.

Although the house survived the aftermath of the Battle of Culloden, in the 1780s it was again heavily remodelled, this time by Arthur Forbes, 7th Laird (1760-1803), into the Georgian mansion that survives today as the Culloden House Hotel. Various changes to the estate buildings and layout were also made at this time, continuing into the early nineteenth century, and by 1837 an estate plan by George Brown showed a far more informal estate layout than the mid-eighteenth century (Brown, 1837).

In 1897, after the death of the 10th Laird, Duncan Forbes (1821-1897), the house and parts of the estate were sold. Throughout the twentieth century, the surrounding landscape has undergone change through development and land use, and this was thought to have left only a small part of the former policies unchanged.

Culloden Parks and the Battle of Culloden

One of the most important aspects of the history of the Culloden estate is its links to the Jacobite causes, and particularly to the Battle of Culloden. The Forbes family chose the Government side during the period of the Jacobite Risings, a decision which would have ramifications for them across several generations, beginning with the destruction wrought by Jacobites during the 1688 Rising and culminating in the late-nineteenth century efforts to memorialise the Battle of Culloden, by Duncan, the last Forbes Laird of the estate.

During the final Jacobite Rising in 1745-6, the house and estate played a direct role in the conflict. Culloden House was used as a headquarters by Bonnie Prince Charlie and the Jacobite commanders in the days leading up to the battle. The southern end of the Culloden Parks wall was used by the Jacobites as their left flank (the northern end of their line) when they deployed for the battle. This direct link with the Jacobite deployment is significant as, in conjunction with the use of the Culwhiniac enclosure to anchor the right flank (the southern end of the line) these two enclosures provide evidence for the precise location of the Jacobite deployment before the battle. In addition, during the battle a Jacobite artillery piece was moved into the south-east corner of the Parks to support the left flank of the army, first in their attack and then during their retreat.

Research and conservation work in the late twentieth and early twenty-first century found substantial archaeological evidence for the Culwhiniac enclosure, in the form of denuded stone walls (Pollard 2009), and these correspond both with historic mapping evidence and with artefacts from the battle recovered from the area during some of these research projects (Pollard and Oliver 2002, Pollard 2009). This has allowed the southern extent of the battlefield to be quite precisely defined within the modern landscape.

The northern extent of the conflict has remained more elusive, however, as the Culloden Parks itself remained ill-defined, with only a single, heavily denuded wall foundation identified during archaeological works, and thought at the time to be part of the western wall of the Parks (Pollard 2009).

Historic evidence for the Culloden Parks in the mid eighteenth century

In part due to the connection with the Battle of Culloden, there is a reasonably detailed amount of information regarding the Culloden Parks at the time of the battle, in the form of descriptions, images and maps. These indicate the layout of the house and estates as it was at the time of the battle, following the early eighteenth century redesign, thought to be the work of Duncan Forbes. As Forbes himself only inherited the estate in 1734, and died in 1747, it is possible that some of the works attributed to him were at least started while his elder brother John was laird, and from whom he inherited the estate.

The new house itself was described as a *'plain four-storied edifice, with battlemented front and central bell-turret'* (Groome 1884), and at least one image, depicting a building matching this description, survives, drawn in the late nineteenth century and based upon a sketch in the Forbes own collection (Keltie 1875). At around the same time as the house was remodelled, the wider policies of the estate also underwent a redesign. As part of this, a large plantation of forestry was added, described by Thomas Pennant in *A Tour*

of Scotland 1769: 'On the side of the Moor, are the great plantations of Culloden House, the feat of the late Duncan Forbes...' (Pennant 1776). The 1793 Old Statistical Account for Inverness also describes a forestry plantation at Culloden: *'In the extremity of the parish eastwards, on the estate of Culloden, there is a plantation of Scotch firs and forest-trees of considerable extent. This plantation was completed above 70 years ago.'* (Sinclair 1793).

William Roy's maps

As well as these descriptions of the estate, we have several detailed maps of the area from late 1740s, showing the layout of the estate at the time of the battle. First, there are two important maps drawn by Major-General William Roy. The better known of the two is his Military Survey of Scotland, a vast undertaking to create a detailed map of the entire country between 1747 and 1755. Although the accuracy of the map is far below modern standards, it remains a remarkably effective historical source when its limitations are accounted for. In particular, its depictions of important strategic features such as major terrain elements like mountains and valleys, along with features like settlements, roads and watercourses are relatively accurate, in keeping with its primary purpose as a military map of an area that had proved extremely difficult to control. It also displays a high degree of detail for many of the designed landscapes extant at the time of the survey, including that at Culloden House.

In addition to his famous work, Roy also undertook an earlier survey of Culloden House and its environs, titled "A drawn Plan of Colloden (sic) House and the adjacent Country, by W. Roy" (Roy, n.d.) and now held in the British library. This map is undated, but believed to have been drafted in 1746, as it depicts the tracks left by the Government artillery approaching the battlefield, a feature which would not have survived for long.

Both of Roy's depictions of the layout of the Culloden estate are quite detailed, and they are broadly identical, with only minor differences between the two. The estate is depicted as resembling an inverted L, with the longer arm stretching roughly NNW to SSE, roughly perpendicular to the slope up to the moor, and the shorter arm extending north-east from its northern end. Culloden House itself is located close to the centre of the shorter arm, placing it slightly to the east of the line of the longer arm. Other features that can be identified on both of Roy's maps are a tree-lined avenue extending south-west from the house itself, and directly aligned on it, and an unusual triangular field on the north-west corner of the estate. To the south of the avenue, the land slopes upwards towards Culloden moor, and most of this sloping land on the longer arm is depicted as forested. Finally, two enclosed fields are shown as the southernmost extent of the longer arm, meeting the forested area at roughly the break of slope (Figure 1).

From the descriptions of the estate given by Pennant and the Old Statistical Account of the existence of a forestry plantation on the Culloden estate, and the absence of any significant amount of forestry anywhere else in the vicinity of Culloden Moor on Roy's Military Survey, we can also reasonably conclude that the forestry depicted on the land sloping up towards the moor is the plantation that these accounts refer to.

In addition to the estate layout itself, both of Roy's maps show a road running up from Inverness and passing close to the southern end of the Culloden Parks before continuing across the moor. They also show a water course running north-west along the high ground of the moor, the western end of which points towards the parks from a short distance away.

In addition to Roy's maps of the area, several contemporary maps of the Battle of Culloden survive. The amount of detail of both the battle and the surrounding area varies in these maps, but several of them provide useful evidence of the layout and location of the Culloden estate. The main contemporary maps of the battle are:

- *A Plan of ye Battle of Colloden between his Majs. Forces Under the Command of his Royall Highness the Duke of Cumberland and the Sctt. Rebels April ye 16 1746* by Jasper Leigh Jones (1746)
- *A Plan of the Batle of Coullodin moore fought on the 16th. Of Aprile 1746* by Daniel Paterson (1746)

Figure 1:William Roy's depiction of Culloden Parks in the Military Survey of Scotland (© British Library Board. All Rights Reserved / Bridgeman Images)

- *A plan of the battle of Culloden and the adjacent country, shewing the Incampment of the English Army at Nairn and the March of the Highlanders in order to attack them by night* by John Finlayson (between 1747 and 1751)
- *Plan of the Battle of Culloden 16th April 1746* by Thomas Sandby (1746)
- A sketch map of the battle by Colonel Joseph Yorke (1746)
- A sketch map of the battle by Lord Charles Cathcart (1746)
- A map by an unnamed French officer (around 1748)
- A sketch map by Lord Elcho (date uncertain, but likely between 1747 and 1754)

Of these eight maps, several show some or all the key features displayed on the Roy maps and identified above.

Jasper Leigh Jones' map

The Leigh Jones map (Figure 2) depicts a strip of land roughly between the River Nairn and the Moray Firth coast, centred on the battlefield. It also depicts the entirety of the Culloden Parks layout, and concurs with Roy on the following features:

1. The overall inverted L-shaped layout of the estate.

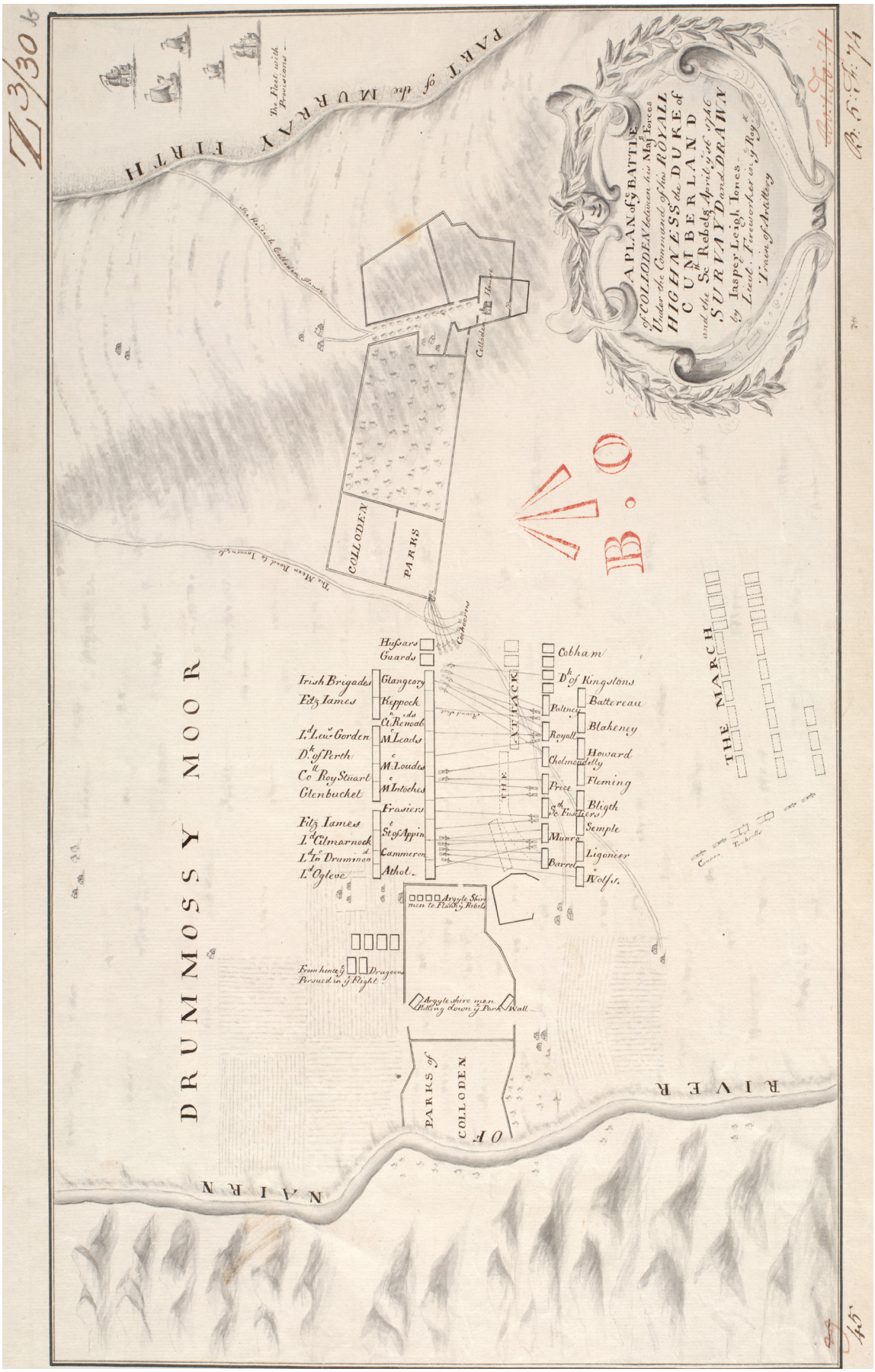

Figure 2: Jasper Leigh Jones map of the Battle of Culloden (© National Library of Scotland)

2. The location of Culloden House within the estate.
3. The avenue running from the house.
4. The unusual triangular shape of the north-west corner of the estate. (This is shown by Leigh Jones as a tapering enclosure rather than a specifically triangular field, but the interior lacks the detail of Roy.)
5. The large area of forestry to the south of the avenue.
6. The two enclosed fields at the southern end of the estate.
7. The Inverness road passing close to the southern end of the parks.

