

Scotney Interim Report on Fieldwork: August 2012

The fieldwork was undertaken over the last week of our fieldwork season at Bodiam and Scotney 2012. Only one survey team was detailed to conduct fieldwork at Scotney using a Leica Total Station; this was largely due to the large amount of fieldwork carried out at Bodiam, as it was felt finishing work at this site was a priority for the 2012 season.

The fieldwork at Scotney had two main objectives:

1. To train the undergraduate students in survey techniques and the use of modern surveying equipment.
2. To gather data for research undertaken by Professor Matthew Johnson (now of Northwestern University) looking at Scotney Castle (along with Bodiam Castle and Ightham Mote).

The surveying technique chosen was based on the following criteria:

- Topographic and detail survey to gather more detailed data than is available from the Ordnance Survey. For instance, the highest resolution of digital contour data available from the O.S. is at 5m intervals – which will never have enough detail to pick out *subtle* archaeological earthworks. By surveying the topography, and features, of a site or landscape at a higher resolution, it is possible to display contours (or a raster or TIN) using GIS software (ArcGIS) at very close intervals (this involves interpolation of the data and there are limits to how far this technique can, and should, be used). By combining detailed topographic data with old maps, aerial photographs, satellite images *etc.*, it may be possible to identify ancient features within the landscape. These earthwork features may have a clear morphology allowing them to be identified, or they may be areas that would repay further survey using other techniques.

The first figure demonstrates the area that was surveyed (as well as a small area of missing data in the second figure, that will need to be surveyed in the future) in the 2012 field season. The following figures (3 to 15) display the data in a variety of formats: using contours, rasters and TINs (Triangulated Irregular Network), in both 2D and 3D views (from ArcMap and ArcScene, both part of ArcGIS 10.1). Looking at the data there are clear topographic features visible in this field, most of them running on an alignment of south-west to north-east (or at right angles to this). By looking at our survey data, superimposed on the 1st edition Ordnance Survey maps for this area of Kent and East Sussex (Scotney is very close to the county boundary), it is clear that one of these features (theorised in the field to be a *sunken*, or *hollow*, way) closely follows the alignment of an old field boundary. At the date of publication (1870) of the 1st edition, 1:2500, OS map the field in question was actually composed of three smaller fields.

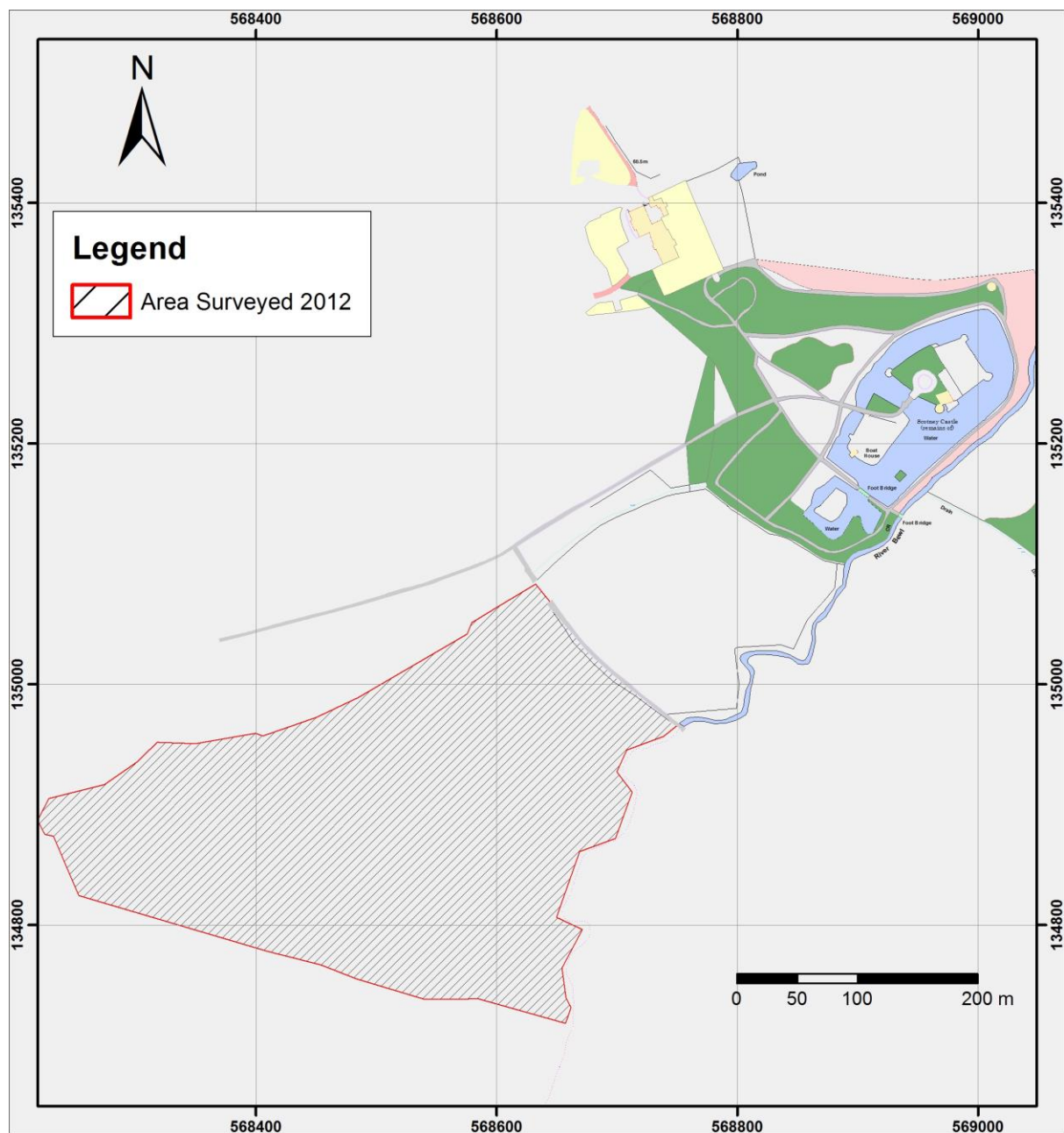


Figure 1: Field surveyed in the 2012 season (combined with digital OS data of Scotney Castle).

