Introduction and background

Previous geophysical survey at Aldborough identified a feature interpreted as the foundations for a Roman bridge crossing the river Ure to the north of the Roman town. This feature is aligned with the Roman road leading north from the North Gate and is met on the north bank of the river by two roads, one heading to Catterick and the Roman frontier, the other toward Malton (Ferraby and Millett 2020: area 10, pp. 76–77 and figs 3.36–3.37). Our analysis of the development of the town suggests that this bridge was constructed at the same time as the construction of the forum and the laying out of the town’s street grid, probably c. AD 120. Comparison with the excavated Roman bridge at Piercebridge (Fitzpatrick and Scott 1999) suggested that the geophysical anomaly represented a stone platform constructed crossing the river bed on which there were cutwaters that supported the bridge decking. Coring work in 2018 and 2019 by Charly French and Sean Taylor, revealed something of the complexity of natural deposition across the floodplain of the river Ure, demonstrating that the surface deposits seal a complex buried landscape with braided channels and banks of sediment.

In order to investigate the bridge and in the hope of obtaining dating evidence, small-scale trial excavations were undertaken in September 2020. The objective of the work was to locate and sample the feature shown in the geophysical survey in order to evaluate whether further work would be feasible and worthwhile.

Figure 1: Location of excavation in relation to Aldborough and the river Ure
Figure 2: Location of the 2018 and 2019 boreholes in relation to archaeological features plotted from the magnetometry survey, north of Aldborough

Figure 3: Excavations viewed from the flood defence bank looking south
The excavation

The geophysical anomaly was plotted on the Ordnance Survey map and its co-ordinates used to locate it on the ground. An initial machine trench (c. 19 x 2 meters) was cut across the line of the geophysical anomaly (Fig. 4, trench 1), close to the flood-defence bank by the present river channel. This was taken down to a depth of c. 1.2m below the surface (to 11.55–11.65m AOD). The trench revealed a sequence of river-laid fine to very fine quartz sand and silt, but there was no evidence for the bridge. A small hand-dug sondage towards the western end of the trench reached down to 10.95m AOD showing a continuation of a similar alluvial sediment profile.

A second machine-cut trench (Fig. 4, trench 2) was then excavated across the line of the bridge c. 15m to the south of Trench 1 on slightly higher ground up the slope from the present course of the river. This trench (12.5 x 1.3m) was also cut to a depth of c. 1.2m (reaching to 11.2–11.4m AOD) and revealed a similar homogeneous fine to very fine sand and silt stratigraphic profile with no evidence for the bridge footing. A hand-auger was used to take cores (BH 50 & 51) down the centre of the trench to a depth of c. 4m, again revealing little change in sediment type and no evidence of structures.

Another trench (Fig. 4, trench 3) was thus cut a further c. 20m to the south, and was made longer (25 x 1.4 m) to give the highest chance to catching any part of the bridge. The trench
was excavated by machine to a similar depth, generally reaching to 11.50–11.60m AOD, but deepened in one area to 11.40m AOD. A hand auger was used to take a core in this part of the trench down a further 1.90m (BH49). Again, there was no indication of either major stratigraphic changes and/or stone rubble from bridge construction or footings, and no other features that could be related to the geophysical anomaly in this trench either. However, towards the eastern end of the trench a N–S bank and shallow ditch were seen in the upper metre of the section with a field drain pipe in the base of the ditch. Comparing the trench locations with the First Edition OS map of the area (Fig. 6), a hedgerow with trees fits in the exact place where it was visible in the trench. This indicates the speed at which the alluvium has been deposited here. The bank and ditch were visible at c. 80-90cm below current ground level, so this depth of alluvium has accumulated since the mid-late 19th century. We can therefore conclude that there has been considerable riverine deposition in recent times, which may suggest that the Roman bridge and associated deposits are much deeper than first anticipated.

Figure 5: Location of boreholes and sondage in the excavation trenches
Figure 6: Location of trenches and boreholes with the First Edition Ordnance Survey

Figure 7: Photograph of south-west facing section in Trench 3, showing the 19th century bank and ditch
(Photo: Martin Millett)
Discussion

The absence of evidence for features that can be associated with the geophysical anomaly remains puzzling. The trenches were correctly positioned over the geophysical anomaly of the bridge, and their length, plus the number of trenches, would have ensured finding some evidence of the bridge.

Following on-site discussions, and taking into account the map evidence of the date of the bank and ditch hedgerow identified in the section of trench 3 (see Fig. 6), we have tentatively concluded that:

1. that there is a considerably greater depth of post-Roman alluvial deposits in this area than we had previously assumed
2. that the present surface topography, with a gentle slope towards the river, is probably partly the result of these sediments settling into an earlier feature rather than being the product of the current river regime.

This may mean that the bridge foundation is buried considerably more deeply than we had anticipated. Discussion with Dominic Powlesland confirms that in deposits such as these it is possible that a major feature like a stone bridge platform might be visible as a magnetic anomaly even under a considerable depth of overburden. This is due to both the large magnetic signal caused by such a concentration of stone in comparison to the extreme magnetic quiet of the alluvium.

On this basis, we hope to arrange for some further, deeper penetrating geophysical survey to enable us better to understand deposition in the valley before considering resuming work to locate the bridge.
Acknowledgements

We would be hugely grateful to Sir Andrew Lawson-Tancred for his permission to work on the land, and also his generosity in providing us with the digger and its driver. Very many thanks also to Edward Craggs for allowing us to work around the crop, all his assistance in harvesting the area where we needed to dig, and for all his invaluable knowledge about the land. Thanks to Christopher Weaver for digging such neat trenches, and filling them in again. Our thanks to Sean Taylor (University of Cambridge) for his geoarchaeology work with CF in 2018 and 2019, and his useful insights and good humour. We are also grateful, as ever, for discussions with Dominic Powlesland. And finally, we thank the residents of Aldborough and the Friends of Roman Aldborough for their general support and enthusiasm.

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