

HERITAGE LINCOLNSHIRE



ARCHAEOLOGICAL PROJECT SERVICES

Layers of History

Geophysical Survey Report:

**ORMSBY HALL GARDEN AND RECTORY
SOUTH ORMSBY
LINCOLNSHIRE**

Prepared for
Layers of History
by
Archaeological Project Services

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1. SUMMARY

A detailed magnetic gradiometer survey and resistivity survey were undertaken with the help of volunteers for the Layers of History project in connection with land surround Ormsby Hall, South Ormsby, Lincolnshire. The survey area totalled c. 1.5ha.

The area of investigation incorporates an 18th-century formal garden and the suspected site of a rectory.

The survey identified features likely belonging to the 18th-century formal garden and confirmed the location of a former building likely to be related to the former rectory.

2. INTRODUCTION

2.1 Definition of an Evaluation

Geophysical survey is a non-intrusive method of archaeological evaluation. Evaluation is defined as ‘*a limited programme of non-intrusive and/or intrusive fieldwork which determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, quality and preservation, and it enables an assessment of their worth in a local, regional, national or international context as appropriate*’ (CifA 2014a).

2.2 Project Background

Archaeological Project Services (APS) was commissioned by Heritage Lincolnshire to undertake a detailed magnetometer survey and resistance survey totalling some 1.5ha in the grounds of Ormsby Hall, South Ormsby, Lincolnshire as part of the Layers of History Project. The work was undertaken by volunteers under supervision from Geophysicists from APS. The survey was carried out between 2nd and 3rd April 2019.

2.3 Topography and Geology

South Ormsby is situated 12.5km northeast of Horncastle and 13km south of Louth in the administrative district of East Lindsey (Fig. 1). The survey areas lie between Ormsby Hall and the Church of St Leonards, centred on roughly TF 36825 75310 (Fig. 2). The survey is split into two areas: A garden area south of the Hall and the site of the former rectory north of the church (Fig. 3).

The site is at a height of c.45m OD at the bottom of a wide east-west valley. Local soils are of the Wickham 2 Association, consisting mainly of fine loamy over clayey stagnogley soils (Hodge *et al.* 1984, 351). The garden area is developed over superficial glaciofluvial deposits of Devensian sand and gravel. The bedrock geology of the area is relatively complex. The garden area is dominated by Tealby formation mudstone bedrock with a band of roach formation Mudstone and Limestone interbedded to the south. The rectory area has Ferriby chalk formation bedrock (BGS 2019). The valley has several bands of partially permeable bedrock which has produced several springs. The generally level base to the valley ensures it remains relatively wet.

2.4 Archaeological Setting

The earliest archaeological evidence from the area is a Neolithic polished stone axe (HER 42445) discovered 100m east of the garden area, although it may have been imported in a gravel load. Two

sets of cropmarks thought to indicate Bronze Age barrows are known from the vicinity, one 735m southwest (HER 44201) and one 675m to the northwest (HER 44166). Bluestone Heath Road runs east-west 425m north of the site, along the valley ridge line, and is thought to follow a prehistoric routeway.

South Ormsby is first mentioned in the Domesday Book. The name is thought to derive from the Old Danish personal name 'Orm' and the word 'by', meaning 'Orm's farmstead' (Cameron 1998). Land there was owned by the Archbishop of York, Earl Hugh and Norman de Arci (Foster and Longley 1924).

“For the Archbishop of York, ‘there is soke(land) of this manor, half a carucate of land (assessed) to the geld. There is land for 6 oxen. There is there 1 sokeman and 1 villein with half a team, and 20 acres of meadow.’

For Earl Hugh, ‘Godric had 3 carucates of land (assessed) to the geld. There is land for 4 teams. Hugh, the Earl’s man, has 2 teams there (in demesne), and 7 villeins and 1 bordar and 11 sokemen having 2 teams, and 1 mill rendering 32 pence, and 80 acres of meadow. Tempore Regis Edwardi (before 1066) it was worth 70 shillings; now 4 pounds.

For Norman de Arci, ‘Edric and Gamel had 2.5 carucates of land (assessed) to the geld. There is land for 3.5 teams. Herbert, Norman’s man, has 1 team there (in demesne), and 5 sokemen and 3 villeins and 1 bordar with 1 team, and 70 acres of meadow. Tempore Regis Edwardi (before 1066) it was worth 40 shillings; now the like amount.’ (Foster and Longley 1924)

The Church of Saint Leonard has features dating to the 12th century when it was probably built. The modern building was much altered in the 15th century and later 19th century (Pevsner *et al.* 1989, 665).

The medieval village has shrunken over time, and the earthwork remains are visible all around the village. The Poll Tax returns of 1377 record the number of taxpayers at this time as 80 (platts 1955, 307). The Diocesan Return of 1563 records 30 households in the parish (Hodgett 1975, 194). 27 families were recorded as living in the parish by the late 17th century, which had fallen to 24 families by the early 18th century (Cole 1913, 93).

Ormsby hall is a country house with its origins in the 17th century. The original structure was largely rebuilt between 1752 and 1755 by James Paine for the Massingberd-Mundy family (Pevsner *et al.* 1989, 666). The surrounding parkland was established in the 18th century. It is thought to have been initially laid out prior to 1716, although was largely redesigned to its current form in the mid 18th century. Edward Gardner made a survey of the park (Plate 1) in 1749 and drafted a redesign (Plate 2). The redesign may have been implemented alongside the rebuilding of Ormsby Hall in 1755.

The redesign shows elaborate pathways through the garden area and a long water feature in the centre of the avenue. However, the earliest detailed map available of the estate following this date, the Ordnance Survey map of 1888 (Plate 3) does not show these features. It is not clear if the area was altered for a second time prior to 1888 or if Edward Gardner’s design for the garden was never implemented.

The Church of St Leonard is thought to have had a separate rectory. The 1779 Armstrong Map (Plate 4) shows a prominent building to the north of the church. Given the scale and style of cartography, it is not clear of the building’s precise location or nature. However, it has been proposed that it indicates the rectory building and perhaps coincides with a flat area at the base of a hill to the north of the church.