Daniel Paterson's map

The Paterson map does not display the same level of detail for landscape features as some of the other examples, and as a result does not display the same number of identifiable features that Roy and Leigh Jones depict. It is, nonetheless, still possible to identify:

1. The overall L-shaped layout of the estate. (Although Paterson depicts it differently, the broad layout of a long arm stretching south and a short arm to the east can be seen.)
2. The location of Culloden house within the estate.
3. The avenue running from the house.
4. The large area of forestry to the south of the avenue.

John Finlayson's map

The Finlayson map (Figure 3), although of slightly later date, has long been considered one of the best of the maps produced of the Battle of Culloden, and in addition to the battlefield itself Finlayson has included extensive amounts of the surrounding area in his depiction. The map has a high level of topographical and landscape detail and is another that shows the Culloden Estate in its entirety. Like Leigh Jones, Finlayson depicts many of the key features of the estate as seen on Roy:

1. The overall inverted L-shaped layout of the estate.
2. The location of Culloden House within the estate.
3. The avenue running from the house.
4. The unusual triangular shape of the north-west corner of the estate. (Like Leigh Jones, the north-west corner is depicted as tapering rather than a specific triangular field, and with similar lack of interior detail.)
5. The large area of forestry to the south of the avenue.
6. The two enclosed fields at the southern end of the estate. (Finlayson depicts them as divided by a road, rather than a wall.)
7. The Inverness road passing close to the southern end of the parks.
8. Finlayson also depicts the water course on the moor.

Thomas Sandby's map

Sandby's map of the battle (Figure 4) is one of the most detailed in both its depiction of the deployments and action and the surrounding landscape. It shows a similar overall area to Leigh Jones' map, and many of the elements are consistent across the two, but Sandby displays a greater level of precision and detail in his version. Among the key features that Sandby and Roy both depict are:

1. The overall inverted L-shaped layout of the estate.
2. The location of Culloden House within the estate.
3. The avenue running from the house.
4. The unusual triangular shape of the north-west corner of the estate. (This is shown by Leigh Jones as a tapering enclosure rather than a specifically triangular field, but the interior lacks the detail of Roy.)
5. The large area of forestry to the south of the avenue.
6. The two enclosed fields at the southern end of the estate.
7. The Inverness road passing close to the southern end of the parks.

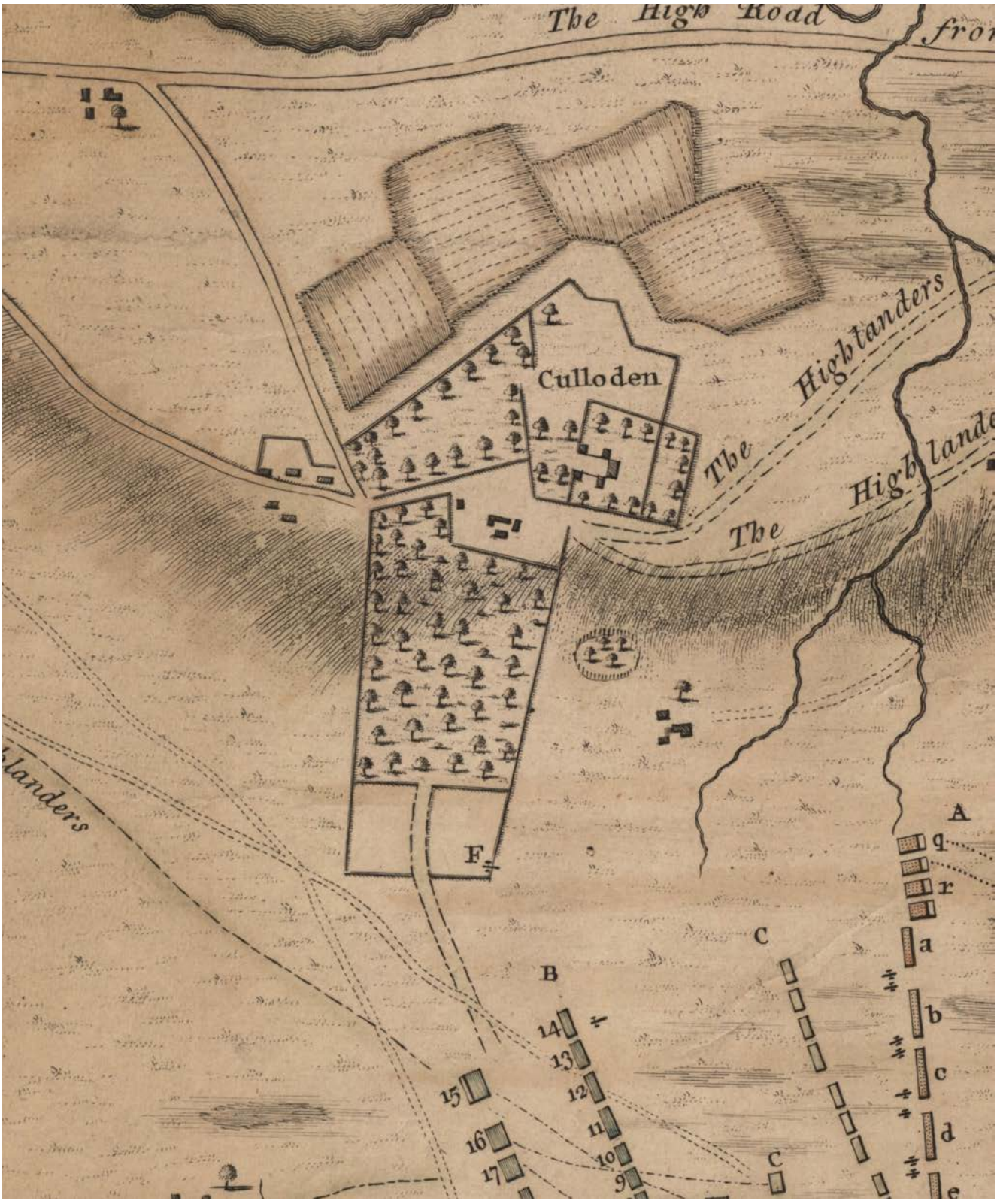

Figure 3: Detail of John Finlayson's map of the Battle of Culloden, showing the area of Culloden Parks. (© National Library of Scotland)

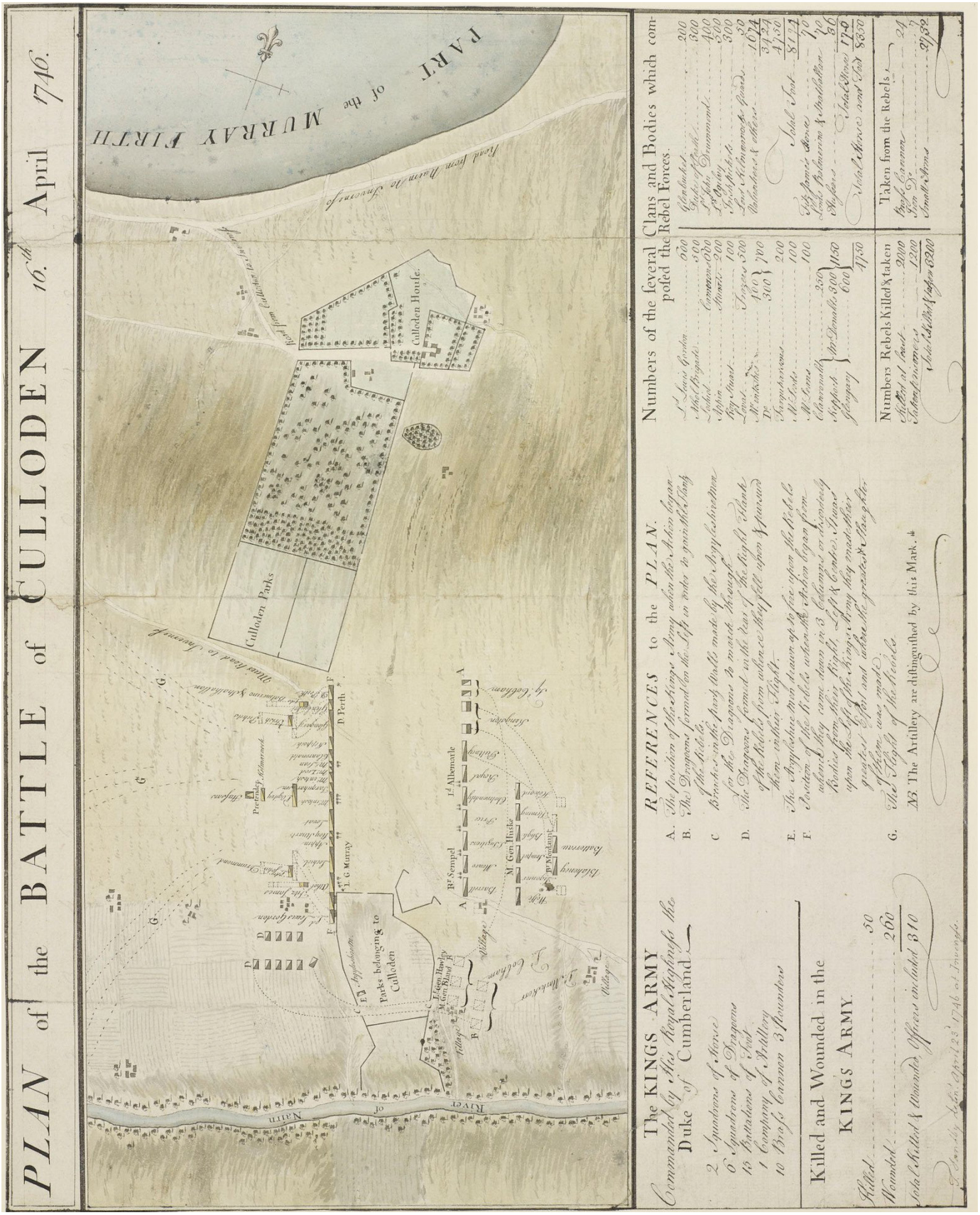

Figure 4: Thomas Sandby's map of the Battle of Culloden (Royal Collection Trust / © Her Majesty Queen Elizabeth II 2021)

Colonel Joseph Yorke's map

Colonel Yorke's map is likely to be the first drawn of the battle, as a copy was sent to his father in a letter just two days after the battle. It lacks much of the detail of some of the other maps, being much more a sketch of the action, and is focussed on the immediate area of the battle rather than any of the surrounding landscape. As a result, it does not provide much corroboration of other maps, except for two features:

1. The Inverness road passing close to the southern end of the parks.
2. The water course running on the moor. (Yorke shows a series of bogs in the same general area as Roy and Finlayson depict water courses, and it is likely the bogs are connected to the water course, particularly when considered alongside the LIDAR data discussed below.)