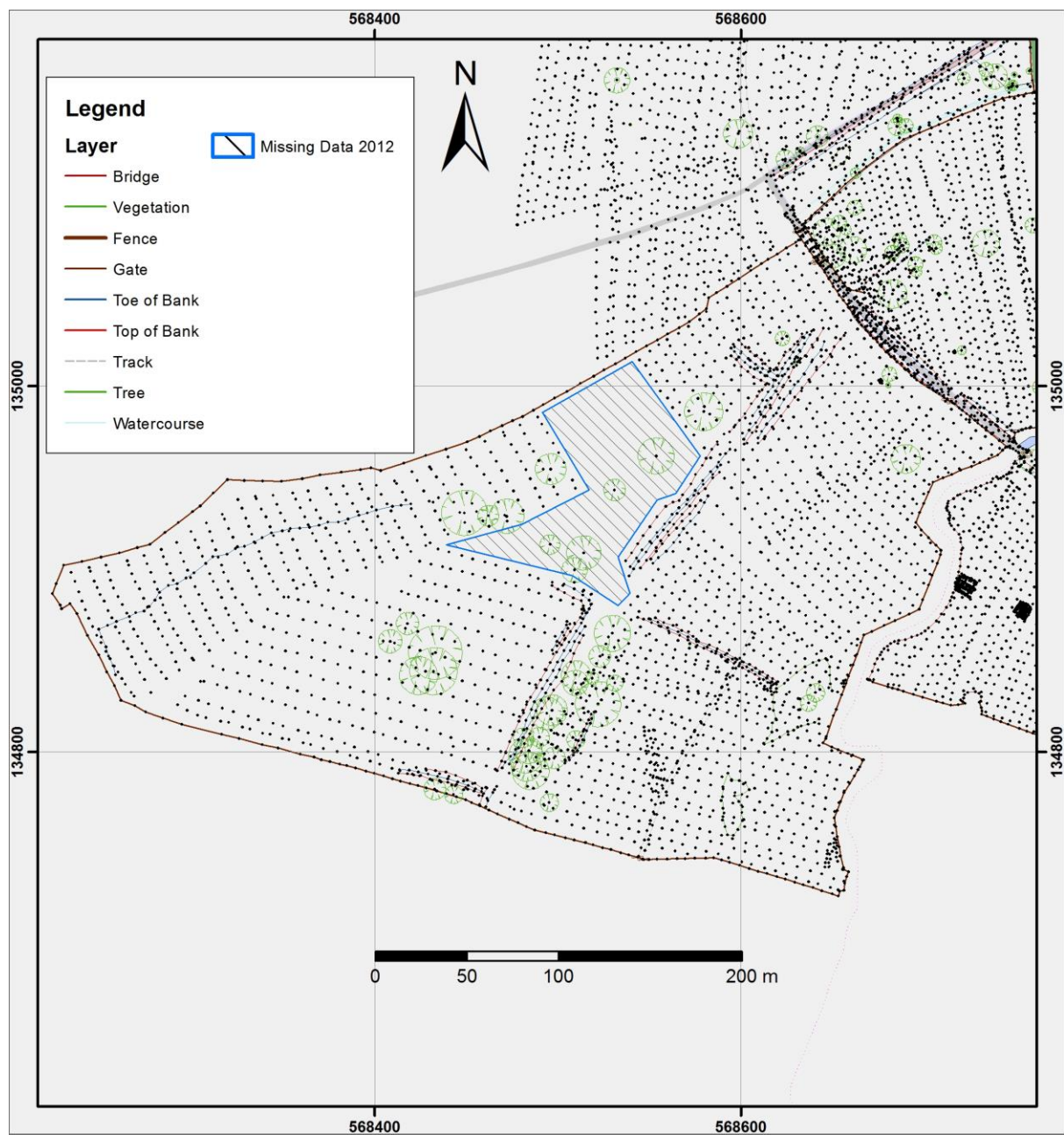


Figure 2: Points, features and the area of *missing* data in the surveyed field.

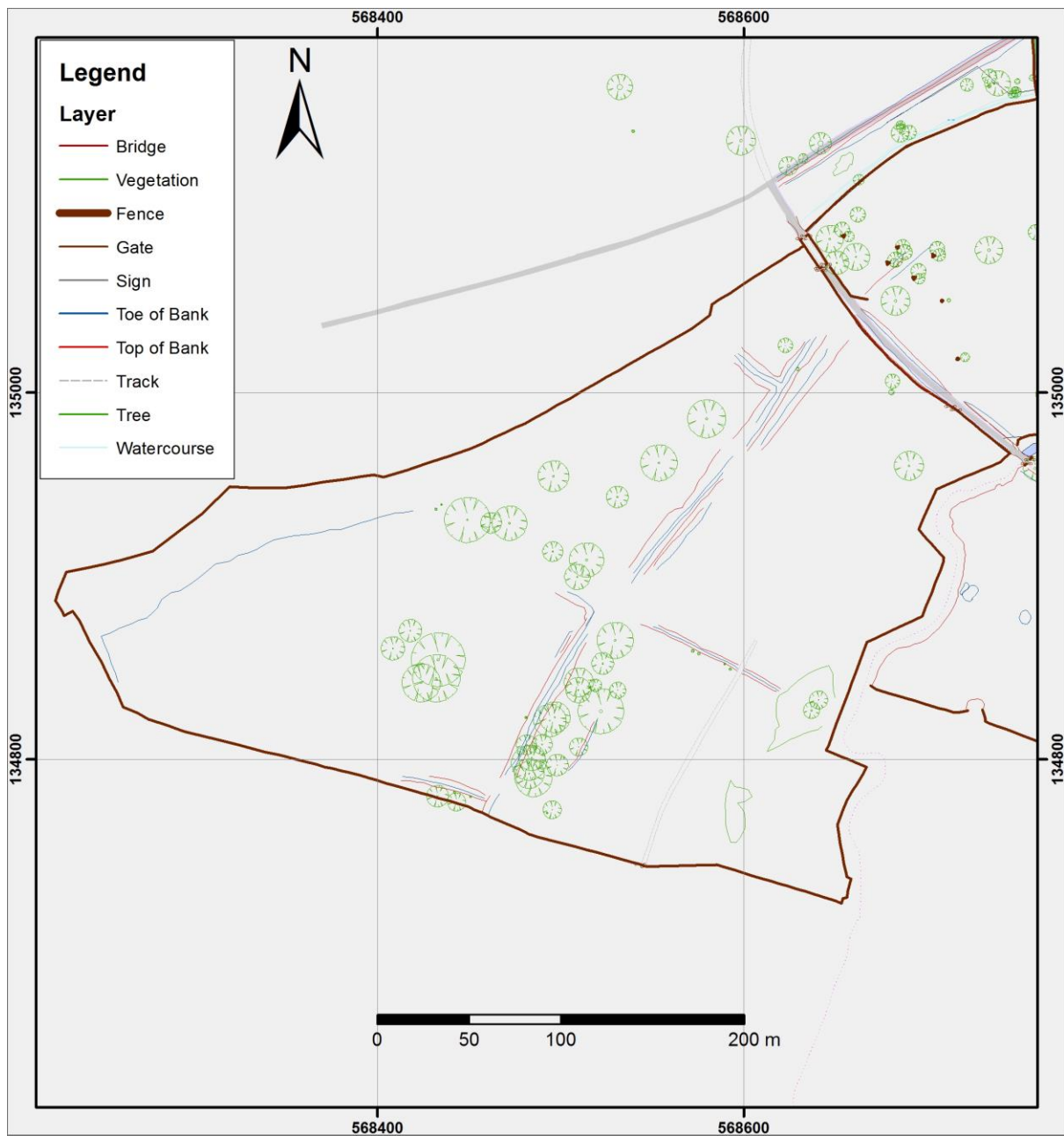


Figure 3: Survey data, displaying features only.