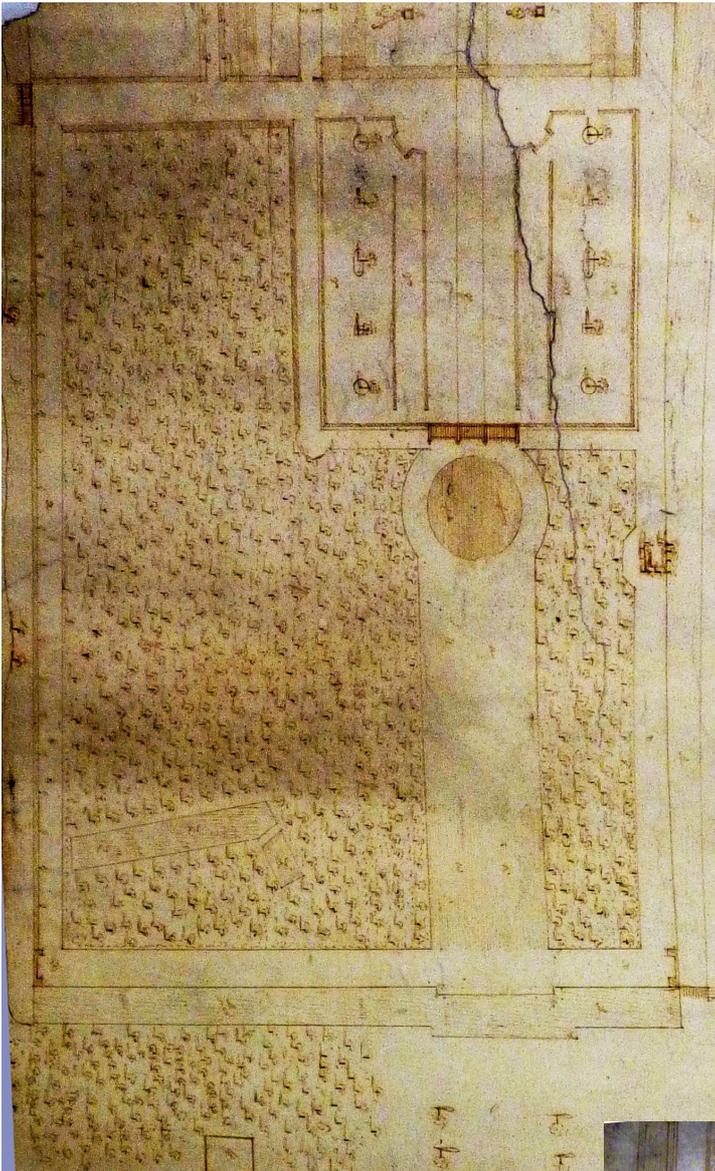
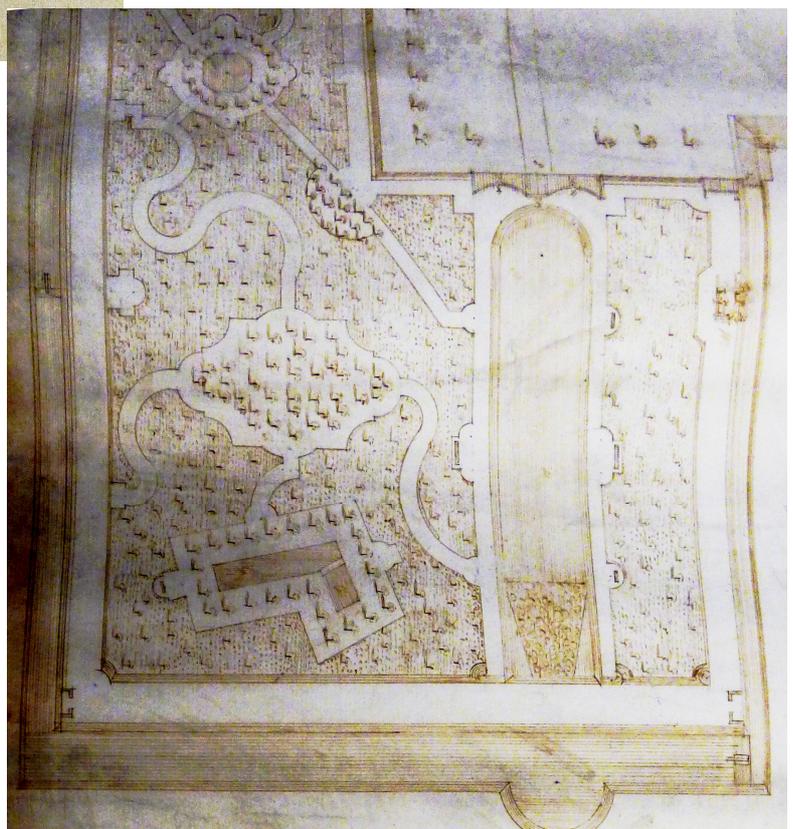


Plate 1. Edward Gardner's 1749 survey. The survey indicates the garden was wooded and surrounded by canals on the east, south and west side. A pathway runs round the garden. Only the north and west edge are fenced/walled. In the southwest corner is a spring held in a polygonal pool. A wide avenue branches south from the house. It passes through a square walled area with ornamental trees and linear features, perhaps paths or terraces. There is a gate and circular pool towards the centre of the avenue. To the south, it joins an avenue of trees (still visible). A possible building is on the eastern boundary.

Plate 2. Edward Gardner's 1749 redesign. There are elaborate curving pathways through the garden. The circular pool in the avenue has been extended into a rectangle stretching south. Possible benches have been installed in niches along the edge. The ornamental trees within the square subdivision have been repositioned and the paths or terraces removed. The spring to the southwest has been shortened and elaborated with a path, a niche and ornamental trees.



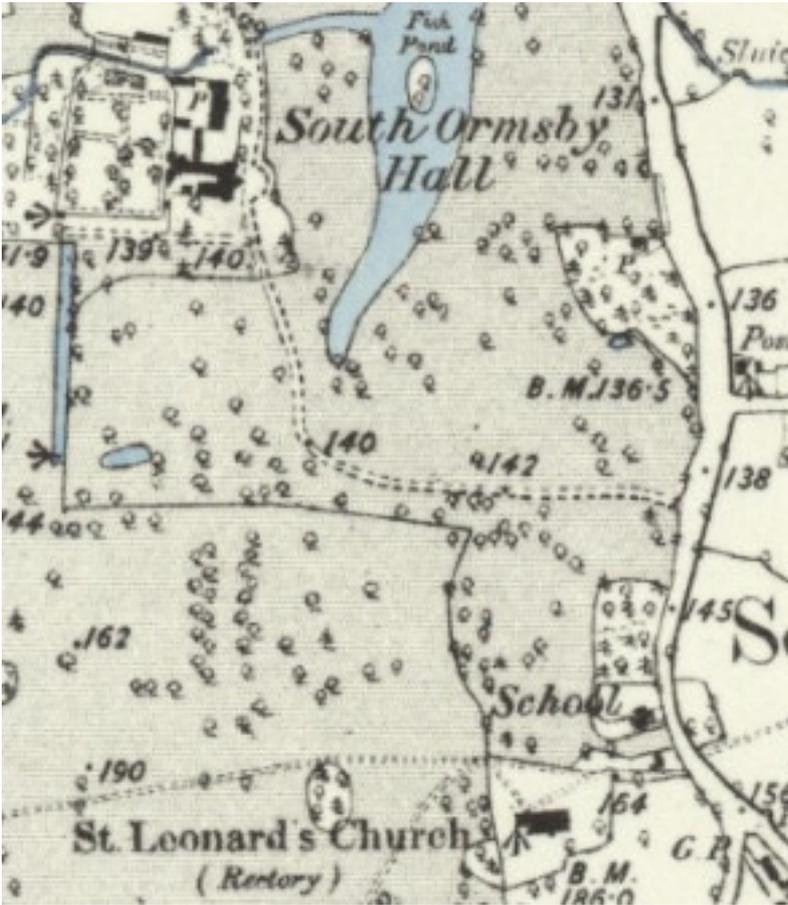


Plate 3. 1888 Ordnance Survey map. The garden area is south of the hall, to the northwest of the map. By the time of this survey, there were no paths visible in the garden area, no pool in the avenue, the spring pool had been reshaped, the square subdivision removed and only a short length of canal remains along the western edge. This is the same state as the garden is today. Lincolnshire 6" LXV.SE.