Lord Charles Cathcart's map

Lord Cathcart's map is also likely to have been drawn relatively soon after the battle as, like Yorke, Cathcart served as an aide-de-camp to Cumberland during it. Cathcart's map depicts a quite impressive level of detail of the deployments and events of the battle, but gives less focus to the landscape, showing the Culwhiniac enclosure as a simple rectilinear shape, while only the very south-eastern corner of the Culloden Parks is shown. As a result, we do not gain any real insight into the layout of the estate from this map.

Unnamed French Officer's map

The map drawn by an unnamed French Officer only came to light in the 1990s. Similarly to Cathcart, the French officer shows a good level of detail for deployments, but a minimal level when it comes to terrain and landscape. Both the Culwhiniac and Culloden enclosures are depicted as basic rectilinear forms, giving no additional information on the estate, although the interior of Culloden Parks is depicted as forested, suggesting the forestry plantation to some extent.

Lord Elcho's map

The map by Lord Elcho is another drawn by an eyewitness, but in the form of a sketch that does not provide an extensive amount of detail on the landscape. He does depict both the Culwhiniac and Culloden enclosures, along with the River Nairn, but no other landscape features are shown. The depiction of Culloden Parks itself is very simplistic but does contain some information. It does hint at the longer arm of the L-shape being divided into a northern and southern section, in common with other maps (a northern forested section and the southern section of two fields), but there is no indication of forestry in the northern section to clarify this. There is, however, one element we can match to the more detailed maps:

1. The overall inverted L-shape of the estate.

Thomas Sandby's panorama

One further useful piece of contemporary evidence relating to the Culloden Parks was provided by Thomas Sandby. In addition to the map described above, Sandby sketched a panorama of the battle (Figure 5). Although quite detailed, it does take some artistic liberties with its depiction. The panorama is aligned to face south, with the Jacobite line in the right of the image and the Government to the left. However, the rear of the image appears to show the Moray Firth and supporting ships, which were to the north of the battlefield. The reason for this discrepancy is unknown, but may have been a desire by Sandby to reflect the important role of the naval vessels had in the campaign, an aesthetic inclination to include the northern view as a more dramatic backdrop, or perhaps a combination of the two. Regardless, the detail in foreground, including the corner of Culloden Parks, is generally considered to be a plausible depiction.

The panorama seems to portray the moment where the Jacobite line begins to charge, as the nearest of the Jacobites, positioned adjacent to Culloden Parks, are still in formation, while to the rear of the image they are depicted as charging forward. As the line did begin its advance in a piecemeal fashion, this is a reasonable interpretation of the action, although it was the Jacobite centre that first began to charge, rather than the right flank.

The bottom right corner of the image gives a very clear depiction of the south-east corner of Culloden Parks. This is shown as a stone wall around 2 m in height, which we can surmise from the adjacent Jacobite soldiers, who are shown as

Figure 5: Thomas Sandby's panoramic sketch of the Battle of Culloden, showing the south-east corner of Culloden Parks in the lower right (Royal Collection Trust / © Her Majesty Queen Elizabeth II 2021)

a similar height, if not slightly shorter. The wall also appears to be noticeably wide, as Sandby's shading provides a clear distinction between the vertical surfaces of the walls and the horizontal top.

Although the process of agricultural improvement was already underway by the time of Culloden, the enclosure wall of Culloden Parks appears to be far more than a simple agricultural boundary. We can see both from the scale of the wall in Sandby's panorama, and the presence of the Culloden Parks enclosure on most contemporary mapping that the wall was a prominent landscape feature in 1746 and would have been an obvious source of protection for the Jacobite left flank.

From these various contemporary sources, we can infer a reasonable idea of the layout of the Culloden House estate at the time of the battle, along with other features such as the road crossing the moor from Inverness.

Modern evidence for Culloden Parks

In the 275 years since the battle, the landscape has been drastically altered through agricultural improvements, development and changes in land use. In the process of these changes, many elements of the landscape recorded in the 1740s were believed to have been lost, including the Culloden Parks. However, in the last few decades, a number of elements have been identified or confirmed through historical and archaeological research, including the location of the Culwhiniac and Leanach enclosures, the southern end of the deployment lines of the Government and Jacobite armies, and the confirmation of apparent burial pits beneath the clan grave markers added in 1881. These elements have built on the understanding of the battlefield as proposed by Iain Cameron Taylor in the 1960s, but have still left much of the battlefield unclear, as they have mostly focussed on the areas of the battlefield owned or close to the land in the control of the National Trust for Scotland. In particular, the northern end of the deployments has remained a mystery, as the Culloden Parks had still not been identified. However, as will be seen, there is substantial evidence to support that the Culloden Parks can not only be identified but has in fact survived in large parts and can still be seen today.

The first step in understanding how and where the historic landscape of the Parks survives in the modern landscape is found in Culloden House itself. Although the house itself was rebuilt in the 1780s, this was done on the same site, evidenced by the survival of earlier masonry in the basement of the current building. The location of the house therefore provides a key anchor in pinpointing the surrounding features of the Parks (Figure 6). However, if we compare the location of the house with the currently presumed position of the Jacobite left, we can see this does not easily align with the longer NNW/SSE arm of the Parks laying to the west of the house, and would in fact require a much steeper north-west/south-east alignment than the historic maps seem to depict for this area of the Parks to connect between the two features.

Another piece of evidence, only recently available to us, is provided by the LIDAR (Light Detection and Ranging) remote sensing data now available for parts of the area, through the Scottish Public Sector LiDAR (Phase I) dataset (Scottish Government, SEPA and Scottish Water 2012), collected in 2011-12 as part of the response to the Flood Risk Management Act (2009). The dataset includes part of the River Ness and much of the southern coastline of the Moray Firth, and as a result includes part of the landscape around Culloden House and the battlefield. LIDAR data is of particular interest for its ability to show subtle landscape features more prominently than can often be seen on the ground. In the case of Culloden it highlights the unusual route of one watercourse, the Red Burn, which runs north-east along the moor before turning north and running downhill from the plateau towards the Moray Firth, where most other watercourses in the area are seen to run northwards directly down the slope (Figure 7). The reason for this is a low rise in the ground in the area around Viewhill, meaning these watercourses, less than 100 m apart at their source in one place, flow in drastically different directions. The course of the Red Burn was artificially channelled during the agricultural improvements in this area, but the LIDAR data allows us to see its original channel, and that it reflected the north-east-running watercourse shown on the historic maps. This feature, like Culloden House, is also located further west than the currently understood positions of the armies would suggest it should be.

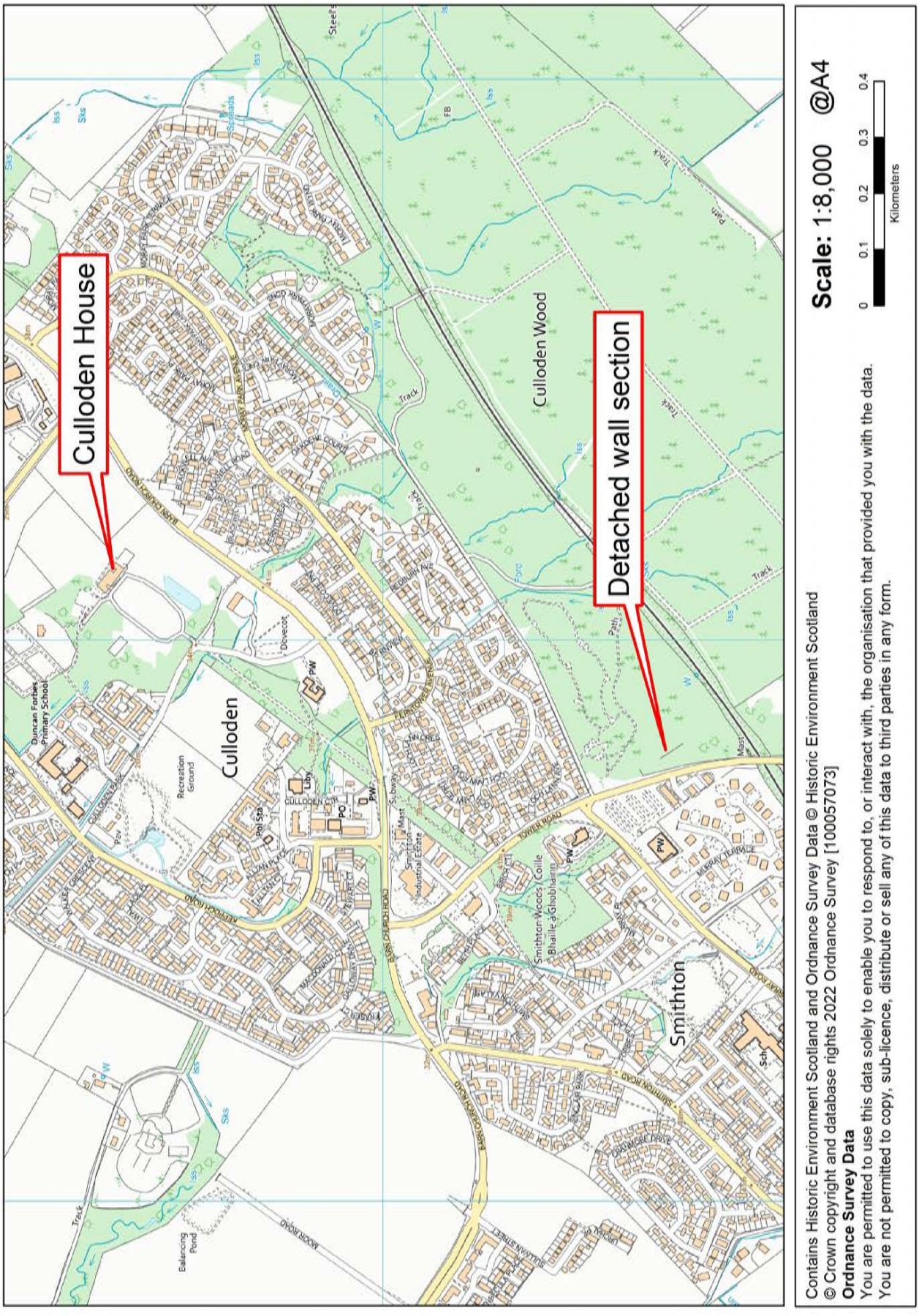

Figure 6: Ordnance Survey map showing the location of Culloden House and the depiction of a section of detached walling. (© Historic Environment Scotland / © Crown copyright and database rights 2022 Ordnance Survey [100057073])