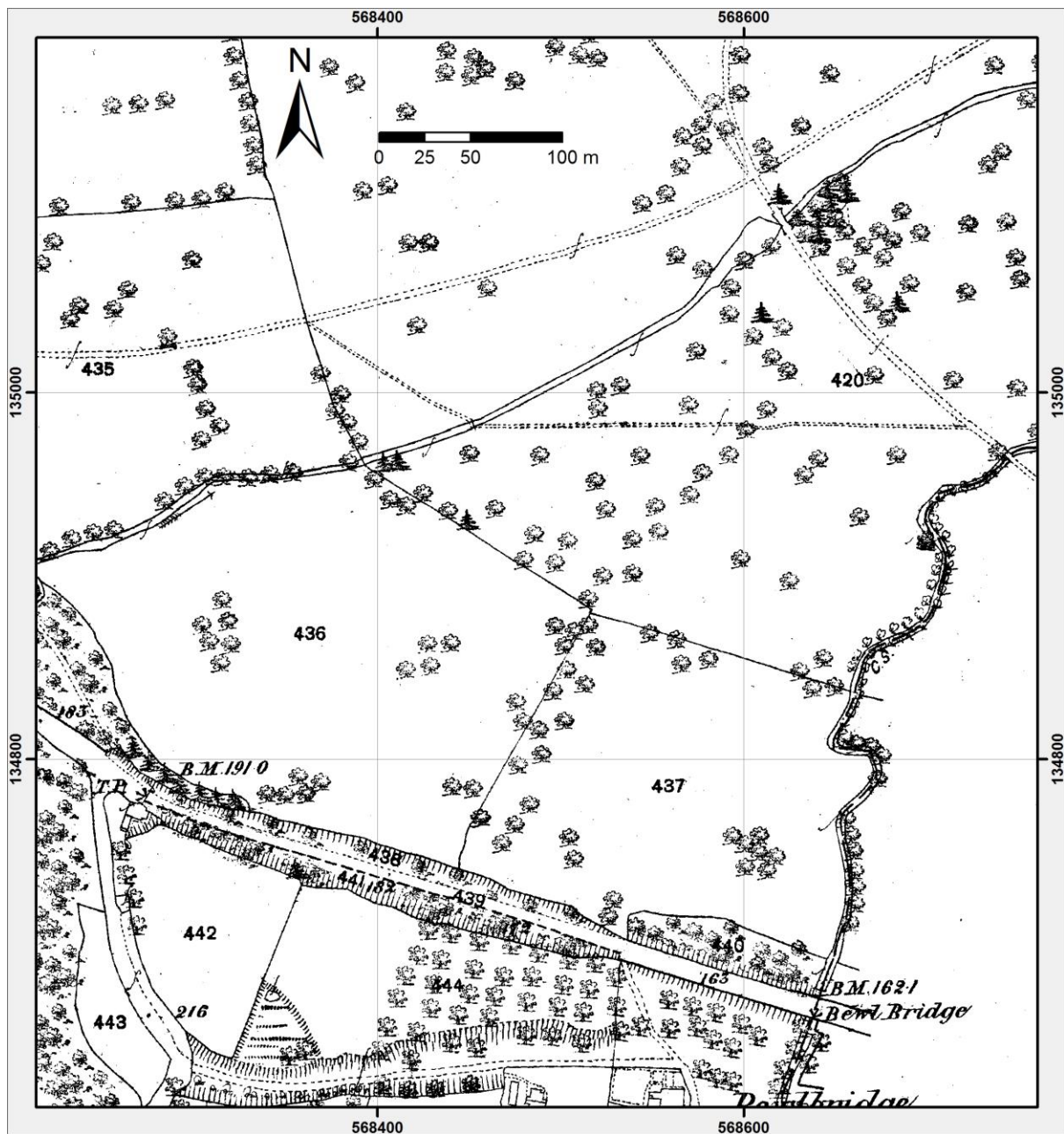


Figure 4: 1st Edition Ordnance Survey 1:2500 map (1870).