Plate 4. Armstrong's 1779 map. The scale of the map is not suitable for displaying many details of the estate, so it is of little help determining the arrangement of the garden area at this date. However, it does show a stylised building to the north of the church. All other residences are depicted as black rectangles, except the hall itself. This suggests the building may have been particularly substantial.

3. GEOPHYSICAL SURVEY

3.1 Methods

A magnetic gradiometry survey was carried out with a Bartington Grad 601-2 fluxgate magnetometer. The fields were divided into 30m² grids, and each grid was walked systematically in a zigzag pattern, taking readings every 0.25m in traverses 1m apart. Each grid was walked by one or more volunteers under supervision from an experienced geophysicist.

The resistivity survey was conducted using a Frobisher Tar-3 resistance meter. Using the same grid system as the magnetometry survey. This was also conducted in a zig-zag pattern, taking readings every 0.5m in traverses 1m apart. Each grid was walked by one or more volunteers under supervision from an experienced geophysicist.

The layout of the survey area is shown in Figure 3. The survey area was covered by ankle length grass with occasional sharp undulations and a scatter of trees which necessitated leaving gaps in the finished survey. The weather was generally mild.

The survey was undertaken in accordance with Historic England (2008) and ClfA (2014b) guidelines and codes of conduct. A detailed methodology can be found in Appendix 1.

3.2 Results

The presentation of the magnetometry data for the site involves a greyscale print-out of the raw data (Fig. 4) and the processed data (Fig. 5). Magnetic anomalies have been identified and plotted on to an interpretative drawing (Fig. 6). The identified features have been overlaid on to approximate locations of the Edward Gardner maps (Fig. 7). In the following text, the letters in brackets refer to annotations in Figure 6.

The resistance data follows on in Figure 8 with an interpretation on Figure 9.

Magnetometry Garden Area

Positive linear anomalies

A pair of positive linear anomalies, highlighted with red lines, is apparent at the southwest corner of the survey area (**A**). These roughly correlate with the polygonal spring on Edward Gardner's map.

Towards the north of the area are some very faint positive linears, highlighted with broken red lines. Three of these are curving features (**B**) which do not correspond to any known features in the garden. One weak linear is east-west orientated (**C**) and may correspond to a phase of the walled subdivision.

Area of positive readings

There is one area of weakly positive readings, highlighted with red hatching (**D**). This corresponds to the circular pond indicated on the 1749 survey.

Isolated positive anomalies

There are a series of six discrete positive anomalies, highlighted with red dots, towards the north of the survey. These are within the walled subdivision. The two western most anomalies correspond with the location of ornamental trees and probably represent planting pits. The remaining five anomalies do not match known tree locations closely but may have had a related function.

Bipolar linear anomalies

Bipolar linear anomalies have been highlighted with dark blue lines. An east-west aligned linear (**E**) corresponds to the south wall of the partitioned area, with a fragment to the west marking the western wall as well. Two parallel north-south orientated linears, 4.6m apart, correspond with the edge of the path through the partitioned area (**F**).

A short curving length (**G**) does not correspond with any known garden feature, but may key into some of the curving positive linears noted previously (**B**). Two roughly northeast-southwest orientated linears (**H** and **I**) do not correspond to known garden features and may be drainage features. An east-west linear in the centre of the avenue (**J**) has an unknown origin but is presumably caused by a feature functionally related to the avenue.

Areas of bipolar disturbance

There are several prominent areas of bipolar disturbance, highlighted with blue hatching. In the southwest corner, there is a relatively amorphous area (**K**) which may be related to the shortening of the polygonal spring suggested by Gardner's redesign.

North of the spring is a very prominent north-south area of bipolar disturbance which is very likely a drain or culvert for syphoning water from the spring (**L**).

Where the gates for the square subdivision would have been is an area of bipolar disturbance (**M**). This may indicate a large amount of rubble, which may have been caused by, for instance, brick piers.

Within the weak positive area corresponding to the pond is a bipolar region (**N**) which is most likely caused by a fountain.

Towards the south of the garden area (**O**) is a weak bipolar area which corresponds to an existing bank at the edge of the garden area.

Rectory Area

Positive linear anomalies

Positive linear anomalies have been highlighted with red lines. A linear anomaly forming a north-south, east-west right angle is visible in the centre of the survey area (**P**). This may be a small ditch.

A relatively weak north-south aligned linear anomaly is visible in the centre of the survey area (**Q**). This may represent a ditch or covered drain. A second weaker linear anomaly on the same orientation (**R**) is visible 23m to the west. A drain is the most likely cause of this anomaly.

Bipolar linear anomalies

An east-west orientated bipolar linear anomaly has been highlighted in dark blue towards the centre of the survey area (**S**). This most likely represents a feature containing fired ceramic material, such as wall foundation, a ditch backfilled with rubble or a drain.

Area of bipolar disturbance

There are broad areas of bipolar disturbance in the centre of the survey area, marked with blue hatching (**T**). A roughly rectangular portion of 47m by at least 27m has produced the strongest readings with areas of weaker readings contained within, and to the south and west. A spread of rubble is one possible cause of this anomaly with the roughly rectangular portion, perhaps indicating a building footprint.

Negative linear anomalies

There are two faint negative linear anomalies marked in light blue. The larger of these (**U**) is likely associated with the positive linear anomaly **P** that runs parallel and may be a small bank.

The anomaly (**V**) to the north east corner of the survey runs beyond the investigation area. It may be a small bank.

Resistance

Garden Area

The garden area was only partially covered by the resistance survey with a view to targeting a small linear anomaly seen in the preliminary magnetometry results (**J**). The area covered was too small and any features revealed too indistinct to draw conclusions from the survey data. The area of high resistance in the southwest corner was likely due to a tree in this location.

Rectory

The resistivity survey over the suspected area of the rectory targeted the broad, strong bipolar anomaly seen in the magnetic data, thought to be possible rubble. The resistance data did not match the magnetic data very closely. The main trend revealed was an area of low resistance to the north and high resistance to the south, with a particularly high resistance linear anomaly passing north-south through the centre of the survey area. The areas of higher resistance normally correlate with areas of rubble, but this cannot be stated with any certainty in this instance.

4. DISCUSSION

The survey of the former garden area has identified multiple anomalies some of which appear to relate to the garden as recorded on the Gardner survey of 1749. No elements convincingly matched the redesign, suggesting it may never have been implemented as depicted. However, a few subtle features do not appear to correlate to either version of the garden, or its modern appearance, which suggests an unknown phase of design may once have been implemented.

The rectory survey has identified several possible features that could relate to the former rectory or associated buildings. These include several probable banks and ditches and large areas of magnetic disturbance that suggests rubble. The magnetic findings do not directly correlate with the resistance survey, but areas of high resistance may suggest areas of compaction or denser rubble.

5. ACKNOWLEDGEMENTS

Archaeological Project Services wishes to acknowledge the Layers of History team who commissioned the project and volunteers who conducted the survey. Paul Cope-Faulkner edited the report.