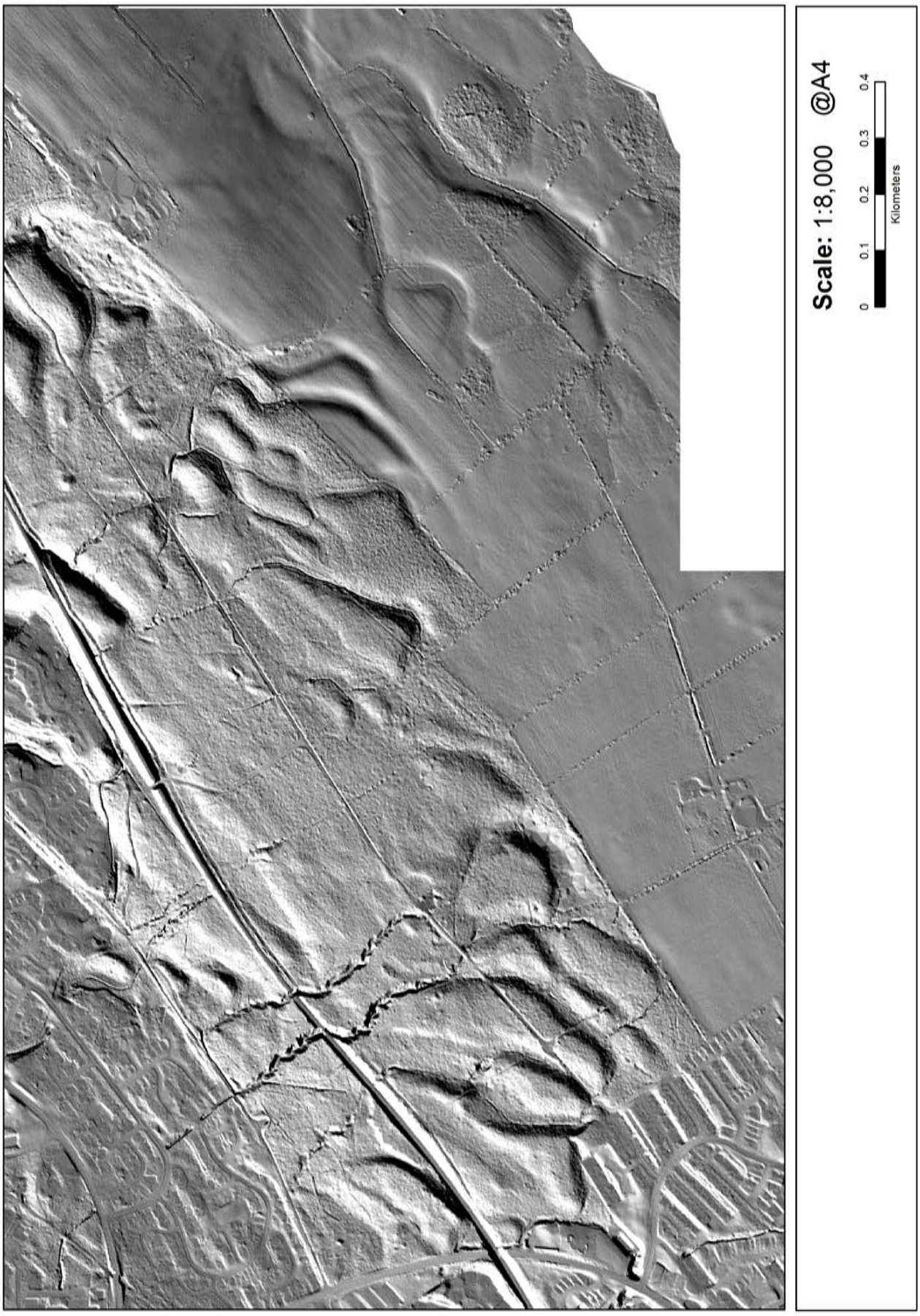

Figure 7: LIDAR data of part of the area of Culloden Muir and Culloden Wood, showing the former route of the water courses running north-east along the moor at centre right. (© Crown copyright Scottish Government, SEPA and Scottish Water 2012)

Another physical remnant identified as connected to the Parks was highlighted in the 2009 book Culloden: The History and Archaeology of the Last Clan Battle. In the chapter by Pollard on the archaeology of the battlefield, a patch of stonework had been identified as potentially being part of the foundations of the Culloden Parks walls (Pollard 2009). Although as noted in his discussion of the feature at the time, the time constraints of the project prevented further analysis and that it was suggested that further research would have good potential for uncovering additional evidence. Interestingly, this fragment was suggested at the time as being part of the west wall of the Parks, which would be in keeping with the traditional location of the Jacobite deployment and the current interpretation of the battlefield. However, the feature's alignment with Culloden House, the unimproved nature of the land east of this at the time of the First Edition Ordnance Survey map, and the watercourse data revealed in the LIDAR scans, are difficult to reconcile with the presence of another Parks wall at the necessary distance east of this example for it to be the west wall.

From these discrepancies, it is possible to surmise that the Culloden Parks lay further west than previously thought. This assessment is borne out by cross-referencing Roy's military map and modern mapping. Although Roy is not as accurate or detailed as modern mapping, it is possible to identify many named features on Roy's map, such as farms and castles, and to locate their modern equivalent on current Ordnance Survey maps.

Through the use of the georeferencing functions of modern GIS we can roughly align these identifiable features with their modern equivalents, and as a result broadly align Roy's map with the modern mapping. As Roy did not conduct a full measured survey as we would understand it today, this technique does require caution. For example, while we can identify the location of the features, their size and layout is only indicative on Roy's map, and so georeferencing the centre of the feature on Roy to the centre of the feature on the modern mapping could still result in a discrepancy of tens of metres. We can partially account for this through the use of as many features as possible as georeferencing points to average out this error range, and in the case of this research we used a total of 47 identifiable points as anchors for the georeferencing process. As we are also looking more at the broader layout and location of the landscape rather than attempting to identify a specific location of a feature from this method alone, the error range also becomes less of an issue. That we can place a degree of cautious trust in this broad alignment on a landscape scale is borne out by the minimal distortion to the overall sheet when changing between 1st polynomial transformation, where the original image is only shifted, scaled and/or rotated (Figure 8), and a spline transformation, which also permits the stretching of the image to match control points exactly (Figure 9). The alignment's potential reliability is also visible when comparing identifiable major features in the landscape, such as the coastline and the River Nairn, which were not used as georeferencing points as they will have altered somewhat through natural processes since Roy's survey, but that nonetheless do broadly align with the modern mapping following the georeferencing, as can be seen in Figure 10.

Following the georeferencing process, it again places the location of Culloden Parks on Roy's map significantly further west than previously thought (Figure 11). (It is also valuable to note that a westward shift of varying distances occurs regardless of which transformation methodology was applied to the georeferencing, although for the purposes of this publication we will primarily be discussing the results following the spline transformation method and this is the transformation method depicted in the relevant figures.) The location of the east wall of the enclosure is in fact around 600 m west of the location suggested by the currently proposed location of the Jacobite army, and thus well outside the range where the margin of error in the georeferencing would be of significant concern. Other features that also then broadly align with the modern mapping include the Culwhiniac enclosures, the location of which is known in the modern landscape, and the watercourse on the moor depicted by Roy to the east of the Parks broadly aligns with the modern mapping and LIDAR depiction of the Red Burn.

With the evidence beginning to suggest a new location for Culloden Parks, it became important to return to the modern mapping to identify other

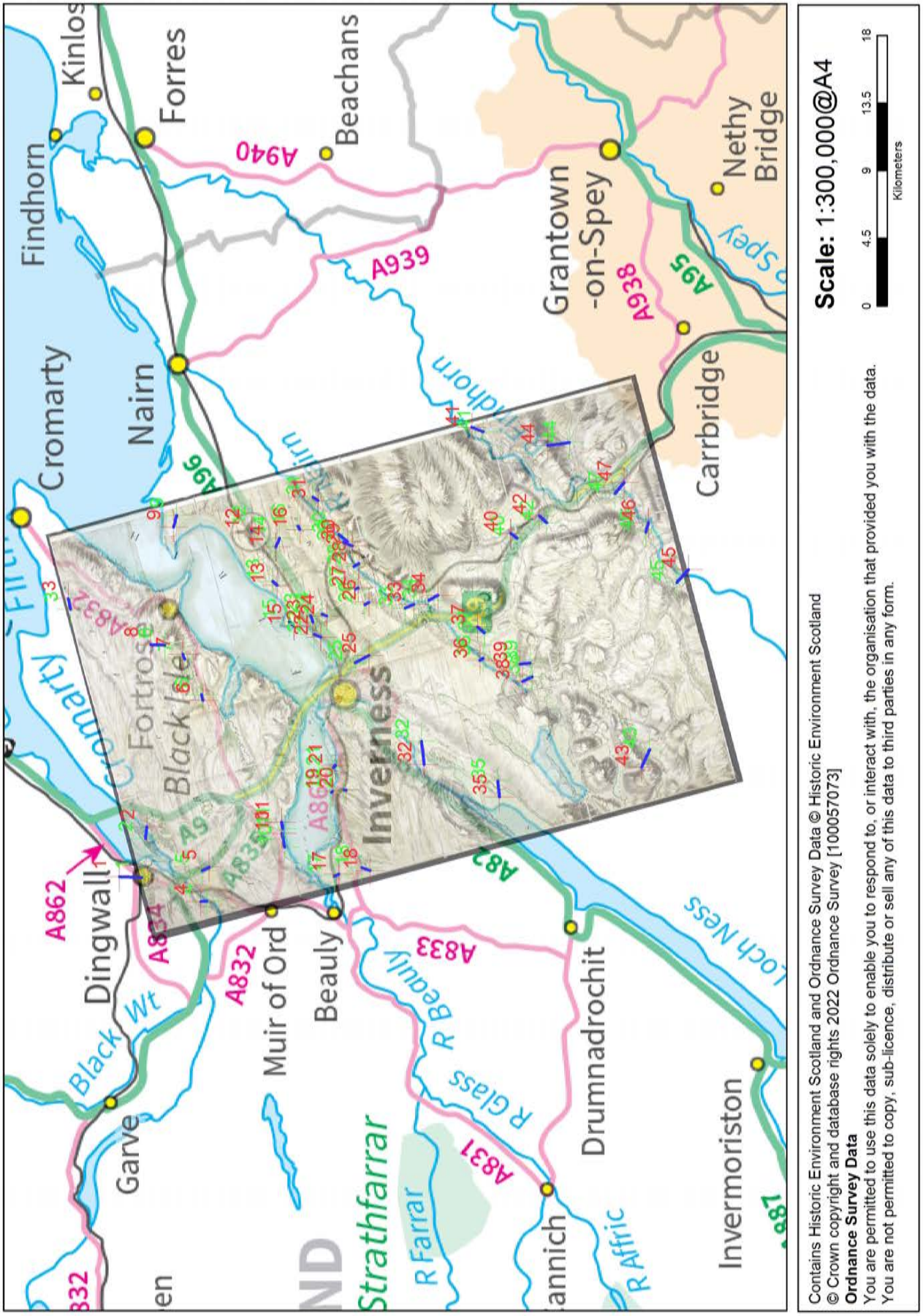

Figure 8: Sheet 26 of Roy's Military Survey, showing georeferencing points using a 1st polynomial transformation. (© British Library Board. All Rights Reserved / Bridgeman Images & © Crown copyright and database rights 2022 Ordnance Survey [100057073])

