



COTESBACH DESERTED MEDIEVAL VILLAGE, SHAWELL, LEICESTERSHIRE: ANALYTICAL EARTHWORK SURVEY PROJECT CODE: SOU-07/63

Date of survey: 8th / 9th of June, 2007

Archaeology:

Super-imposed medieval selions (cultivation ridges) and associated features in very low relief.

LPA Requirements:

Analytical survey of earthworks to EH level III. To comprise a 3D DTM record, a contour plan and an accurate hand-drawn hachure interpretation plan to OS co-ordinate system.

Technique of digital data acquisition:

- Differential GPS Leica SR530 with Real Time Kinematic capabilities.
- Use of reference station for GPS Rover Receiver during survey.
- Post-process of data to obtain sub-centimetric accuracy in OS co-ordinate system.

Field methodology:

- Visual inspection and discussion of the characteristics of each earthwork

component. Features marked with canes as survey guide points.

- GPS survey implemented in three stages to achieve an appropriate level of digital resolution: 1) Baseline set out to OS coordinates; 2) X, Y and Z point data collected at 2.5m separation across Study Area; 3) Tops, bottoms and breaks of slope surveyed using guide points, to facilitate the drawing of hachure plan.
- Measured hand-drawn plan of earthworks supported by comprehensive photographic record.

Results:

Four phases of earthwork features were identified and recorded, comprising two phases of medieval furlong fields, drainage ditches and a raised grassed-covered track-way.

Digital data handling and presentation:

Survey data downloaded in Leica Geo Office, then imported to Surfer 8.0 software. The Linear Interpolation method, providing exact interpolation, was selected to create the grid file from point files (XYZ). Contour maps and 3D surface models were generated from the grid files for each earthwork. Contour maps were then exported to AutoCAD for editing.