6. PERSONNEL

Project coordinator: Paul Cope-Faulkner

Geophysical Survey: Jonathon Smith, Sean Parker, Layers of History volunteers

Survey processing and reporting: Jonathon Smith, Sean Parker

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8. ABBREVIATIONS

APS Archaeological Project Services

BGS British Geological Survey

ClfA Chartered Institute for Archaeologists

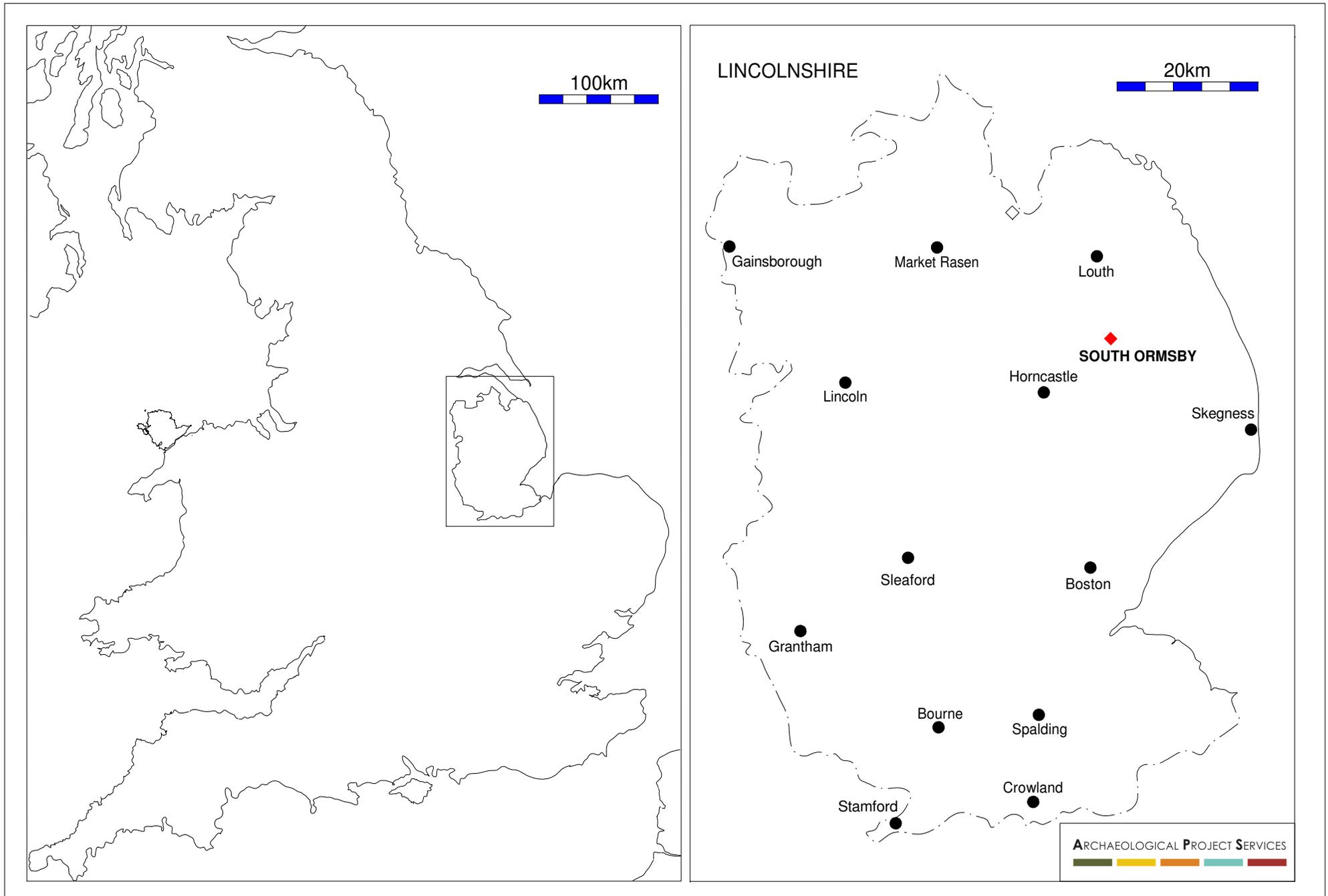


Figure 1 - General location plan

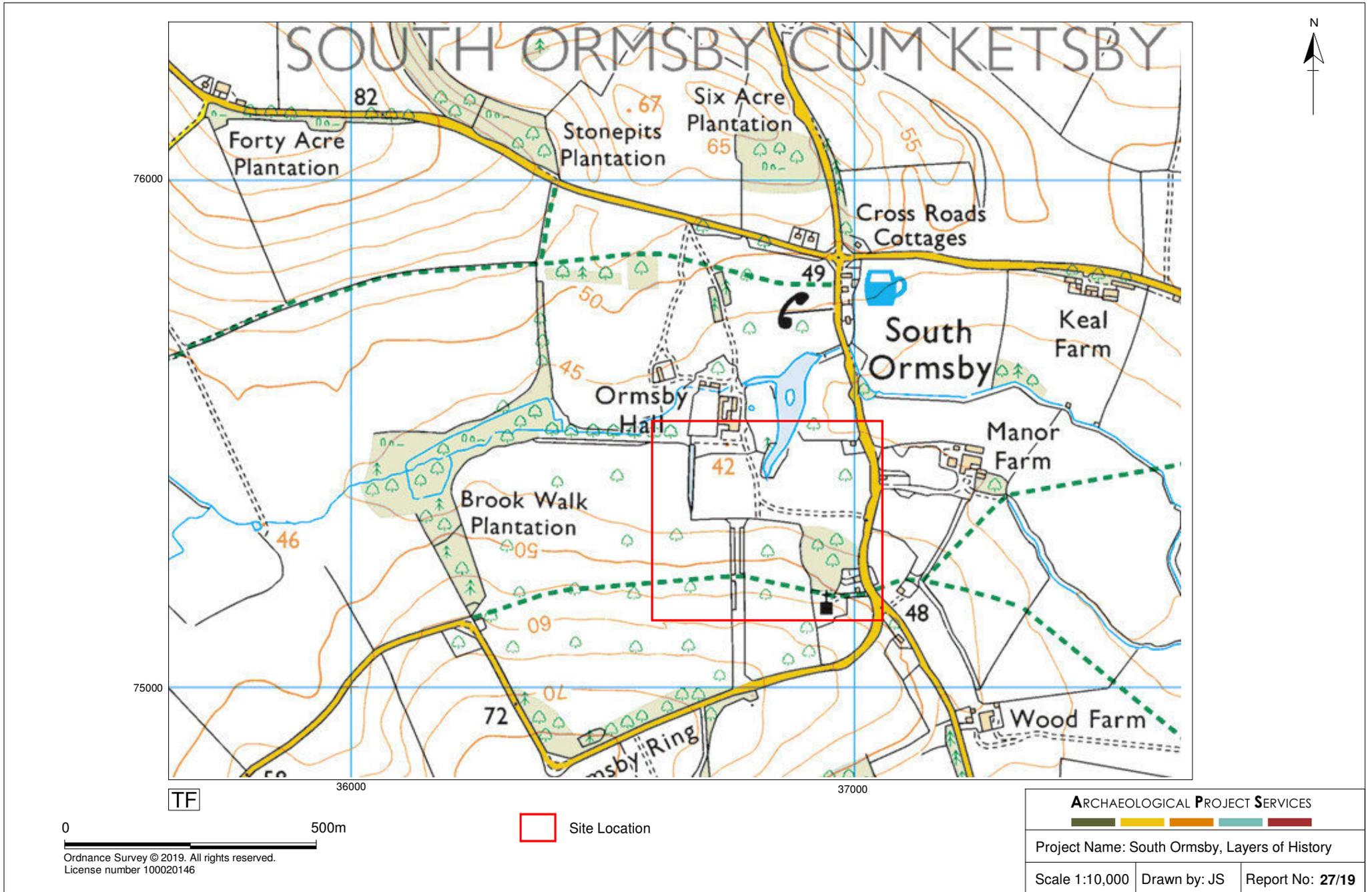
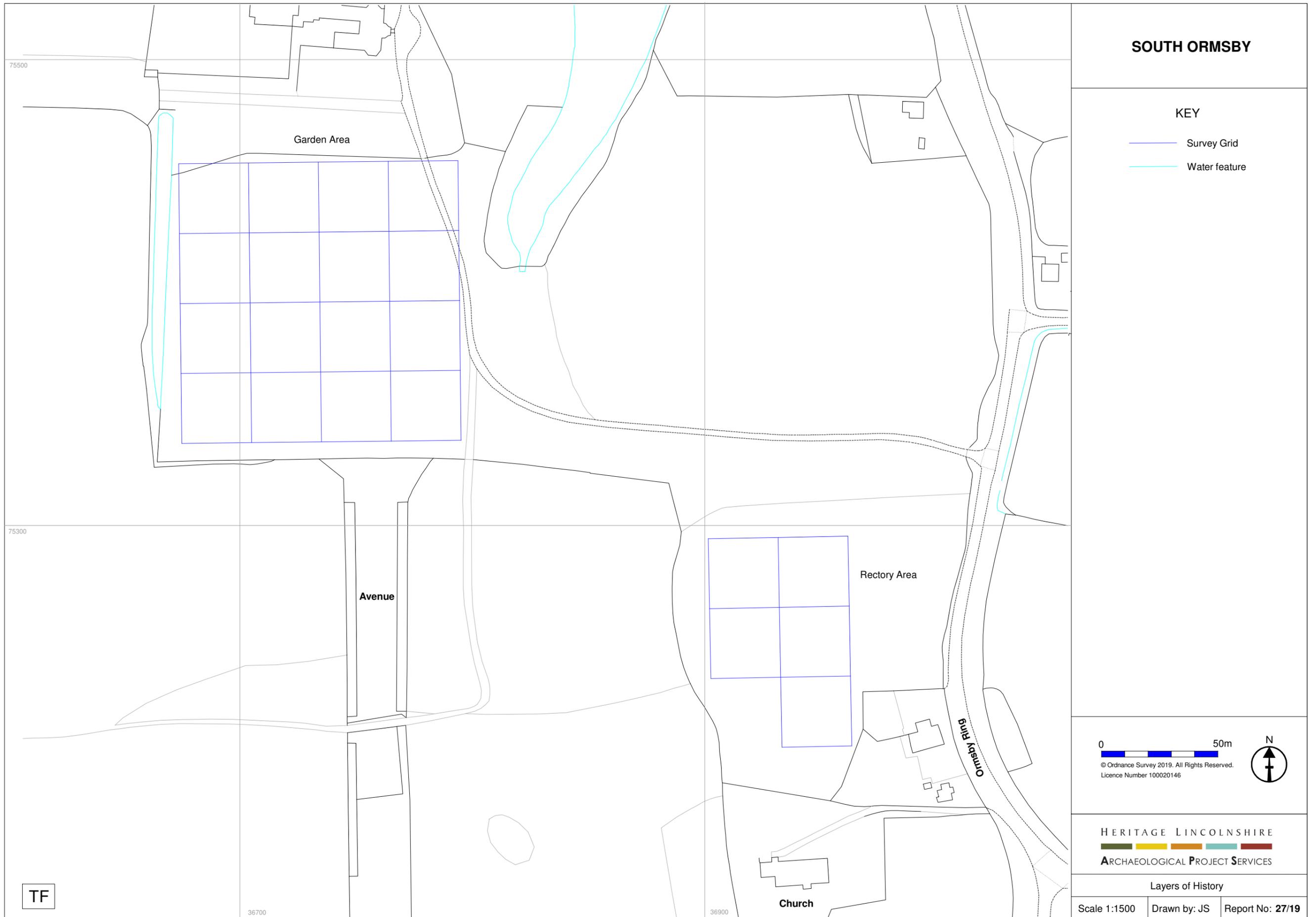


Figure 2 - Site Location



SOUTH ORMSBY

KEY

- Survey Grid
- Water feature

0 50m

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N
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Figure 3 - Survey Layout

