

## **SURVEY RESULTS**

**98 / 31 Thetford Grammar School, Norfolk**

### **1. Survey Area**

- 1.1 Three areas, A to C, were surveyed using the resistance technique and a small car park and path were investigated by GPR. The areas and transects are shown in Figure 1 at a scale of 1:1250.
- 1.2 The survey grids were set out by *GSB Prospection* and tied in by *RCHME*, who retain the location information.

### **2. Display**

- 2.1 The results are displayed as grey scale images. This display format is discussed in the *Technical Information* section, at the end of the text.

### **3. General Considerations - Complicating factors**

- 3.1 Ground conditions were suitable for survey as most of the areas were level and free of obstructions. However, the restricted areas available for investigation clearly limited work and subsequently hindered interpretation.
- 3.2 Buried services are scattered throughout the area of the school and in places have confused the results.

### **4. Resistance Survey**

#### **4.1 Area A**

- 4.3.1 This block was surveyed in order to investigate the possibility that walls associated with the early cathedral church extend eastwards into this area. The site of the friary church is known to be immediately west of Area A, below the present school library. It is believed that the larger, earlier church could have foundations at this location.
- 4.3.2 Unfortunately, the small survey area has several services crossing through it and these have produced anomalies that complicate interpretation of the data. In addition, the foundation trenches of the school buildings have resulted in high readings at the western edge of the survey.
- 4.3.3 Despite these factors a high resistance linear response is visible, extending at right angles from the western wall of the library. This was targeted for excavation.

## 4.2 Area B

- 4.2.1 The playing fields to the north of the school buildings, and immediately south of the Little Ouse River, were thought to be the site of the cloisters and thus they were subjected to detailed resistance survey.
- 4.2.2 The work was carried out with the baselines initially aligned parallel to the standing buildings. However, the results indicated that buried walls were exactly on this alignment and as a consequence the clarity of some of the anomalies was diminished. This may be because currents tend to flow along walls which are parallel to the survey grid, but find it difficult to cross foundations which are at right angles; hence some walls show more clearly than others. It was decided in this instance to re-survey the area using a grid on a 45 degree axis, in an attempt to sharpen the detail. It was also discovered that the first data set was severely affected by buried electricity cables and a nearby small transformer, so the remote probes were moved away from this noise source.
- 4.2.3 While the initial dataset identified a complex of presumed wall foundations (see Figure 4) the results were seen to be affected by factors referred to above (Section 4.2.2). Preliminary analysis suggested that the cloisters were located to the north and west of the friary church, but this was clearly an incorrect interpretation.
- 4.2.4 The second dataset provided a much sharper plan, especially at critical points like wall junctions, and it became apparent that spurious anomalies associated with a buried cable had confused matters with the first dataset. This led to the initial misinterpretation of the results.
- 4.2.5 The interpretation plan (Figure 7) shows that the cloisters are in fact to the north and east of the church. The anomalies to the west are more likely to be associated with ancillary monastic buildings.

## 4.3 Area C

- 4.3.1 A small survey block immediately west of the location of the friary church was surveyed in order to investigate whether there is any evidence for foundations extending into this area.
- 4.3.2 The results show marked variations in resistance but it is very difficult to assess the significance, if any, of the results. The small survey area and the lack of any specific targets makes an interpretation uncertain.
- 4.3.3 A low band of resistance on the southern edge of the survey area is thought to mark the line of a grassed over footpath. High readings along the northern and eastern edges are believed to be associated with ground disturbance in these areas.
- 4.3.4 It is impossible to say whether the high resistance values in the centre are archaeologically significant.

## 5. Ground Penetrating Radar Survey

### 5.1 Method

- 5.1.1 For this survey a Mala RAMAC/GPR system was used. This comprises a software controlled computer connected to a transmitter and receiver via antenna cables. The transmitter induces electromagnetic pulses into the ground. These pulses are reflected back when there are abrupt changes in the dielectric properties of material beneath the ground, for example: a wall, a ditch, or change in soil, rock type or watertable. The reflections from each interface of a particular pulse build up one trace which is stored digitally for further processing and plotting.

The results from each pulse are displayed as successive traces producing a radargram. The end result is a vertical section through the ground along a particular traverse. This display is used in Figures 10 and 11.

## 5.2 Area A - east of Library

5.2.1 A single transect was surveyed immediately west of Area A. The main aim of this transect was to try to establish whether an anomaly noted in the resistance survey, and confirmed as a wall by excavation, continued under a footpath at this point.

5.2.2 The data are displayed in Figure 10. The red lines highlight reflections of possible interest. A shallow response 4m along the transect may be a continuation of the excavated wall in question. A deeper response between points 12m and 14m could also be archaeologically significant. These may also be due to services or modern material in the soil. While subsequent excavation between points 12m and 16m did reveal extensive cloister remains, it is likely that the radar responses in this area were due to a modern wall just below the ground surface.

5.2.3 The blue line follows the suggestion of a soil/old landscape horizon within the data which may be of archaeological interest.

## 5.3 Car Park - Friary Church, west of Library

5.3.1 Several parallel traverses were carried out in the car park area which lies within the former friary church, with the aim of defining any structural remains.

5.3.2 Figure 11 is an example of the type of response recorded in this area. The nature of the reflections highlighted in red suggests an interface of interest. The depth indicates possible friary remains, rather than modern landscaping. However an exact interpretation for this reflection is tentative. The feature is about 2m across and could indicate a portion of intact flooring, a wall, or possibly a column base, although the latter interpretation is tentative.

## 6. Conclusions

6.1 The geophysical survey has helped in providing a plan of part of the cloisters associated with the friary but did not locate any evidence that was clearly indicative of a cathedral church.

**Project Co-ordinators:** J Gater and S Ovenden

**Project Assistants:** N Russill (Terradat), A Shields and C Stephens

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**SITE SUMMARY SHEET**

**98 / 31 Thetford Grammar School, Norfolk**

**NGR:** TL 867 831

**Location, topography and geology**

Thetford Grammar School lies in the centre of Thetford, Norfolk, immediately south of the Little Ouse River. The areas under investigation comprised lawns and playing fields in and around the school library, and a car park over the site of the friary church. Most of the survey areas were level and free of obstructions. The soils are unmapped but are likely to be riverine in nature i.e. sands and gravels.

**Archaeology**

The school is located on the site of a Dominican friary dating from the 13<sup>th</sup> Century which is believed to overlie an earlier cathedral building.

**Aims of Survey**

The work formed part of a '**Time Team**' investigation undertaken for **Channel 4** television, first broadcast in 1999. It was hoped that geophysical techniques, specifically resistance survey and ground penetrating radar (GPR), would help to cast light on the layout of the friary and the 'lost' cathedral building.

**Summary of Results**

Three areas, A to C, were investigated by resistivity and two areas examined using GPR.

Major problems were encountered in Area B due to the presence of buried electric cables and a nearby transformer. Partly because of this, and due to the alignment of the friary walls, the area was re-surveyed by the resistance technique with the grid rotated by 45 degrees.

The resistivity survey provided a clear plan of part of the friary complex, specifically the western half of the cloisters, and additionally identified numerous wall foundations, presumably also associated with monastic structures. In the smaller survey areas, A and C, a few anomalies of interest were highlighted but their interpretation remains uncertain due to the restricted area that could be investigated.

The GPR successfully identified walls east of the school library and indicated that structural remains of the friary church are likely to survive below the car park to the west of the library.

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