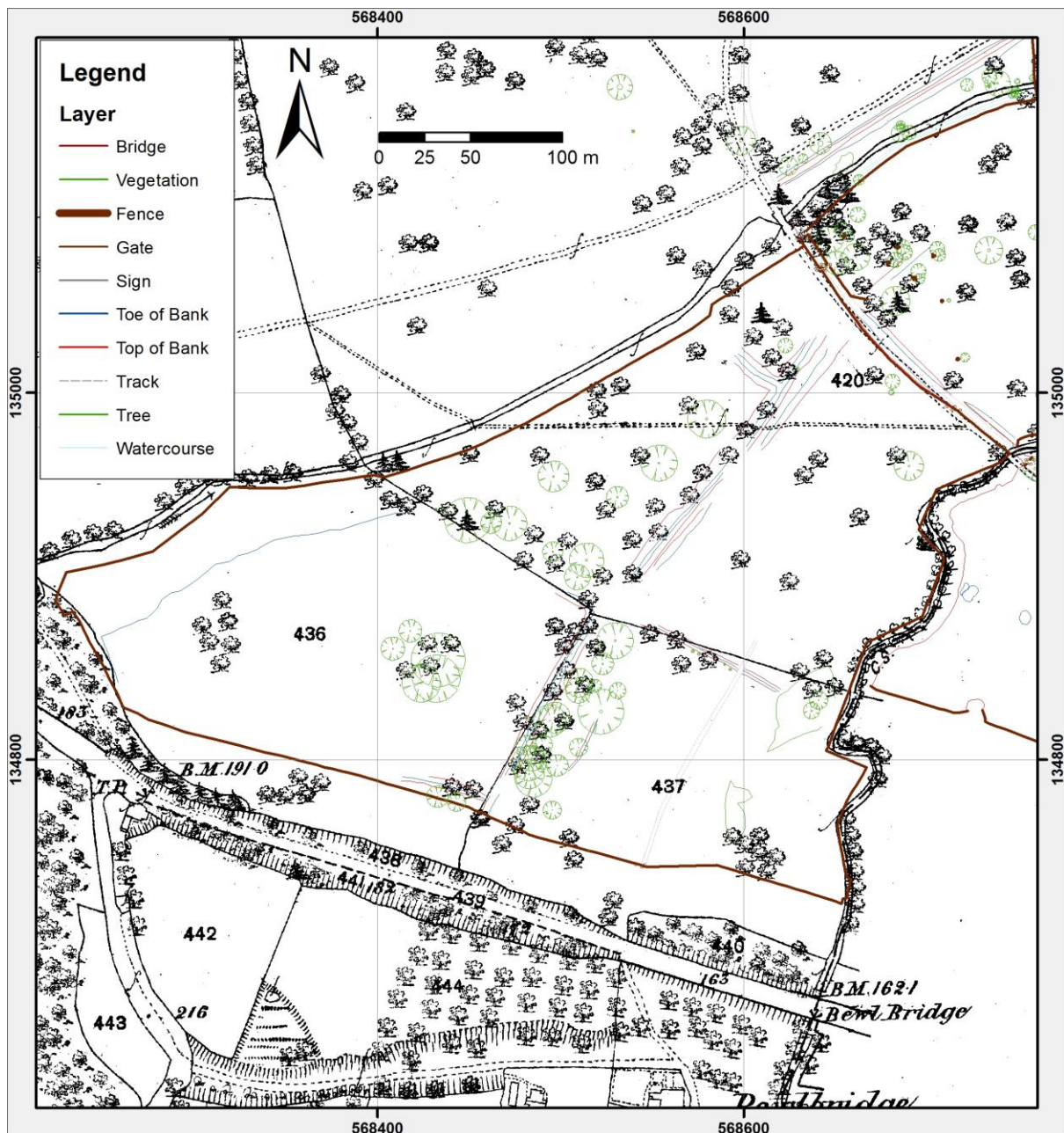


Figure 5: OS Map, combined with survey features; you can clearly see the 'hollow way' (top and toe of bank) follows the field boundary between 436 and 437. Other features appear to align, at least partially, with the field boundaries between 436 and 437 and field 420.

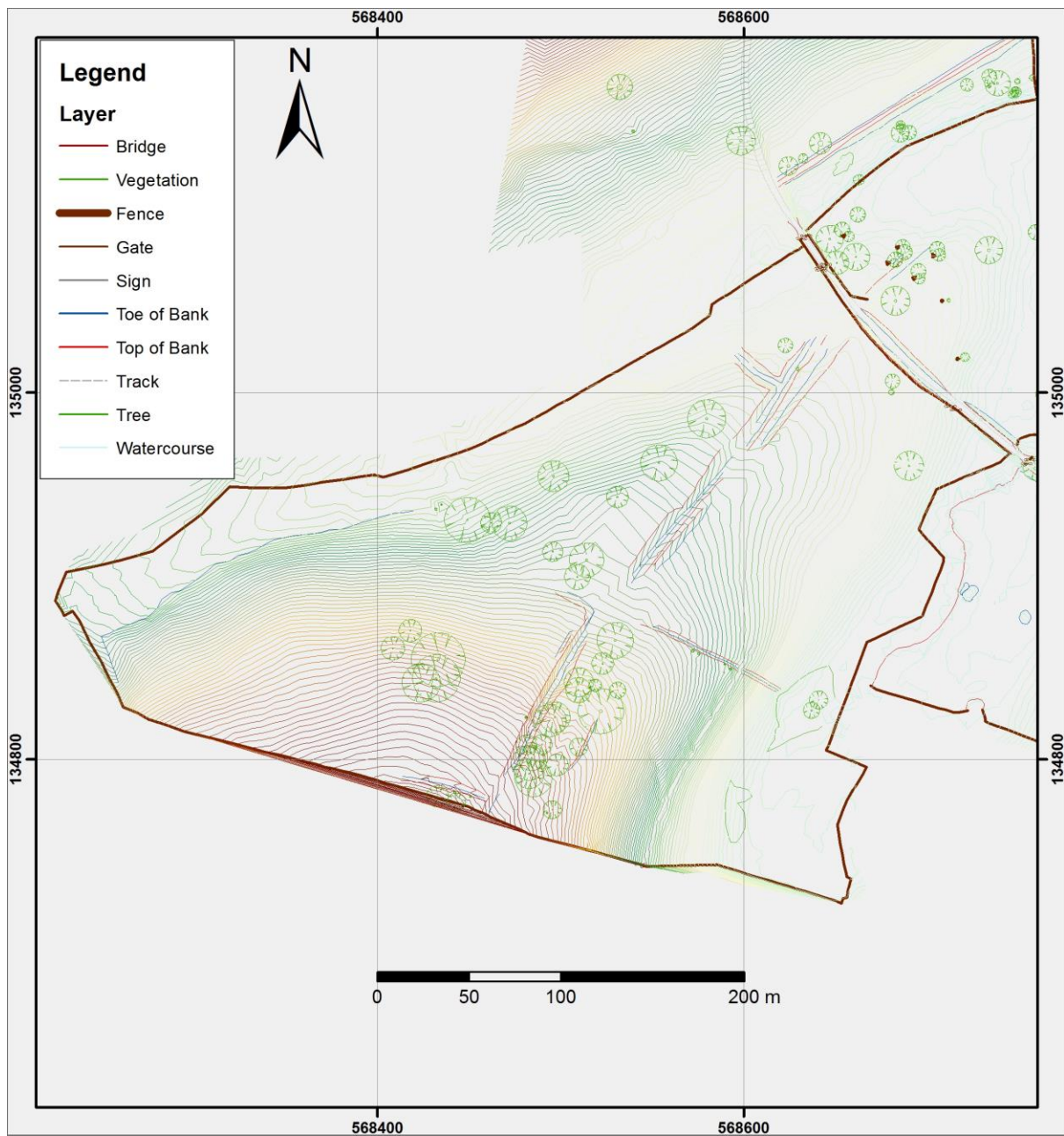


Figure 6: Contours (25cm intervals) derived from a TIN (Triangulated Irregular Network), with survey features superimposed; topographics features are clearly visible in the data.

