



# **PortCarlisle, Hadrian's Wall, August 2021: curtain Wall consolidation and gate relocation**

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Surviving courses of the Wall west of the existing field gateway, looking north-west: April 2021

## **Hadrian's Wall Community Archaeology Project (WallCAP)**



## BACKGROUND

The final stage of work carried out by the Hadrian's Wall Community Archaeology Project (WallCAP) at the *Heritage at Risk* site west of Port Carlisle involved consolidation work on the surviving short lengths of curtain Wall either side of the field gate, and the relocation of that gate to the east, better to protect these rare survivals of standing Wall in the west. The work took place on 18-19 August 2021 and required two WallCAP team members, three craftspeople from *Heritage Consolidation* to do the Wall repairs, and three local contractors to insert the new gate and complete the re-fencing.

## REPAIR AND CONSOLIDATION WORK

### *Heritage Consolidation work on the curtain Wall remains*

The *Heritage Consolidation* team removed all vegetation, consolidated the remains of the curtain Wall either side of the existing gate, and finished by turf capping the core with sods lifted from just south of the hedge line. A watching brief was maintained during the work. To the east of the gate, the vegetation removed included the mature hawthorn bushes and saplings of an overgrown hedge, which had rooted deep into the structural remains (fig. 1). To the west of the gate an overgrown and leaning hawthorn was cut down to prevent it pulling further on the *in-situ* facing stones when it collapsed. Some of the modern mortar used to repair the Wall west of the gate – almost certainly around the 1970s<sup>1</sup> – was removed and appropriate lime mortar applied to tail bed strategic facing stones on both sides of the gate. Altogether just over four metres of curtain Wall were consolidated.



**Fig. 1:** east of the old gate showing the north 'face' after removal of the hedge (as to left) and initial tidying and turf capping. All the core material was loose and had been re-piled in the past. South-east facing photo

The preparation work for consolidation fully revealed the poor state of the Wall in this location, especially to the east of the gate (fig. 1). On the west side up to three courses of the south face survived *in-situ* but the north side had completely collapsed with no facing stone remaining and little *in-situ* core. The situation was worse on the east side with only up to two courses of the south face still *in-situ* and the north 'face' under the vegetation consisting only of piled up, loose core stones. This discrepancy in survival of

<sup>1</sup> Landowner, personal comment; the landowner wishes to remain unnamed.

the faces has been caused by the repeated flooding of the lower, northern field, with the shifting of light estuarine soils during inundations repeatedly undermining the curtain Wall remains. Once stripped of facing stone the destabilised core collapsed towards the north. Continuing attempts by those farming the land to improve drainage in the fields has also repeatedly disturbed the archaeology. Drains run alongside and through the Wall line. The destabilising of the Wall from the north was noted in excavation and was only too apparent during the consolidation work. Loose core stones scattered around the Wall remains were stacked up on the northern slope of what had been the core on each side of the gate to further protect the *in-situ* and re-bedded southern facing stones (fig. 2).



**Fig. 2: re-piled loose core stones protecting the *in-situ* southern facing stones. Left: east of the gate; right: west of the gate. Looking south-west**

The intention had been to excavate a narrow north-south section through the gateway against apparently *in-situ* facing stones, to look for Turf Wall remnants and confirm the level of the foundation course. However, after a summer of heavy rains and further wear, the line and width of the north-south field drain punched through the gateway was much clearer, as was the extent of the disturbance caused by its insertion (fig 3). The putative northern line of facing stones also appeared more likely to be undermined, slipped and rotated stones. Despite earlier weeks of rain having washed more sediment from above and around the stones bedded in the gap, the ground was also extremely hard, and it was decided that attempting any excavation would cause more damage than was warranted by the likely outcome.



**Fig. 3: stones in the gateway. Facing stones in the foreground are *in-situ*. Looking north**

The old gate was wired shut across the gap, new wooden fencing posts erected one metre north and south of the Wall remains and the whole area fenced off with a double strand of barbed wire (fig. 4). No further damage can now be inflicted by stock and machinery on the consolidated curtain Wall remnants or on any surviving archaeology in the gateway.