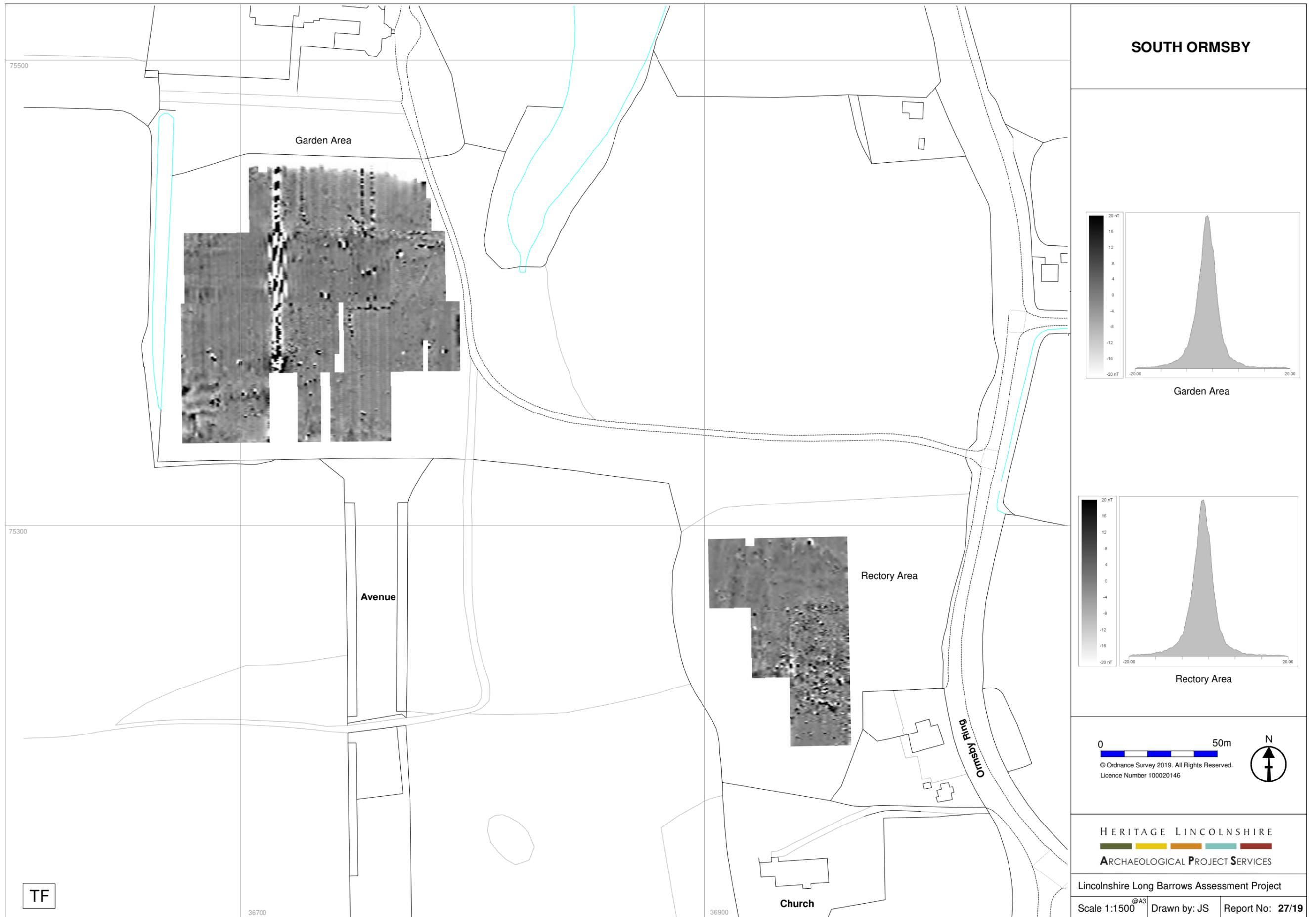


Figure 4 - Raw greyscale data

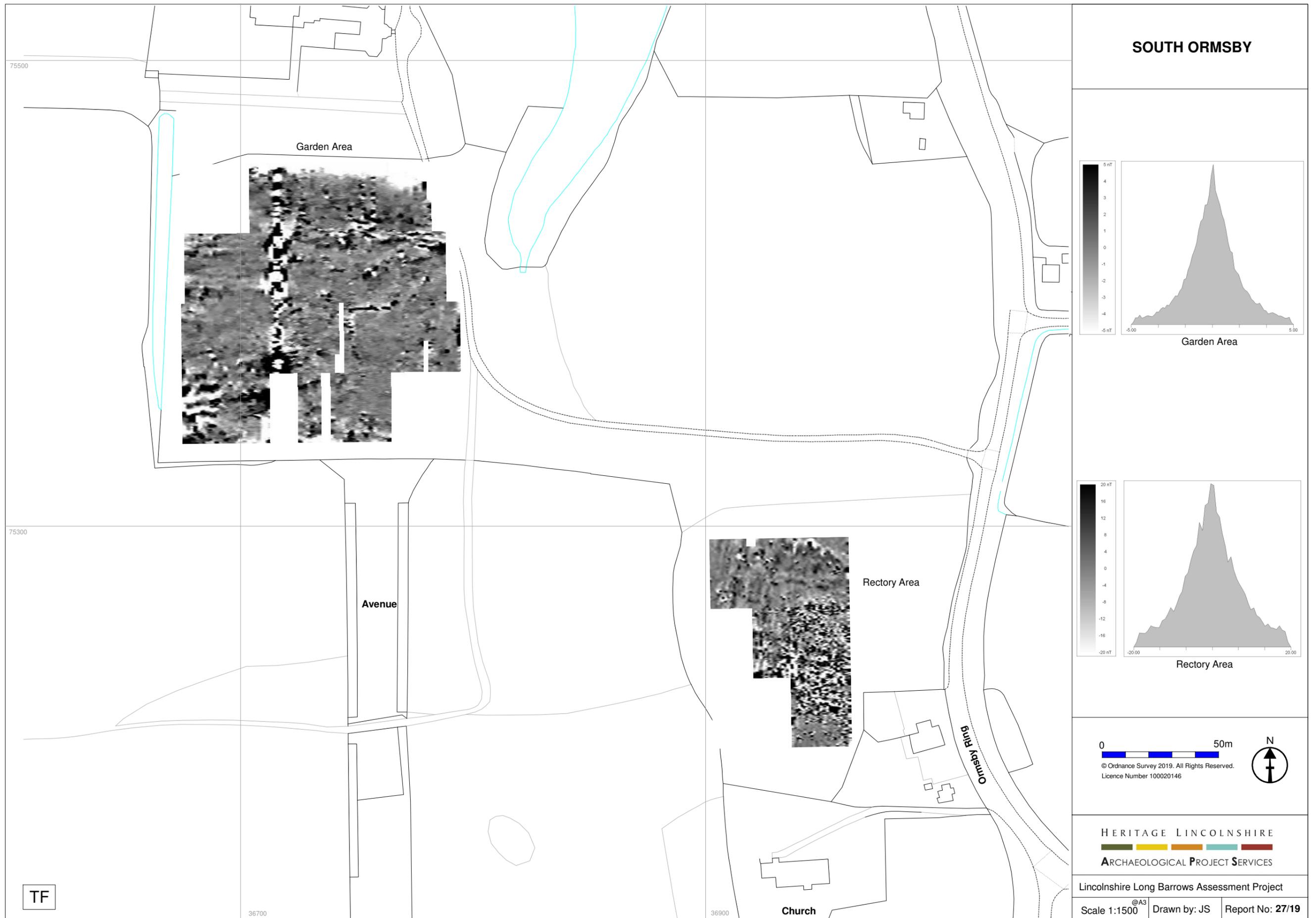


Figure 5 - Processed greyscale data

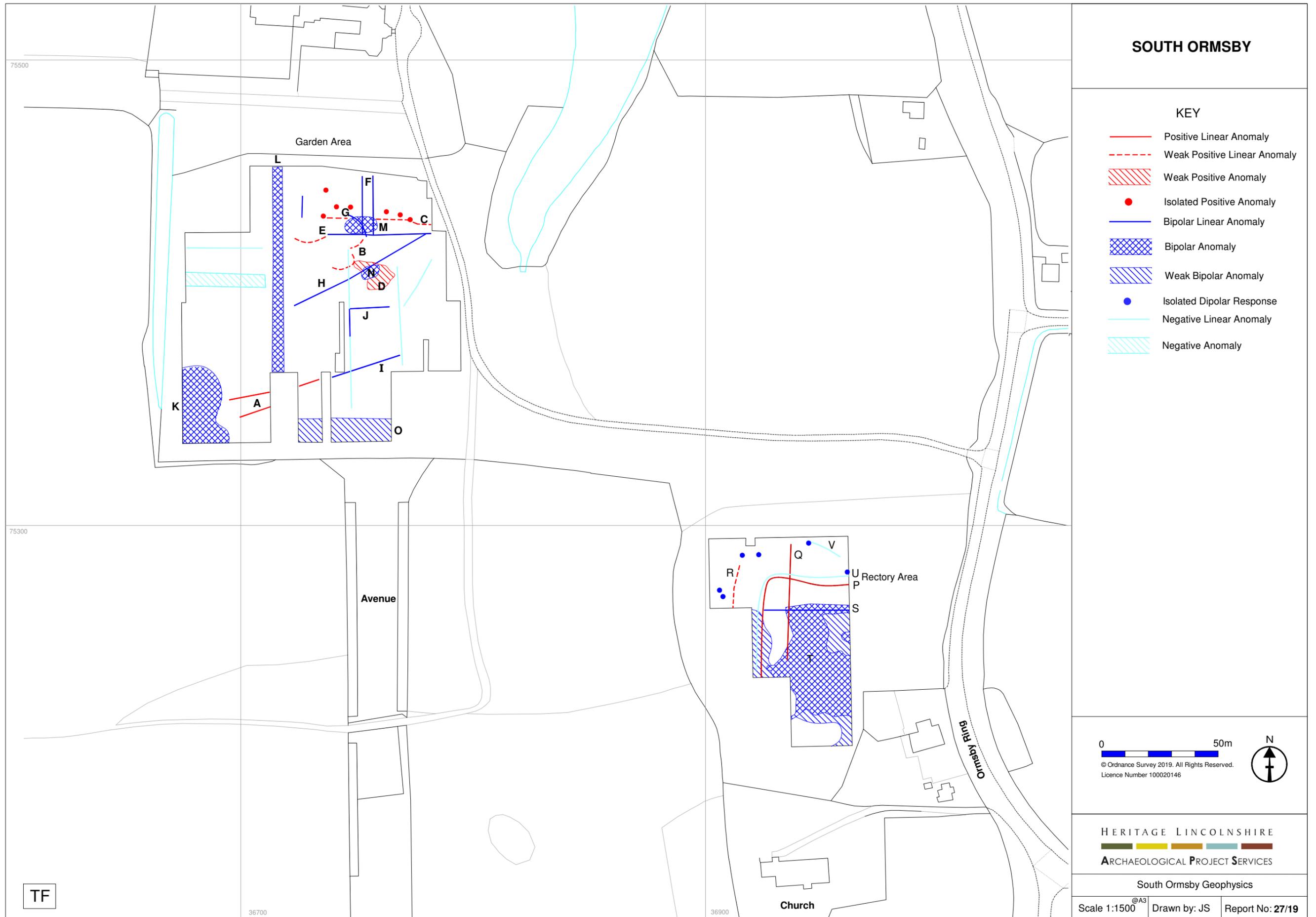
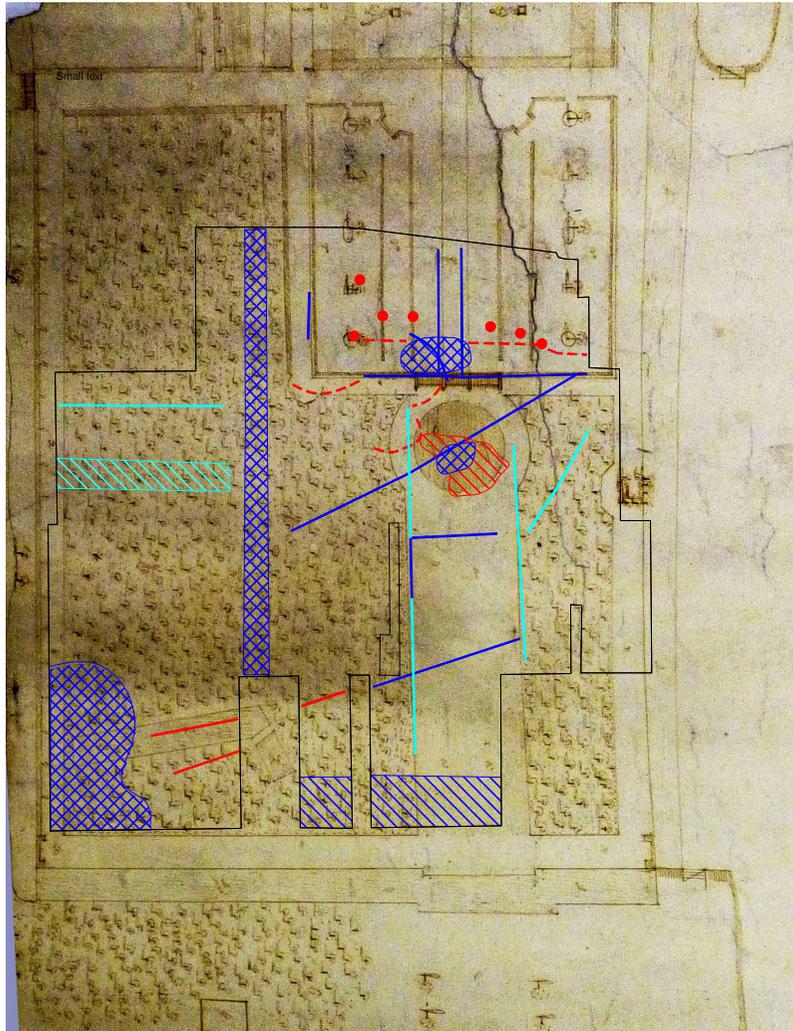
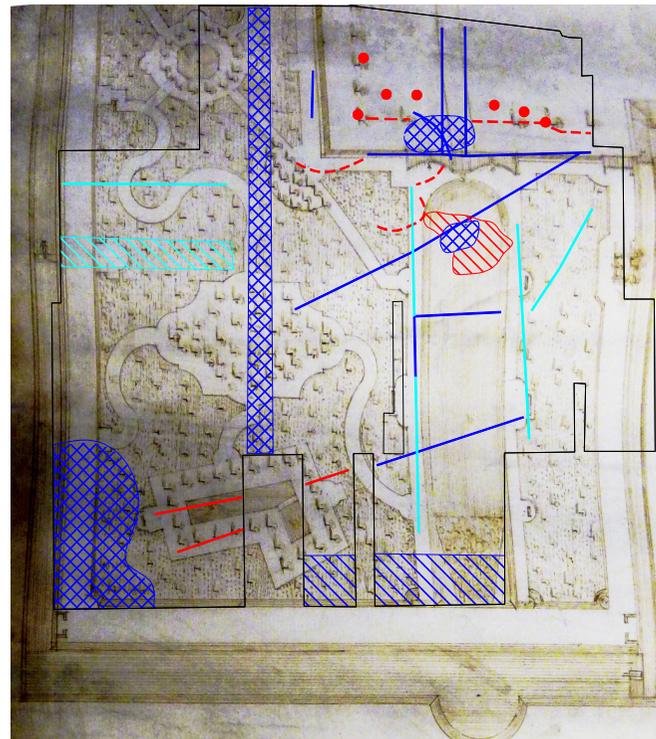


Figure 6 - Interpretation

SOUTH ORMSBY



Approximate location of magnetic anomalies over Gardener's 1749 Survey



Approximate location of magnetic anomalies over Gardener's 1749 new design

KEY

- Positive Linear Anomaly
- - - Weak Positive Linear Anomaly
- Isolated Positive Anomaly
- Bipolar Linear Anomaly
- ▨ Bipolar Anomaly
- ▧ Weak Bipolar Anomaly
- Isolated Dipolar Response
- Negative Linear Anomaly
- ▨ Negative Anomaly

0 50m
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Figure 7 - Geophysical interpretation over garden plans