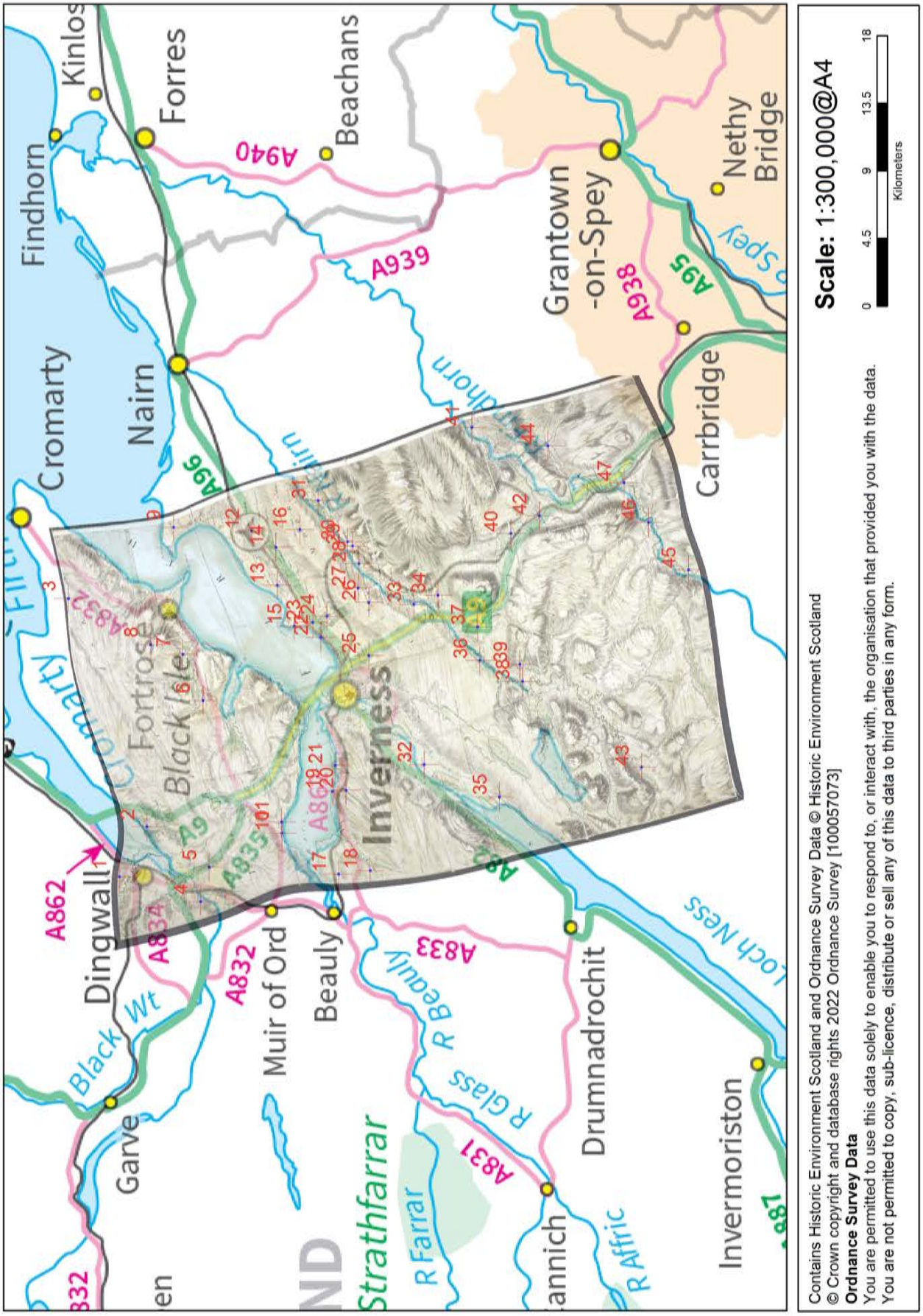

Figure 9: Sheet 26 of Roy's Military Survey, showing georeferencing points using a spline transformation. (© British Library Board. All Rights Reserved / Bridgeman Images & © Crown copyright and database rights 2022 Ordnance Survey [100057073])

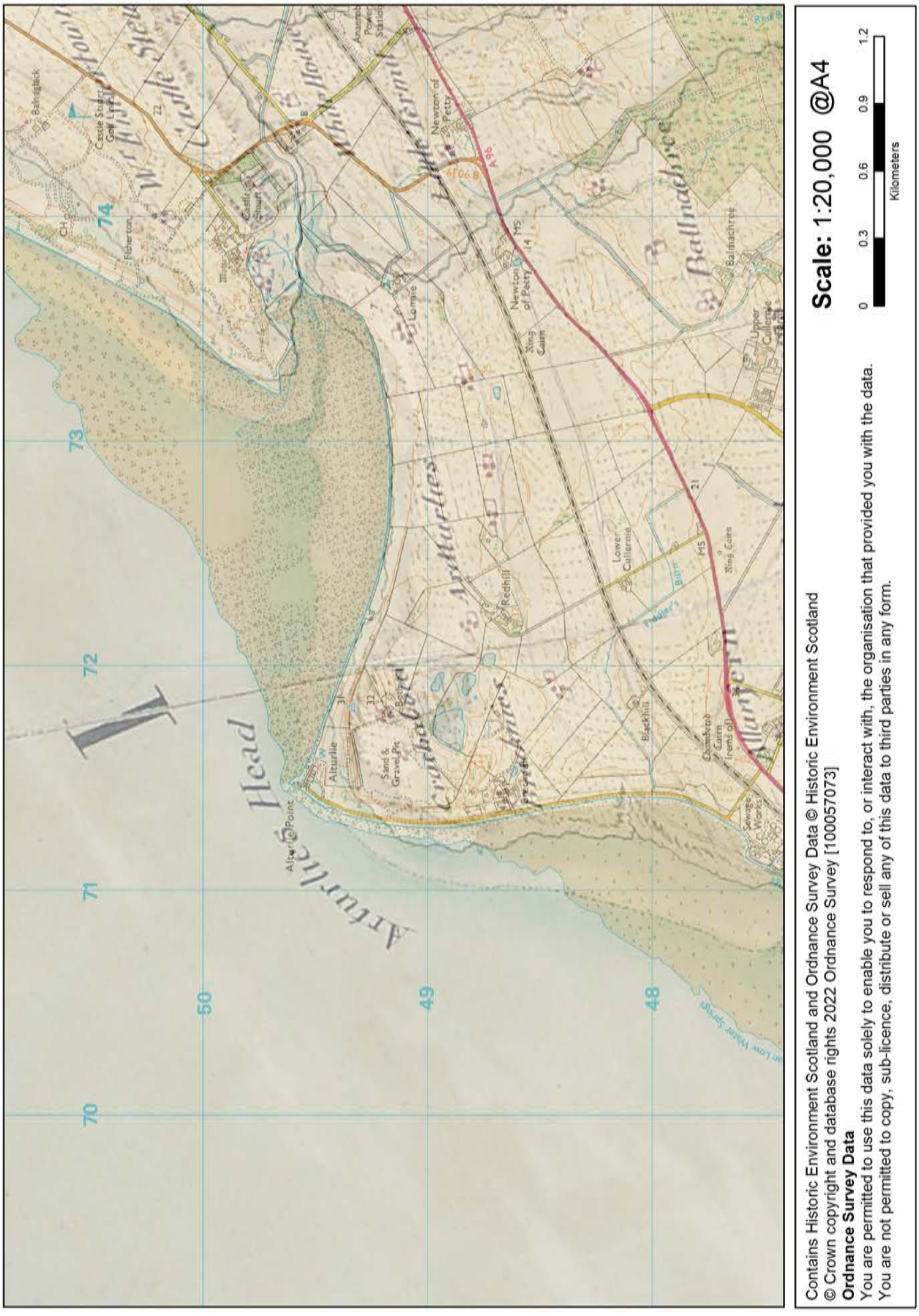

Figure 10: Overlay of the georeferenced Roy mapping on the modern OS mapping, showing the broad alignment of the coastline around Arturlie Point (© British Library Board. All Rights Reserved / Bridgeman Images & © Crown copyright and database rights 2022 Ordnance Survey [100057073])

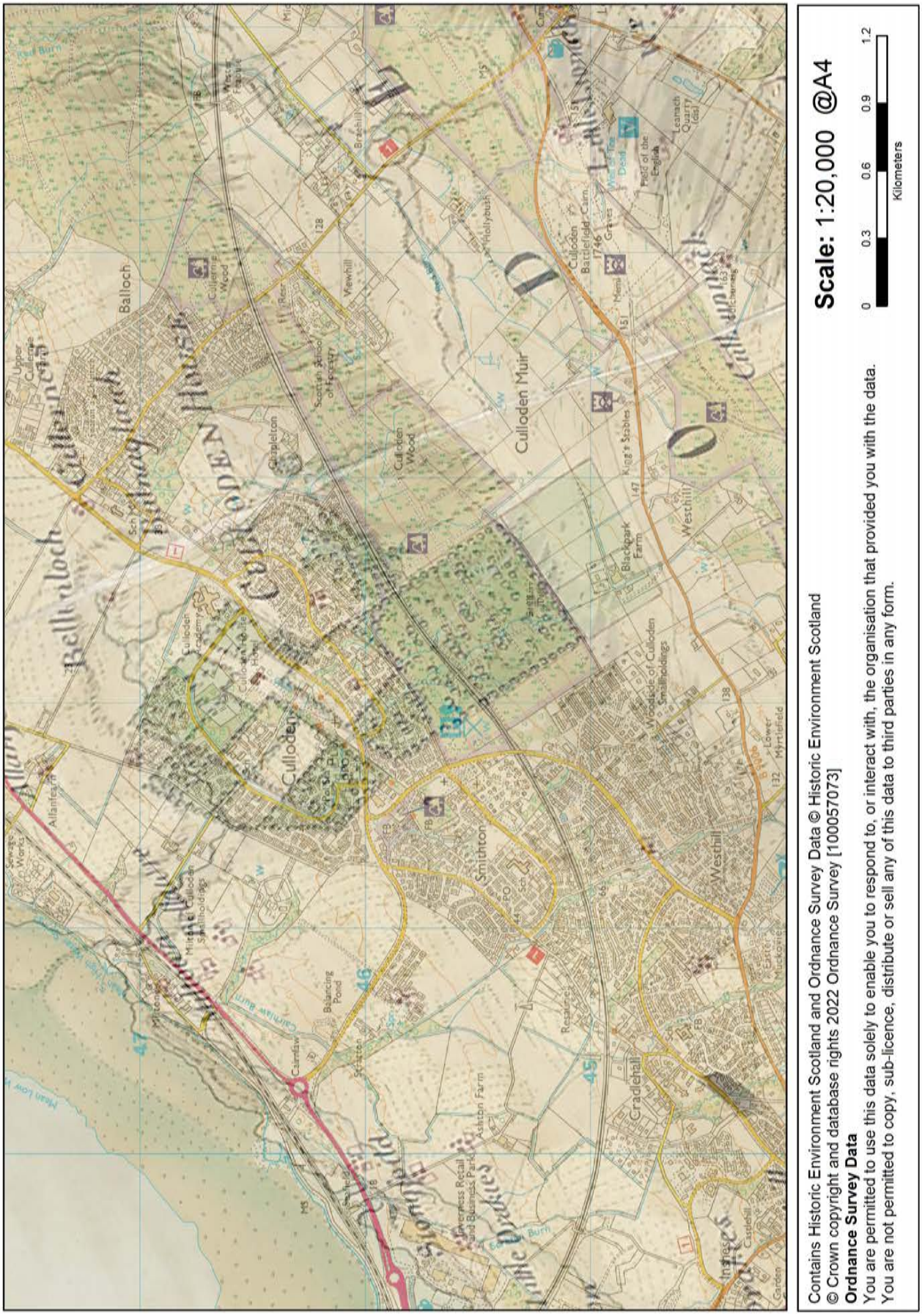

Figure 11: Overlay of the georeferenced Roy mapping on the modern OS mapping, showing the relative location of the Culloden Parks. (© British Library Board. All Rights Reserved / Bridgeman Images & © Crown copyright and database rights 2022 Ordnance Survey [100057073])