**Fig. 4: the wired-shut and fenced gateway with the surviving curtain Wall. Photo looking south-west.**



**Fig. 5: consolidated Wall west of the gateway before the final re-fencing. Photo looking north-north-east.**

#### **Recording after consolidation complete**

- *Consolidated section of Wall west of gateway*: 1.95m east-west by 1.35m wide (2.1m wide including tumble re-piled to protect south face); max. 1.05m high (fig. 5).
- Maximum width in gateway between line of *in-situ* south facing stones/foundation stones and line of northern facing stones (probably displaced): 1.75m (fig. 3).

- *Consolidated section of Wall east of gateway*: 2.1m east-west by 1.65m wide; max. 1.1m high (fig. 4). The field dyke is up to 3.5m wide.
- *Measurements of south-facing stones revealed to east of gateway*  
 Foundation course, moving west to east: 0.38m long x 0.26m wide (as seen); 0.32m long by 0.23m wide (as seen); 0.32m long by 0.21m wide (as seen) (figs 4 and 6);  
 Next course up, *in-situ* stones from west: 0.52m long by 0.31m wide (as seen) by 0.18m high (chock stones?); 0.21m long by 0.25m wide (as seen) by 0.17m high (fig. 6).



**Fig. 6:** East of the gate: *in-situ* facing stones. Lower photo shows partial upper course. Photos looking north

### ***Contractor work to insert the new gate***

The new gate was to be inserted to the east of the standing Wall lengths, in the location of PC21 Trench 1. This required the removal of a hedge bank over half-a-metre high, the wooden fence topping the bank and good deal of scrubby vegetation. A watching brief was maintained as a small digger was used to demolish the dyke. The fourteen foot wide gate and posts were to be inserted within the footprint of the agricultural building removed in the 1970s, which the excavations in April had investigated. The levelling of the bank was observed carefully; the material removed and examined as demolition progressed was in all respects similar to the disturbed layers recorded in the April excavation. There was one exception. At the far western edge of the opening being created for the new gate (c. 4m from the south-east corner of the field to the north-east), at field ground level and on the centre of the Wall line, a layer of modern-

looking mortar sealed an uneven layer of core stones below. An area of c. 0.6m<sup>2</sup> of the mortar was uncovered. The *Heritage Consolidation* team compared this mortar to that used, possibly in the 1970s, roughly to repair the Wall stub to the west of the old gate, and colour and composition appeared to match.

There was no need to remove the mortar patch or to disturb any possibly *in-situ* core stones below to erect the gate. Instead the rubble end of field bank above, comprising re-used Wall core, was consolidated by *Heritage Consolidation* with lime mortar and an extra skim of lime mortar laid over the existing ground-level modern mortar. The modern mortar work may have been intended to create a firmer surface just west of the agricultural building or as foundations for a wall running from the dyke up to the west wall of the structure. Finally, the contractors used core stones from the demolished dyke to build a dry-stone cairn over the area (fig. 7). Any possible *in-situ* archaeology is now secure behind a barbed wire fence and beneath the dry-stone structure and mortar layers.



**Fig. 7: the new gate with a cairn constructed over the consolidated possible *in-situ* core. Looking south-east**

Postholes were dug for new metal gate posts in the higher field south of the Wall line, so that the gate opened to the south from the eastern post. This was the only positioning which allowed the gate to swing flat to the hedge. Below the field soil, excavation of the postholes encountered glacial tills, then at 0.6m down from the field surface, mineral-stained sandstone was discovered. This bedrock material was discovered at the same depth in Trench 1 south of the Wall line and appears to be a relict estuary bank on the northern edge of which this stretch of the curtain Wall was built. This accounts for the relatively sinuous course of the curtain Wall as it tracks the bank.

Each of the new wooden fence posts pounded in south of the hedge bank encountered the same solid sandstone at a very similar depth. The change in vibration and effort needed by the fencing machine indicated when the rock was reached. The new posts required north of the dyke were easy to inset, being pushed through the silty deposits and glacial till seen in the excavation. Once all the posts were inserted and the concrete holding the gate posts in place had dried sufficiently the gate was hung and the fencing completed with a double line of barbed wire (figs 4 and 7).

## CONCLUSION

The final phase of work revealed the extent of the collapse of the curtain Wall around the old gate and the impact that flooding, poor drainage and attempts to tackle the problem have had on the Wall's survival.