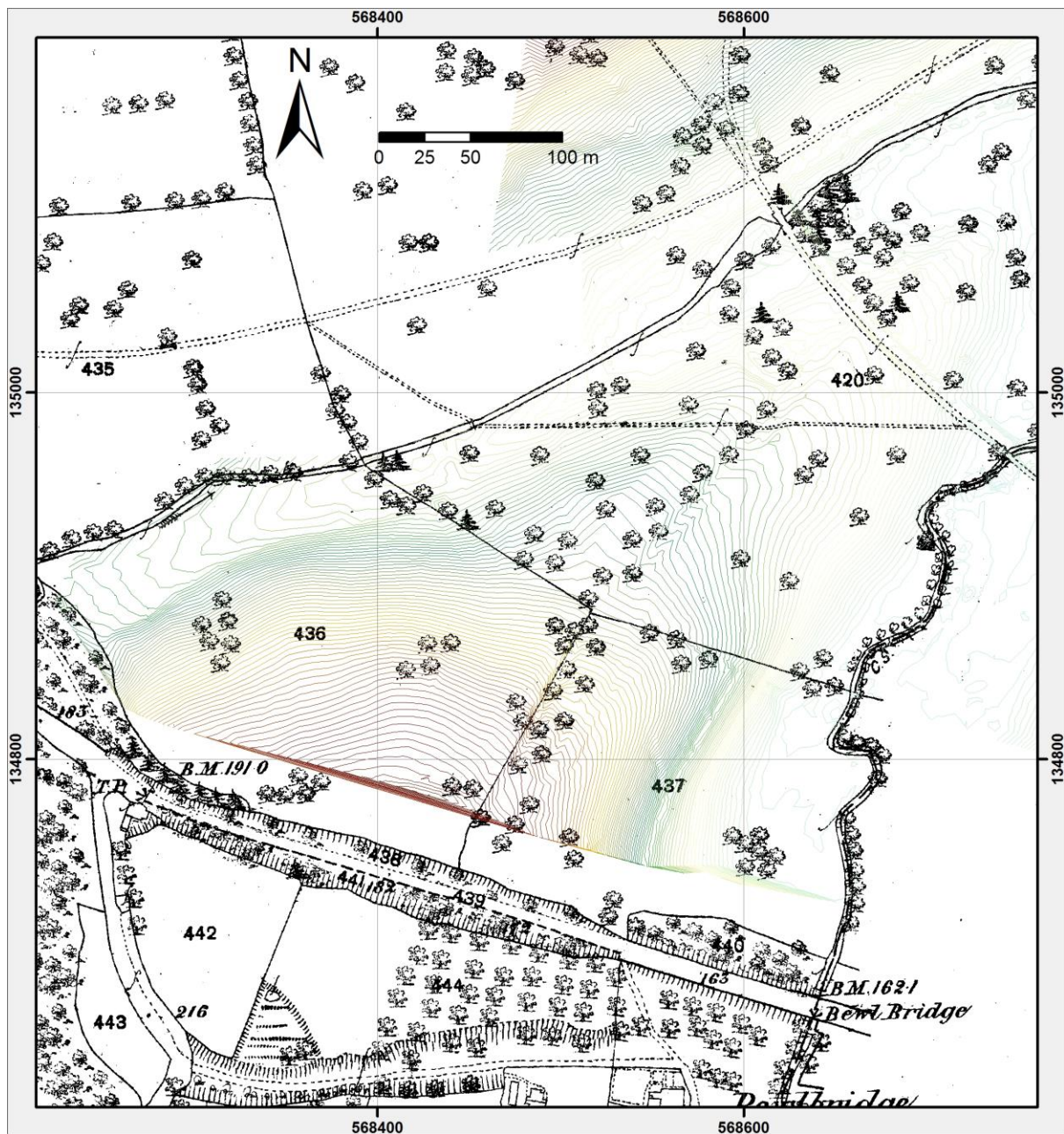


Figure 7: OS map, combined with contour data (25cm intervals); again you can clearly see the alignment of the 'hollow way' and the old field boundary between field 436 and 437.