potential features that may support the new position. The most obvious feature that could be potentially identified if Culloden Parks were further west is the avenue stretching westwards from Culloden House. As noted above, by comparing the Roy map and modern maps, the evidence suggests that has in fact survived, and is now a pedestrian footpath known as Culloden Avenue. This runs for around 600 m north-east/south-west, with its north-east end terminating just a short distance from the gates of Culloden House. Its alignment is also perpendicular to the house itself and aligns with the driveways within the immediate grounds of Culloden House, suggesting a pre-existing connection.

Another mapped landscape feature of potential interest is a wall or fence line visible on both the historic and modern Ordnance Survey maps. On the First Edition map, this adjoins the western end of the avenue described above and extends south-east up the slope in a continuous line all the way to the road across the moor. It is later cut through by the construction of the Highland Railway to Inverness, opened in 1898. Despite this, the modern maps still depict a boundary feature extending up the slope to the south of the railway, and an unusual boundary line, unconnected to any other features in the area, can also still be seen to the north of the railway on the same alignment (Figure 6). This feature is of interest as its unconnected and isolated nature suggests it is a surviving fragment of an earlier landscape arrangement.

Field assessment

As noted above, the locations and alignments of these features broadly reflect what is represented on Roy's mapping, this alone is insufficient evidence to locate the Culloden Parks. Therefore, in order to examine some of these features in more detail, site visits were undertaken in February and July 2019, and again in October 2020. Identified features were photographed using a digital single-lens reflex (DSLR) camera and approximate Global Positioning System (GPS) points recorded for unmapped features using a modern smartphone. Although less accurate than a purpose-built differential GPS device, this nonetheless provided enough accuracy to broadly locate the features where they were not identifiable on a map or aerial photograph. The impact of the forestry on the GPS signals will also have affected the accuracy of the results, as this will have obstructed the signal to a degree, but not to an extent that the general location and alignment of identified features would become so inaccurate as to be of no value for the intended purpose.

Culloden Avenue (Plate 1) is a wide and straight pedestrian and cycle route, leading from Smithton at its western end to Culloden House at its eastern. It is lined by trees on either side, including the remains of a number of veteran trees. There are clear views along the avenue to Culloden House, except for the western third, where the modern bridge carrying Barn Church Road over the avenue obscures the visual link. The character of what is now a foot and cycle path is very much in keeping with what would be expected from a historic avenue such as the one recorded within Culloden Parks.

Plate 1: Looking north-east along Culloden Avenue. Culloden House is visible at the end of the route. (©Historic Environment Scotland)

Around 400 m SSE of the western end of the avenue is the isolated fragment of a potential boundary. During examination on the ground, this turned out to be the remains of a section of a relatively substantial wall (Plates 2 and 3). The wall is stone built, around 1 m thick at it base, and is now overgrown in places, but can nonetheless be clearly traced for over 100 m. As indicated on the OS mapping, this wall does not connect to any other features in the area. Instead, its northern end appears to have been robbed out over time, resulting in the wall gradually reducing in height until it disappeared entirely. At its southern end, this section of wall overlooks the railway cutting, and it is clear that the railway cut through it during its construction, as the same wall can be identified on the opposite side of the cutting.

Plate 2: Remains of the stone wall section near its northern end. (© Historic Environment Scotland)

Plate 3: Remains of the stone wall section at its southern end, overlooking the railway cutting (© Historic Environment Scotland)

To the south of the railway, the wall is more complete and gives a better idea of its original form (Plates 4, 5 and 6). Around 1 m wide at the base, it is quite prominently battered and tapers in width as it gets taller. At its highest it now survives around 1.7-1.8 m in height, although even then it appears to be missing any definitive upper surface, suggesting it was potentially even taller originally. It is constructed of quarried stone, with external faces of flatter stones arranged roughly horizontally, and a central core of loose rubble. The composition of the wall is far more substantial than would be expected from a simple agricultural boundary, and from the railway it survives as a prominent and visible feature running continuously all the way to the modern B9006 road.

The alignment of these two wall sections and the western end of the avenue reflects what can be seen on the Ordnance Survey First Edition mapping before the railway and other developments in the area removed parts of the wall. If this were to be the avenue and western wall of the Parks as indicated on Roy's maps, we can extrapolate that we could reasonably expect to find the eastern wall on approximately the line indicated by Pollard in 2009. The field boundaries at the time are clearly shown on the First Edition Ordnance Survey map for the improved farmland on top of the moor, but there are no indications of any built features within the forestry on this alignment at that time, nor is there any indication of them on the modern maps. During the site visits it was decided therefore to examine both the field boundaries located on the moor and search for any structural remains in the forestry.

Plate 4: View across the railway cutting to the continuation of the wall to the south of the railway. (© Historic Environment Scotland)

Plate 5: Looking southwards along the wall, showing the substantial construction and the steep batter of the two faces. (© Historic Environment Scotland)

Plate 6: View of the wall, showing the horizontally laid facing stones. (© Historic Environment Scotland)

Plate 7: Surviving linear stonework within the Culloden Wood forestry (© Historic Environment Scotland)

Within the forestry, it was not clear what, if any built features may have survived. The entire area was heavily forested by the time of the First Edition Ordnance Survey map, and this land use has continued to the modern day, so any structures could reasonably be inferred as predating the First Edition. Fieldwalking the area where the eastern wall should theoretically be, if it aligned with the avenue and the western wall described above, was complicated by the presence of the forestry, including some large areas of fallen trees. Eventually the remains of a linear stone feature (Plate 7) were found in several places on the slope, including one area where multiple smaller sections aligned together along a length of approximately 250 m. Two further small sections were discovered either side of the railway, again suggesting a feature that had been severed by its construction in the 1890s. Although far more ephemeral than its western counterpart as a result of forestry, a width of around 1 m could be ascertained in places, and the linearity of the longer sections showed it as likely to be a structure rather than accidental deposition of field stone. No other

linear stone features were located during the fieldwork, suggesting these wall fragments are the only examples that predate the expansion of the forestry plantation from that depicted on the historic mapping. Crucially, the alignment of this feature also roughly aligns with the corner of the immediate ground of Culloden House to the north and one of the field boundaries to the south (Figure 12).

The next step was to investigate the fields to the south of the forestry, including the proposed foundation wall suggested by Pollard, to attempt to identify any further possible remains of a wall. Although the foundations identified by Pollard lay on a slightly different alignment to the current field boundary wall, it became clear during the visit that the form and scale of the current field wall itself actually matched the previous wall examined to the west as described above, although there were clear signs of rebuilding and replacement of sections of it in this area (Plates 8, 9 and 10). Again, it has a base around 1 m wide, and although not as tall as the highest points of the previous example, it still displays the clear batter to its two faces, with a looser rubble core and with small fragments of horizontally laid stone facing, although it is not clear if this was original or not.

Where the wall runs south from the forestry to the road, it is cut through by a track and drainage ditch leading east from Blackpark Farm. As the land east of this is still unimproved at the time of the First Edition, this construction of the track and the digging of the ditch seem to have occurred in the latter part of the nineteenth century. It is in this area that the section of potential wall foundation was noted by Pollard, around 5 m east of the line of the wall (Plate 11). (It is not currently clear what this feature originally was, and it is no longer as visible as it was at the time of Pollard's recording of it. Large amounts of field clearance and other deposits in this area have also made it difficult to determine the exact nature or form of the stone feature in question. There are no mapped structures in this area on historic or modern Ordnance Survey maps and it is likely only archaeological investigation could determine the origin of the linear stone feature and its relationship to the other walls and field boundaries around it.)

Plate 8: View of the wall showing the similarities in size and design (© Historic Environment Scotland)