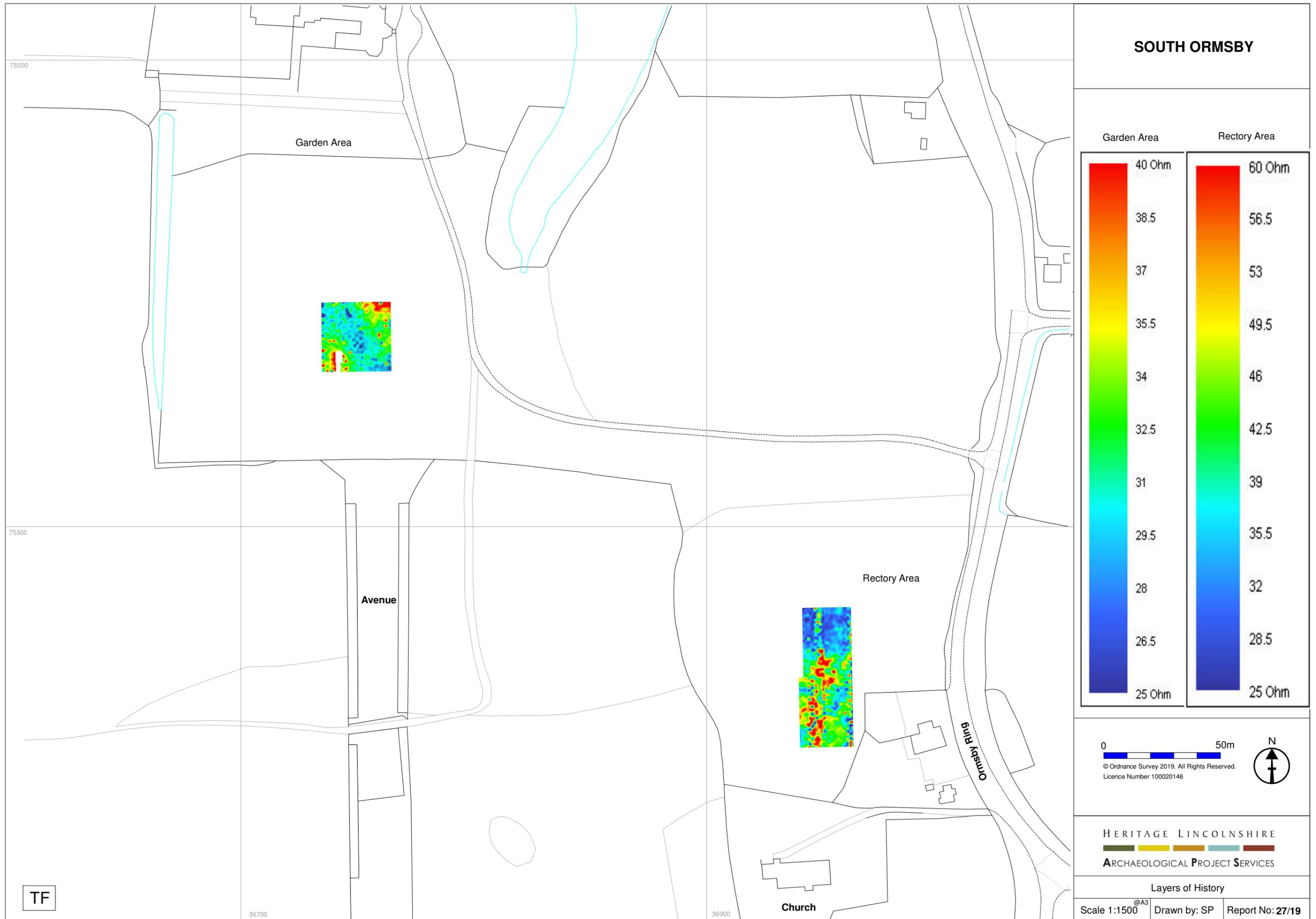


Figure 8 - Resistance data

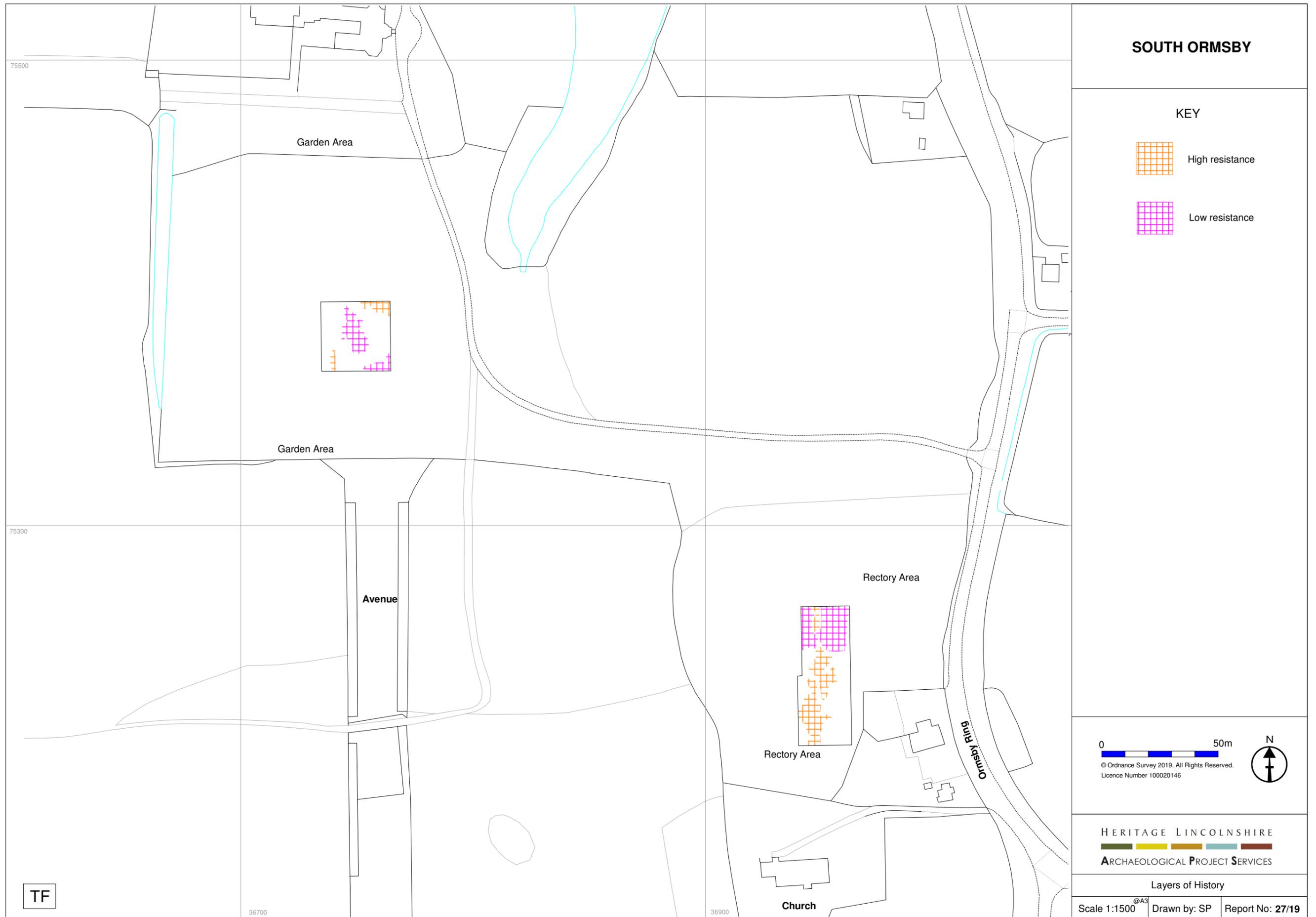


Figure 9 - Interpretation Resistance data