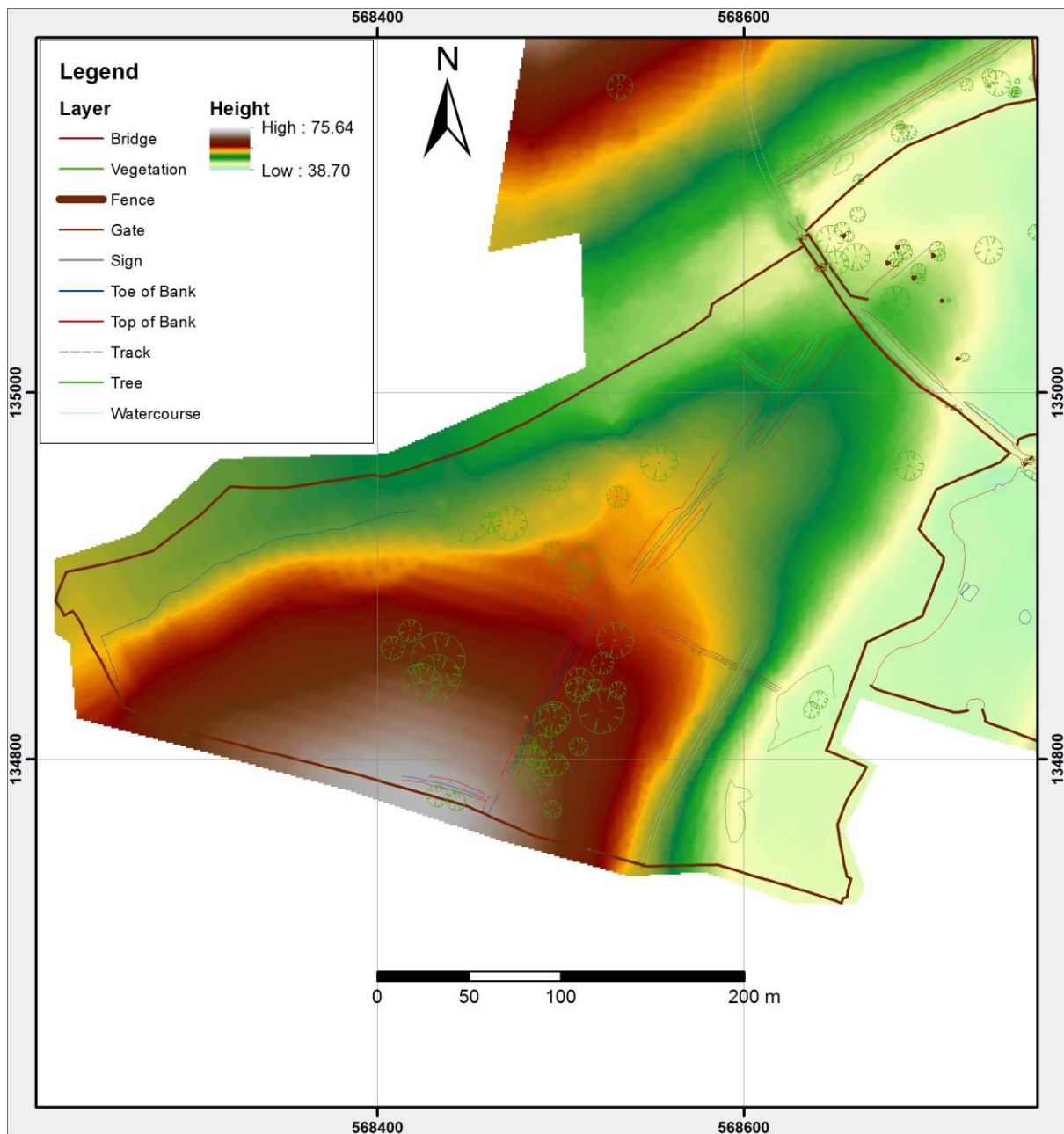


Figure 8: Raster interpolation (from height data), with survey features imposed.

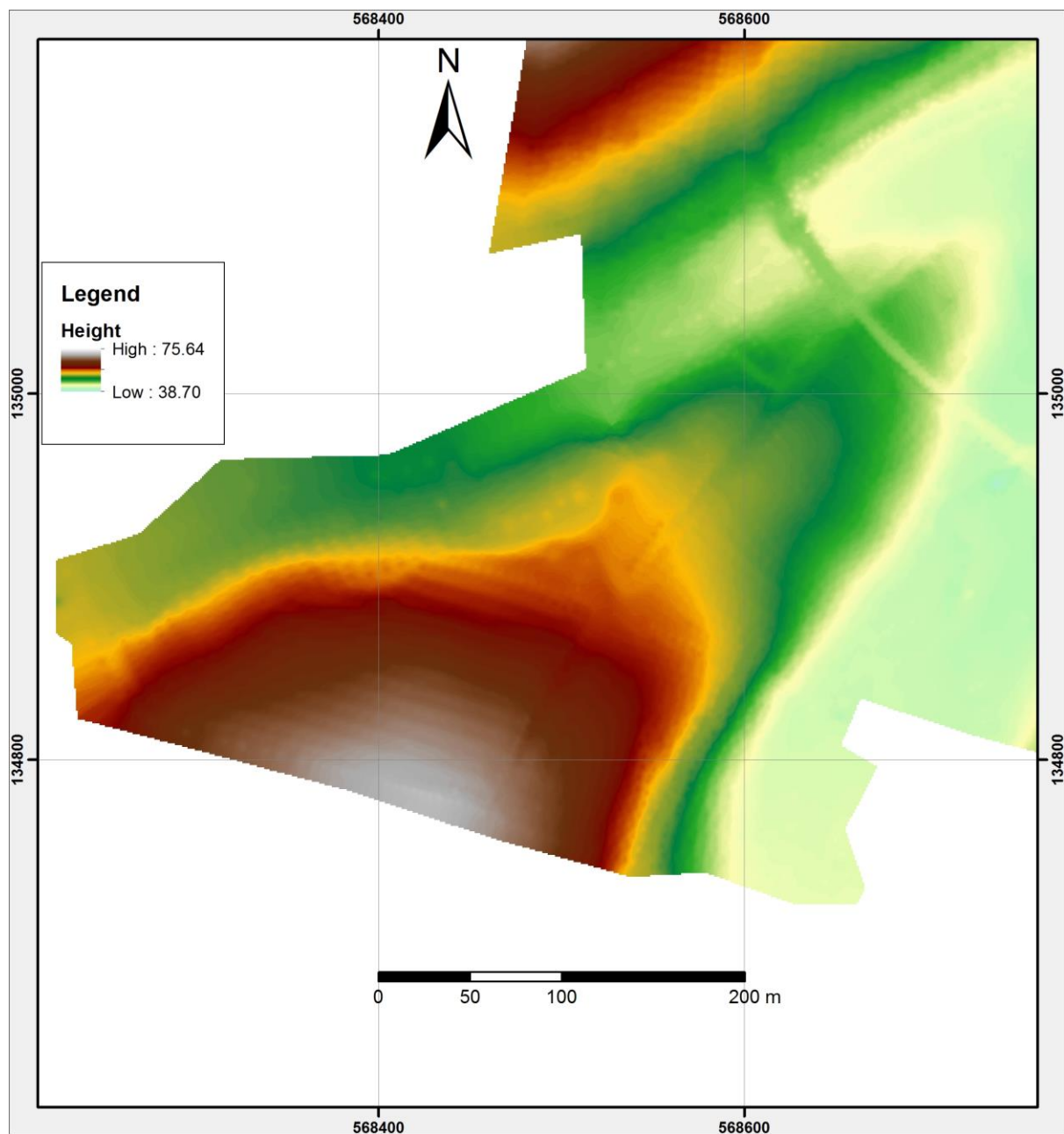


Figure 9: Raster interpolation of height data, using the IDW (*Inverse Distance Weighting*) method.