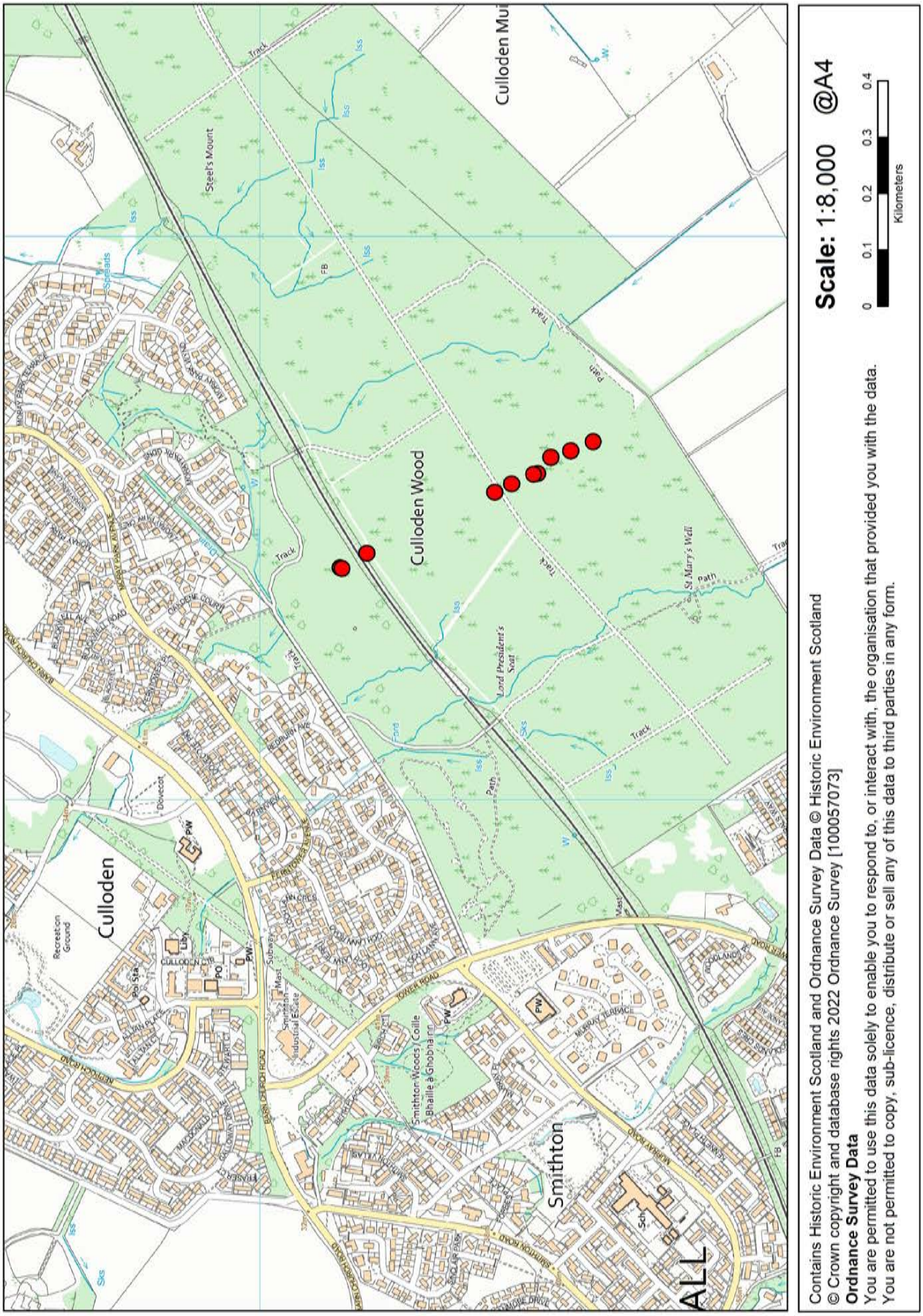

Figure 12: Map showing the recorded GIS points from the field visit. (© Historic Environment Scotland / © Crown copyright and database rights 2022 Ordnance Survey [100057073])

Plate 9: Detail of the wall structure, showing the two outer faces and the contrasting core material (© Historic Environment Scotland)

Plate 10: Detail of wall, showing possible surviving horizontally laid facing (© Historic Environment Scotland)

Plate 11: Area of the break in the wall, with the hedge adjacent to its southernmost section visible at upper left. The linear stone feature in the foreground is the possible wall identified by Pollard. (© Historic Environment Scotland)

However, continuing south from the break in the wall, it can again be located continuing on the line of the modern field boundary, precisely aligned with the section to the north after a gap of around 15 m. On its east side in this area a hedgerow runs parallel to the wall, and on either side of the hedgerow and wall a modern fence has been placed.

Around 200 m further along the wall, it suddenly terminates at another field gate. To the south of this, the field boundary is marked by the continuing hedge and fence line, but there is no further trace of any stone wall. This change in the form of the field boundary is actually prominent enough to also be visible on aerial photographs of the area and lies roughly where Roy indicated the southernmost end of the parks lay if aligned with features such as Culloden House and the avenue discussed above. Closer inspection of the end point of the wall at this gate revealed an unexpected but welcome surprise: The remains of a corner, turning to the south-west at roughly right angles to the rest of the wall (Plates 12 and 13). Although only a very short length of this survives, it is enough to see the linear inner face of the corner and that the stonework is constructed and connected to the north/south wall, rather than simply clearance or dumping.

Further evidence reinforcing the presence of a now removed wall running south-west from this point can be found in the next two north/south field boundaries to the west. Both are substantial structures around 2 m in thickness and 1 m in height, reminiscent of Aberdeenshire consumption dykes, and with drainage ditches on either side (Plate 14). (Both are now overgrown with gorse but can still be easily traced.) However, at the same point as a wall running from the identified corner would have cut across their length, both of these substantial dykes disappear entirely (Figure 13) and are replaced by standard agricultural field walls for the remainder of the distance to the B9006 (Plate 15).

Plate 12: The end point of the wall, with the identified corner (© Historic Environment Scotland)

Plate 13: Detail of the wall corner (© Historic Environment Scotland)

Plate 14: The eastern example of the two substantial dykes (Historic Environment Scotland)

Plate 15: View of the transition between the standard agricultural field wall remains in the foreground and the far more substantial "consumption dyke" boundary to the rear, of which the width can be seen in the gorse growth (© Historic Environment Scotland)

The presence of two walls of the same construction and size running north/south in this location, the evidence that they predate both the railway and the expanded forestry plantation, their clear alignment with both Culloden House and Culloden Avenue and the presence of the evidence for their previous southern terminus, are all reflective of the Culloden Parks in this area as depicted by Roy and others. Furthermore, the height and thickness of the wall at its most complete, coupled with the horizontal pattern of the stone facing, are also reflective of the walls that can be seen in Sandby's sketch of the battle. This leads us to conclude with a high degree of certainty that the identified walls are in fact the surviving boundary walls of this section of the Culloden Parks.

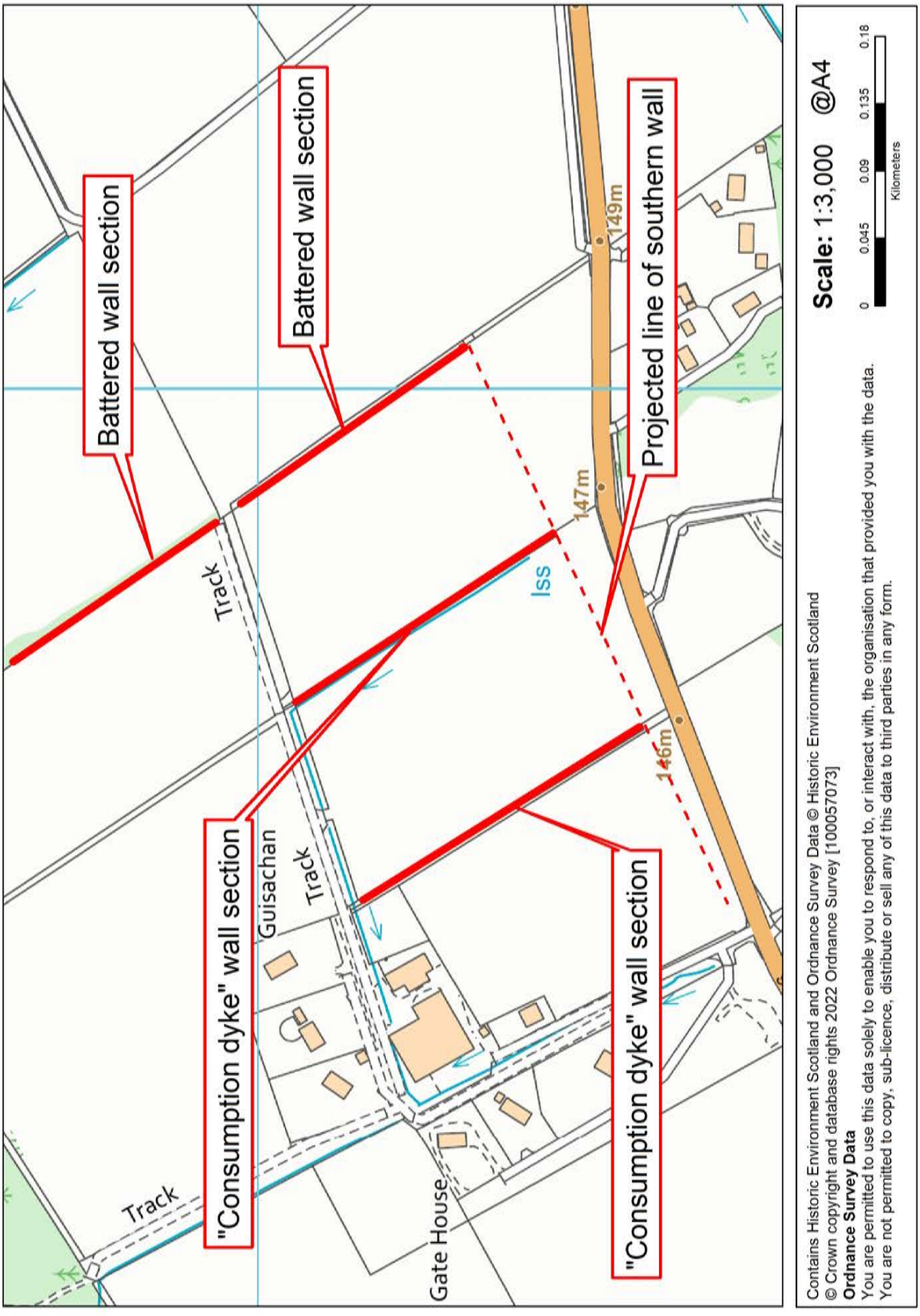

Figure 13: Map showing the locations of the battered wall and the two "consumption dykes", and the projected alignment of a southern wall across their termini from the corner. (© Historic Environment Scotland / © Crown copyright and database rights 2022 Ordnance Survey [100057073])

The location of Culloden Parks

With the identified physical remains of several elements seen on the historic eighteenth-century maps of the area, it becomes possible to extrapolate several of the remaining elements and locate the majority of the Culloden Parks estate in 1746 in the modern landscape (Figure 14).

Beginning from Culloden House, Culloden Avenue stretches south-west, and this represents the surviving remnants of the tree lined avenue seen in 1746. To the south of this, the battered stone walls that survive are the east and west walls of the long southern arm of the park, extending from either end of the avenue, running up the slope and onto the improved farmland of the moor itself, before terminating across a line indicated by the wall corner indicated above.

The southern edge of the forestry plantation at Culloden Woods also marks the edge of the forestry shown on the Roy maps, with the modern field boundary running adjacent to Blackpark Farm representing the division between the two fields indicated on the historic mapping. To the north of the avenue, the unusual triangularly shaped section of the Parks on the north-west can be traced in the line of Caulfield Road, which now marks the edge of a housing estate. Not only does Caulfield Road reflect the unusual field shape indicated by Roy and others, part of the road precisely aligns with the western end of Culloden Avenue, as indicated on the historic maps. (The location of Stratton Lodge helps confirm this. The lodge was built by the Forbes family at around the same time as Culloden House was rebuilt in the late eighteenth century. It is entered via a tree lined driveway, visible on the First Edition Ordnance Survey map, running exactly perpendicular from Caulfield Road, and strongly suggesting a pre-existing link between the two features.)

Returning to the moor, the Inverness road indicated on both Roy maps and those of the battlefield has ultimately become the B9006, and prior to its rerouting away from the area of the clan graves in the 1980s, the road followed roughly the same line as the route indicated on the historic maps. This can also be seen in the relationship of the road to the southern end of the Parks, where both the historic maps and the modern landscape show the road as closely passing the south-western corner of the parks, but the two are further apart by the south-east corner as the road curves away from the wall line. Finally, the water course running north-west along the moor as seen on the Roy maps can be located as the historic channels of the Red Burn prior to its canalisation during land improvements.

Conclusions

Through the evidence above, it has become clear that the previously suspected location of Culloden Parks placed it too far to the east in the landscape. This is understandable given the impact of landscape change upon Culloden Moor, particularly the substantial addition of forestry plantations. This erroneous location then became self-reinforcing, as no evidence could be seen to locate the Parks in their apparent location it was assumed they no longer existed rather than that they were in a different location.