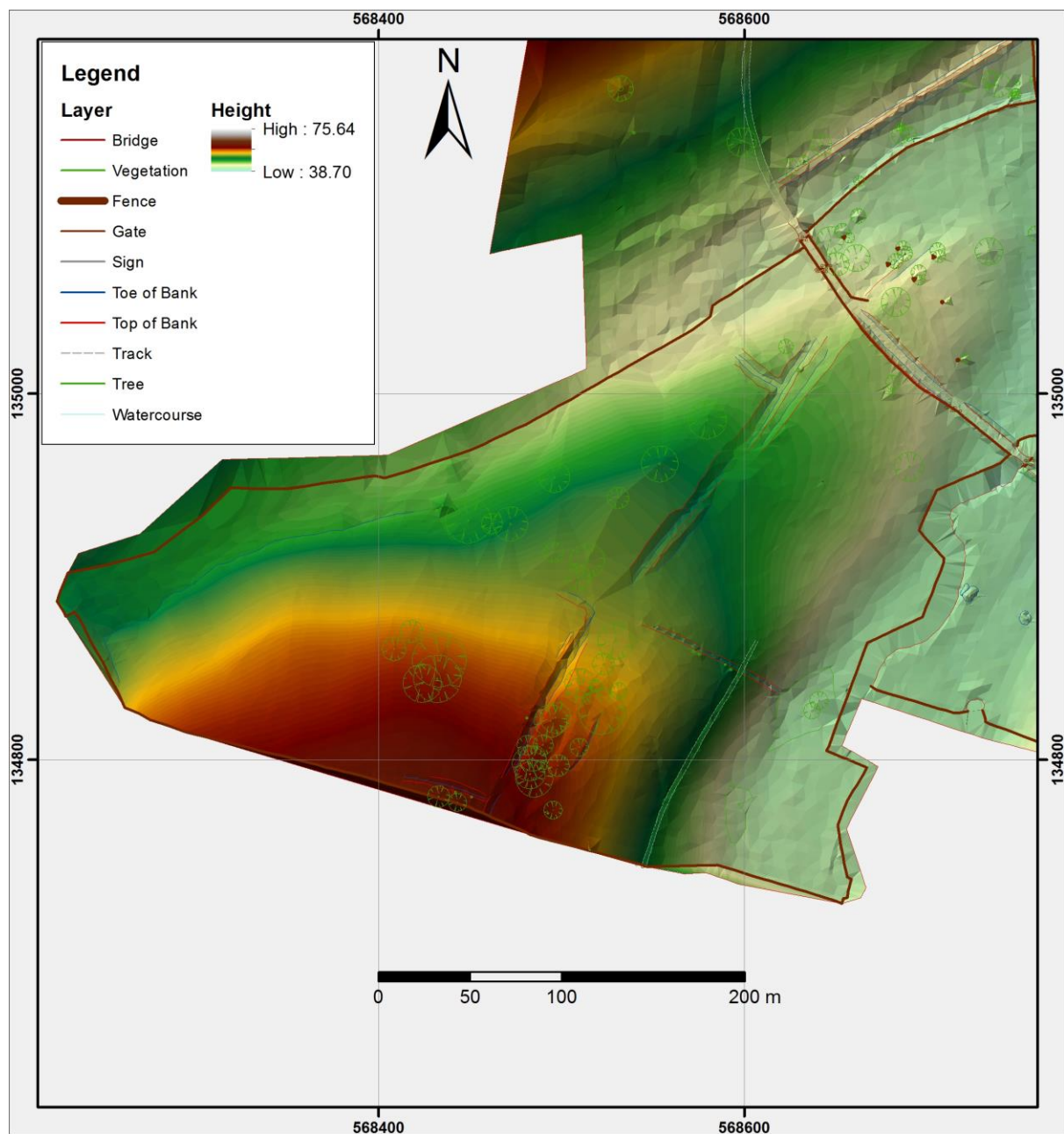


Figure 10: TIN (Triangulated Irregular Network), with survey features superimposed.

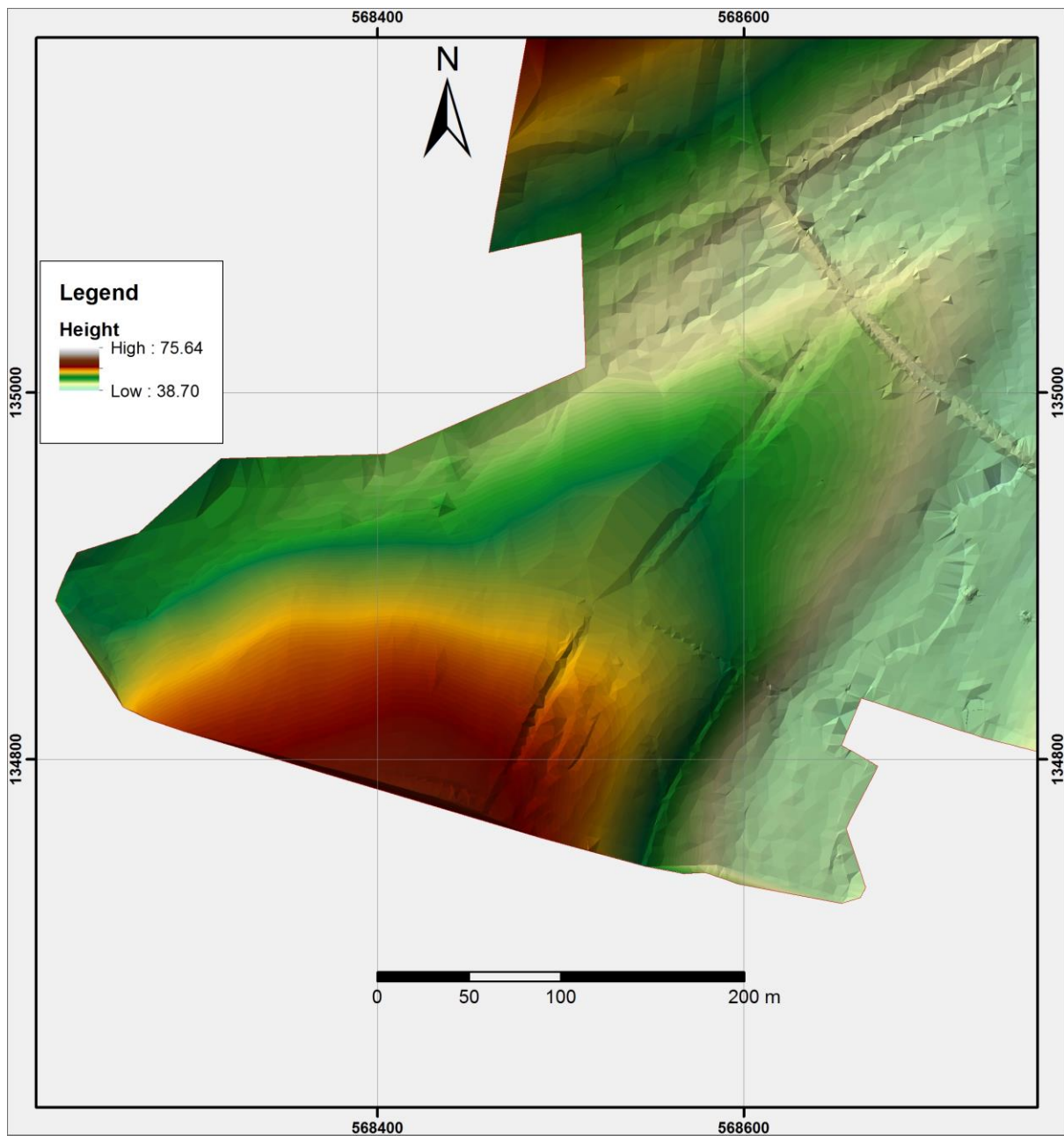


Figure 11: TIN, clearly showing the alignment of topographic features in the field.

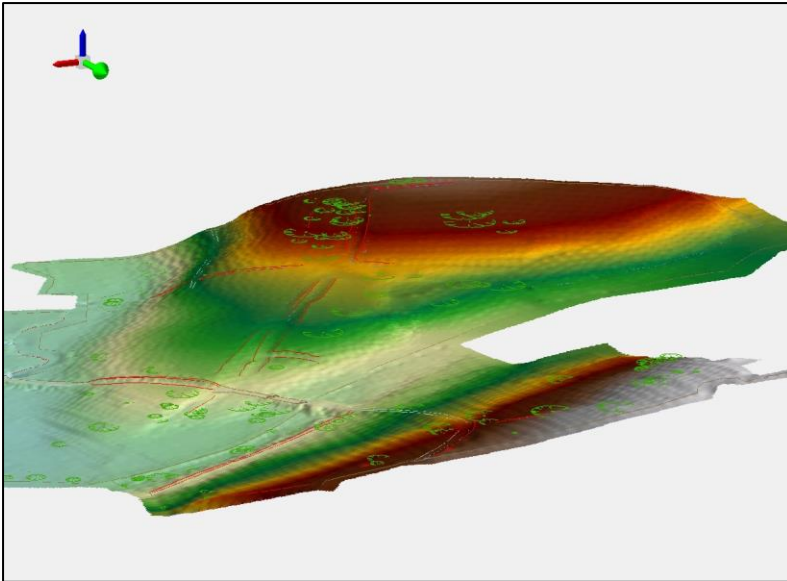


Figure 12: 3D Raster view, with features superimposed (the green arrow points to the north).

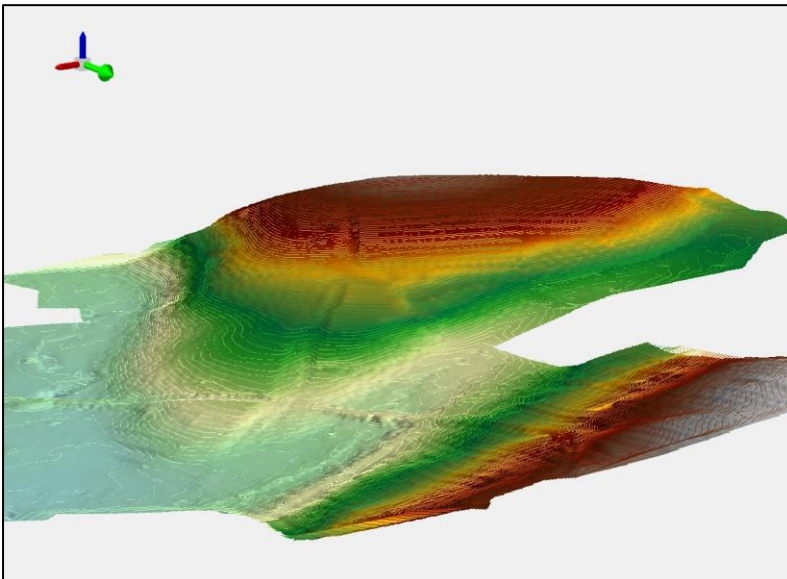


Figure 13: 3D Raster view, with contours (25cm intervals) superimposed (the green arrow points to the north).

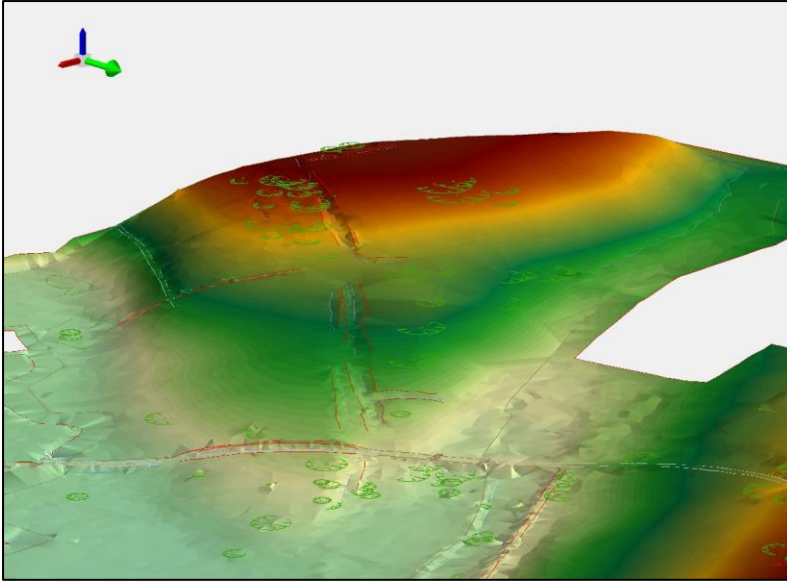


Figure 14: 3D TIN view, with features superimposed; topographic features in the field are clearly visible (the green arrow points to the north).

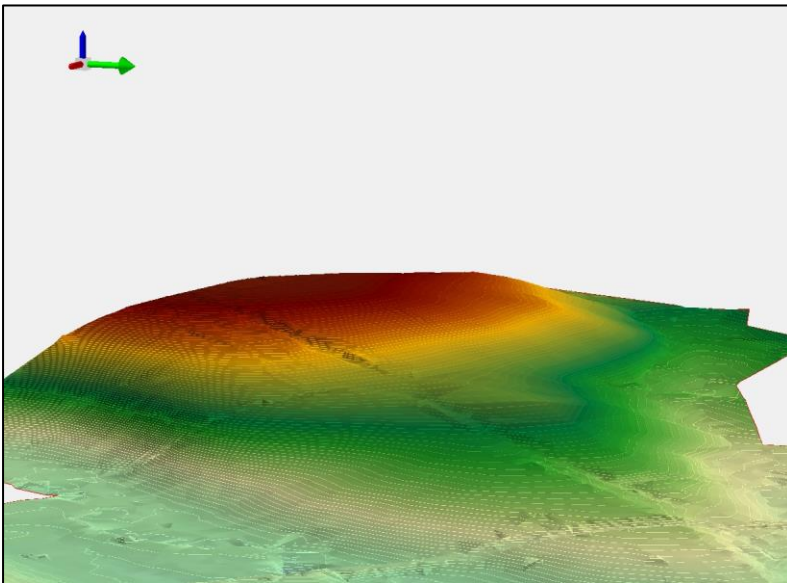


Figure 15: 3D TIN view with contours (25cm intervals) superimposed (the green arrow points to the north).