Much of the understanding of the historic landscape in this area has been coloured and informed by the wealth of information available about the Battle of Culloden. Taylor's proposed battle deployments in the 1960s have influenced the present day understanding and interpretation of the battlefield. While his location for certain elements, particularly the position of the Government's extreme left, have turned out to be remarkably close to actual events, others have not stood the test of time. In the early 21st century, the archaeological work undertaken on the battlefield demonstrated the Jacobite right was significantly further west than had been previously presumed, for example.

Despite this changing understanding, the approximate alignments of the two armies have remained the same, as there was a lack of evidence to anchor the northern edge of the battlefield in the landscape. However, with the clear evidence for the survival of Culloden Parks, we now know that a further realignment of the historic landscape and the battlefield is necessary, and these will further enhance our future understanding of the events on 16 April 1746.

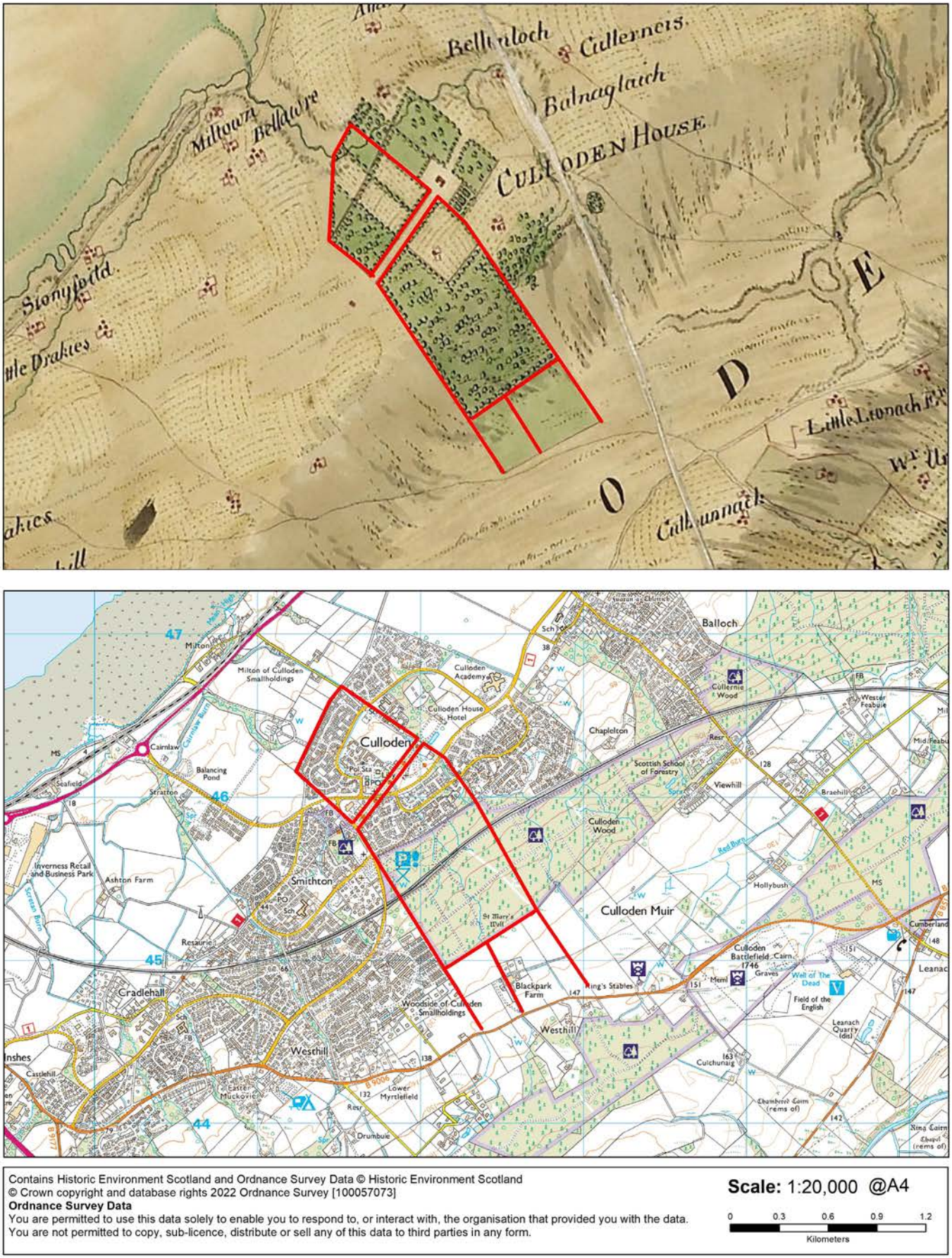

Figure 14: Comparative map showing features as depicted on Roy (top) and the same features as identified during this research on the modern OS mapping (bottom). (© British Library Board. All Rights Reserved / Bridgeman Images & © Crown copyright and database rights 2022 Ordnance Survey [100057073])

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Bibliography

Printed sources

Groome, F H (ed.) 1884 *Ordnance Gazetteer of Scotland: A Survey of Scottish Topography, Statistical, Biographical and Historical. Vol. II. Edinburgh: Thomas C. Jack. Available from:* https://digital.nls.uk/gazetteers-of-scotland-1803-1901/archive/97372786 [Accessed 27/04/2021].

Pennant, T 1776 *A Tour in Scotland 1769. London: Benjamin White.*

Pollard, T 2009 Culloden: The History and Archaeology of The Last Clan Battle. Barnsley: Pen & Sword Military.

Pollard, T and Oliver, N 2002 Two Men in a Trench. London: Michael Joseph, pp. 240-285.

Sinclair, Sir John 1793 The Statistical Account of Scotland, Inverness, Inverness, Vol. 9, Edinburgh: William Creech. University of Edinburgh, University of Glasgow. (1999) The Statistical Accounts of Scotland online service. Available from: https://stataccscot.edina.ac.uk:443/link/osa-vol9-p611-parish-inverness-inverness [Accessed 04/02/2022].

Keltie, J S 1875 *A History of the Scottish Highlands, Highland Clans and Highland Regiments Edinburgh: A. Fullarton & Co. Available from:* https://archive.org/details/historyofscottis004kelt [Accessed 04/02/2022].

Sandby, T. c.1746. *A Sketch of the Field of Battle at Culloden 1746.* Royal Library, Windsor. Shelfmark: RCIN 914722 (Available at https://www.rct.uk/collection/search#/14/collection/914722/a-sketch-of-the-fieldnbspof-battle-at-culloden [Accessed 4 February 2022].

Online sources

Historic Environment Scotland Portal 2012 *Battle of Culloden (BTL6). Available from:* http://portal.historicenvironment.scot/designation/BTL6 [Accessed 04/02/2022].

Historic Environment Scotland Portal 2003 *CULLODEN HOUSE (GDL00122). Available from:* http://portal.historicenvironment.scot/designation/GDL00122 [Accessed 04/02/2022].

Historic Environment Scotland Portal 1971 *CULLODEN HOUSE, GATE PIERS AND GARDENERS' BOTHY. (LB8039). Available from:* http://portal.historicenvironment.scot/designation/LB8039 [Accessed 04/02/2022].

Scottish Government, SEPA and Scottish Water 2012 *The Scottish Public Sector LiDAR (Phase I) dataset, Crown copyright Scottish Government, Scottish Environment Protection Agency and Scottish Water. Available from:* https://remotesensingdata.gov.scot/ [Accessed 04/02/2022].

Cartographic sources

Brown, G 1837 *Plan of Balloch And Smithtown Plantations and Grounds Surrounding Culloden House, Inverness-Shire. National Records of Scotland,* Edinburgh. Records of Skene, Edwards and Garson, WS, solicitors, Edinburgh.

Finlayson, J ? c. 1746 *A plan of the battle of Culloden and the adjacent country, shewing the Incampment of the English Army at Nairn and the March of the Highlanders in order to attack them by night*. National Library of Scotland, Edinburgh. Shelfmark: EMS.s.156. Available from: https://maps.nls.uk/military/rec/401 [Accessed 04/02/2022].

Leigh Jones, J 1746 *A Plan of ye Battle of Colloden between his Majs. Forces Under the Command of his Royall Highness the Duke of Cumberland and the Sctt. Rebels April ye 16 1746*. National Library

of Scotland, Edinburgh. Shelfmark: MS.1648 Z.03/30b. Available from: https://maps.nls.uk/military/rec/283 [Accessed 04/02/2022].

Ordnance Survey (surveyed 1870, published 1870) Inverness-shire - Mainland, IV.16 (Inverness & Bona, Petty & Daviot & Dunlichity). 25 inches to the mile. 1st Edition. Southampton: Ordnance Survey. Available from: https://maps.nls.uk/view/220342007 [Accessed 05/04/2022]

Ordnance Survey (surveyed 1870, published 1870) Inverness-shire - Mainland, XII.4 (Inverness & Bona, Daviot & Dunlichity & Croy and Dalcross). 25 inches to the mile. 1st Edition. Southampton: Ordnance Survey. Available from: https://maps.nls.uk/view/220342124 [Accessed 05/04/2022]

Ordnance Survey (surveyed 1866, published 1871) Inverness-shire - Mainland IV.15 (Inverness and Bona). 25 inches to the mile. 1st Edition. Southampton: Ordnance Survey. Available from: https://maps.nls.uk/view/75134962 [Accessed 05/04/2022]

Ordnance Survey (2021). Vector Map Local, 1:1000000. Southampton: Ordnance Survey

Ordnance Survey (2021). Miniscale, 1:10000. Southampton: Ordnance Survey

Paterson, D 1746 *A Plan of the Batle of Coullodin moore fought on the 16th. Of Aprile 1746.* National Library of Scotland, Edinburgh. Shelfmark: MS.1648 Z.03/30a. Available from: https://maps.nls.uk/military/282.html [Accessed 04/02/2022].

Plan exact de la disposition des Troupes Ecossaises sous le Commandement de son A.R.P.C. et de Celle des Troupes Angloises a la Bataille de Culloden prés la Ville d'Invernes le 16e d'Avril 1746. c. 1748. National Library of Scotland, Edinburgh. Shelfmark: Acc.11323. Available from: https://maps.nls.uk/military/rec/402 [Accessed 04/02/2022].

Pont, T c. 1583-96 *[Moray And Nairn] - Pont 8 - Maps Of Scotland*. National Library of Scotland, Edinburgh. Available from: https://maps.nls.uk/rec/266 [Accessed 04/02/2022].

Roy, W c.1746 *A drawn Plan of Colloden House and the adjacent Country, by W. Roy*. London: British Library. Shelfmark: Cartographic Items Maps K.Top.50.44.1.

Roy, W. c.1755 *The Military Survey of Scotland 1747-1755.* London: British Library. Shelfmark: Cartographic Items Maps CC.5.a.441 sheet 26.

Sandby, T 1746 *PLAN of the BATTLE of CULLODEN 16.th April 1746.* Royal Library, Windsor. Shelfmark: RCIN 730028. Available from: https://www.rct.uk/collection/search#/34/collection/730028/map-of-the-battle-of-culloden-1746-culloden-moor-highland-region-scotland-uk [Accessed 04/02/2022].

Yorke, Joseph 1746 [*rough sketch of the battle field of Culloden*]. British Library: London. Shelfmark: Add 36257 (at f.75).

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